

Oracle® Project Planning and Control

User Guide

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- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

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Preface

Intended Audience

Welcome to Release 12.2 of the *Oracle Project Planning and Control User Guide*.

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

See Related Information Sources on page xviii for more Oracle E-Business Suite product information.

Documentation Accessibility

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Structure

1 Overview of Project Planning and Control

This chapter provides a brief overview of Oracle Project Planning and Control.

2 Managing Unit Rate Based Contracts in Oracle Projects

This chapter describes how to plan, execute, and monitor unit rate based contracts in Oracle Projects.

3 Workplan and Progress Management

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

4 Cost Breakdown Planning

5 Program Management

This chapter explains how you can use Oracle Projects to set up and manage programs.

6 Project Deliverables Management

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

7 Microsoft Project Integration

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

8 Budgeting and Forecasting

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

9 Issue Management

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

10 Change Management

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

11 Document Management

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

12 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.

13 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 Information Sources

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

Integration Repository

The Oracle Integration Repository is a compilation of information about the service

endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the Oracle E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

Online Documentation

All Oracle E-Business Suite documentation is available online (HTML or PDF).

- **PDF** - See the Oracle E-Business Suite Documentation Library for current PDF documentation for your product with each release. The Oracle E-Business Suite Documentation Library is also available on My Oracle Support and is updated frequently.
- **Online Help** - Online help patches (HTML) are available on My Oracle Support.
- **Release Notes** - For information about changes in this release, including new features, known issues, and other details, see the release notes for the relevant product, available on My Oracle Support.
- **Oracle Electronic Technical Reference Manual** - The Oracle Electronic Technical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for each Oracle E-Business Suite product. This information helps you convert data from your existing applications and integrate Oracle E-Business Suite data with non-Oracle applications, and write custom reports for Oracle E-Business Suite products. The Oracle eTRM is available on My Oracle Support.

Guides Related to All Products

Oracle E-Business Suite User's Guide

This guide explains how to navigate, enter and query data, and run concurrent requests using the user interface (UI) of Oracle E-Business Suite. It includes information on setting preferences and customizing the UI. In addition, this guide describes accessibility features and keyboard shortcuts for Oracle E-Business Suite.

Oracle Projects Documentation Set

Oracle Projects Implementation Guide

Use this guide to implement Oracle Projects. This guide 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 Planning and Control, and Project Portfolio Analysis). 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 Project Billing User Guide

This guide shows you how to use Oracle Project Billing to define revenue and invoicing rules for your projects, generate revenue, create invoices, and integrate with other Oracle Applications to process revenue and invoices, process client invoicing, and measure the profitability of your contract projects.

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 General Ledger accounts to which the costs are posted.

Oracle Project Portfolio Analysis User Guide

This guide contains the information you need to understand and use Oracle Project Portfolio Analysis. It includes information about project portfolios, planning cycles, and metrics for ranking and selecting projects for a project portfolio.

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 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.

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. Use this guide to understand the implementation steps required for application use, including defining depreciation books, depreciation method, and asset categories. It also contains information on setting up assets in the system, maintaining assets, retiring and reinstating assets, depreciation, group depreciation, accounting and tax accounting, budgeting and budgetary control, online inquiries, impairment processing, and Oracle Assets reporting. This guide also includes a comprehensive list of profile options that you can set to customize application behavior.

Oracle U.S. Federal Financials Implementation Guide

This guide provides information on how to implement Oracle U.S. Federal Financials. Use this guide to learn about the steps required to set up account codes, Federal reporting, subledger accounting, and other features used by U.S. Federal agencies and businesses that work with U.S. Federal agencies.

Oracle U.S. Federal Financials User Guide

This guide gives instructions for using Oracle U.S. Federal Financials. This product provides the basis for an integrated financial management solution for Federal agencies, providing features such as budgetary control, fund accounting, online funds checking, cost accumulation and allocation, United States Standard General Ledger (US SGL) accounts, Treasury cash accounts, regulatory and ad hoc reporting, multiple fund receivables accounting, and multiple organization capabilities.

Oracle Financials Implementation Guide

This guide describes how to implement the Oracle Financials E-Business Suite. It takes you through the steps of setting up your organizations, including legal entities, and their accounting, using the Accounting Setup Manager. You can find information on intercompany accounting and sequencing of accounting entries with relevant examples.

Oracle General Ledger Implementation Guide

This guide provides information on how to implement Oracle General Ledger. Use this guide to understand the implementation steps required for application use, including how to set up Accounting Flexfields, Accounts, and Calendars.

Oracle General Ledger User's Guide

This guide provides you with information on how to use Oracle General Ledger. Use

this guide to learn how to create and maintain ledgers, ledger currencies, budgets, and journal entries. This guide also includes information about running financial reports.

Oracle Grants Accounting User Guide

This guide provides you with information about how to implement and use Oracle Grants Accounting. Use this guide to understand the implementation steps required for application use, including defining award types, award templates, allowed cost schedules, and burden set up. This guide also explains how to use Oracle Grants Accounting to track grants and funded projects from inception to final reporting.

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:

- **Oracle HRMS Enterprise and Workforce Management Guide**
This user guide explains how to set up and use enterprise modeling, organization management, and cost analysis.
- **Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide**
Use this guide to find out about setting up employees and managing your people resources.

Oracle Internet Expenses Implementation and Administration Guide

This guide explains how to configure Oracle Internet Expenses and describes its integration with other applications in the E-Business Suite, such as Oracle Payables and Oracle Projects. It describes the implementation steps required for application use, including how to set up policy and rate schedules, credit card policies, audit automation, and the expenses spreadsheet. You can also learn about the client extensions that you can use to extend the Oracle Internet Expenses functionality.

Oracle Inventory User's 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 Implementation Guide

This guide provides you with information on how to implement Oracle Payables. Use this guide to understand the implementation steps required for how to set up suppliers,

payments, accounting, and tax.

Oracle Payables User's Guide

This guide describes how to use Oracle Payables to create invoices and make payments. In addition, it describes how to enter and manage suppliers, import invoices using the Payables open interface, manage purchase order and receipt matching, apply holds to invoices, and validate invoices. It contains information on managing expense reporting, procurement cards, and credit cards. This guide also explains the accounting for Payables transactions.

Oracle Payments Implementation Guide

This guide describes how Oracle Payments, as the central payment engine for the Oracle E-Business Suite, processes transactions, such as invoice payments from Oracle Payables, bank account transfers from Oracle Cash Management, and settlements against credit cards and bank accounts from Oracle Receivables. This guide also describes how Oracle Payments is integrated with financial institutions and payment systems for receipt and payment processing, known as funds capture and funds disbursement, respectively. Additionally, the guide explains to the implementer how to plan the implementation of Oracle Payments, how to configure it, set it up, test transactions, and how to use it with external payment systems.

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 Property Manager Implementation Guide

Use this guide to learn how to implement Oracle Property Manager and perform basic setup steps such as setting system options and creating lookup codes, contacts, milestones, grouping rules, term templates, and a location hierarchy. This guide also describes the setup steps that you must complete in other Oracle applications before you can use Oracle Property Manager.

Oracle Property Manager User Guide

Use this guide to learn how to use Oracle Property Manager to create and administer properties, space assignments, and lease agreements.

Oracle Public Sector Financials User Guide

Oracle Public Sector Financials is an overlay of features that extend the existing functionality of Oracle Financials for the specific needs of the public sector. This guide provides information about setting up and using Oracle Public Sector Financials. These features include multi-fund accounts receivable, encumbrance reconciliation reports,

Governmental Accounting Standards Board (GASB) 34/35 asset accounting, enhanced funds available inquiry, the Funds Available Detail report, and the Funds Check API.

Oracle Purchasing User's Guide

This guide describes how to create and approve purchasing documents, including requisitions, different types of purchase orders, quotations, RFQs, and receipts. This guide also describes how to manage your supply base through agreements, sourcing rules, and approved supplier lists. In addition, this guide explains how you can automatically create purchasing documents based on business rules through integration with Oracle Workflow technology, which automates many of the key procurement processes.

Oracle Receivables User Guide

This guide provides you with information on how to use Oracle Receivables. Use this guide to learn how to create and maintain transactions and bills receivable, enter and apply receipts, enter customer information, and manage revenue. This guide also includes information about accounting in Receivables. Use the Standard Navigation Paths appendix to find out how to access each Receivables window.

Oracle Subledger Accounting Implementation Guide

This guide provides setup information for Oracle Subledger Accounting features, including the Accounting Methods Builder. You can use the Accounting Methods Builder to create and modify the setup for subledger journal lines and application accounting definitions for Oracle subledger applications. This guide also discusses the reports available in Oracle Subledger Accounting and describes how to inquire on subledger journal entries.

Oracle Time & Labor Implementation and User Guide

This guide describes how to capture work patterns such as shift hours so that this information can be used by other applications such as Oracle General Ledger and Oracle Projects.

Installation and System Administration

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle E-Business Suite data.

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12.2, or contemplating significant changes to a configuration. After describing the

Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

Oracle E-Business Suite Developer's Guide

This guide contains the coding standards followed by the Oracle E-Business Suite development staff. It describes the Oracle Application Object Library components needed to implement the Oracle E-Business Suite user interface described in the *Oracle E-Business Suite 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 E-Business Suite. In addition, this guide has information for customizations in features such as concurrent programs, flexfields, messages, and logging.

Oracle E-Business Suite Installation Guide: Using Rapid Install

This book is intended for use by anyone who is responsible for installing or upgrading Oracle E-Business Suite. It provides instructions for running Rapid Install either to carry out a fresh installation of Oracle E-Business Suite Release 12.2, or as part of an upgrade to Release 12.2.

Oracle E-Business Suite Maintenance Guide

This guide contains information about the strategies, tasks, and troubleshooting activities that can be used to help ensure an Oracle E-Business Suite system keeps running smoothly, together with a comprehensive description of the relevant tools and utilities. It also describes how to patch a system, with recommendations for optimizing typical patching operations and reducing downtime.

Oracle E-Business Suite Security Guide

This guide contains information on a comprehensive range of security-related topics, including access control, user management, function security, data security, and auditing. It also describes how Oracle E-Business Suite can be integrated into a single sign-on environment.

Oracle E-Business Suite Setup Guide

This guide contains information on system configuration tasks that are carried out either after installation or whenever there is a significant change to the system. The activities described include defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help.

Oracle E-Business Suite User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle E-Business Suite development staff. It describes the UI for the Oracle E-Business Suite products and

tells you how to apply this UI to the design of an application built by using Oracle Forms.

Other Implementation Documentation

Oracle Diagnostics Framework User's Guide

This manual contains information on implementing and administering diagnostics tests for Oracle E-Business Suite using the Oracle Diagnostics Framework.

Oracle E-Business Suite 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 E-Business Suite product data. This guide also provides information on creating custom reports on flexfields data.

Oracle E-Business Suite Integrated SOA Gateway Implementation Guide

This guide explains the details of how integration repository administrators can manage and administer the entire service enablement process based on the service-oriented architecture (SOA) for both native packaged public integration interfaces and composite services - BPEL type. It also describes how to invoke Web services from Oracle E-Business Suite by working with Oracle Workflow Business Event System, manage Web service security, and monitor SOAP messages.

Oracle E-Business Suite Integrated SOA Gateway User's Guide

This guide describes how users can browse and view the integration interface definitions and services that reside in Oracle Integration Repository.

Oracle E-Business Suite Multiple Organizations Implementation Guide

This guide describes how to set up and use Oracle Projects with the Multiple Organization feature for Oracle E-Business Suite, so you can define and support different organization structures when running a single installation of Oracle Projects.

Oracle iSetup User's Guide

This guide describes how to use Oracle iSetup to migrate data between different instances of the Oracle E-Business Suite and generate reports. It also includes configuration information, instance mapping, and seeded templates used for data migration.

Oracle Workflow Administrator's Guide

This guide explains how to complete the setup steps necessary for any product that includes workflow-enabled processes. It also describes how to manage workflow

processes and business events using Oracle Applications Manager, how to monitor the progress of runtime workflow processes, and how to administer notifications sent to workflow users.

Oracle Workflow Developer's Guide

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

Oracle Workflow User's Guide

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

Oracle XML Publisher Administration and Developer's Guide

Oracle XML Publisher is a template-based reporting solution that merges XML data with templates in RTF or PDF format to produce outputs to meet a variety of business needs. Outputs include: PDF, HTML, Excel, RTF, and eText (for EDI and EFT transactions). Oracle XML Publisher can be used to generate reports based on existing Oracle E-Business Suite report data, or you can use Oracle XML Publisher's data extraction engine to build your own queries. Oracle XML Publisher also provides a robust set of APIs to manage delivery of your reports via e-mail, fax, secure FTP, printer, WebDav, and more. This guide describes how to set up and administer Oracle XML Publisher as well as how to use the Application Programming Interface to build custom solutions. This guide is available through the Oracle E-Business Suite online help.

Oracle XML Publisher Report Designer's Guide

Oracle XML Publisher is a template-based reporting solution that merges XML data with templates in RTF or PDF format to produce a variety of outputs to meet a variety of business needs. Using Microsoft Word or Adobe Acrobat as the design tool, you can create pixel-perfect reports from the Oracle E-Business Suite. Use this guide to design your report layouts. This guide is available through the Oracle E-Business Suite online help.

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, terminology, and data as examples in a customized training session delivered at your own facility.

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 E-Business Suite Data

Oracle **STRONGLY RECOMMENDS** that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite 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 E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, 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 E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite 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.

Overview of Project Planning and Control

This chapter provides a brief overview of Oracle Project Planning and Control.

This chapter covers the following topics:

- Features of Project Planning and Control

Features of Project Planning and Control

Oracle Project Planning and Control 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 Planning and Control, you can perform the following tasks:

- Manage unit rate based contracts
- 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
- Periodically receive and review a pack of predefined project performance reports by e-mail
- 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 3-2.

Unit Rate Based Contracts in Oracle Projects

Any contract where payments are based on the delivered tasks and agreed on unit price or where the total value of the contract can be calculated by multiplying identical units of delivery by a fixed unit price is called a Unit Rate Based contract. These contracts are the preferred method of improving the efficiency of general contractor expenses and performance by reducing the qualitative issues that directly affect the daily consumption of the resources.

The unit rate based contracts are managed around two key components, a Schedule of Values (SOV) and Activity Resource Requirements (ARR). In these types of contracts, the Schedule of Values is used to breakout the total contract amount into its components (work and task elements items, or other subdivisions of the project), line by line, establishing a description of the work, provisions of scope (quantity) and value for each.

For more information on SOV and ARR, see: *Managing Unit Rate Based Contracts in Oracle Projects*, page 2-1.

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 7-1.

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. For financial plans, with a budget plan type, you can perform budgetary controls and funds checking. 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
- Maintain budgetary controls with transaction funds check
- Enter plan amounts using Microsoft Excel and HTML
- Enter plan amounts in multiple currencies
- Maintain plan versions
- Include change documents
- View plan amounts

For more information on budgeting and forecasting, see: Using Budgeting and Forecasting, page 8-16.

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 13-1.

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. Using change documents, you can plan

for changes to cost and revenue budgets and implement final changes once approved.

For more information on issue management, see: *Overview of Issue Management*, page 9-1.

For more information on change management, see: *Overview of Change Management*, page 10-1.

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 11-1.

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 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, see: *Project Performance Reporting*, page 12-2.

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 12-46.

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 12-17.

Reporting Pack

You can choose to regularly receive as e-mail attachments, a set of reports on project performance summaries and details. This reporting pack enables you to monitor project performance without accessing the application and archive the reports you receive for future reference.

Oracle Projects provides predefined report templates and a predefined data definition file. Alternatively, your system administrator can create new report templates to configure the content, presentation, and output format of reporting pack reports. In addition, your system administrator can define the intervals for the generation and distribution of these reports.

Managing Unit Rate Based Contracts in Oracle Projects

This chapter describes how to plan, execute, and monitor unit rate based contracts in Oracle Projects.

This chapter covers the following topics:

- Overview of Schedule of Values and Activity Resource Requirement
- Integration with Oracle Project Contracts
- Enable or and Disable Schedule of Values for Contract Projects
- Managing Activity Resource Requirements and Libraries
- Managing a Project Schedule of Values

Overview of Schedule of Values and Activity Resource Requirement

Schedule of Values (SOV): This is a detailed statement outlining the portions of the contract sum and typically signed as a contractual agreement. The SOV allocates value for various parts of the work and is also used as the basis for monitoring the progress, as well as submitting and reviewing payment certificates (billing and invoicing to the client).

The schedule of values is also linked to the project work breakdown structure(s) to allow progress to flow through the project tasks as an input into the contract billing process. For more information, see: *Managing a Project Schedule of Values*, page 2-15.

Activity Resource Requirement (ARR): The Activity Resource Requirement (ARR) is a set of resources which are grouped with the conversion factor, or co-efficient, and are required to perform a unit of SOV, task, activity, or work Item. Activity Resource Requirement is a key component in conceiving and modeling any project which provides the ability to determine the required resources, and the expected rate of consumption, to perform an activity or task.

Each set of resource elements in an ARR assigned to deliver a unit of activity or task is

stored in the library of ARRs and is utilized at different stages of the project management cycle and from different modules for different needs like cost budgeting, forecasting, reconciliation and efficiency measures. For more information, see: *Managing Activity Resource Requirements and Libraries.*, page 2-8

Leaf SOV Task: This is defined as the lowest task in the WBS associated with an SOV under which no further tasks can be created.

SOV Summary Task: This is defined as a task which is the parent task for the Leaf SOV tasks in the WBS

ARR Task: This is defined as the autogenerated task associated with an Activity Resource Requirement. The system automatically generates ARR task for a leaf SOV task.

Non SOV ARR Task: This is defined as the lowest level task in the WBS which is manually associated with an Activity Resource Requirement. You cannot define a non SOV ARR task under a leaf SOV task or SOV Summary task.

Activity task: This is a task associated to an activity resource requirement. Activity task is a generic term used for ARR task or non SOV ARR task across the WBS.

The followed diagram provides an outline of the overall SOV workflow:

Schedule of Values Workflow



Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

Integration with Oracle Project Contracts

Oracle Project Planning and Control allows you to create a SOV from a project contract in Oracle Project Contracts or directly enter one. Once a project is created, the SOV details can either be updated from Oracle Project Contracts or can be entered directly.

Once you create a project from an approved contract or agreement, you can enable SOV

for the project, define the SOV and lines and associate ARRs with the SOV lines. If integrated from Oracle Projects Contracts, SOV details are updated automatically and you do not need to enter the details directly. For more information, see: Enabling and Disabling Schedule of Value, page 2-6. If the SOV lines are updated from the project contract, you cannot edit, add or remove the lines unless the changes are first made to the contract in Oracle Project Contracts and the agreement is re-approved.

To ensure the SOV is updated accurately, the following restrictions and validations are applied when you generate SOV details from a Project Contract:

- The Project Contract should contain all entities of cost, scope, schedule and quality (CSSQ)
- All contract line items amount should total to the total contract value.
- If a Project Contract has been associated with a SOV project, you cannot associate any sub projects.
- If a Project Contract is marked as a SOV contract and associated with a SOV project, only one customer can be associated to the contract.
- If a project has been set with the option Do Not Generate SOV from Contract, then the project cannot be associated with a Project Contract.
- Once a SOV project is associated to a contract, it cannot be associated to any other contract.
- Once SOV information has been updated to the SOV project, you cannot change the association.
- For a SOV project contract, once the contract lines are updated on the SOV project, then:
 - Contract lines cannot be deleted.
 - The quantity can be changed to Zero as long as the line is not billed.
 - While editing any line quantity, the new quantity cannot be less than the billed quantity.

For a SOV project contract, SOV information can be updated to a project at the following points:

- When the contract is approved.
- When a change request for the contract is completed.
- When the contract or a contract line is terminated. (Only contract or line number and status is updated on the project.)

The following information is updated on the project at the time of initial creation of a SOV upon approval of the contract:

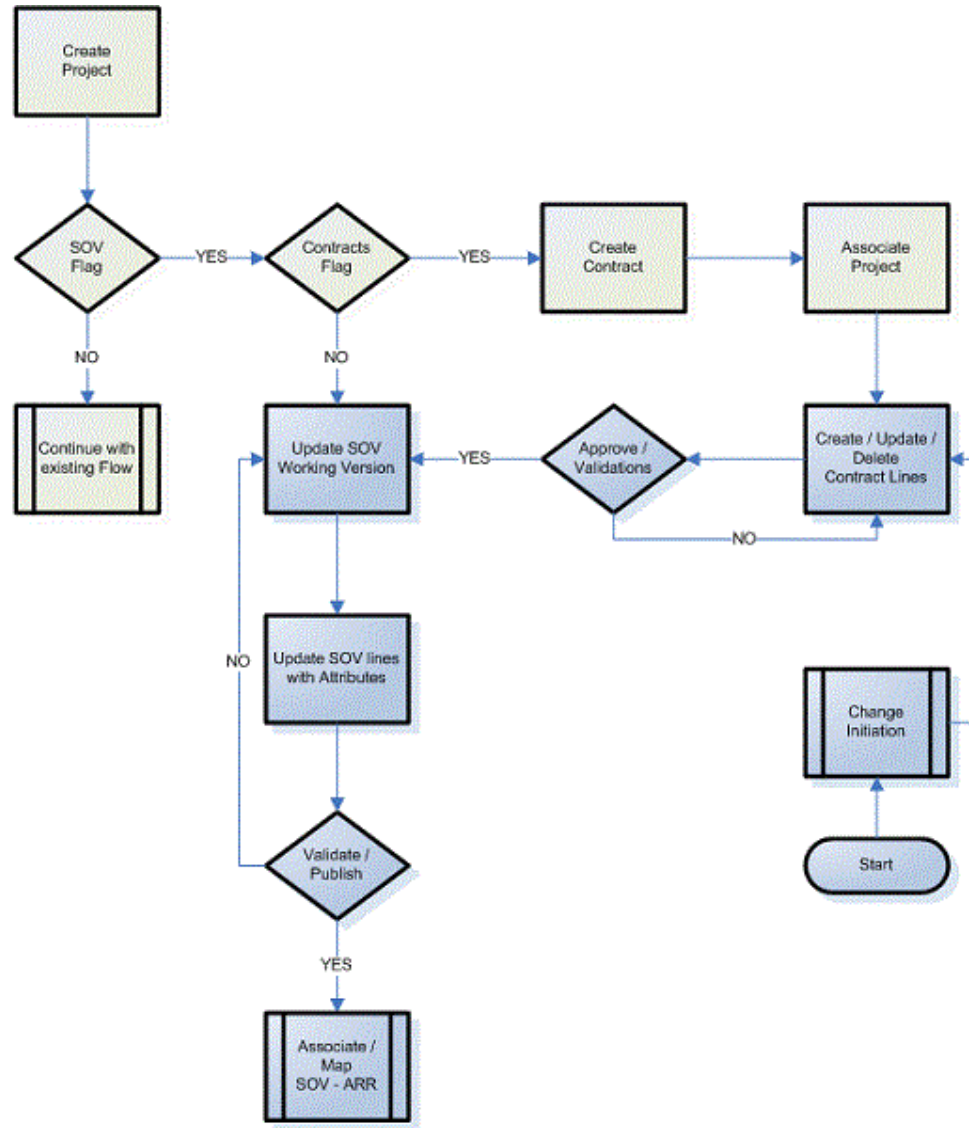
Contract Information:

- Contract Type
- Contract Number
- Contract Amount
- Contract Currency
- Payment Terms

Contract Line Information:

- Contract Line ID
- Line Number
- Line description
- UOM
- Quantity
- Billing Rate
- Change Reference, if any

The following illustration shows an overview of the Contracts operational flow:



Enable or and Disable Schedule of Values for Contract Projects

In order to manage a unit rate based project contract with a schedule of values (SOV), you must enable a SOV for the project and associate it with a contract during the contract creation in Oracle Project Contracts. Once enabled, you can select whether to derive the SOV lines from a Project Contract or to enter the required values and set up a SOV manually. Once you setup the SOV lines, you associate the SOV lines to tasks in the work breakdown structure (WBS). You can associate a SOV line to any level of task in the WBS. If the SOV lines are generated from a project contract, the SOV lines are updated, deleted, or added whenever the source project contract is updated. Once you enable a project for Schedule of Values, the project structure defaults to a fully-shared, version-enabled structure.

Once the SOV lines are generated from a Project Contract, you cannot add, update or delete any SOV lines directly. You can only add, update or delete SOV activities and update spread curves. Once the SOV is completed and mapped to the tasks in the WBS, you can publish it for use. The SOV does not become active until it is published

You cannot enable Schedule of Values for a project under the following conditions:

- The project workplan is already published
- Program reporting is enabled for a project
- The project structure is not Fully Shared (FSS)
- A funding agreement is already created
- Event or Event Billing type is not enabled
- Billing event is created from a deliverable
- An Approved Cost Budget, Approved Revenue Budget or Primary Forecast plan type version exists.

Enabling Schedule of Values for a Project

To enable Schedule of Values (SOV) for a project:

1. Navigate to the Project Setup page and click the Structures link.
2. Under the Schedule of Values section, select the Enable Schedule of Values check box.
3. If you want to generate SOV lines from a Project Contract, first create and approve the project contract in Oracle Project Contracts, then select the Generate SOV from Contracts check box. If the SOV is already published, this check box is disabled.
4. If you want to enter the SOV, do not select the Generate SOV from Contracts check box and enter the following information:
 - Contract Type: Select an appropriate contract type from the list.
 - Contract Amount: Enter the contract amount.
 - Contract Currency: Enter the currency for the contract.
 - Payment Terms: Select the payment term for the contract.
 - Contract Number: Enter the contract number to which you want to associate the project.

- **Planning Resource List:** Select the appropriate planning resource list that you want to use for selecting resources for your ARR on SOV lines or activities.
- **Plan Amounts in Multiple Currencies:** Select this check box if you want to use multiple currencies when you enter project plans.
- **Time Phase:** Select a PA or GL period time phase for budgeting and forecasting.
- **Period Profile:** Select a PA or GL period profile to specify how Oracle Project Planning and Control groups and displays time periods when you edit budgets and forecasts.
- **Current Planning Period:** Enter the date for current planning period for the project.

Note: If you do not select the Generate SOV from Contracts check box, the contract can be enabled for Schedule of Values but the SOV is not generated from the Project Contract and you need to enter the SOV. For more information see, *Manually Creating Schedule of Values (SOV)*, page 2-15.

5. Click Apply. The project is enabled for SOV and associated to the selected contract or click Cancel to discard your changes and return to the Setup page.

Disabling Schedule of Values for a Project

You can disable Schedule of Values for a contract project by clearing the Enable Schedule of Values check box in the Project Setup page. You can disable a project SOV until the SOV and workplan are published. The SOV cannot be disabled if a project is associated to a SOV contract or updated with the data from the contract.

Managing Activity Resource Requirements and Libraries

An Activity Resource Requirement (ARR) is a set of resources required to perform a certain number of units of a specific activity output. An ARR is independent of project and can be used for more than one project at a time.

All the ARRs are stored in an ARR library and you can associate these ARRs to your SOV project. When you associate an ARR to a project SOV from the ARR library, a copy of the ARR is generated that is specific for that project (project-specific ARR). All the resources in an ARR are derived from the PRL that you selected while setting up the project. All the updates, such as addition or deletion of resources to the ARR are done on the copy of ARR associated with the project and the ARR in the library is not affected.

You create ARR by entering new ones or copying and editing existing ones. An ARR is the only source for planning or using resources in SOV-enabled projects. Once created, an ARR can only be deleted if it has no association with any active SOV.

The following business rules and validations ensure that the ARR is complete and the association of the ARR to a project SOV is valid:

- An ARR is considered New and any values can be updated until the first time it is enabled.
- When adding resources to an ARR, if the resource is rate-based, you can enter a Quantity and UOM.
- When adding a resource, if the resource is non-rate based, you must enter an amount. Non rate-based resources use the same currency as the Planning Currency that you defined at the time of project setup. If resources are needed in different planning currencies, you must create new ARRs for the additional currencies.
- You can only select resources in the Add Resources section of the ARR from the PRL selected in the ARR header.
- A new ARRs do not require approval. Once the status is set to Active, it can be used in any project enabled for SOV.
- The work quantity spread curve for the ARR is derived from the PRL and is copied to the ARR while associating it with the project (project-specific ARR). You can update the spread curve by updating the copy of the ARR associated with the project or SOV line.

Searching Activity Resource Requirements

The Search Activity Resource Requirements page allows you to find and manage Activity Resource Requirements. You can search and view details of existing ARRs. You can also perform various actions such as copy, create, update, and delete an ARR.

To search for an existing ARR:

1. Navigate to the Search Activity Resource Requirements page.
2. Use the following criteria to search for existing ARRs:
 - Name
 - Category
 - Status
 - Planning Resource List

- Effective From/To Dates
3. Click Go. The search results table displays the ARR's matching the search criteria. The following details are displayed:
 - Name
 - Category
 - Output Quantity
 - Output UOM
 - Planning Resource List
 - Planning Currency
 - Effective From/To Dates
 - Status

From the results table, you can perform the following actions for each row:

1. View ARR: Click the name of the ARR to open the View Activity Resource Requirement page and details of the selected ARR.
2. Create an ARR: Click Create to open the Create Activity Resource Requirement page and create a new ARR. For more information, see: *Creating Activity Resource Requirement and Adding Resources*, page 2-10.
3. Update: Click the Update icon to open the Update Activity Resource Requirement page and edit the selected ARR. The Update icon is disabled if the ARR is in use for any project. For more information, see: *Updating and Deleting Activity Resource Requirement*, page 2-13.
4. Copy: Click Copy to open the Copy Activity Resource Requirement page and copy the selected ARR. For more information, see: *Copying Activity Resource Requirement*, page 2-12.
5. Delete: Click the Delete icon to delete the selected ARR. An ARR can only be deleted if it is in Draft or Ready For Use status and has not been Active or associated to any project or SOV. For more information, see: *Updating and Deleting Activity Resource Requirement*, page 2-13.

Creating Activity Resource Requirement and Adding Resources

You can define a library of Activity Resource Requirements (ARRs) that can be used for

SOV projects to define the relationship between the rate of resources consumed to complete a unit-based output activity. Once created, the library of ARR's can be used for multiple projects, and a copy of the ARR's used in a project are associated to the project to manage project-specific ARR updates.

Once an ARR is created, you can associate multiple resources with the ARR to be used for the activities until the time the ARR is in Draft status. If at any time during project execution, you need to add more resources to an ARR that is associated with a SOV line or SOV activity, you can update the ARR but the changes would be applicable only for the project to which this ARR is associated. For more information regarding project-specific ARR, see: Updating Schedule of Values (SOV) and Activity Resource Requirements for a Project, page 2-20.

To create an ARR:

1. Navigate to the Search Activity Resource Requirements page.
2. Click Create. The Create Activity Resource Requirement page appears.
3. Enter the appropriate information in the following fields:
 - Name: Enter a unique name for the ARR.
 - Description: Enter a short description for the ARR.
 - Effective From Date: Select an effective date for the ARR.
 - Effective To Date : Select a date until which this ARR can be used.
 - Status: Select appropriate status for this ARR. The valid values are Draft and Ready For Use. You cannot update an ARR if the status is Ready For Use.
 - Output UOM : Select appropriate UOM for this ARR from the list of predefined UOMs.
 - Output Quantity: Enter the production quantity for an activity that can be delivered using the resources specified in the activity resource requirement.
 - Category: Select an appropriate category for this ARR from the list of predefined categories.
 - Planning Resource List: Select a planning resource list to add resources to this ARR. All resource classes-enabled active PRLs available in the system become the source.
 - Planning Currency: Select appropriate planning currency. This field is mandatory for non-rate based resources.
4. In the Resource Requirement section, click Add Resources. The Search and Select:

Add Resources page appears.

5. Search for resources using any of the following criteria:
 - Resource Class
 - Resource Name
 - Resource Format

6. Select the resources that you want to add and click Add Resources. The Create Activity Resource Requirement page appears and displays resource details in the following columns:
 - Resource Name (read only)
 - Resource Class (read only)
 - Resource Format (read only)
 - Quantity (conditional based on resource selected)
 - UOM (read only)
 - Amount (conditional, based on resource selected)
 - Spread curve (defaults from the PRL)

7. Click Apply to create an ARR or click Cancel to discard the new ARR entries and return to the Search Activity Resource Requirements page.

Copying Activity Resource Requirement

The Search Activity Resource Requirements page allows you to copy an existing ARR to create a new ARR. When you copy an ARR, all the values are defaulted from the source ARR except the following:

- The ARR Name is defaulted as [source ARR Name] -copy. You can update the name of the ARR.
- The status is changed to Draft.
- The Effective From date is defaulted to the current system date.

The copied ARR is considered as a new ARR and is subject to all the rules as if it was entered manually. The new ARR does not need to be associated to the source ARR.

To copy an ARR:

1. Navigate to the Search Activity Resource Requirements page.
2. Use the following criteria to search for existing ARR:
 - Name
 - Category
 - Status
 - Planning Resource List
 - Effective From/To Dates
3. Click Go. The search results table displays the ARRs matching the search criteria.
4. Select the ARR that you want to copy and click Copy. The Copy Activity Resource Requirement page appears and displays details of the source ARR.
5. Enter the appropriate information in the following fields:
 - Name: Update or enter a new name for the ARR.
 - Description: Update or enter a new description for the ARR.
 - Effective From: Update the effective date for this ARR. This date is defaulted to the current system date.
 - Effective To: Select a date until which this ARR remains valid.
6. Click Copy and Continue. The Update Activity Resource Requirement page appears and displays all the details of the ARR.
7. Update the information in the fields as required and update the status of the ARR.
8. Add or remove resources in the Resource Requirements section. For more information, see: [Creating Activity Resource Requirement and Adding Resources](#), page 2-10
9. Click Apply to save the new ARR or click Cancel to discard your changes and return to the Search Activity Resource Requirement page.

Updating and Deleting Activity Resource Requirement

You can update and delete single or multiple ARRs from the Search Activity Resource Requirement page. You can only update details of an ARR that is in Draft status, has never been Active or associated to any project or SOV. For updating an ARR that is in Ready For Use status but has not been associated to any project or SOV, you must

change the status to Draft first and then update the ARR. You can also add or delete resources from an ARR.

To update an ARR:

1. Navigate to the Search Activity Resource Requirements page.
2. Use any of the following criteria to search for existing ARRs:
 - Name
 - Category
 - Status
 - Planning Resource List
 - Effective From/To Dates
3. Click Go. The search results table displays the ARRs matching the search criteria.
4. Select the ARR that you want to update and click the Update icon. The Update Activity Resource Requirement page appears.
5. You can update the following fields in an ARR that is in Draft status:
 - Name
 - Description
 - Planning Resource List
 - Effective From
 - UOM
 - Quantity
 - Category
 - Status
 - Add or Delete Resources
6. Click Apply to save the updated ARR or click Cancel to discard your changes and return to the Search Activity Resource Requirement page.

Similarly, you can delete ARRs that are not in use or are past their Effective To date. The ARRs that are past their Effective To date are automatically changed to Inactive status. You can delete ARRs that are in Draft or Ready For Use status but have not been

associated to any project or SOV.

To delete an ARR:

1. Search the ARR that you want to delete from the Search Activity Resource Requirements page.
2. Select the ARR that you want to delete and click the Delete icon.

Managing a Project Schedule of Values

The Schedule of Values for a project is managed in the Schedule of Values page. You can select this page in the sub-menu for a project. You can access this page when a project is enabled for SOV.

When no SOV has yet been created or generated, the Schedule of Values page is displayed with no values in the tables and you can start entering new table rows to create SOV lines manually. If the SOV is generated from a contract, you can view the SOV lines that are automatically generated. For more information, see: Integration with Oracle Projects, page 2-3.

If there is any existing version of a SOV previously entered or generated, the Schedule of Values page displays the existing SOV lines. If there is a previously published version, the publish date is displayed in the page summary. You can update SOV and Activities using the Update icon in the Schedule of Values page. You can also view any previous versions of a SOV.

The Schedule of Values page also allows you to update the SOV by adding or deleting SOV lines, to publish a SOV and to view change history for a SOV.

Manually Creating Schedule of Values

For any project enabled for a SOV, you must enter the SOV if you have not selected the Generate SOV from Contracts check box at the time of enabling SOV for a project and enter the required information, see: Enabling Schedule of Values for Contract Projects, page 2-7. The SOV does not become active until it is published for use. The following rules and validation are ensured while entering SOV lines:

- The project or project template must be enabled for SOV.
- You can enter SOV lines only if the project is not associated to a project contract.
- The project does not require a funding or contract to enter the SOV. If funding is not selected in the setup page, it is created when you publish the SOV
- You cannot manage a SOV without first selecting a project.
- A SOV line number must be unique within a SOV.

To enter SOV and SOV lines for a project:

1. Navigate to the Search Projects page and search for the project for which you want to enter the SOV. The search results are displayed.
2. Click the project name. The project details are displayed.
3. Click the Schedule of Values tab. The Schedule of Values page appears and displays the following details that you entered in the project setup page:
 - Description - Defaults from the project SOV setup page.
 - Version Name- Defaults from the project SOV setup page as Copy: SOV Name. You must update this name each time you update the SOV. A unique name is required for versioning.
 - Contract Start Date - Defaults from the associated project agreement and is read only.
 - Contract End Date - Defaults from the associated project agreement and is read only.
 - Contract Currency - Defaults from the currency of the associated agreement and is read only.
 - Contract Type - Defaults from the associated agreement and is read only.
 - Contract Number - Defaults from the associated agreement and is read only.
 - Amount - The total funding amount of the associated agreement and is read only. The amount can only be updated on the associated agreement.
 - Published Date - Displays the date when the SOV was published. If no version of the SOV has ever been published, this field is blank.

The Lines section displays any existing SOV lines. This section remains blank if there is no existing SOV line.

4. Click Update. The Schedule of Values page appears. In the Schedule of Values section, you can enter a unique name for the SOV in the Version Name field. The SOV name is defaulted to Copy: SOV Name.
5. In the Lines section, click the Create SOV Line icon. You can enter information in the following fields:
 - Number: Enter a line number for the SOV line.
 - Description: Enter a short description for the SOV line.

- UOM: Select the appropriate UOM code for the SOV line.
 - Quantity: Enter a positive value for the SOV quantity that you expect to deliver using the resources.
 - Billing Rate: Enter the billing rate for the entered quantity.
 - Amount: The amount is calculated automatically based on the quantity and billing rate and is displayed when you click Apply to save your changes.
 - Change Reference: Enter the change order number, if any, associated with this SOV line.
 - Spread Curve: Select appropriate spread curve from the list of available Spread Curves defined in the spread curve setup. The spread curve is used to spread the work quantities between the task schedule start date and the task scheduled end date.
 - ETC Method: Select appropriate forecast ETC method from the list of available ETC methods for the project. For more information about ETC sources, see: Defining ETC Sources, page 8-44.
 - Multiple ARR: Select Yes or No to mark the SOV Line as multi-resourced or single-resourced.
6. Click the Activity Resource Requirements icon to add resources to the SOV lines by selecting Activity Resource Requirements (ARRs) from the ARR library. This feature becomes available when you click Apply to save your changes. For more information, see: Adding Activity Resource Requirements to SOV Lines or SOV Line Activities, page 2-17.
 7. Click Save and Continue if you want to add more SOV lines.
 8. Click Apply if you do not want to add any more SOV lines. The Schedule of Values page appears and displays SOV details.
 9. Click Publish if you want to publish the SOV. The Schedule of Values page appears and displays SOV details in the View mode.

Adding Activity Resource Requirements to SOV Lines or SOV Line Activities

After you enter, copy, or generate SOV lines and publish the SOV at least once, you can assign resources to the SOV lines by associating Activity Resource Requirements (ARRs) from the ARR library.

When you associate an ARR from the library, a copy of the ARRs is associated to the project to manage project-specific ARR updates. All the updates, such as addition or

deletion of resources to the ARR are done on the copy of ARR associated with the project and the ARR in the library is not affected. If more than one ARR is associated to a SOV line, each ARR association becomes a SOV line activity. If a SOV line has single ARR, then the SOV is an activity itself.

From the Create or Update SOV page, you can select a SOV line and add ARRs. This enables you to select one or more ARRs for the same SOV line.

The following rules and validations are ensured while adding ARRs to the SOV lines:

- You can only select ARRs that are active and in Ready for Use status on the project start date
- If multi currency option is not enabled at the workplan level, you can select only those ARRs which have matching currencies with the project currency. If multi currency option is enabled at the workplan level, you select any ARR and the system adds the currency in workplan currency page.
- For an SOV project with Non SOV tasks associated with an ARR, you can add cost code at the resource level.
- Cost codes for the resources are defaulted from the ARR for the tasks associated with the SOV line.
- For a SOV line marked as a single ARR, the UOM and quantity will default when you associate the ARR to a SOV line.
- For a SOV line marked as a single ARR, you can only associate the following:
 - one ARR.
 - the ARR with the UOM code that matches the SOV

Prerequisites:

1. Enable Schedule of Values for the project.
2. Define ARRs.
3. Define SOV lines and publish the SOV.

To add ARRs to a SOV line:

1. Navigate to the Schedule of Values page.
2. Click Update. The Schedule of Values page appears and displays details in the Schedule of Values section and SOV lines in the Lines section
3. In the Lines section, click the Activity Resource Requirements icon. The Activity Resource Requirement page appears and displays SOV line details and the

associated ARR.

4. In the Activity Resource Requirements section, click the Create ARR icon.
5. Click the Name field to search and select an appropriate ARR from the list. You can use the following criteria to search for an ARR:
 - ARR Name
 - ARR Description
 - UOM
 - ARR Category
6. Once selected, the selected ARR is associated with the SOV line and the Activity Resource Requirements section displays the following details:
 - Name: Displays the name of the selected ARR
 - Description: Displays a short description for the selected ARR.
 - UOM: Displays the activity quantity UOM
 - Quantity: Enter the production quantity for an activity that can be delivered using the resources specified in the activity resource requirement. This value should be a positive number.
 - Planning Currency: Displays the planning currency for the selected ARR.
7. You can perform the following actions for an ARR.
 - Edit ARR: Click this icon to open the Update Activity Requirement page where you can view and edit the resources for the selected project. The updates are applicable only to the copied version of the ARR and are project specific. This icon is available after the first time the page is saved. For more information, see: Updating Schedule of Values (SOV) and Activity Resource Requirements for a Project, page 2-20.
 - Delete: Click this icon to delete the ARR association. You can only delete a SOV-ARR association until the workplan has not been published.
8. Click Save and Continue if you want to save the current additions and add more ARRs to the SOV lines.
9. Click Apply to save your changes and return to the Schedule of Values page.
10. Once on the Schedule of Values page you can edit other details or just click Apply

to save your changes.

Updating Schedule of Values and Activity Resource Requirements for a Project

You can update SOV lines and project ARR associated with the lines for a project by updating a copied version of the latest published version. Each updated version is maintained with a history of version number and effective dates. You can also view these historical versions from the Schedule of Values page. The previously published version stays in effect until the working version is approved and published. You can only view and update SOV lines for the selected project.

When SOV lines or line activities already have progress collected or any SOV billing generated, updates are restricted and conditional.

You can update any ARR associated to the SOV lines or activities by adding more resources from the Schedule of Values page. Updates to the ARR are applicable for that project only and are applied across all the tasks associated to the SOV lines wherever the updated ARR is used.

The following rules and validations are ensured:

- The updated SOV becomes applicable i.e., changes are applied to funding, quantity, or rates, only when it is published.
- You can delete an ARR from a SOV line or activity only if there is no published version of the SOV or any progress collected. When you delete an ARR, it deletes all resource assignments created in the workplan when the SOV line is associated to a WBS task. For more information on SOV line and WBS task association, see *Creating WBS Tasks and Workplan*, page 3-32.
- All updates to the resources in an ARR are done on the version of the ARR copied for a project and not on the library version of the ARR.
- If an SOV is published, you cannot delete an SOV line. If needed, you can change the quantity to zero and add a new line.
- If you update fields that effect planning amounts or spread distributions, the updated values only take effect on the next plan versions. Older versions are not updated automatically.

To update SOV line and associated ARRs:

1. Navigate to the Search Projects page and search for the project for which you want to create SOV. The search results are displayed.
2. Click the project name for which you want to update SOV. The project details are displayed.
3. Click the Schedule of Values tab. The Schedule of Values page appears and displays

the details of the SOV. The Lines section displays the existing SOV lines.

4. Click Update. The Schedule of Values page appears. In the Schedule of Values section, update the name or enter a new name for the SOV version in the Version Name field. The SOV name is appended as Copy: SOV Name each time you update the SOV.
5. Update any of the following fields for the previously defined SOV lines or click Create SOV Line to add a new SOV line:
 - Quantity: Update the SOV line quantity. You can change this to zero but not to a negative number.
 - Billing Rate: Update the billing rate for the SOV line.
 - Spread Curve: Select an appropriate spread curve for the SOV line.
 - Change Reference: You can enter one or more change order reference numbers for a SOV line. The change order reference numbers are specific to a SOV line and version.
 - Multiple ARR: You can only change a value in the working version, also known as the update mode of SOV. The published SOV versions contain read-only values if the SOV line is a single ARR or multiple ARR. As such, you cannot change the value for a published SOV line, between Yes and No.
6. Click Activity Resource Requirement icon. The Activity Requirement page appears and displays the details of the associated ARRs. You can associate new Activity Resource Requirements (ARRs) from the ARR library or update the existing ARRs. You can update the following information for an ARR line:
 - Quantity: Update the production quantity for an activity that can be delivered using the resources specified in the ARR.

Note: You cannot update the production quantity for an activity that is associated to an SOV line marked for a single ARR.
7. Click the Edit ARR icon to update the ARR resources. The Update Activity Resource Requirement page appears. You can update the following values for resources:
 - Coefficient: Coefficient is a proportional relationship between the unit of work to be delivered and the resources required. The system calculates coefficient per unit while generating resource assignments based on the standard output quantity and resource quantity.

- Quantity: Update the resource quantity.
 - Amount: Update the amount for non-rate based resources.
 - Spread Curve: Update the spread curve type.
 - Add new resources.
 - Delete resources: Click the Delete icon to delete the resource.
8. Click Apply to save your changes and return to the Activity Resource Requirement page.
 9. From the Activity Resource Requirement page you can make additional edits or just click Apply to save the updated ARR and return to the Schedule of Values page.
 10. From the Schedule of Values page, you can make additional edits or click Apply to save the updated SOV lines.
 11. Click Publish to publish the updated SOV.

Publishing and Viewing Change History for a Schedule of Values

You must publish a completed SOV before it can be used to assign resources and manage a project. You can publish the SOV from the Schedule of Values page using the Publish button.

Every time you update a SOV, the changes are done to a copy of the latest published version. Each updated version is maintained with a history of version number and effective dates. A SOV, until published, is considered a working version. All the previous versions of published SOVs can be viewed in the Schedule of Values Version History page.

Until the SOV is published, the following actions are not allowed:

- No SOV lines can be associated with any WBS task.
- No seeded or approved financial plan type can be generated.
- No progress can be collected on WBS tasks.
- No change orders can be created or implemented.

To publish an SOV:

1. Navigate to the Schedule of Values page of the project for which you want to publish the SOV. The details of the SOV and existing SOV lines are displayed.

2. Click Update. The Schedule of Values page appears.
3. Update the Version Name, SOV lines, associated ARRs.
4. Click Apply to save your changes and return to the Schedule of Values page.
5. Click Publish. A confirmation message appears.
6. Click Yes to publish the updated SOV or click No to discard your changes and return to the Schedule of Values page.

To view version change history:

1. Navigate to the Schedule of Values page of the project for which you want to view SOV version history.
2. Click View History. The Schedule of Values Version History page appears and displays all the previously published versions of SOV under the SOV Published Versions section. You can view the details under the following columns:
 - Version Name: Displays the name of the SOV.
 - Published Date: Displays the date on which the SOV was published.
 - Contract Amount: Displays the total amount for the contract.
3. Select the SOV version for which you want to view the details. The SOV line details for the selected version are displayed in the SOV Line Details section. You can view the following details:
 - Line number
 - Line Description
 - UOM
 - Quantity
 - Billing Rate
 - Amount
 - Change Order Reference
 - Spread Curve
 - Forecast ETC Method
4. Click Last Published Version to return to the Schedule of Values page and view the

latest published version of the SOV.

Viewing Task and Periodic Details for a SOV line

The Schedule of Values page allows you to view a summary of the metrics associated with the Planned, Actual and Remaining attributes of a SOV line. You can view the task details and periodic details for each SOV line.

The Planned values depict the latest published work plan, ITD values from the current baseline and the Actual, ETC and Forecast values from the Primary Cost Forecast of the current working version.

To view the task details:

1. Navigate to the Schedule of Values page.
2. Click the Task Details icon under the Task Details column of the SOV line for which you want to view the tasks. The Task Details page appears. This page provides a view of the metrics for the tasks associated to the SOV line. You can view the details down to the lowest level tasks. The Task Details page also displays task details such as task name, total planned cost and quantity, ITD quantity and cost, BCWP, actual cost, forecast quantity, ETC, and so on. You can also view the Earned Value Measures, Cost Performance Index (CPI), Schedule Performance Index (SPI) and To Complete Performance Index (TCPI) , calculated at the SOV line level.

To view the periodic details:

1. Navigate to the Schedule of Values page.
2. Click the Periodic Details icon under the Task Details column of the SOV line for which you want to view the distributed periodic quantities. The SOV Details page appears and displays the periodic details such as period name, planned and actual work quantity.

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
- Managing the Workplan Lifecycle Using Baseline Versioning
- Advanced Project Planning and Control

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

- enable workplan baseline versioning

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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.

Related Topics

Setting up Workplans, page 3-3

Enabling Project Structures, *Oracle Projects Fundamentals*

Enabling Workplan Structure and Workplan Versioning, *Oracle Projects Implementation Guide*.

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 3-27.

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 Oracle Projects 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.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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
- Update the tasks transaction dates automatically.
- Automatically update the tasks' transaction dates.
- Define approval options for the workplan (if versioning is enabled).
- Select a planning resource list for the workplan with either resource classes enabled or disabled.
- 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 with either resource classes enabled or disabled.
- 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.
- Enable resource assignment option.

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*.

Note: You can configure the workplan structure for a template or for a project.

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 3-47.

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 3-54.
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 3-17.
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 3-24.
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 3-26.
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). If the *Automatically Update* check box is not enabled, you can also use the Tools menu for enabling Oracle Projects to update the transaction dates. For a shared workplan structure, if versioning is not 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 3-49.

13. **Enabling Resource Assignment Options: The Assignment Duration Same as Task Duration** option enable you to automate the alignment of resource and task duration in Oracle Projects for all new and changed tasks and task assignments.

If you choose not to enable this option at the project template or project level, you must manually define or update each new and each existing task assignment as applicable.

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 when resource classes are enabled in the planning resource list. In case of disabled resource classes in a planning resource list costs are computed from the planned amounts. You can update the Enable Workplan Cost value until progress exists against the workplan or you publish a workplan version (if versioning is enabled).

Because you can only summarize costs when you do not use resource classes to group your planning resources on a planning list, you must enable cost tracking on the workplan settings in order to use a planning resource list with resource classes disabled.

Warning: All existing resource assignments are deleted if you modify the workplan cost tracking option after you assign resources to a project.

For more information on resource assignments and costs, see *Managing Workplan Effort and Cost*, page 3-37.

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 3-8.

Setting Planning Options for Workplan

To avoid inconsistencies in summarizing costs or rolling up physical percent complete, a planning resource list that has disabled resource classes can not be associated to a workplan that has an associated resource breakdown structure that has enabled resource classes or with workplans that use Effort as the physical percent complete rollup method.

You can use a primary reporting resource breakdown structure with resource classes enabled and select a planning resource list with resource classes disabled, but the plan amount totals may not be the same.

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 3-47.

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 a workplan having planning resource list that has enabled resource classes. For more information on resource assignments, see: Creating Resource Assignments, page 3-18. If you retain the default *None* value, the system does not spread the planned amount across specific periods when resource classes are disabled in a planning resource list.

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 select Effort as the physical percent complete roll up method in the progress settings then you cannot select or change the planning resource list in the Plan Settings tab to a planning resource list that has resource classes disabled.

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.

Update Planning Resource List Window for Moved Budgets

If the Budget includes resources then they are moved as well. You can edit budget in the financial plan, on the moved budget, by adding only hierarchical resources.

A new Hierarchical Resources tab is included on the Update Planning Resource List window. On selecting this tab, the list of resources display hierarchically. The Outline number indicates the parent-child relationship. You can add new resources through the Update Child Elements page.

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 Settings 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 source that you use in your

project to calculate actual costs, or you can use separate rate schedules for planning purposes. You specify your choice by selecting or deselecting the Use Planning Rates check box. If you select this check box, then the application derives cost rates for the labor resource from the project rate schedules attached to the employee or job depending upon the resource format. If you do not select the check box, then the application derives the rate for the labor resource based upon the rate source selected on the same labor costing rule associated to the resource at the employee, organization or operating unit level used for calculating actual labor rates. You have three rate source options in the labor costing rule:

- Projects - the rate is derived for the labor resource from the project rate schedule attached to the employee or job. If a rate cannot be derived, then the override rates from the appropriate labor costing override rule or the rate schedule setup for the resource class in your plan type planning options is used.
- HR - the rate is derived from the Rate by Criteria matrix setup in Oracle HR using the pay element specified on the labor costing rule and other rate determination values. When deriving an actual rate for planning, attributes associated with the planning resource or task are used to derive the correct RBC rate. In addition to the employee and dates, the following attributes can be used to derive a rate:
 - Work type: Work type is derived from the planned task associated to the planning resource.
 - Location: Location is derived from the HR assignment of the planning resource employee.
 - Job: Job is derived based on the resource format associated to the planning resource:
 - If job is part of the resource format, the specified job is used.
 - If job is not part of the resource format, then job is derived from the HR assignment of the planning resource employee.
- Extension - the rate is derived using your customized rate derivation logic.

Note: If you are using the Actual labor costing method and do not enable accruals, then you must enable the labor costing rule for planning in order to select a rate source. 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. This is applicable when the planning resource list has disabled resource classes, despite the selection or deselection of the Planning Rates check box.

If the application is not able to derive a rate, then you must enter one manually.

If the Use Planning Rates check box is selected and the planning resource list associated with the plan type has resource classes that are disabled then you must select the burden schedule for the workplan based on which the burden cost is determined.

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 8-1.

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 projects that have cost breakdown planning enabled, you must associate cost codes to each task. You use the task and cost code combinations to create task resource assignments and to match actual cost transaction expenditures to plan lines.

Note: For shared structure projects, the task descriptive flexfields are displayed in Workplan: Tasks, Update Tasks.

For more information about task type selection, see Selecting Task Types, page 3-10.

For more information about the task outline level, see Controlling the Task Outline Level for New Tasks, page 3-11.

For more information about the task schedule, see Managing the Task Schedule, page 3-17.

For more information about defining planned effort, see Managing Workplan Effort and Cost, page 3-37.

For more information about task associations, see Creating Task-to-Project and Task-to-Task Associations, page 3-26.

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.

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.

Because you cannot summarize effort by resource classes when you select a planning resource list with resource classes disabled, you can select or change the physical percent complete derivation method to any method other than Effort.

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

Controlling the Task Outline Level for New Tasks

You can 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 their subordinate tasks) into the workplan at one time.

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 Tasks page. If the first task's outline level is 0, it will become a peer of the task that was selected on the Update Tasks 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 Tasks 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
- Associate cost codes, if cost breakdown planning is enabled for the project.
- 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

- Summary of Task Effort, Cost, and Earned Value Information, page 3-13
- Managing the Task Schedule, page 3-17
- Managing Workplan Effort and Cost, page 3-37
- Defining Task Dependencies, page 3-24
- Creating Resource Assignments, page 3-18
- Project Deliverables Management, page 6-1
- Mapping Tasks, page 3-26
- Creating Task-to-Project and Task-to-Task Associations, page 3-26
- Enabling Task Execution Workflow, page 3-26
- Enabling the Cost Breakdown Structure, *Oracle Projects Implementation Guide*

Summary of Task Effort, Cost, and Earned Value Information

The Schedule tab of the Task Details page enables the communication of effort, cost, and earned value information for a workplan with enabled resource classes.

The following table summarizes information available for effort.

Task Details: Effort

Value	Source
Planned Effort	Rolled up from resource assignments and lower-level tasks. If a task is a lowest-level task and has no resource assignments, then you can define planned effort at the lowest task level. Note: You can define task-level effort only for lowest-level tasks.
Baseline Effort	Planned effort for the task from the baseline version of the workplan.
Actual Effort to Date	Rolled up from resource assignments and lower-level tasks. If the task has no resource assignments and the project has partially shared or non-shared structures, then you can enter actual quantities at the workplan task level when you enter progress updates. If a project has shared structures, then you use the financial transaction system to enter actual quantities.

Value	Source
Percent Complete Effort	<p>Calculated for the task using the following formula:</p> $\text{Percent Complete Effort} = \text{Actual Effort to Date} / (\text{Actual Effort to Date} + \text{ETC Effort}) * 100$
Percent Spent Effort	<p>Calculated for the task using the following formula:</p> $\text{Percent Spent Effort} = (\text{Actual Effort to Date} / \text{Planned Effort}) * 100$
ETC Effort	<p>Working workplan version: Calculated for the task using the following formula:</p> $\text{ETC Effort} = \text{Planned Effort} - \text{Actual Effort to Date}$ <p>Published workplan version: ETC effort for the task is from the latest progress information.</p> <p>If you do not enter a value during progress collection, then Oracle Projects uses the same formula as for the working workplan version to determine the ETC. See: Collecting Progress for Resource Assignments, page 3-67 and Collecting Progress for Tasks, page 3-71.</p>
Estimate at Completion Effort	<p>Calculated for the task using the following formula:</p> $\text{Estimate at Completion Effort} = \text{Actual Effort to Date} + \text{ETC Effort}$

The following table summarizes information available for cost (partially shared and non-shared structures only).

Task Details: Cost

Value	Source
Planned Cost	<p>Calculated for the task using the following formula:</p> $\text{Planned Cost} = \text{Planned Quantity} \times \text{Planning Rate}$
Baseline Cost	Planned cost for the task from the baseline version of the workplan.
Actual Cost to Date	<p>Calculated for the task using the following formula:</p> $\text{Actual Cost to Date} = \text{Actual Quantity} \times \text{Actual Cost Rate}$

Value	Source
Percent Complete Cost	<p>Calculated for the task using the following formula:</p> $\text{Percent Complete Cost} = \text{Actual Cost to Date} / (\text{Actual Cost to Date} + \text{ETC Cost}) * 100$
Percent Spent Cost	<p>Calculated for the task using the following formula:</p> $\text{Percent Spent Cost} = (\text{Actual Cost to Date} / \text{Planned Cost}) * 100$
ETC Cost	<p>Working workplan version: Calculated for the task using the following formula:</p> $\text{ETC Cost} = \text{Planned Cost} - \text{Actual Cost to Date}$ <p>Published workplan version: ETC is from the latest progress information. This value is based on either a manually entered ETC value or, if no value is entered during progress collection, then Oracle Projects uses the same formula as for the working workplan version. For more information, see: Collecting Progress for Resource Assignments, page 3-67 and Collecting Progress for Tasks, page 3-71.</p>
Estimate at Completion Cost	<p>Calculated for the task using the following formula:</p> $\text{Estimate at Completion Cost} = \text{Actual Cost to Date} + \text{ETC Cost}$

The following table summarizes information available for earned value.

Task Details: Earned Value

Value	Source
Planned Value	The total budgeted cost up to the analysis date.
Earned Value	<p>Calculated for the task using the following formula:</p> $\text{Earned Value} = \text{Current Budget} \times \text{Physical Percent Complete}$ <p>Note: If the physical percent complete rollup method for the workplan is <i>Effort</i>, then earned value is based on effort. Otherwise, earned value is based on cost. Depending on the physical percent complete rollup method, Oracle Projects uses either the baseline planned effort or cost for the task to determine the <i>Current Budget</i>. See: Rolling Up Physical Percent Complete, page 3-79.</p>

Value	Source
Schedule Variance	<p>Calculated for the task using the following formula:</p> $\text{Earned Value Schedule Variance} = \text{Earned Value} - \text{Planned Value}$
Cost Variance	<p>Calculated for the task using the following formula:</p> $\text{Earned Value Cost Variance} = \text{Earned Value} - \text{Actual Cost}$
Schedule Performance Index	<p>Calculated for the task using the following formula:</p> $\text{Schedule Performance Index} = \text{Earned Value} / \text{Planned Value}$
Cost Performance Index	<p>Calculated for the task using the following formula:</p> $\text{Cost Performance Index} = \text{Earned Value} / \text{Actual Cost}$
Schedule at Completion	<p>Calculated for the task using the following formula:</p> $\text{Schedule at Completion} = \text{Scheduled Start Date} + (\text{Duration of Task} / \text{Schedule Performance Index})$ <p>Note: Duration of Task = Scheduled End Date - Scheduled Start Date</p>
To Complete Performance Index	<p>Calculated for the task using the following formula:</p> $\text{To Complete Performance Index} = (\text{Current Budget} - \text{Earned Value}) / (\text{Current Budget} - \text{Actual Cost})$
Rollup Physical Percent Complete	<p>Calculated for the task based on the physical percent complete rollup method for the workplan. See: Rolling Up Physical Percent Complete, page 3-79.</p>
Physical Percent Complete	<p>Calculated for the task based on its physical percent complete derivation method. See: Deriving Physical Percent Complete, page 3-74.</p> <p>Alternatively, you can override physical percent complete for the task when you collect task progress.</p>

If work quantity is enabled for the task, then you can view the planned and actual work quantity in the Schedule tab. For information about collecting work quantity, see: Selecting Progress Options for Tasks, page 3-59.

Related Topics

Managing the Task Schedule, page 3-17

Managing Workplan Effort and Cost, page 3-37

Understanding Progress, page 3-54

Collecting Progress for Tasks, page 3-71

Deriving Physical Percent Complete for Financial Structures, page 3-98

Using Progress to Replan Workplans, page 3-95

Earned Value Management, page 12-52

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

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 3-47.
- **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, early dates, and late 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 7-1.

Associating Cost Codes with a Task

If the project is enabled for cost breakdown planning, you must associate the cost codes to create assignments for a task in the Task Details page. You associate one or more cost codes, represented as nodes in the cost breakdown structure, if they are enabled.

Once you associate the cost codes to the task, the task becomes available for any cost transaction, either in a manual batch, an imported batch, or transactions from Oracle Accounts Payable, Oracle Purchasing, and Oracle Time and Labor.

In addition to adding cost codes individually, you can copy from a parent or from any other task rather than selecting each cost code individually. You can view any copied or added cost codes associated to the task in the Task Details page.

The task and cost code association is used in resource assignments in a workplan, financial plan lines in budgets and forecasts, and actual cost incurred during execution of the project.

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. If your planning resource list has resource classes enabled, 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.

If you associate your workplan with a planning resource list that has disabled resource classes, you do not choose a resource class in order to select a planning resource.

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. However, if your assigned resources are not associated to a resource class, you must enter only planned amounts. For more information, see *Managing Workplan Effort and Cost*, page 3-37.

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. When resource classes are disabled for a planning resource list, this page enables you to specify the planned amounts and the actual amounts.

When you create resource assignments for tasks in a project enabled for cost breakdown planning, you must select a cost code from the list of cost codes associated to a task. The combination of task, resource, cost code and currency must be unique and the resource must be associated with the planning resource list for the project. As a prerequisite to adding resource assignment, the workplan cost option must be selected in a cost breakdown structure enabled project.

You cannot update or delete the cost codes on existing task assignments. To modify the cost code, you must remove the assignment and create a new assignment using the correct cost code, only if progress is not entered for the assignment.

Note: For cost breakdown enabled projects, you can add multiple assignments with the same task and resource but with different cost codes individually.

For more information about defining and managing quantity, effort, and cost for task assignments, see *Managing Workplan Effort and Cost*, page 3-37.

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.

If you are not using resource classes, you cannot view the utilization based on a resource class. When resource classes are disabled, the effort is neither computed or displayed.

When the planning resource list associated to the workplan has disabled resource classes, then the resource usage report displays only planned amounts for resources that have a value of Yes for the 'Available for Generating Planning Resources' attribute in the planning resource list.

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 if you are using a resource class enabled planning list, 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 or if your planning resources

are not associated to resource classes because the planning resource list was not enabled for resource classes.

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 3-21.

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.

Additional Information: When the planned effort is distributed over the working days, a discrepancy in the total can occur due to rounding. The discrepancy is corrected in the effort calculated for the last day of the schedule.

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 3-18.

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 3-20.

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 3-22.

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 3-18

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 or fraction 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.

Important: If you are using Microsoft Office Project or another third party scheduling tool, you can also enter lag time in hours, minutes, or seconds. Note that for calculating and displaying lag time, Oracle Projects assumes that a day comprises eight hours.

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 3-50.

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

Updating Financial Information

You can update financial information including the transaction dates, Service Types, ETC Source, and linked projects for newly created tasks in the current working version of a workplan, which is fully or partially shared. For partially shared structures, only workplan tasks that are set up as financial tasks can be updated in the current working

version of the workplan.

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 enable Task 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.

Note: To copy intraproject dependencies for a task, you must copy the entire branch to which the task belongs.

For more information about task dependencies, see *Defining Task Dependencies*, page 3-24.

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 6-5.

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, and the workplan is associated to a planning resource list with resource classes enabled, 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.

When you copy tasks for a cost breakdown planning enabled project, the cost codes from the source task are also copied, but you can only copy tasks from a project using the same cost breakdown structure.

If the planning resource list associated with the workplan has resource classes disabled and when you create new tasks using the Copy External option, then ensure that the planning resource list attached to the source workplan also has resource classes disabled.

Copying A Task Within Your Project Workplan

1. Navigate to the Update Tasks 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 Tasks 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 Tasks 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 buttons on the Update Tasks page to change a selected task's outline level in the workplan. You can move one or more contiguous or non-contiguous tasks at a time. When you change the outline level of a lowest task, the task is moved one level in the direction you indicate. When you change the outline level of a summary task, the level of each of the summary task's subtasks is changed accordingly (relative to the position of the summary task).

Note: The outline level is changed only if all of the selected tasks can be moved.

When tasks are moved, indented, or outdented in the workplan structure of a project that has cost breakdown planning enabled, the cost code association remains unchanged.

Changing the Outline Level of Tasks

You can change the outline level of a task in any of the following ways:

1. Moving a top task as a subtask of another top task
2. Moving a subtask as a subtask of another top task

3. Moving a task hierarchy or multiple tasks as a subtask of another top task
4. Moving a subtask as a top task

When you change the outline level of a task, all attributes associated with the task also move from the source task to the target task.

You can move tasks in a workplan when revenue is generated at the project level but you cannot move the task if revenue is generated either at the source or destination top task.

If a task that is being moved has dependencies other than the same top task the dependencies are moved to the selected location. If dependencies exist within the moved branch, the dependencies are also moved. But, if a task that is being moved has dependencies within the same top task, the dependencies will not move to the selected location. For example, if task 1.1 is dependent on completion of task 1.2, then the dependent task is not moved automatically when you move task 1.1. You must explicitly define the new dependencies at the selected location.

When you move tasks on a working version, direct comparison between workplan versions may not be possible due to changes in the task structure.

When a task is moved, the bill rate schedule is also moved along with the task. In such cases, expenditure items for the task are not automatically marked for recalculation. If the user wants the bill rate schedule of the target top task at the moved task level also, then user will have to copy the rate schedule to the moved task manually and then mark the expenditure items for recalculation, if necessary.

If a burden schedule is different for the source and target tasks, the burden schedule is copied to the target task so that recalculations are not required.

You must also check the accounting setup if the source and target top tasks have different accounts, expenditure items, commitments or revenue is already generated. Moving the task will not automatically update any accounting values.

However, you cannot change the outline level of a task if any of the following conditions apply.

- Source or destination top tasks have baseline funding
- Source or destination top tasks have different invoice generation methods
- Source or destination top tasks have different customers
- Source or destination top tasks have retention
- Source or destination top tasks have different billable or nonbillable attributes
- Destination top tasks have expenditure items or commitments
- Revenue or invoice is generated for the source or destination top tasks

- Oracle Grants Accounting is installed in the system
- Budgetary controls are enabled
- Funds check is enabled
- Supply Chain Management transactions exist

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.

You can update a task to add more cost codes if the project has cost breakdown planning enabled. You cannot delete cost codes if they are used in resource assignment or referenced in an actual transaction for the task.

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 3-79. For shared structures, the task descriptive flexfields are displayed in Workplan: Tasks, Update Tasks.

Note: If you want to notify other stakeholders about the changes to the workplan, then first you must enable versioning and then make the changes.

Deleting Tasks

The Update Tasks 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.

When cost breakdown planning is enabled for a project and a task in the workplan is deleted, the associated cost codes are also deleted. You can remove cost codes that are enabled or disabled in the cost breakdown structure or copied from other tasks or a

workplan. You can also remove cost codes if the parent cost codes or the child cost codes are not removed. However, you cannot delete cost codes if they are used in resource assignment or referenced in an actual transaction for the task. When you remove a cost code it cannot be used in any source transaction or expenditure item. You can change the cost code associated to an actual expenditure item but the changed cost code cannot be mapped to the original cost code

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

Managing the Project WBS for a SOV Enabled Project

Once you create and publish the SOV, you can associate the SOV Lines to tasks in the project work breakdown structure (WBS). This association creates sub-tasks if the SOV Line has line activities (multiple ARRs associated) and also creates resource assignments for the tasks in the workplan that can be used as a source for budget and forecast type financial plan creation. However, no sub-tasks are created if the SOV has a single ARR associated. You can also associate ARRs directly to the tasks that are not part of the SOV (non SOV tasks) in order to define the resources required to complete the task based on activity. Resources from the ARR are used to create resource assignments for the tasks.

You can create new WBS tasks using the Create Task page and organize them into a hierarchy to form a workplan. For more information, see: *Creating Tasks*, page 3-10. At the time of task creation, you can associate SOV lines to the new tasks. Task planned start and end dates are defined along with the distribution of the work quantity using the SOV line spread curve.

While creating tasks, work quantity cannot be entered. You must first add tasks then update each task in the Update Tasks page with the quantity from the source SOV line. You must ensure that the sum of subtask work quantities matches with the parent SOV task amount and that the SOV task amount is equal to the SOV work quantity. You can also view and update the periodic split of the work quantity for a task from the Update Tasks page.

In addition, the SOV activities are associated to WBS tasks to create resource assignments that you can further plan and schedule.

The following rules and validations are ensured:

- The SOV must be published before SOV lines can be associated with WBS tasks
- Each task must have Planned Start and End date specified.
- Association of a SOV line to a WBS task is optional; tasks do not require a SOV line association.
- All tasks must be associated with ARRs including all revenue and administrative

tasks.

- ARRs must be associated through SOV lines for SOV tasks.
- ARRs must be directly associated to tasks for non SOV tasks.
- ARRs are not required for non chargeable tasks or non-cost lines. These tasks are marked as zero cost tasks.
- Resources cannot be assigned to WBS tasks directly. Resources can be assigned only through SOV lines or ARR.
- No progress can be collected against tasks before publishing the workplan.
- From workplan, the resource assignments can be viewed in Oracle Project Resource Management. Resource assignment cannot be done manually for a SOV enabled project.
- The project must have fully shared structure and workplan and financial plan should always contain the same data.

Creating WBS Tasks and Workplan

The Create Tasks page enables you to define new tasks. For more information, see: Creating Tasks, page 3-10. You can navigate to this page from Update Tasks page by clicking on the Create Task button or from the Update Task Detail page. The method of creating tasks is similar to any other project. For an SOV task, the following additional information is required:

- SOV Line: You can select any completed SOV line from the published SOV.
- Activity Resource Requirement (ARR): This can only be selected if a SOV line is not selected, for example, a non-SOV task.

You can also perform the following actions from the Create Tasks page:

1. Click Delete to remove a task.
2. Click Apply to save the created tasks and return to the Create Task page.
3. Click Apply and Continue to save the created tasks and continue modifying the working copy or click Cancel to discard your changes.

Updating WBS Tasks and Workplan

Once the tasks are created in the WBS and a workplan is generated with appropriate resource assignments, you can update the tasks in the current working version from the Update Tasks page. You can update the details of the existing tasks, move tasks in

hierarchy, add new tasks, or remove tasks in the current working version of the workplan.

When you save the workplan, you can view the following summarizations to ensure the quantities, rates, resources and associations are accurate and complete before publishing:

- Summarized financial attributes and quantities for a task and SOV line.
- A resource summary by resource class and hierarchy of individual resources along with their planning dates (the Resource Breakdown Structure).
- A cost summary of planned and actual costs by cost breakdown structure hierarchy.

You can perform the following modifications to the task structure:

- Move task in the hierarchy: If a task is moved, the associated SOV line is moved and all the quantities associated with the SOV along with resource assignments is moved. Move single ARR leaf SOV tasks to SOV tasks with same SOV association. Move single ARR leaf SOV tasks under non-SOV tasks. Also move resources associated with the SOV as resource assignments on the task.
- Add new tasks: If a task is added, it must be associated to a new SOV line or the other associated tasks must be adjusted so that the total SOV work quantity does not exceeds the total of all subtasks.
- Remove/delete tasks: If a task is deleted, quantity must be removed from all other subtasks, validated and adjusted. The resource assignments must also be removed. Actual must be re-mapped. Task deletion is completed only when the working version is published.

You can perform the following modifications to a task:

- Update work quantity: The sum of work quantities for subtasks must match the parent SOV task for an amount equal to the SOV work quantity.
- Change the associated SOV line.
- When you modify the existing the SOV association for a single ARR leaf SOV task , then all the assignments are removed.
- Change the cost code.

The Task Details page allows you to view or update additional task details for a task. You can also view the Periodic Split page from the Task Details page and manually adjust the work quantities assigned in each period. You cannot add or remove any periods in the view. You can view Periodic Split only for the lowest level task in the WBS associated with SOV under which no further tasks can be created (Leaf SOV tasks) and the workplan must be time-phase enabled. For more information, see: Selecting Planning Resource Lists and Time Phasing Methods, page 3-7. You can also update the

periodic quantity for a resource assignment but the total quantity must match the periodic amounts. You can also view resource details for a task.

When you add work quantities to tasks and save the Task Details or Task Update page, the work quantities are spread between the task schedule start date and the task scheduled end date. The spread curve from the SOV line associated to the task is used to spread the work quantity of the task to the periods. Resource assignment quantities are spread once the RAs are added to the workplan from the resources in the ARRs associated to the SOV line or line activity. You can also indent, outdent, move and copy a non SOV activity task only if the destination is a non SOV task.

The SOV line or line activity attributes and resources generated are copied to the destination task while copying from a SOV task if both the tasks are from the same project. When copying from an external project, the attributes and the resources are not copied to the destination task. A warning message is displayed if there is any change in the SOV line at both the parent and child SOV tasks in the current working version.

You cannot perform the following operations on a SOV task in the workplan:

- Add or delete resource assignment.
- Enter Planned and ETC quantity values for a resource assignment.
- Enter a currency for the resource.
- Edit the ARR field in the work plan for single ARR associated tasks.

Generating Activities

An activity is a subtask to a SOV line where the SOV output is split into different activities that contribute to the overall SOV output. However, the unit of activities may not be the same as the SOV and the quantity of activities may not be equal to the quantity of the SOV line. Similarly, a non SOV activity is used in the workplan structure when there are activities required to execute the SOV, but are not billed. These activities do not roll up to the SOV lines or to the revenue budget. A non SOV activity may or may not have resources attached or generate expenditures. If an SOV line is marked for single ARR then no activity tasks are generated.

You can enter activities from the Update Tasks page after the tasks are created in the WBS and a workplan is generated with appropriate resource assignments.

The following validations are ensured while entering activities for a SOV line as well as a Non SOV line:

For a SOV Line:

- If an SOV line is marked for single ARR then no activity tasks are generated.
- You generate activities when a SOV line (with associated ARRs) is assigned to a task for the first time or when a new task is associated with the SOV line

- The resources defined in the ARR should be assigned to the new activity task which is a child task to the SOV task in the WBS.
- Deleting the SOV association to a task results in the deletion of associated activities and resources and also nullifies the quantity. You cannot delete the association if there is any progress updated against the activity tasks.
- Modifying the SOV association to a task in the workplan results in deletion of associated activities and the resources and also nullifies the quantity. You can add a new SOV line to the task and generate activities. If there is any progress updated against the activities, the modification is not allowed.
- Addition or deletion of an ARR associated to a SOV line removes the resource assignments for the task in the WBS to which the SOV line is associated.
- Quantity changes for a SOV leaf task should roll up to the parent SOV line.
- You cannot modify resource assignments in the workplan (WBS) for activities generated for tasks from association to a SOV line
- Parent and child SOV tasks should be associated to the same SOV line.
- A warning message is displayed when a SOV line is modified because the child SOV line will inherit the parent SOV line.
- A warning message is displayed if there is any change in the SOV line for both the parent and child SOV tasks
- If activity tasks are generated for the leaf SOV task, modifying the parent SOV line is restricted and a warning message is displayed that the activity task for the leaf SOV task must be modified first.
- You cannot change the task hierarchy of the generated activity tasks.
- If the project is SOV enabled, only lowest level tasks can have resource assignments
- Quantities are calculated only when the activities are generated for the first time. After initial generation of activities, any changes to the quantities must be updated manually.

For a Non SOV Line:

- You can add resources to a non SOV task by adding an ARR to a non SOV line directly in the WBS.
- You can change the ARR for non SOV activity tasks. The existing resource assignments are deleted and new assignments are created.

- Removing an ARR for a non SOV line deletes the resources assignments and nullifies the work quantity.
- If you want to associate an SOV to a non SOV task, having child task with resources associated from an ARR, you must first remove the child tasks and the associated ARRs and then associate an SOV with the non SOV task. You can only remove a child task until there is no progress entered for the child task.
- You can only indent, outdent, move and copy a non SOV activity task if the destination is also a non SOV task.

The below points are applicable for both activities pertaining to the SOV and Non SOV lines

- The quantities are recalculated for resources if there is a change in the activity quantity at a WBS task
- Addition or deletion of resources for a project specific version of an ARR is updated on the resource assignments for the activity task in the workplan WBS.
- Modifying the quantity and the spread curve for a project specific version of an ARR updates the resource assignments for the activity task where the ARR is associated.
- SOV tasks are quantity driven but not effort driven. Therefore, you cannot enter or edit the effort fields in the workplan.

Publishing a Workplan for a SOV Enabled Project

At the time of publishing the workplan, resource assignments are added to the tasks from the ARRs upon saving the tasks. Resource assignments are added as soon as activities are generated or ARRs are associated to a non SOV task and a positive work quantity is entered and saved. These values are reconciled against the SOV values at the time of publishing workplan as a validation. Existing work plan publishing validations on activity tasks are not applicable on single ARR SOV tasks. You cannot publish a SOV until the work quantities match with the SOV quantity. If there is any difference, you must correct the values and publish the workplan again.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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 associated to assignments 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.

Because effort is rolled up by resource classes, effort is only summarized when you use a planning resource list with resource classes enabled. When you use a planning resource list with resource classes enabled, each planning resource used in an assignment is associated with one of the available resource classes.

For more information about adding and defining resource assignments on tasks, see *Creating Task Resource Assignments*, page 3-18.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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 the Resources subtab of the Task Details page or 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. When you use a planning resource list with resource classes disabled, the resources used in your assignments are not distinguished by resource classes. Therefore, quantities are not equivalent to effort and are treated as number of items or elements used or consumed. You are not planning with resource classes if your workplan is not associated to a planning resource list with resource classes enabled.

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. When you are not using resource classes, the unit of measure is determined by the value set by the resource format used on the planning resource list. For example, resource formats that are associated to roles or named people will use hours as the unit of measure. Hours do not represent Effort if you are not using resource classes.

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

If you are not using resource classes, resource is amount-based. For example, if a planning resource has a format that includes a role or named person, it will be amount-based resource in your plan.

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.

If the burden multiplier is overridden indirectly (due to automatic calculation when other components are entered), then Oracle Projects uses the override value in subsequent derivations of burdened cost based on raw cost. Similarly, Oracle Projects derives revenue using the override markup percent, if the markup percent was overridden indirectly during previous updates.

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 or planned amount. The spread curve distributes the planned quantity or planned amount 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 when resource classes are enabled or disabled respectively. 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, page 8-11 and Spread Curves, Oracle Projects Implementation Guide*.

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 disabled resource classes in the planning resource list attached to the workplan, the burden cost code is derived using the expenditure type set for the planning resource based on which the burden costs are computed. You can change the raw cost of the resource assignment by entering the adjustment % for the resource assignment in the Amount to update the Amount for the resource assignment option.

Note: When using planning resource lists with disabled resource classes, effort and measures are not displayed in the default view. Do not select effort and measures while personalizing views.

If you have enabled multicurrency functionality for your workplan and have overridden 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 3-8.

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: *Overview of Rates, Oracle Projects Fundamentals*.

For more information about rate derivation, see: *Determining Rates for Workplan and Financial Planning, 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 3-54.

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*, page 8-11 and *Spread Curves, Oracle Projects Implementation Guide*.

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.

Note: For an example of updating ETC values for current working and published workplan versions, see: Using Progress to Replan Workplans, page 3-95.

In case resource classes are disabled for a planning resource list, the periodic line raw cost must be the same as the amount you have entered for a particular periodic line.

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 3-63.

Reviewing Workplan Cost and Effort

You can use the View Workplan Cost page to review the overall cost for the project rolled up against the workplan structure or resource breakdown structure. You can also view the overall effort for the project if you are using a resource class enabled planning resource list and 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.

Since resource classes may be used to map transactions to resource assignments, if the reporting resource breakdown structure has disabled resource classes and the planning resource list in the financial plan version has enabled resource classes, then the planned resource assignments and transactions are mapped based on the standard mapping rules since the planning resource list provides a mapping value for the resource class for each planning resource.

If the reporting resource breakdown structure has enabled resource classes and the planning resource list in the financial plan version has disabled resource classes, then the actual transactions are mapped to the structure node that is at the highest matching level above the resource class node, and has maximum matching cost attributes to the attributes available on the actual transactions. The effort amounts for labor and equipment transactions are not rolled up.

- **Cost Breakdown Summary:** Enables you to review the cost and effort for any node in the cost breakdown structure. You can view the amount at each line level and the total amount for each parent cost code and drill into the details.

To view an analysis of the cost code, you must enable cost breakdown planning for the project and attach a cost breakdown structure to your project.

- **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.

If the project is enabled for Enhanced Project Performance Reporting and the Enable Deferred Rollup for Task and Resource Analysis check box is selected, you must click the Summarize button to view the latest data. For more information, see: Enhanced Project Performance Reporting, page 12-13.

- **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.

If the project is enabled for Enhanced Project Performance Reporting and the Enable Deferred Rollup for Task and Resource Analysis check box is selected, you must click the Summarize button to view the latest data. For more information, see: Enhanced Project Performance Reporting, page 12-13

- **Cost Breakdown Analysis:** Provides an analysis by cost code of cost and effort for any node in the cost breakdown structure. You can view planned and actual cost and effort for each cost code in the workplan structure, budget and forecast. You can compare the actual cost with the planned cost for each code in the cost breakdown structure.

You can view the cost analysis for a workplan, budgets, and forecasts used in the project and drill down to details amounts to investigate variances. You can also view amounts for each line and the total for the parent cost code. To view an analysis of the cost cost, you must enable cost breakdown planning for the project and attach a cost breakdown structure to your project.

If the project is enabled for Enhanced Project Performance Reporting and the Enable Deferred Rollup for Task and Resource Analysis check box is selected, you must click the Summarize button to view the latest data. For more information, see: Enhanced Project Performance Reporting, page 12-13

- **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. You can use the *period* parameter to specify the range of periods for which you want to view cost and effort amounts. 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 3-54.

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 3-46.

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

Note: It is not necessary that the Remaining Effort and Remaining Cost are always the arithmetic difference between the Total Effort and the Actual Effort, and the Total Cost and the Actual Cost respectively.

The Remaining Effort is ETC Effort and Remaining Cost is ETC Cost.

For example, if the Total Effort is 100 hrs and the Total Cost is 10000 USD and the Actual Effort is 60 hrs and the Actual Cost is 6000 USD, then the ETC Effort is 40 hrs and ETC Cost is 4000 USD (ETC = Planned - Actual).

In the above situation, the Remaining Effort is calculated as 40 hrs and the Remaining Cost is calculated as 4000 USD.

Now, if a user overrides ETC Effort from 40 hrs to 50 hrs, then the Remaining Effort is calculated as 50 hrs and the Remaining Cost is calculated as 5000 USD, even though the difference between the Total Effort and the Actual Effort is 40 hrs and the difference between the Total Cost and the Actual Cost is 4000 USD

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, Oracle Projects recalculates the burdened cost based on the override burden multiplier (the ratio between the existing override burden cost and raw cost).

Cost and Effort without Resource Classes

When you are using a planning resource list or a resource breakdown structure with resource classes disabled, you can use the View Workplan Cost page to review the overall cost and amount for the project rolled up against the workplan structure or resource breakdown structure.

- Effort is not rolled up for labor and nonlabor resources when resource classes are not enabled.
- Measures based on people effort or equipment effort are not computed if the planning resource list associated with the financial plan has resource classes that are not enabled.

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 a workplan before you can take advantage of the versioning functionality. For more information, see: *Setting up Workplans*, page 3-3 and *Enabling Workplan Structure and Workplan Versioning*, *Oracle Projects Implementation Guide*.

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
- delete published workplan versions

For more information about managing workplan effort and cost, see *Managing Workplan Effort and Cost*, page 3-37.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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.

Deleting a Published Workplan Version

You can use the Maintain Versions page to delete a published workplan version. You can delete any published version, unless it is any of the following:

- The latest published version
- The current baseline version
- A version that is part of a program

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 3-3.

Routing Workplans for Approval

You can submit a workplan through the 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.

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 e-mail notifications to the project manager 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 3-54.

If you have not required approval for your workplan on the Workplan Information page, you can publish the workplan at any time using the 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 publish it using the Update Tasks page or Maintain Version page.

You can arrange for the system to automatically publish the workplan after it is approved. For more information, see: *Setting Up Workplans*, page 3-3.

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 3-3.

Note: : Multiple working versions of the workplan are allowed only for non-shared workplans. When any of the working versions is published, all the other working versions of the workplan are deleted.

Viewing Workplans

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

- List view
- Hierarchy view
- Gantt display view

You can change your workplan view at any time using the Update Tasks page. The list view is initially the default workplan view for the latest published version

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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 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. You can:

- Use the Saved Search drop-down list to choose a saved search, then select the Go button.
- Select the Personalize button to change the fields that appear on your hierarchy view.
- Select the following buttons to change the structure of your hierarchy view:
 - Delete
 - Outdent
 - Indent
 - Move
 - Copy
 - Create Tasks
 - Export

Refer to *Managing Tasks*, page 3-27 for more detail.

- Use the Apply and drop-down list to perform the following functions:
 - Continue Updating
 - Copy External
 - Process Updates

- View Workplan Costs
- Use the Review and Publish button to update your workplan.

The following fields on are read-only from the hierarchy view but can be updated from the list view or Update Task page, unless noted otherwise:

- Task Name
- Scheduled Start
- Scheduled Finish
- Planned Effort
- Constraint Date
- Constraint Type
- Critical
- ETC Effort
- Early Finish Date
- Early Start Date
- Late Finish
- Late Start
- Milestone
- Organization (cannot be updated from the list view)
- Physical Percent Complete
- Priority
- Service Type
- Task Manager
- Task Number
- Task Type
- Task Weighting (Percent) (cannot be updated from the Update Task page)

- Transaction Finish
- Transaction Start
- Work Type
- SOV Line Number
- Activity Resource Requirement

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 3-24.

For more information about task progress collection, see *Managing Progress*, page 3-54.

For more information about task resource assignments, see *Creating Task Resource Assignments*, page 3-18.

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 planning 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.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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. For all non labor resources, 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. For labor resources the actual cost is calculated based on the type of structure sharing and costing method selected in associated labor costing rule. Oracle Projects uses actual cost rate to calculate actual labor costs in following cases

- If the structures are non-shared or partially shared.
- If the structures are fully shared and associated labor costing rule uses the Standard costing method.

Oracle Projects determines the actual cost rate based on the rate source selected in the associated labor costing rule. If the rate source is Projects then the rate is derived from the applicable project rate schedules. If the rate source is HR Rates then the rate is derived from the criteria based rates defined in Oracle HR. For details on rate determination in workplan refer Using Actual Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals Guide*.

If the structures are fully shared and the associated labor costing rule uses the Actual costing method then Oracle Projects uses actual payroll costs to derive the labor costs. For details, please refer Distributing Labor Costs when Costing Method is Actual, *Oracle Projects Costing User Guide*.

- **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.

Note: Your implementation team must define PA and GL periods that correspond with the As of Date before you can submit progress for that date. See: Defining GL and PA Periods, *Oracle Projects Implementation Guide*.

- **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. See: Deriving Physical Percent Complete, page 3-74.
Note: The number of decimal places that Oracle Projects stores and displays for physical percent complete depends on whether you are viewing the workplan structure or the financial structure.
For workplan structures, Oracle Projects stores and displays physical percent complete to two decimal places. However, Oracle Projects uses the complete physical percent complete figure, not just two decimal places, to calculate earned value. After completing the calculation, it rounds the calculated earned value to two decimal places.
For financial structures, Oracle Projects stores and displays physical percent complete to four decimal places. When you transfer physical percent complete from a workplan structure to a financial structure, Oracle Projects transfers two decimal places to the financial tasks. As physical percent complete rolls up the financial structure, Oracle Projects stores and displays physical percent complete to four decimal places.
- **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 3-37.

- **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 3-74

Earned Value Measures, page 12-52

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 Percent 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.

Note: You cannot select Effort as the physical percent complete rollup method when the resource classes are disabled in the planning resource list selected for the plan.

- **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. However, when resource classes are disabled, you can only collect ETC cost, as effort is not tracked.

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 Percent 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 Percent Complete Overrides:** Select this option to enable the override of physical percent complete if you also select the *Allow Physical Percent 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

Choosing an Approach for Collecting Progress, page 3-61

Collecting Actual Quantities and Costs, page 3-63

Rolling Up Physical Percent Complete, page 3-79

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 for a work item. Select *Actual Since Last Progress* if you want to enter only the quantity of work completed since that last time you collected progress for a work item. A work item is an exact definition of the work being done on a workplan task. See: *Defining Work Items, Oracle Projects Implementation Guide*.

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 3-74

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 3-98

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.

Each time you collect progress on a task, resource assignment, or deliverable, Oracle Projects indicates the availability of the latest progress for the workplan structure task. You can apply progress to the working version to update the planned cost and quantity, and then replan your 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 a 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 3-94.

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 collaborative 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.

Note: For a workplan with disabled resource classes, you cannot update any of the quantity values for tasks or assignments. For more information on disabling resource classes for workplans, see *Defining Additional Workplan Settings*, page 3-6.

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 3-58

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 concurrent programs to summarize financial actuals. For additional information on the summarization programs, see: Performance and Exceptions Reporting Programs, *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 3-70.

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 3-58.

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 6-9.

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 3-74.

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 6-1

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 for a planning resource list with enabled resource classes 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 3-54.

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: *Using Rates for Workplan and Financial Planing, Oracle Projects Fundamentals*.

When cost breakdown planning is enabled for a project, you enter progress for each task, resource and cost code combination.

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.

When the resource classes are disabled in a planning resource list, the Schedule tab of the Task Details page enables the communication of amount, cost, and earned value information for each task. The planned amount details are shown as below for each resource assignment. The planned amounts are not rolled up to the Task level.

The following table summarizes information available for amount.

Task Details: Amount

Value	Source
Planned Amount	Raw cost rolled up from resource assignments and lower-level tasks. If a task is a lowest-level task and has no resource assignments, then you can define planned amount (raw cost) at the lowest task level.
Baseline Amount	Planned amount for the task from the baseline version of the workplan.

Value	Source
Actual Amount to Date	<p>Rolled up from resource assignments and lower-level tasks. If the task has no resource assignments and the project has partially shared or non-shared structures, then you can enter actual amounts at the workplan task level when you enter progress updates. If a project has shared structures, then you use the financial transaction system to enter actual amounts.</p>
Percent Complete Amount	<p>Calculated for the task using the following formula:</p> $\text{Percent Complete Amount} = \frac{\text{Actual Amount to Date}}{\text{Actual Amount to Date} + \text{ETC Amount}} * 100$
Percent Spent Amount	<p>Calculated for the task using the following formula:</p> $\text{Percent Spent Amount} = \frac{\text{Actual Amount to Date}}{\text{Planned Amount}} * 100$
ETC Amount	<p>Working workplan version: Calculated for the task using the following formula:</p> $\text{ETC Amount} = \text{Planned Amount} - \text{Actual Amount to Date}$ <p>Published workplan version: ETC amount for the task is from the latest progress information.</p> <p>If you do not enter a value during progress collection, then Oracle Projects uses the same formula as for the working workplan version to determine the ETC.</p> <p>See: Collecting Progress for Tasks, page 3-71</p>
Estimate at Completion Amount	<p>Calculated for the task using the following formula:</p> $\text{Estimate at Completion Amount} = \text{Actual Amount to date} + \text{ETC Amount}$

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.

When resource classes are disabled for a planning resource list, task assignment progress includes:

- ETC amount

Oracle Projects displays the total estimate to complete amount.

You can enter the amount if the task does not have any assignments.

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 concurrent programs to determine the actual cost for each transaction after you approve the transactions. Next, you run the cost summarization program 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 3-64.

Note: You must run project performance summarization concurrent programs to summarize financial actuals. For additional information on the summarization programs, see: *Performance and Exceptions Reporting Programs, 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 and cost code assignment, it creates an unplanned assignment for the expected resource and cost code combination. 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 3-64.

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 3-95

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 3-64.

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 3-38.

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 3-57.

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

Related Topics

Summary of Task Effort, Cost, and Earned Value Information, page 3-13

Managing the Task Schedule, page 3-17

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.

Related Topics

Understanding Progress, page 3-54

Understanding Earned Value Measures, page 3-57

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 3-79.

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

$$\text{Estimate at Completion} = \text{Actual Cost} + \text{ETC Cost}$$

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

$$\text{Percent Complete Cost} = (\text{Actual Cost} / \text{Estimate at Completion}) * 100$$

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 3-79.

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

$$\text{Estimate at Completion} = \text{Actual Effort} + \text{ETC Effort}$$

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

$$\text{Percent Complete Effort} = (\text{Actual Effort} / \text{Estimate at Completion}) * 100$$

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:

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

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

$$\text{Physical Percent Complete} = \text{Sum (Deliverable Weighting for Each Deliverable * Physical Percent Complete for Each Deliverable)}$$

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 3-65.

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:

$$(60 \times 20\%) + (40 \times 10\%) = 16\%$$

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:

$$\text{Physical Percent Complete} = [\text{Actual Work Quantity to Date} / \text{Planned Work Quantity}] * 100$$

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 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:

$$(80 / 400) * 100 = 20\%$$

Related Topics

Defining Work Items, *Oracle Projects Implementation Guide*

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 3-54.

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 3-57.

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 weighting 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:

$$\text{Weighting for Each Subtask} = [\text{Duration for the Subtask} / \text{Sum (Duration for All Subtasks)}] * 100$$

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

$$\text{Physical Percent Complete} = \text{Sum (Physical Percent Complete for Each Subtask * Weighting for Each Subtask)}$$

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:

$$(60\% \times 20) + (40\% \times 10) = 16\%$$

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 complete 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:

$$\text{Physical Percent Complete} = [\text{Sum (Earned Value for Subtasks)} / \text{Sum (Baseline Planned Value for Subtasks)}] * 100$$

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:

$$\text{Earned Value} = \text{Physical Percent Complete} * \text{Baseline Planned Value}$$

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:

$$\text{Physical Percent Complete from Resource Assignments} = [\text{Actual Effort for Resource Assignments} / (\text{Actual Effort for Resource Assignments} + \text{ETC Effort for Resource Assignments})] * 100$$

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:

$$\text{Earned Value from Resource Assignments} = \text{Physical Percent Complete from Resource Assignments} * \text{Baseline Planned Value from Resource Assignments}$$

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

$$\text{Total Earned Value} = \text{Sum (Earned Value for Subtasks)} + \text{Earned Value from Direct Resource Assignments on the Summary Task}$$

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

$$\text{Total Baseline Planned Value} = \text{Sum (Baseline Planned Value for Subtasks)} + \text{Sum (Baseline Planned Value for Direct Resource Assignments on the Summary Task)}$$

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

$$\text{Physical Percent Complete} = [\text{Total Earned Value} / \text{Total Baseline Planned Value}] * 100$$

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

$$\text{Earned Value} = \text{Physical Percent Complete} * \text{Total Baseline Planned Value}$$

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*.

Managing Progress for SOV Enabled Project

Collecting progress includes the entry and summarization of work quantity completed and financial progress for the SOV and WBS project structures. Progress is collected to support project monitoring and control, and for SOV billing. Progress is typically collected by the Quantity Surveyor, or similar role, and reported by a Project Manager or delegate.

Progress entry can be done by Mass Update Progress Page, Update Progress Page, and Team Member home. For a SOV project, progress entry for activities is enabled automatically based on the status of the Enable Schedule of Values check box. The progress that you enter using any of the above pages (captured progress) is considered approved progress and revenue can be recognized.

Note: The structure level record for a SOV Project is always considered a SOV summary task, for progress calculations.

The following validations are ensured:

- Progress must be reported by entering completed work quantity for SOV tasks.
- If a parent task is associated to the same SOV line as its leaf tasks, the rollup method for progress is quantity.
- If a parent task is associated to a different SOV line than its leaf tasks, the roll up method for progress is revenue.
- Physical Percent Complete (PPC) is calculated based on quantity progress for the leaf tasks and based on revenue progress for parent tasks.
- Lowest level tasks must always be associated with an ARR and have planned work quantity.
- Other than lowest level tasks in the workplan WBS, child SOV tasks can also have planned SOV work quantity.
- PPC is calculated based upon completed work quantity to-date for lowest level tasks and leaf SOV tasks.
- For SOV summary tasks, PPC is rolled up progress of its leaf SOV tasks only.

- For non SOV summary tasks, PPC is rolled up progress of its autogenerated task associated with an ARR (ARR tasks), the system automatically generates ARR tasks for a leaf SOV task.
- When capturing progress for a SOV enabled project, the following task type attributes automatically override the values that you entered. The following are the default setups that are enabled automatically when a project is enabled for SOV:
 - Actual Work Quantity entry method is always cumulative (Actual Work Quantity To Date).
 - Physical Percent Complete Derivation Method is always work quantity.
- Progress rollup method is always based on revenue, but the earned value (EV) and planned value (PV) are calculated based upon cost (i.e., expenditures):
 - $EV = \text{Budgeted Cost of Work Performed (BCWP)}$
 - $PV = \text{Budgeted Cost of Work Scheduled (BCWS)}$
 - When calculating BCWP and BCWS for a top task, the rollup is based upon costs of the leaf tasks associated to the SOV line.
- Changing a workplan baselined version or changing the SOV line unit rate does not affect any SOV version already published. The change is applied only when new progress updates are submitted or when re-publishing the workplan. The latest progress is applied on the new published version of the workplan.

Earned Value Metrics Calculation for SOV Enabled Project

Percent Complete is always derived from the leaf task SOV quantities and rolled up to the SOV line. When rolling up to a summary task, the revenue is generated from the progressed quantities. Non SOV tasks do not contribute to the percent complete of summary tasks because their quantities are not billable.

This section provides examples that explain the methodology for calculation of earned value measures to monitor progress and revenue generation across various scenarios.

The measures used for monitoring and control are:

- Earned Value (EV or BCWP)
- Planned Value (PV or BCWS)
- Physical Percent Complete (PPC is calculated to derive EV)
- Other EVM measures

When calculating PPC and EV for non SOV tasks associated with ARRs and for SOV

activity tasks.

- For all lowest level tasks in workplan, irrespective of base percent derivation code setup, PPC is always calculated based upon completed work quantity.
- $PPC \% = \text{Actual Work Quantity} / \text{Planned Work Quantity}$.
- Earned Value is calculated by multiplying PPC with baseline cost (Total Budgeted Cost)..

$$EV = PPC * \text{Total Budgeted Cost}$$

The following example depicts the PPC and EV calculation of lowest level workplan task.

Task#	ARR / Activity	Baseline Cost (Total Budgeted Cost)	Planned Work Quantity	Actual Work Quantity	Physical Percent Complete	Earned Value (EV) or BCWP
1.1	ARR 1	1000	50	9	$9/50 * 100 = 18\%$	$18\% * 1000 = 180$
1.2	ARR 2	1500	80	15	$(15/80) * 100 = 18.75\%$	$18.75\% * 1500 = 281.25$

Calculating PPC and EV for a non SOV summary task:

- For all non SOV summary tasks, progress values from its child tasks are rolled up to the summary task and PPC is calculated based upon the rollup values.
- PPC is calculated based upon rolled up earned value percent of the summary task baseline cost.

$$PPC = (\text{Sum of Earned Values of a task hierarchy}) / \text{BAC Cost} * 100$$

$$EV = PPC * \text{Total Budgeted Cost}$$

The below example describes the PPC and EV calculation of summary tasks. Assuming Task 1.0 is the summary task for Tasks 1.1 and 1.2:

Task#	Baseline Cost	Planned Work Quantity	Actual Work Quantity	Earned Value	Physical Percent Complete	Earned Value (EV)
1	1000+1500 =2500	N/A	N/A	180 + 281.25 = 461.25	(461.25 /2500) *100= 18.45%	18.45% *2500 = 461.25

Calculating PPC and EV for a leaf SOV task:

- For all leaf SOV tasks in the workplan, irrespective of base percent derivation code setup, PPC is always calculated based upon completed work quantity.

$$PPC = \text{Actual Work Quantity} / \text{Planned Work Quantity} * 100$$

- Cost and effort values are rolled up based upon the activity tasks.
- Earned value is calculated by multiplying PPC by baseline cost.

$$EV = PPC * \text{Total Budgeted Cost}$$

Task#	SOV	SOV Unit Rate (Revenue Rate)	Baseline Cost	Planned Work Quantity	Planned SOV Amount (Revenue)	Actual Work Quantity (Progress)	Actual SOV Amount	Physical Percent Complete	Earned Value (EV)
2.1	SOV 1	50	2000	75	50*75 = 3750	15	50*15 = 750	(15/75) *100 = 20%	20% *2000 = 400.00
2.2	SOV 2	70	3500	90	70*90 = 6300	25	70*25= 1750	(25/90) *100 = 27.78%	27.78% *3500 = 972.30

Calculating PPC and EV for a summary SOV task with only SOV child tasks:

- For all SOV summary tasks, progress rolls up from its child tasks. PPC is calculated based on the rollup value of actual SOV amounts.
- PPC is calculated for revenue

Actual Revenue = Actual Progress Quantity* SOV Unit Rate

Planned Revenue = Planned Quantity*SOV Unit Rate

PPC = Actual Revenue / Planned revenue *100

- Earned value is rolled up from its leaf SOV tasks. For this scenario, EV and PPC are individual entities since the EV calculation based upon PPC*Budget At Completion does not apply to SOV summary tasks.

EV of Summary Task = EV1+EV2

The example below describes PPC and EV calculations for summary tasks.

Assuming Task 2.0 is the summary task for Tasks 2.1 and 2.2:

Task#	Baseline Cost	Planned Work Quantity	Planned SOV Amount (Revenue)	Actual Work Quantity	Actual SOV Amount (Revenue)	Physical Percent Complete	Earned Value (EV)
2	2000+3500 =5500	N/A	3750+6300 = 10050	N/A	750+1750 =2500	(2500/10050) *100 = 24.88%	400+972.30 =1372.30

Calculating PPC and EV for a summary SOV task which has both SOV and non SOV child tasks:

- If a SOV summary task has non SOV tasks beneath it, PPC and EV are calculated for only SOV tasks rolled up values. Other rollups like planned cost, effort and actual cost and effort rollup calculations are the same as a non-SOV enabled project. PPC is calculated based upon Revenue:

Actual Revenue = Actual Progress Quantity* SOV Unit Rate

Planned Revenue = Planned Quantity*SOV Unit Rate

PPC = Actual Revenue / Planned Revenue *100

EV of Summary Task = EV1+EV2

- The below example describes PPC and EV calculations for summary tasks. Assuming Task 2.0 is the summary task for Tasks 2.1, 2.2 and 2.3, wherein 2.3 is the lowest level task in the WBS which is manually associated with an ARR (non SOV ARR task). PPC calculation for task 2.3 is calculated as described for a non SOV task with an associated ARR.

Task#	SOV	SOV Unit Rate	Baselined Cost	Planned Work Quantity	Planned SOV Amount	Actual Quantity (Progress)	Actual SOV Amount	Physical Percent Complete	Earned Value (EV)
2.1	SOV 1	50	2000	75	50*75 = 3750	15	50*15 = 750	(15/75) *100 = 20%	20% *2000 = 400.00
2.2	SOV 2	70	3500	90	70*90 = 6300	25	70*25 = 1750	(25/90) *100 = 27.78%	27.78% *3500 = 972.30
2.3	N/A	N/A	1000	50	N/A	25	N/A	(25/50) *100 = 50.00%	50.00% *1000 = 500

Task#	Baseline cost	Planned Work Quantity	Planned SOV Amount	Actual Work Quantity	Actual SOV Amount	Physical Percent Complete	Earned Value (EV)
2	2000+3500 = 5500	N/A	3750+6300 = 10050	N/A	750+1750 = 2500	(2500/10050) *100 = 24.88%	400+972.30 = 1372.30

Calculating PV for non SOV ARR tasks, SOV activity tasks and non SOV summary tasks

- Planned Value is calculated based upon resource quantities distributed across periods (Resource Spread) from the ARR. The spread curve in the ARR definition at resource affects the resource spread and PV is the planned cost in line with the resource spread associated to the ARR tasks. The resource spread gets rollup to non SOV summary tasks. PV should be calculated by using the following methods:

Non Time Phased, PV of a task is prorated at task level. The system does not prorate the resource level:

$$\left(\frac{\text{As of Date} - \text{Baselined Start Date}}{\text{Baselined End Date} - \text{Baselined Start Date}} \right) * \text{Baselined Cost}$$

Time Phased:

$$\frac{\{\text{Sum of Periodic Cost of Total Completed Periods by As of Date} + (\text{As of Date} - \text{Current Period Start Date})\}}{\{(\text{Current Period End Date} - \text{Current Period Start Date})\}} * \text{Periodic Cost for Current Period}$$

Calculating PV for leaf SOV tasks

- For all leaf SOV tasks, Planned Value is calculated based upon the ITD Planned Quantity and the unit rate.

$$\text{PV} = \text{ITD Planned Quantity} * \text{Per Unit Cost Rate}$$

- ITD Planned Quantity is calculated as below:
 - When time phasing is not enabled then planned quantity gets prorated by As of Date
 - When time phasing is enabled , then the planned quantity is calculated by summing the periodic quantities of total completed periods to date and for current period plan quantity is prorated based upon the number of days completed in the period.

- Unit Rate is calculated by dividing the Baselined Planned Cost by Planned Work Quantity

$$\text{Unit Rate} = \text{Baselined Planned Cost} / \text{Planned Work Quantity}$$

The below example explains the calculation of PV for SOV tasks 2.1 and 2.2

Task#	SOV	Baselined Cost	Planned Work Quantity	ITD Planned Quantity	Per Unit Cost Rate	Planned Value (PV)
2.1	SOV 1	2000	75	30.345	$2000/75 = 26.67$	$30.345 * 26.67 = 809.30$
2.2	SOV 2	3000	90	42.786	$3500/90 = 38.89$	$42.786 * 38.89 = 1663.95$

Calculating PV for summary SOV task which has only SOV child tasks:

For the SOV Summary task, the PV is the sum of the PV of individual SOV child tasks. In the example mentioned above, assuming task 2.0 is the summary SOV task for 2.1 and 2.2, then PV for task 2.0 is:

$$1663.95 + 809.3 = 2473.25$$

Calculating PV for a summary SOV task which has both SOV and non SOV child tasks:

- If a SOV summary task has any non SOV tasks beneath it then PV of summary SOV task should be the sum of planned values of SOV child tasks.
- The below example demonstrates the PV calculation of a summary task. Assuming Task 2.0 is the summary task for Tasks 2.1, 2.2 and 2.3. Wherein 2.3 is the non SOV ARR task

Note: For task 2.3 plan value is directly calculated from its resource assignments.

Task#	SOV	Baselined Cost	Planned Work Quantity	ITD Planned Quantity	Unit Rate	Planned Value (PV)
2.1	SOV 1	2000	75	30.345	2000/75 =26.67	30.345*26.67 =809.30
2.2	SOV 2	3500	90	42.786	3500/90 =38.89	42.786*38.89 =1663.95
2.3	N/A	1000	50	N/A	N/A	600 (from resource spread curve)

PV for task 2.0 = 809.3+1663.95.

The other EVM measures are as follows:

Metric	Formula
SPI	BCWP / BCWS
(ACWP) or (AC)	Actual Cost
CPI	BCWP / ACWP (EV / AC)
TCPI	(Baselined Cost - BCWP) / (Baseline Cost - ACWP)
Variance	BCWP - ACWP (EV - AC)

Metric	Formula
Variance%	$(BCWP - ACWP) / BCWP$
ETC	Planned Cost - Actual Cost
Estimate at Completion (EAC)	Actual Cost + ETC
Variance at Completion (VAC)	Baselined Cost - EAC
Schedule Variance	$BCWP - BCWS (EV - PV)$
Schedule At Completion	$Start Date + (End Date - Start Date) / SPI$
Planned Variance	Baselined Cost - Planned Cost

Generating Invoices for a SOV Project

Billing for a SOV project incorporates the collection of billing information from the project, contract, SOV and progress to generate an invoice.

For a SOV project, if the SOV is associated to any task in the workplan, funding is created at the project level. Billing is done for each SOV line using billing events that are generated automatically based on work quantity progress.

In order to generate invoices for a SOV project, a billing extension specific for SOV enabled projects is provided. You must associate this billing extension to the project and make it active.

Billing calculations are done on the basis of progressed quantity. The progressed quantity is multiplied by the applicable rate from the SOV line to calculate the amount for which the invoice is generated. For more information about the SOV Billing Extension, see: *Generate Invoices Using the SOV Billing Extension* in the *Oracle Projects Implementation Guide*.

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.

When resource classes are disabled for a planning resource list associated with a plan, then you can view the actual raw and estimate to complete amounts instead of the effort.

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 exist 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

Note: Oracle Projects uses the conversion rate that is effective on the

start date of the PA Period or GL Period associated with the actual transaction to convert actual cost from the transaction currency to the planned currency when the currencies are different.

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 by actual dates.

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

Note: You can publish a working workplan version with or without the latest progress data. If you publish the workplan without applying the latest progress, a new progress record is created.

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-2005

Additional Information: The ETC values for the current working and published workplan versions can be different. In this example, after you submit the additional progress records, the published workplan version has an ETC Effort of 90 hours and an ETC Cost of 900 USD for task 1.1, while the current working workplan version has an ETC Effort of 120 hours and an ETC Cost of 1200 USD for task 1.1.

After you publish the working workplan version, Oracle Projects submits a new progress record with the replanned values from the working version. Oracle Projects assigns the new progress record the next As of Date according to the progress cycle for the workplan. In this example, Oracle Projects assigns 15-JAN-2005 for the As of Date. Oracle Projects then uses the updated planned and actual values from the new progress record to recalculate ETC Cost and Effort.

You review progress values after you publish the working workplan version *without* applying the latest progress. Oracle Projects always uses the latest Planned Cost and Effort from the working workplan version to update the new published workplan

version. In this example, the Planned Cost is 1450 USD and the Planned Effort is 145 hours. For the new published workplan version, you observe that Oracle Projects used an Actual Cost of 350 USD and an Actual Effort of 35 hours to recalculate ETC Cost and Effort (Plan - Actual = ETC). As a result, ETC Cost and Effort for the new published workplan version do not match ETC Cost and Effort for the working workplan version.

For example, the ETC effort for the new published version is 110 hours (145 Planned hours - 35 Actual hours = 110 ETC hours), while the ETC Effort for the working version continues to be 120 hours (145 Planned hours - 25 Actual hours = 120 ETC hours). This difference in ETC is present because you did not apply the latest progress to the working workplan version before you published it and, as a result, the latest Actual Cost and Effort values are not available to the working workplan version.

The following table shows the progress values for the new published workplan version.

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

Alternatively, you can apply the latest submitted progress to the working workplan version, revise ETC as needed, and then publish the working workplan version to ensure that the ETC values are the same for the working workplan version and the new published workplan version. In this case, Oracle Projects uses the revised ETC values from the working workplan version to update the new published workplan version.

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 7-1.

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

Note: The number of decimal places that Oracle Projects stores and displays for physical percent complete depends on whether you are viewing the workplan structure or the financial structure.

For workplan structures, Oracle Projects stores and displays physical percent complete to two decimal places. However, Oracle Projects uses the complete physical percent complete figure, not just two decimal places, to calculate earned value. After completing the calculation, it rounds the calculated earned value to two decimal places.

For financial structures, Oracle Projects stores and displays physical percent complete to four decimal places. When you transfer physical percent complete from a workplan structure to a financial structure, Oracle Projects transfers two decimal places to the financial tasks. As physical percent complete rolls up the financial structure, Oracle Projects stores and displays physical percent complete to four decimal places.

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:

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

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.

Important: To enable Oracle Projects to correctly roll up financial physical percent complete information to summary tasks, you must ensure that budget amounts are entered for lowest tasks.

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 3-61

Managing the Workplan Lifecycle Using Baseline Versioning

Enabling a Project for Baseline Versioning

Overview

You can enable workplan baseline versioning to allow changes on a plan (baseline). This latest version of the plan can then be used as the source for calculating earned value measures. This feature helps the project team maintain a forecast in parallel to the baseline plan and to drive the baseline plan in subsequent cycles. The earned value metrics for the project will still be computed based on the approved published baseline.

During project execution, there are times when the task manager may need some additional effort to complete a task, but the project managers may not be in a position to change the baseline plan immediately. An interim approved forecast, which includes the requested additional effort will help the task managers to continue with their work without waiting for approval on a changed baseline. This enables task managers to meet the client commitments by completing their tasks on time.

This workplan functionality will help your project team to maintain a forecast in parallel to the baseline plan, while driving the baseline plan in subsequent cycles. The earned value metrics for the project will still be computed based on the approved published baseline. The change management functionality will facilitate the implementation of change order impacts into the workplan.

When the feature is enabled, you will see a Baseline column on the Maintain Versions page. All workplan baseline versioning enabled projects will show published versions, including forecast and baseline working versions of the forecast. The Maintain Versions page includes draft, published, and deleted versions of the baseline and the forecast. You can view details for published workplan baselines and published forecasts. If a workplan baseline or forecast is not published, you may update, perform change control actions as lock or unlock the version, or view details, depending on your security settings.

Project plans are not intended to be static documents, nor should they be difficult to change. Changes occur frequently in projects and comparing the baseline values to actuals will help you measure the factors that are affecting actuals. When there are required deviations from the baseline, tasks must be replanned. Enabling workplan baseline versioning allows you to monitor, measure, and manage tolerance and changes, because you can better manage the workplan with both the forecast and baseline available. The versionable baseline provides the ability to manage contingency allowances or differences in the planned value in the baseline and the approved EAC in the forecast.

Solution Flow for Workplan Baseline Versioning

1. Create a project and enable workplan versioning.
2. Enable workplan baseline versioning.
3. Create a work breakdown structure and assign the required attributes. This is known as the draft workplan.
4. Review and publish the draft workplan to create a published forecast, published baseline, and a working forecast version.

This initiates the forecasting cycle when the approved progress is captured against the published forecast. Estimates are derived and task managers can provide input. The proposed values by the task manager are known as the contingency.

5. Send proposed estimates for approval to the project manager.

The forecasting cycle includes values from the financial forecast where estimates from the workplan are compared with estimates from the financial forecast. This information can be analyzed and updated as needed.

6. Implement change management in the forecast cycle.
7. Obtain approval on estimates from the project manager.

Note: The project manager may also choose not to approve, and instead track some estimates and contingencies as known deviations.

8. Factoring in various estimates received, change the workplan by adding, deleting, indenting or outdenting tasks.
You can also add, update, or delete the resources affected by the task changes.
9. Review and publish forecast. If the approval flow is implemented, then the application automatically triggers the approval flow before publishing the forecast.
10. Manually create a working baseline from the latest published forecast.
11. Review and update the draft workplan baseline for dates and plan values to incorporate changes into the baseline (project manager).
12. Review and publish the draft workplan baseline.

Note: If approval setups are enabled, then it is approval only.

The new published baseline forms the basis for earned value metrics. A new versionable baseline, which is different from the forecast contingency allowance can either be incorporated or not into the baseline. Implement the approved change orders to the workplan, in the same way that the change orders can be implemented to the financial plans. This helps leverage a single source for both the workplan and the financial plan, creating a more accurate forecast analysis.

Enabling and Disabling Workplan Baseline Versioning

You must enable baseline versioning from the Project Structures Setup page, by selecting the Workplan Baseline Versioning check box. You can also upgrade your project by running a concurrent program UPG: Upgrade projects for enabling baseline versioning feature program:

Note: You can turn off the setup as long as the workplan is not published. However, for an active project that has published workplans the workplans would be upgraded. If the workplan versioning is enabled as the published workplans are upgraded, then you cannot turn off the setup.

Note: If you enable baseline versioning for a template, then all new projects created with the template will also be enabled with baseline versioning.

To enable the project for baseline versioning, the project should:

- Be version-enabled.
- Not be a closed project.

- Be enabled for the workplan.
- Not be a program.
- Be enabled for workplan versioning on the project.
- Not be stuck in the publish process (for the workplan).

Note: After a project is enabled for baseline versioning, there will be the following restrictions on the project, you cannot:

- Mark a project as a program.
- Disable workplan versioning from the project.
- Remove workplan structures from the project.

You can upgrade existing projects to utilize baseline versioning for your workplan and contingency planning (different planned values in the baseline and the approved EAC in forecast). In order to do this, run the UPG: Upgrade projects for enabling baseline versioning feature program.

In order to do an upgrade, run the UPG: Upgrade projects for enabling baseline versioning feature program or enable the project through the structures page of Project setup. UPG: Upgrade projects for enabling baseline versioning feature allows you to:

- Upgrade a single project or multiple projects.
- View the status of the projects after the upgrade has been performed.

Prior to running the concurrent program, select or specify the required parameters: Mode of Run, Operating Unit, and Project.

If mode is set to Validate, then you will see the following information. After you run the program, you will receive a report that details projects that are eligible for upgrade:

- Project Number
- Status
- Status Description

If mode is set to Upgrade, then you will see the following information. You will receive a report that details success or failure of the upgrade:

- Project Name
- Upgrade Status

- Reason for Failure

Validations and the success or failure will vary by project, and are dependent on various factors.

During the upgrade if a published work plan exists, and if the:

- Original baseline and the current baseline are not the same, then both the baselines are versioned and the original baseline version is numbered as one and the current baseline version will be numbered as two and marked as the latest published version.
- Latest published workplan is set as the baseline, then a current working baseline is created, copying tasks, resources, planning values, deliverables, dependencies, and mappings from the latest published forecast version. Also, the current working workplan is published as the baseline.
- Latest published version is not the baseline version.

If the workplan is not published or the input is a project template, then the project is enabled for workplan baseline versioning and you can publish the draft workplan. After you publish the draft workplan, both the forecast and baseline versions are created and published, and a working version of the workplan forecast is created.

Existing published approval workflow setup will be used for both the forecast and baseline publish with the modification in selecting the approver depending on the version type that is sent for approval.

Approval options for the workplan setup is enabled with the option to enable workflow approval for the baseline. In case the workplan before upgrade is workflow-enabled, then the same setup will be applicable for the baseline.

Creating and Publishing a Draft Workplan

A draft workplan is the version of the workplan before it is published for the first time. After a draft workplan is created and published, the system generates a published baseline version and a published forecast version. The forecast version forms the basis for the forecast cycle and the future versions of the forecast. A working forecast is available for further edits and the published forecast is available for tracking progress and ETC updates. After the workplan is created, you can publish the draft workplan by selecting either the Review and Publish button, if the approval workflow is not enabled, or the Review and Submit button, if the approval workflow is enabled. This will depend upon, how you set up the workplan approval process.

Note: In order to create the draft workplan, you must have the workplan baseline feature enabled and there must not be a published workplan.

Managing the Current Working Workplan Forecast

The amount of funds, the budget, and the time needed above the estimate to reduce the risk of overruns of the project objectives is the contingency allowance. This value is based on the ground realities and should be acceptable to the organization and stakeholders

By applying the latest progress to the current working version of the project, you can view the consolidated progress, actuals along with the Estimate at Completion/Estimate to Complete (ETC) against the tasks. Additionally, you can review the non-approved cost-only financial forecast value and perform a what-if analysis to compare the values against the suggested ETC values provided by the task manager.

From the Update Current Working Forecast page, you can use the Actions drop-down to select the Update with Change Orders, Update with Contingency, and Update with Financial Forecast.

For a project that is enabled with the Schedule of Values feature, from the Update Current Working Forecast page, you can only select Update with Contingency and Update with Financial Forecast Only from the Actions drop-down.

Important: The Workplan Baseline Versioning option must be enabled for the project to leverage this functionality.

Note: For SOV feature enabled projects, see Schedule of Values Projects, page 3-113.

Update Workplan Forecast with Contingency

- Apply Latest Progress has been renamed to Apply Contingency.
- Apply Contingency pushes actuals to the working forecast version along with ETC overrides. The resource planned quantities get recalculated based on the ETC overrides.

After the contingency is applied the newly derived planned values can be compared against the proposed values, which are the ETC overrides. You can plan new EAC for further execution.

You must select the Update with Contingency action to navigate to the Update Workplan Forecast with Contingency. To return to the Update Forecast (Current Working Version), you must select Cancel. You will use the Apply Contingency button to update with contingency, which brings additional estimate to complete contingencies as updated within the progress pages by task managers:

Update Workplan Forecast with Forecast

You can create a financial forecast and simulate optimal executions. The values from the

financial forecast can be brought onto the workplan forecast working version, where planned quantities from the workplan can be compared with the forecasted quantities from the financial forecast. You can then uptake the financial forecast values by editing the planned quantity of the workplan forecast. In order to leverage this functionality:

- The project must be fully shared.
- The project may be a schedule of values (SOV) enabled project
- The financial forecast must have been generated from the workplan.
- The planning resource list for the financial forecast and workplan must be the same.
- The financial forecast must be planned only at the lowest task level.
- The financial forecast must be a non-primary cost-only forecast.

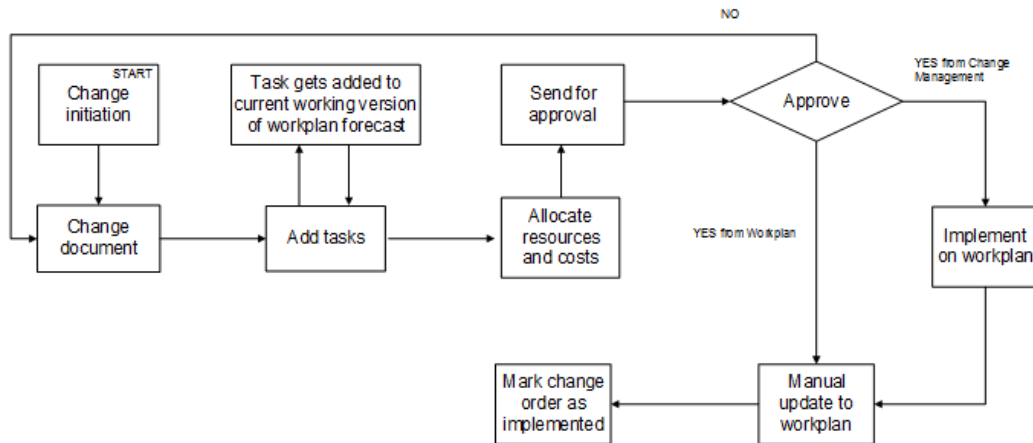
You must select the Update with Financial Forecast action to navigate to the Update Workplan Forecast with Financial Forecast. To return to the Update Current Working Forecast page, you must select Cancel.

Update Workplan Forecast with Change Orders

Change orders can be created and after they are approved they can be implemented on a workplan forecast version. A change order implementation can be performed from either the Change Order Impacts page or from the Change Orders feature in the workplan forecast. Approved change orders are visible on the Update with Change Orders page and for non-SOV projects. This functionality is applicable for fully shared version enabled projects.

You must select the Update with Change Orders action to navigate to the Update Workplan Forecast with Change Orders page. To return to the Update Current Working Forecast page, you must select Cancel.

4.5.1 Implementation of Change Management on a Workplan



The following describes the Implementation of Change Management on a Workplan process flow noted in the preceding image:

1. Create a change order, refer to Change initiation step and then Change document step.
2. Add the tasks, refer to Add tasks step, and Task gets added to the current working version of the workplan forecast step.
3. Add the resources, refer to Allocate resources and costs step.
4. Obtain approval for the change order, refer to Send for approval step and Approve step. If the approval is denied, the process starts again at the Change document step.
5. Implement onto the workplan, refer to Implement on workplan step or Manual update to workplan step, and Mark change order as implemented step.

Submitting the Latest Published Workplan Forecast

After you have made changes, you will publish the forecast. The latest published version will be available for future forecasting cycles and for the baseline cycle, if approval is marked as required, and if, the approver of forecast is included in the Workplan Information setup page. The forecast publication follows the approval process, if the forecast workflow is enabled. Auto-publishing of the workplan forecast version will be done depending on whether the auto-publish option is set.

If the workplan forecast workflow is not enabled you can publish the forecast by selecting Review and Publish. If the workplan workflow is enabled, then you will select Review and Submit.

Managing the Draft Workplan Baseline

Create a Draft Workplan Baseline

A working baseline is manually created from the latest published forecast. You can manually create the working version of the baseline by selecting the Revise Workplan Baseline action in the workplan and the Maintain versions page.

The following business rules exist:

- The project must be enabled with workplan baseline versioning.
- The latest published forecast version must not have any published errors.
- No draft workplan baseline should exist.
- Planned cost, planned effort, schedule start date, and schedule finish date would be termed as proposed cost, proposed effort, proposed start date, and proposed finish date in the working baseline version.
- The working version of the baseline should be generated from the latest published forecast (EAC) and the latest published baseline (baseline cost).
- After the working baseline version is created, any modifications on the tasks, resources, and periodic split should be performed manually.
- When the workplan is time phase-enabled:
 - All the tasks, along with dependencies, deliverables, actions, cost code associations, attachments will be copied from latest published forecast version.
 - All the task attributes except planned cost and planned effort will be copied from latest published forecast version. Planned cost and effort attributes would roll up from its resources
 - Resources will be created in the working baseline versions following the logic mentioned in the table that follows.
 - The population of planning elements like start date, end date, planning quantity, UOM, currency and spread curve in working baseline versions are described in the table that follows, except other resource attributes will be copied from latest published forecast version as they currently exist.

Resource Example	Result
------------------	--------

<p>Task and resource exists in both the versions and no changes in planning values and spread curve.</p>	<p>Resource copied from baseline version along with periodic split.</p>
<p>Task and resource exists in both the versions. Spread curve is modified in published forecast.</p>	<p>Resource copied from published forecast version along with periodic split.</p>
<p>Task and resource exists in both the versions. Schedule start or finish date or both are modified in published forecast.</p>	<p>Resource copied from published forecast version along with periodic split.</p>
<p>Task and resource exists in both the versions. Only planning quantity is modified in published forecast.</p>	<p>Resource copied from published baseline version along with periodic split.</p> <p>After copying, planning quantity would be updated in working baseline version with the value in published forecast version to retain the existing periodic split spread of baseline.</p>
<p>Task and resource exists in both the versions. Only planning currency is modified in published forecast.</p>	<p>Resource copied from published baseline version along with periodic split.</p> <p>After copying, planning currency would be updated in working baseline version with the value in published forecast version to retain the existing periodic split spread of baseline.</p>
<p>Task and resource exists in both the versions. Planning currency and quantity is modified in published forecast.</p>	<p>Resource copied from published baseline version along with periodic split.</p> <p>After copying, planning currency and quantity would be updated in working baseline version with the values in published forecast version to retain the existing periodic split spread of baseline.</p>
<p>Task exists in published forecast and baseline versions and a new resource added in the published forecast version.</p>	<p>Resource copied from published forecast version along with the periodic split spread.</p>

Task exists in published forecast and baseline versions and an existing resource is deleted in the published forecast version.	Resource would not be copied in working baseline version.
Task exists in published forecast and baseline versions and an unplanned resource added in published forecast version through progress updates.	Resource would not be copied in working baseline version.
A new task added in published forecast version along with resource.	Task along with resources including periodic split spread would be copied to working baseline version.
A new task added in published forecast version and an unplanned resource added to a published forecast version through progress updates.	Task would be copied to working baseline version without unplanned resource.
A task is deleted in published forecast version but exists in published baseline version.	Task and resource would not be available in working baseline version.

- Progress is never copied to any baseline version. Progress applies to the forecast version only.

Note: If it is an SOV project, then after the draft baseline version is created, the resource quantities will be matched and adjusted in accordance with the ARR definitions.

Modify or Update a Draft Workplan Baseline

A draft workplan baseline can be manually updated for baseline cost/effort, schedule dates, periodic split. No resources can be deleted or added, nor can structural changes be made in the working baseline. All structural changes will flow from the forecast. List and hierarchy pages are available for the draft workplan baseline, except where you can edit the forecast values.

You can update the draft workplan baseline by selecting the Update Draft Workplan Baseline action in the workplan. This opens the Update Resource plan page.

The Update Resource Plan page shows the differences or variances after the new baseline is created and also after the created baseline is updated. Show Resources with Cost Variance and Show Resources with Schedule Variance, brings the resources with differences between baseline and proposed values (in terms of cost and schedule). The

following business rules exist:

- Updates to baseline cost/effort, schedule dates (start and finish), periodic split at resource level are allowed.
- Structural changes are restricted in the baseline cycle. No addition or deletion of resources and tasks is allowed in baseline. Tasks cannot be moved, indented, or outdented.
- Dependencies, deliverables, actions, attachments, cost codes will be available in the working baseline version. Additions, deletions, and updates are not allowed on these attributes.

Note: The Project Manager Role menu includes the function Update Resource Plan.

Note: For SOV feature enabled projects, see Schedule of Values Projects, page 3-113.

Publish Draft Workplan Baseline

After you make modifications to the draft workplan baseline, you submit the changes for further approval and publishing of the baseline. You can submit the working baseline version by selecting Review and Submit in the workplan, if the publish approval workflow is enabled. You can also publish the working baseline version by selecting Review and Publish in the workplan, if the publish approval workflow is not enabled. The following business rules exist:

- The workplan must have current working baseline version.
- The current working version must be in locked status (by the person who is publishing the version).
- The working baseline publish will follow hierarchical approval process, if the workplan baseline workflow is enabled. Autopublish of the baseline workplan will occur if the autopublish option is enabled.

Additional Information: The last published baseline version will become the latest published version, and the previous published version is designated as published versions. The first published baseline will be the original baseline. All EVMs are calculated from the latest published baseline.

Impacts to Oracle Projects Planning and Control

Financial Plan Pages

The Cost Generation Options page shows three options when the workplan baseline versioning is enabled:

- Latest Published Workplan Baseline
- Latest Published Workplan Forecast
- Current Working Workplan Forecast

You can use the relevant option's data to generate the budget and forecast.

Shortcuts in Projects Home Page

Maintain Versions shows under the Workplan section of the Shortcuts drop-down list when the workplan baseline versioning is enabled. This short cut navigates the user to the Workplan Maintain Versions page. View Workplan Cost, Update Tasks, View Workplan and View Deliverables is not be available for the projects which are baseline feature enabled.

Task Details Page

Current Working Version does not appear in the Actions drop-down of the Task Details page for latest published baseline version, current working forecast version, and the latest published forecast version, when the workplan baseline versioning is enabled.

Actions Page

Maintain Versions shows under the Workplan section of the Shortcuts drop-down list when the workplan baseline versioning is enabled.

You can use this shortcut to navigate to the Workplan Maintain Versions page. This option is available if the project is a workplan versioning-enabled project. View Workplan Cost and Update Tasks, View Workplan and View Deliverables of the work plan section of Shortcuts drop-down, is not available for the projects which are baseline feature enabled.

Schedule of Values Projects

1. A project enabled for SOV feature, will have both the cycles, forecasting and baselining enabled when the workplan baseline versioning is enabled. The cycles are independent of each other.
2. For the forecast cycle:
 - Apply Contingency is enabled for SOV projects.
 - Creation of unplanned resource in working forecast through Apply Contingency is restricted. Addition and Deletion of resource in working

forecast is restricted.

- This functionality is available through editing the project specific ARR.
- ETC updates to the resources is allowed to facilitate task manager inputs. Apply contingency will consider the proposed ETCs and replan the resource's estimates.
- Forecast might consist of the tolerances and additional consumptions.
- Collected progress and actuals are shown in working forecast.
- Update with Change Orders in the current working workplan forecast is restricted.

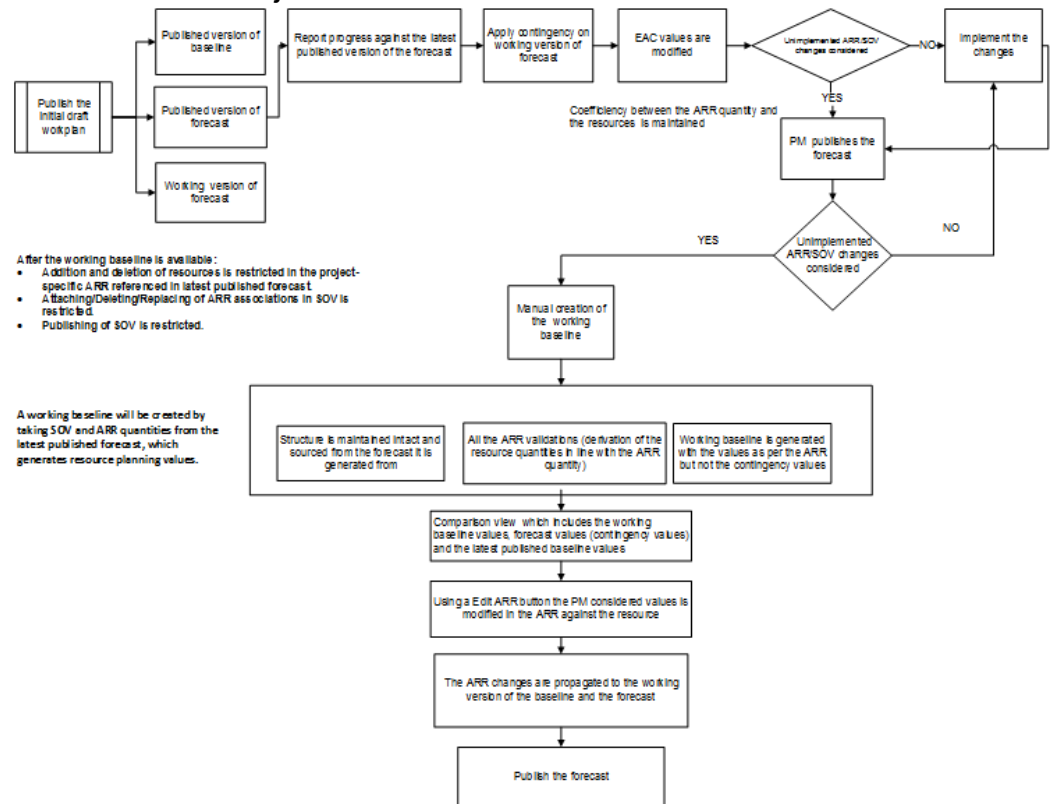
3. For the baseline cycle:

- When a draft workplan baseline exists, there are restrictions to structural changes between the draft workplan baseline and the latest published forecast:
 - Attaching, deleting, or replacing of ARR associations in SOV is restricted.
 - Publishing of SOV is restricted.
- ARRs is source for the baseline. Any changes to the resource planning values should be done only by editing the project specific ARR.
- Structural changes which were done in the working forecast must be published before creating the draft workplan baseline.
- If the SOV is published, after publishing of the forecast, changes that were done in the SOV should be taken to publish forecast before creating the draft workplan baseline.

4. For project-specific ARRs:

- Quantity and cost edits can be done on ARR anytime, even when a draft workplan baseline exists.
- Addition or deletion of resources to an ARR is restricted when a draft workplan baseline exists.

Schedule of Values Projects



The following describes the Schedule of Values Projects process flow noted in the preceding image:

1. Publish the initial draft workplan, which generates Steps 2-4.
2. Published version of baseline.
3. Working version of forecast.
4. Published version of forecast.
5. From Steps 2-4, report progress against the latest published version of the forecast.
6. Apply contingency on working version of forecast.
7. EAC values are modified.
8. If no, implement the changes, before proceeding to Step 9.
9. If yes, PM publishes the forecast.
10. Unimplemented ARR/SOV changes considered.

11. If yes, manual creation of the working baseline. See Steps 13-15.
12. If no, return to Step 8 and repeat steps to implement changes.
13. Steps 13-15 are grouped. Structure is maintained intact and sourced from the forecast it is generated from.
14. Steps 13-15 are grouped. All the ARR validations (derivation of the resource quantities in line with the ARR quantity).
15. Steps 13-15 are grouped. Working baseline is generated with the values as per the ARR but not the contingency values.
16. From Steps 13-15, comparison view which includes the working baseline values, forecast values (contingency values) and the latest published baseline values.
17. Using a Edit ARR button the PM considered values is modified in the ARR against the resource.
18. The ARR changes are propagated to the working version of the baseline and the forecast.
19. Publish the forecast.

Additional Information: Coefficiency between the ARR quantity and the resources is maintained.

After the working baseline is available: Addition and deletion of resources is restricted in the project-specific ARR referenced in latest published forecast. Attaching/Deleting/Replacing of ARR associations in SOV is restricted. Publishing of SOV is restricted.

A working baseline will be created by taking SOV and ARR quantities from the latest published forecast, which generates resource planning values.

Task Dependencies

Dependencies may be added, deleted, or updated within the workplan forecast working version. However, edits to dependencies is restricted in the baseline working version.

Task Deliverables

Deliverables may be added, deleted, or updated to the working version of forecast. Deliverables will be sent to and received in MSP. However, edits to deliverables is restricted in the baseline working version.

Microsoft Project (MSP)

1. MSP integration allows sending and receiving of Oracle Project to and from MSP. Integration will map to working and published versions of the workplan forecast.
2. The published baseline is only allowed to be received to MSP.
3. MSP will not be integrated with the working version of baseline. In this context, the workplan baseline current working version will not be available for the users to select from the Menu: Receiving Project Data from Oracle Projects.
4. Creating more than one working forecast version is restricted for workplan baseline versioning enabled projects.
5. For baseline versioning enabled projects, approver selection while publishing draft workplans and forecast versions depends on an approver selection matrix for workflow.
6. Receiving progress information is disabled for the baseline version.
7. The published baseline is brought to MSP and resources from the published baseline can be imported, however, any changes (add or delete) made to the resources in the published version will not be exported to Oracle Projects.
8. When the version being imported from Oracle Projects to MSP is a published baseline:
 - Receiving a list of values from Oracle Projects is restricted.
 - Receiving actual data from Oracle Projects is restricted.
 - Sending of data to the Oracle project is restricted. The menu Send to Projects is not available for selection.
 - Deleting a task in the version imported to MSP will be restricted.
 - Copy MSP Fields to Oracle Progress Fields and Copy Oracle Progress Fields to MSP Fields is restricted from the tools menu.
9. Oracle MSP views are modified to cater to the needs of the published baseline. Limited views, which are applicable for the published baseline are as follows:

Oracle Review Gantt-Baseline

Oracle Financial Gantt-Baseline

Oracle Review Resource Usage - Baseline

Oracle Financial Usage - Baseline

ID	ID	Name	Name
Indicators	Indicators	Baseline Effort	Baseline Cost
Task_Number	Task_Number	Baseline Cost	Baseline Start
Priority	Name Priority	Assignment Delay	Baseline Finish
Baseline Start	Transaction_Start_Date	Baseline Start	Type
Baseline Finish	Transaction_Finish_Date	Baseline Finish	Material Label
Duration	Task_Status	Type	Initials
Transaction_Start_Date	Mapped_Financial_Task	Material Label	Group Max
Transaction_Finish_Date	Baseline_Cost	Initials	Units
Overview	Task_Type	Group	Standard Rate
Baseline Effort	Task_Type_ID	Max Units	Overtime Rate
Baseline cost	Service_Type	Standard Rate	Cost Per Use
Mapped_Financial_Task	Service_Type	Overtime Rate	Accrue at
Baseline_Cost	Work_Type	Cost Per Use	Base Calender
Item	Work_Type_ID	Accrue at	Code
UOM	Task_Manager	Base Calender	-
Baseline Quantity	Task_Manager_ID	Code	-
Task_Type	Chargeable	-	-
Task_Type_ID	Billable_Capitalizable	-	-

Service_Type	Duration	-	-
Work_Type	Predecessors	-	-
Work_Type_ID	Resource_Names	-	-
Task_Manager	Baseline Start	-	-
Task_Manager_ID	Baseline Finish	-	-
Chargeable	-	-	-
Billable_Capitalizable	-	-	-
Predecessors	-	-	-
Resource_Names	-	-	-

Public APIs

Public APIs support forecast and baseline cycles.

Cost-Based Structure (CBS)

You cannot change cost codes of resources in the working version of baseline.

Project Program

Enabling this feature is restricted for program.

Workplan as Approved Cost Budget

After this enhancement, when you enable the workplan as an approved cost budget functionality, they are integrated with one another. The workplan approval and publishing generates and baselines an approved cost budget.

The option, Workplan as Approved Cost Budget, is added on the structures page of Projects Setup window. This option is applicable only to Workplan Baseline Versioning enabled projects. Select the Financial Plan Type (a mandatory option) and tie it with a workplan. The applicable list of values includes available Approved Cost Budget plan types.

You enable the Workplan as the Approved Cost Budget for a project, then the selected financial plan type of Approved Cost Budget is created and assigned. All the workplan setups are copied to Approved Cost Budget. After the workplan baseline is published, the Approved Cost Budget is generated, published, and baselined.

A Concurrent Program

Two ways you can initiate this feature, through the Structured Projects Setup menu user-interface and also using the concurrent process. The concurrent process is initiated when Workplan as an Approved Cost Budget is enabled on a new project and or upgraded for an existing project. The concurrent program, UPG: Upgrade projects for enabling baseline versioning feature, has been enhanced to include the following options:

- Use Workplan as Approved Cost Budget, Yes or No
- Financial Plan Type with list of values as Approved Cost budget plan types

These options are available for concurrent program that are associated with client extension to run for a list of projects.

Budget Generation when Workplan Baseline Version is published

Publishing of workplan baseline generates approved cost budget. Publishing of workplan baseline is done as per the Baseline cycle, and it generates the approved cost budget, approves and baselines the same.

The task structure in the workplan and the financial plan are the same. You cannot edit an Approved cost budget. When you approve the workplan baseline, it approves the cost budget. An approved cost budget setup is the reflection of a published workplan baseline. You can view the approved cost budget in the Financial Plan Budgets and Forecasts tab.

Workplan as an approved cost budget is applicable to the projects with the following criteria:

- Fully shared structure
- Workplan version enabled
- Workplan Baseline Versioning enabled
- Workplan cost enabled
- Non-budgetary controlled
- Financial cost budgets only

Maintain Versions Page – Financial Plan

View budget details is available on Maintain versions page for Approved Cost Budgets. You can choose the option, View Plan by Amounts or Period.

Impacts and Dependencies

Following are the impacts and dependencies:

Financial Plan

You cannot edit values in the Financial Plan – Budgets and Forecasts Page for an Approved Cost Budget plan type. An error displays.

Approval Workflow of Workplan Baseline

Changes to display Cost and Effort-related information are made in the notification page and the review publish page of the workplan. Addition of Cost and Effort Columns to the workplan approval notification is available for both baseline versioning enabled project as well as non-baseline versioning enabled projects.

Workplan Baseline Versioning Enabled Projects

The following new columns added in the In-Work Breakdown Structure Section

- New Effort
Data sourced from New Forecast sent for approval
- Previous Effort
Data sourced from Latest published WP Forecast version
- New Burdened Cost
Data sourced from New Forecast sent for approval
- Previous Burdened Cost
Data sourced from Latest published WP Forecast version
- Cost Variance
New latest Forecast Cost
- Proposed Baseline Effort
Data sourced from New Baseline sent for approval
- Baselined Effort
Data sourced from Latest Baseline version
- Proposed Baseline Burdened Cost
Data sourced from New Baseline version sent for approval
- Baselined Burdened Cost
Data sourced from Latest Baseline version

- Cost Variance

Proposed Baseline Cost - Latest Baseline Cost

Note: In case of Publish of Draft workplan, there will be only one version, so new columns data is sourced from the version sent for approval.

Workplan Baseline flow

Workplan Baseline when approved and published, baselines and generates and publishes an approved cost budget.

Task and Resource Deletion

Deletion of tasks in approved cost budget is restricted. To delete a task in an approved cost budget, delete the resources in workplan forecast and publish the same. Revise the workplan baseline from the latest published workplan forecast and publish the same. Once the workplan baseline is published, an approved cost budget generates and baselines. The later versions of an approved cost budget will not have any resources for the task.

You delete the task in workplan forecast and publish it. You revise the workplan baseline from the latest published workplan forecast version. Publishing the revise workplan baseline generates and baselines the approved cost budget without the task.

Set to Original Baseline functionality has been introduced for Workplan Baseline. This functionality is required to delete tasks from Approved Cost Budget.

Maintain Versions Page –Financial Plan

You cannot edit values in the Financial Plan – Budgets and Forecasts Page for an Approved Cost Budget plan type. An error displays.

Generate Financial Plan amounts concurrent program

Use the PRC: Generate Financial Plan Amounts concurrent program for generating mass budget. You can run this program for all projects or a range of projects. You use the program also to generate new budget versions for the existing budgets on projects.

With this enhancement, the program excludes the projects that are enabled for the new feature with Workplan as Approved Cost Budget is enabled.

Change Order Implementations

To create, enter a financial impact for a change order, an baselined version of approved cost budget should exist.

Public APIs

The public APIs are restricted for creating, updating, deleting the approved cost budget.

- Create Budget Line, Create Draft Budget, Create Draft Financial Plan
Added validation to restrict creating working ACB for workplan as ACB feature enabled projects.
- Create Multiple Budgets-Create Draft Budget
Added validation to restrict creating working ACB for workplan as ACB feature enabled projects.
- Delete Budget Line, Delete Baseline Budget, Delete Draft Budget
Added validation to restrict deleting an existing ACB baseline budget version for workplan as ACB feature enabled projects.
- Execute Create Draft Financial Plan
ACB Plan type is created while enabling Workplan as Approved Cost Budget feature. The validation added for other APIs is applicable for this as well.
- Update Budget, Update Budget Line, Update Multiple Budgets, Update Planning Element Attributes, Verify Budget Amounts
Added validation to restrict baselining ACB budget version for workplan as ACB feature enabled projects.

Maintain Versions Page - Workplan

Workplan Maintains Versions with the Set to Original action and a new column, Original, representing the original workplan version. Select the Set to Original option for all published baseline versions, except for the one that is marked as Original.

Delete Historical Workplans and Financial Plans

Deletion of Financial Plans- Approved Cost Budget is restricted. Workplan versions can be deleted which will automatically delete the corresponding financial plan (Approved Cost Budget Version).

Project Home Page

Editing approved cost budget using the actions available in the Projects Action page is restricted. When you choose to Edit Cost Budget and Edit Cost Budget in excel, then the application displays an error.

Advanced Project Planning and Control

For information on this topic refer to the Workplan Overview section within the Oracle Advanced Project Planning and Control Plus chapter of the *Oracle E-Business Suite Information Discovery Plus Integration and System Administration Guide*.

Cost Breakdown Planning

Overview of Cost Breakdown Planning

Oracle Projects helps you manage projects with complex cost structures by providing you the ability to enable a project for cost breakdown planning. It helps you plan, track and report project costs based on a hierarchical structure of user-defined cost codes. Using a standard set of cost codes enables you to plan and manage costs consistently across multiple projects to improve your organization's ability to control project costs effectively and improve resource utilization.

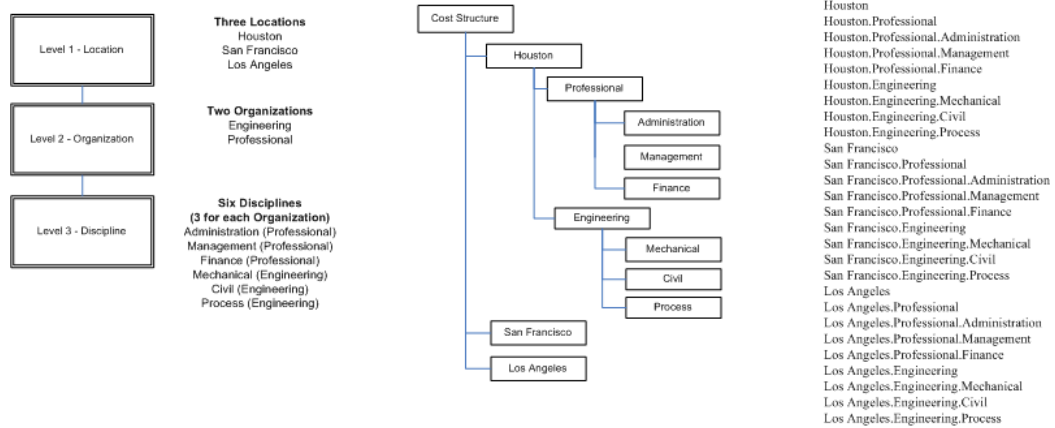
Categorization of costs for cost control purposes is often separated from categorization of costs for billing or reporting purposes. Cost breakdown structures help project and financial administrators and managers in planning costs for the project, tracking and reporting based on a cost breakdown structure that uses cost codes.

When you enable a project for cost breakdown planning, you associate a cost breakdown structure to the project and use the structure's cost codes when creating workplans, budgets and forecasts.

The cost breakdown structure standardizes costs into categories that represent manageable cost sources for an organization, such as disciplines of work, process phases, and logical locations and represent a standard cost classification system. A cost breakdown structure is typically defined in advance of the creation of the project so that the same cost codes can be used across multiple projects and this information is mostly used for planning and managing costs.

Cost codes are derived from the cost attributes you define for each level you setup in a cost breakdown structure. Each node in the cost breakdown structure is represented as a cost code and the segments of the code are a representation of the branch to which each node belongs. Each segment may be limited in the number of characters or type of characters used in order to form an actual code for quick and easy identification. For example, if the structure level is to track the dimension of Department or Discipline, the cost code may be ORCL-DEPT-MKTG, where ORCL represents the company, Oracle, DEPT represents the department in Oracle, and MKTG represents the marketing department.

A typical planning structure in an organization may appear as follows:



Since a single cost breakdown structure is associated with each project instead of an instance of the cost breakdown structure, any change made to it affects all projects. For example, if a cost code is disabled for one project, it is disabled for all projects, which use the same cost breakdown structure. However, changes you make to a cost breakdown structure do not affect existing project plans.

You can setup cost breakdown structures suitable for all types of projects in your organization, including provider or receiver projects in inter-project billing and projects enabled for cross charge intercompany billing. For more information, see *Cost Breakdown Structures, Oracle Projects Implementation Guide*.

For more information on enabling a project for cost breakdown planning, see *Defining Cost Breakdown Structures, Oracle Projects Implementation Guide*.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

Program Management

This chapter explains how you can use Oracle Projects to set up and manage programs.

This chapter covers the following topics:

- Overview of Program Management
- Enabling Program Management
- Creating and Maintaining a Program Hierarchy
- Rolling Up Program Information
- Viewing Program Information

Overview of Program Management

A program is a collection of projects linked in a hierarchical fashion. The Oracle Projects program management functionality enables you to create a program by linking multiple projects (and programs) to form a program hierarchy.

Programs enable you to view and manage workplan and financial information for a group of projects. This capability provides you with benefits that are not available when you manage each project individually. With programs, you can specify how multiple projects are interrelated within a program and review interrelated project information as a whole. You can track and report on rolled-up planned, actual, and forecasted effort, cost, and revenue, as well as progress and schedule information for all projects in the program hierarchy.

Therefore, as a program manager, you have a strategic focus on the overall program, rather than a tactical project-centric focus.

The linking of projects within a program follows a top-down approach. If you have the appropriate security privileges, then you can navigate to and drill down into the individual linked projects within the program hierarchy.

Programs have the following characteristics:

- You can link a project to multiple programs. For more information, see: Program

Management, *Oracle Projects Fundamentals*.

- You can link projects and programs to other programs in an hierarchy. Therefore, a project within a program hierarchy can itself be a program. For example, you can designate a project linked to a program as a program and link other projects to it.

The recommended approach for avoiding performance issues with key processes is to limit the size and complexity of your program structures. Since workplans belonging to the same program are linked, limiting the number of tasks in the workplan structure and the number of projects and programs in the hierarchy ensures smooth performance.

- You cannot link a project to more than one program in the same program hierarchy.
- You cannot copy a program hierarchy. When you copy a program, only the project designated as a program and its attributes are copied. The linked projects in the program hierarchy are not copied.
- You can individually create baselines for workplans of projects in the program hierarchy. Creating a baseline for a program's workplan has no impact on the workplan versions of the linked projects. For more information, see: *Using Workplan Versions within a Program Hierarchy*, page 5-3.
- You can publish programs and their linked projects independently. You can publish a program workplan version without publishing the workplan versions for the linked projects and vice versa. For more information, see: *Publishing Workplan Versions in a Program Hierarchy*, page 5-4.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

Enabling Program Management

To enable program management and designate a project as a program, you must enable program management from the project Structures page. For instructions on how to designate a project as a program, see: *Program Management, Oracle Projects Fundamentals*.

A project can be enabled as a program if cost breakdown planning is not enabled for it.

Note: You can personalize the Project List page to identify the projects you designate as programs. For more information, see: *Viewing Program Information*, page 5-8.

Creating and Maintaining a Program Hierarchy

The following attributes must be identical across all projects in a program hierarchy:

- Project currency
- Time-phase settings in the workplan structure
- GL or PA calendar settings. (For example, if a project designated as a program uses weekly GL periods, then the linked projects must also use weekly GL periods.)

For more information, see: *Selecting Planning Resource Lists and Time Phasing Methods*, page 3-7.

To create a program hierarchy, you link projects to the lowest tasks in a program's workplan or financial structure. If the workplan and financial structures are the same, then you can create only one link between the program and project.

You must manually create separate program hierarchies for workplan and financial structures if the program uses separate workplan and financial structures. After you designate a project as a program, you can enable or change the structure of any project in the program hierarchy to either a split or shared structure. However, you cannot disable an existing structure for a project

Linking Projects to a Program

You can link projects to a program from the Task Details page.

To link projects to a program:

1. From the Update Tasks page, click the Update icon for the task to navigate to the Task Details page.
2. Click Setup.
3. Click Link Projects.
4. Select the projects you want to link to the task and click Apply.

Using Workplan Versions within a Program Hierarchy

If workplan versioning is enabled for the projects in a program hierarchy, Oracle Projects creates links between the working workplan version for the program and the latest published workplan version for each of the linked projects. If a linked project does not have a published workplan version, then Oracle Projects links the working version of a program to the current working version of the project.

Note: Information does not roll up from a working workplan version of a project to the working workplan version of the program. For more information, see: Rolling Up Program Workplan Information, page 5-5.

If you are not using workplan versioning features, a single workplan version of the program is linked to the workplans of the projects in the program hierarchy. After you create program links, select Process Updates to roll up all plan and actual information from the linked projects to the program. All future updates roll up to the program automatically.

Publishing Workplan Versions in a Program Hierarchy

You can publish workplan versions for a program and its linked projects independently. However, if you publish a program workplan version before you publish any workplan version for a linked project, then Oracle Projects does not create a link between the published workplan version for the program and the working workplan version for the linked project. However, the link between the working workplan version for the program and its linked project is maintained.

When you publish a workplan version for a linked project, Oracle Projects automatically runs the PRC: Process Structure Updates concurrent program. This concurrent program rolls up information from the linked projects to the current working version of the program.

Note: When you run PRC: Process Structure Updates for a single project in the hierarchy, Oracle Projects automatically runs the concurrent program for all linked projects and performs a rollup of information for the entire hierarchy.

If you publish a workplan version for a linked project after a program workplan is published, Oracle Projects rolls up the updates to the current working version of the program. To roll up the latest progress information to the program, you must republish the program.

Note: Oracle Projects maintains links from the previous published workplan version for the program to the corresponding workplan versions for the linked projects.

After you publish a workplan version for a program or a project in the program hierarchy, you can designate it as a baseline version. You can separately designate workplan versions for a program or any of its linked projects as baseline versions. Designating a published workplan version for a program as the baseline version does not affect the workplan versions for the projects in the program hierarchy.

Oracle Projects allows you to link the baseline workplan version for a program to a non-

baseline workplan version for a linked project. However, in such a scenario, the rolled-up information at the program level may not reconcile with the information from the linked project. The discrepancy occurs because the information for the linked project is from the baseline version of the workplan, whereas the information at the program level is from a non-baseline workplan version of the linked project.

Rolling Up Program Information

Oracle Projects rolls up the following information from linked projects to a program:

- Workplan information
- Progress information
- Financial information

Caution: If you delete a linked project from a program hierarchy, Oracle Projects recalculates the rolled-up program information.

Rolling up Program Workplan Information

Oracle Projects rolls up the following workplan information in a program:

- **Scheduled Dates:** Oracle Projects rolls up scheduled dates to the linked task in a program from the corresponding linked projects. Schedule information rolls up from the published workplan version of a linked project to the published and working workplan versions for the program.
- **Planned Effort and Cost:** Oracle Projects automatically rolls up planned effort and cost when you choose the Process Updates action.

Oracle Projects rolls up planned effort and amounts from the published workplan versions of linked projects to both the working and published workplan versions of programs. For shared structures, ETC information rolls up from the published versions when you submit progress or run the summarization process. For split structures, ETC information rolls up from the published versions when you submit progress records. ETC at any level in the program hierarchy is calculated as the difference between planned and actual amounts (Plan-Actual) for the working version.

Oracle Projects does not roll up information from a working version of a linked project to a working version of a program. When you publish a workplan version of a linked project, Oracle Projects runs the PRC: Process Structure Updates concurrent program to roll up the workplan information (including scheduled dates, planned effort and cost) to the working version of the program.

For more information, see: Using Workplan Versions within a Program Hierarchy, page 5-3.

Rolling up Program Progress Information

Workplan progress measures actual work performed and enables you to plan future project work based on actual progress. After you designate a project as a program, progress and earned value information roll up from the published workplan version for a linked project to the published workplan version for the program.

As you carry out projects and enter progress for tasks, Oracle Projects rolls up the following information:

- **Actual Effort and Cost:** For shared structures, actual effort and ETC roll up the program hierarchy when you run the summarization programs. For split structures, actual effort and ETC roll up the program hierarchy when you submit progress.

Oracle Projects always rolls up ETC amounts from linked projects to the program when you submit progress. Oracle Projects rolls up actual and ETC amounts to the linked program task from both the linked projects and any assignments associated with the linked task.

Note: If a linked program task does not have any assignments, then you can enter actual and ETC amounts for the task when you submit progress for the task.

- **Actual and Estimated Dates:** Oracle Projects rolls up actual and estimated dates to a linked program task from both the linked projects and any assignments associated with the linked task.

Note: When you run the apply latest progress concurrent program for the program, Oracle Projects displays only actual amounts for the program tasks in the working workplan version of the program. Rolled up actual amounts from linked projects are not displayed in the working version of the program.

- **Earned Value:** Oracle Projects calculates earned value for a task based on the baseline effort or cost for the task. Because physical percent complete information rolls up the program hierarchy, earned value information in a program view reflects the program-level earned value.
- **ETC Effort and ETC Cost:** Oracle Projects rolls up ETC effort and ETC cost in a program the same way the rollup is performed in a project. ETC information submitted with each progress record rolls up through the project hierarchy. Oracle Projects calculates ETC at any level in the program hierarchy as the difference between planned and actual amounts (Plan-Actual) for the working version.

For shared structures, Oracle Projects rolls up ETC information from published versions when you submit progress or run the summarization programs. For split

structures, Oracle Projects rolls up ETC information from published versions when you submit progress records.

- **Physical Percent Complete:** Oracle Projects rolls up the physical percent complete of a linked project using the physical percent complete derivation method of the linked task in the program. When you submit progress for any task in any linked project, progress is rolled up to the highest level in the program hierarchy. For more information see: *Managing Progress*, page 3-54.

Running the Summarization Programs For Shared Structures

When you run the summarization programs for shared structures for a project in a program hierarchy, Oracle Projects runs the concurrent programs for all projects in the hierarchy. Therefore, you can summarize actual amounts for all projects in a program hierarchy by submitting the summarization programs for any project in the hierarchy. For more information, see: *Update Project and Resource Base Summaries, Oracle Projects Fundamentals*, and *Update Project Performance Data, Oracle Projects Fundamentals*.

Running the Refresh Project and Resource Base Summaries Program

When you submit the PRC: Refresh Project and Resource Base Summaries concurrent program for a program, Oracle Projects runs the concurrent program only for the project designated as a program and not for all projects in the program hierarchy. Therefore, to ensure that all data for a program is refreshed, you must run the concurrent program for all projects in the hierarchy, either by submitting the concurrent program for a range of projects, or by submitting the concurrent program for each project individually. When you submit the PRC: Refresh Project Performance Data concurrent program for a project which is part of a program, Oracle Projects runs the concurrent program for all projects in the program hierarchy.

For more information, see: *Refresh Project and Resource Base Summaries, Oracle Projects Fundamentals*, and *Refresh Project Performance Data, Oracle Projects Fundamentals*.

Rolling Up Program Financial Information

Program links in a financial structure enable you to view rolled-up financial plan, actual, and forecasted amounts in a program hierarchy.

Oracle Projects rolls up the following financial information:

- **Actual Effort and Cost:** Oracle Projects rolls up actual effort and cost when you submit the summarization programs.
- **Budgets and Forecasts:** Oracle Projects rolls up budget information for current baseline and original baseline versions from linked projects to the program. Oracle Projects rolls up forecast information to the program from linked projects for the latest approved forecast plan versions. Prior forecast amounts, and variances and comparisons based on these amounts are not available for a program.

After you create financial program links, you must select Process Updates to roll up the budget and forecast information from linked projects to the program. Any future changes you make to budget and forecast information automatically roll up to the program when you create a budget baseline, approve a forecast, or mark a baseline version as original. In the Reporting tab for the program, you can view budget and forecast information rolled up from the linked projects that have the same financial plan type as the program.

Important: You cannot perform program-level budgeting and forecasting. For example, you cannot budget or forecast for the entire program and distribute amounts among linked projects. Financial percent complete information roll up is limited to the project only.

- **Revenue:** Oracle Projects rolls up actual revenue when you submit the summarization programs.
- **Profitability:** Oracle Projects rolls up actual profitability when you submit the summarization programs.
- **Billing and Collections**

Note: Oracle Projects does not display the Next Invoice Date for a program in the Reporting tab.

Viewing Program Information

You can view workplan and financial information rolled up through the program hierarchy. However, some rolled up information might not be available for the program under certain circumstances, as listed below.

- If all projects in the program hierarchy do not have a common resource breakdown structure, you cannot view rolled up workplan information by resources.
- If all projects in the program hierarchy do not have the same project functional currency as the program, you cannot view the rolled-up program information in the project functional currency.

Note: You can continue to view program information in the enterprise global currency and calendar without any restrictions. Also, because projects in the program hierarchy share the same project currency, you can view program information in that currency at any time.

- If all projects in the program hierarchy do not have a common financial plan type, you cannot view rolled up financial information.

Viewing Programs in the Project List Page

The Project List page displays programs as well as projects. To identify whether a project is a program, you can personalize the Project List page and add a column that displays a program indicator.

Note that both the Project List page and the Alternate Search page display only project-level amounts and not program-level amounts.

Viewing Program Workplan Information

You can view the workplan structure hierarchy for a program from the Update Tasks page. If you have the appropriate security privileges, then you can drill down to view the status of each project. Within each project, you can drill down to view individual task details.

Note: When you view the work breakdown structure in List view, Oracle Projects does not display tasks for linked projects.

You can view workplan cost for a program or a linked project from the View Workplan Cost (Task Summary) or the View Workplan Cost (Resource Summary) pages.

If a project is designated as a program, then Oracle Projects displays the workplan cost for tasks and resources of the program by default. You cannot make any adjustments or updates when you view information for the entire program. If you want to view or update information for the program project alone (without the rolled up information), select the Project radio button and click Go.

When you compare two versions of a workplan structure for a program, tasks or task amounts displayed in one version may not exist in the other version. For more information, see Workplan Structures, *Oracle Projects Fundamentals*.

Viewing Program Financial Information

You can view overall budget, actual, and forecasted effort, profitability, cost, revenue, billability, and billing and collections for a program from the Performance Overview page on the Reporting tab. By default, the Performance Overview page displays financial information for tasks and resources for the entire program hierarchy. To view financial information only for the project designated as a program (without rolled-up information), select the Project radio button and click Go.

Oracle Projects displays earned value information only when you select to view information for the project designated as a program. You cannot view earned value information for program financial structures.

Note: If a program has a shared structure, then earned value information for the workplan and financial structures are the same. You can use the earned value information for the workplan structure to complete your analysis.

When you view the financial structure hierarchy from the Task Summary page, Oracle Projects displays the tasks in each project as well as the projects linked to a program. The rolled up financial information is displayed against the tasks in the program hierarchy.

Note: When you view interproject transactions, cost and revenue amounts for a program will include interproject billing amounts between individual projects in a program. Therefore, if projects in the same program have inter-project transactions, cost will include cost of receiver project and revenue will include revenue of provider project, at the program level.

For more information on viewing performance by tasks, resources, or time, see Overview of Project Performance Management, page 12-1.

Note: All projects linked to a program may not be of the same project type. The non-billable and non-capital costs in a program will not reconcile to the respective costs of the linked projects. This is because the total non-billable costs in a program include costs for both capital and indirect projects. The program total does not include any capital costs.

You can attach multiple resource breakdown structures to a program. However, you must select a primary default resource breakdown structure to use for displaying program information. Oracle Projects displays all rolled-up program information using the selected resource breakdown structure. The resource breakdown structures associated with a program are attached to linked projects either when the projects are linked, or when you designate a new resource breakdown structure as a program resource breakdown structure.

Note: You can enable any resource breakdown structure associated with a project for program reporting from the Resource Breakdown Structure page. You must run the PRC: Update Project Performance Data concurrent program to view program data for a resource breakdown structure in Project Performance Reporting pages.

Exception Reporting

Oracle Projects reports exceptions on dates (scheduled versus baseline) based on rolled

up dates from the linked projects at the program level. If a project is not a program, then the exceptions are reported against the project dates.

Note: Exception reporting for financial amounts is not available for programs. For a program, Oracle Projects calculates financial exceptions for the project amounts and not for the rolled up amounts at the program level.

For more information, see: Project Performance Reporting, page 12-2.

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 Planning and Control, 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.

Understanding Deliverables Security

You can access deliverables from the following pages:

- Deliverable List page
- Update Task Detail page
- Team Member Home page

A combination of workplan and deliverable security determines your ability to update deliverables, create or modify task to deliverable associations, update deliverable actions, and view deliverables. The following table shows how security affects your access to deliverables and deliverable actions.

Deliverable Security Details

Action	Page	Required Security Setup
Update deliverables (except for task to deliverable association)	Deliverable List, Update Task Detail, and Team Member Home	Your project role is associated with the security function <i>Projects: Deliverables: Update</i> . or You are the deliverable owner and your project role is associated with the security function <i>Projects: Deliverables: Update Details</i> .
Create or modify task to deliverable associations	Deliverable List and Team Member Home	Your project role is associated with the following two security functions: <i>Projects: Deliverables: Update</i> and <i>Projects: Options: Workplan: Workplan Structure View</i> .

Action	Page	Required Security Setup
Create or modify task to deliverable associations	Task Detail	<p>Your project role is associated with either of the following two security functions: <i>Projects: Deliverables: Update</i> or <i>Projects: Options: Workplan: Workplan Structure.</i></p> <p>or</p> <p>You are the task manager and your project role is associated with either of the following two security functions: <i>Projects: Options: Workplan: Workplan Structure</i> or <i>Projects: Tasks: Update Task Details.</i></p>
Update deliverable actions	Deliverable List, Update Task Detail, and Team Member Home	<p>You must be the deliverable action owner.</p> <p>Note: If you do not have access to update a deliverable, then you cannot update deliverable actions, even if you are the deliverable action owner and your project role is associated with the security function <i>Projects: Deliverables: Update Actions.</i></p>
View deliverables	Task Detail	<p>Your project role is associated with either of the following two security functions: <i>Projects: Deliverables: View</i> or <i>Projects: Options: Workplan: Workplan Structure View</i></p>

For additional information about security functions in Oracle Projects, see *Oracle Projects Implementation Guide*.

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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.

Impact of Deliverables on Workplans

When you make the following changes to workplan tasks, the changes also affect the associated deliverables:

- **Task Status:** If the status of a deliverable-based task is either Canceled or On-Hold, that status does not apply to the associated deliverables. If progress is not enabled for the deliverables, you can continue to enter progress for these deliverables. The progress will not roll up to the task.
- **Physical Percent Complete Derivation Method on the Task:** If you change the physical percent complete derivation method on a task from Deliverable to Task, you will lose any progress data that has been rolled up to the task from associated deliverables. You may want to review the progress on the associated deliverables before making such a change.

Note: You cannot change the physical percent complete derivation

method of a task whose deliverables are associated with other tasks whose physical percent complete derivation method is *Deliverable*. Only one task in a task hierarchy branch can have the Deliverable physical percent complete derivation method.

- **Creating and Updating a Workplan:** You cannot create a workplan that has more than one deliverable-based task in the same branch of the task hierarchy. You also cannot update a workplan that has more than one deliverable-based task in the same branch of the task hierarchy by using *Copy*, *Move*, *Indent* or *Outdent*.
- **Deleting a Task:** You cannot delete a task whose physical percent complete derivation method is *Deliverable* if the associated deliverable has billing, shipping, or procurement transactions or progress records.

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

Attribute	Description
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	<p>You can select from a list of all the chargeable lowest financial tasks.</p> <p>If a chargeable lowest financial workplan task is the only task associated with the deliverable, then that task is the default financial task.</p>	<p>You can select from a list of all the top financial tasks.</p> <p>If the associated workplan tasks derive the same financial top task, then that task is the default financial task.</p>
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.

Structures Setup	Deliverable/Task Associations	Financial Task for Shipping and Procurement Regions	Financial Task for Billing Region
Partly shared structure	Deliverable associated with one or more workplan tasks	<p>You can select from a list of all the chargeable lowest financial tasks.</p> <p>If a chargeable lowest financial workplan task is the only task associated with the deliverable, then that task is the default financial task.</p>	<p>You can select from a list of all the top financial tasks.</p> <p>If the associated workplan tasks derive the same financial top task, then that task is the default financial task.</p>
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	<p>You can select from a list of all the chargeable lowest financial tasks.</p> <p>If the associated workplan tasks are mapped to the same chargeable lowest financial task, then that task is the default financial task.</p>	<p>You can select from a list of all the top financial tasks.</p> <p>If the associated workplan tasks derive the same financial top task, then that task is the default financial task.</p>
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.

Structures Setup	Deliverable/Task Associations	Financial Task for Shipping and Procurement Regions	Financial Task for Billing Region
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.

Note: For a project that has cost breakdown planning enabled, billing events is the only permissible project deliverable action.

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 concurrent program .

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. There can be multiple billing actions for the same deliverable.

After the billing event is processed by either the revenue generation or invoice generation program, 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 concurrent program.

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 concurrent program 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 concurrent program, 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.

Managing Status of Project Deliverables and Deliverable Actions

You cannot change the status of a deliverable to Completed if any of the following is true:

- The deliverable action has an associated shipping function that has not been initiated.
- The deliverable action has an associated procurement function that has not been initiated.
- The deliverable action has an associated billing function and the corresponding billing event has not been processed by either the revenue distribution concurrent program or the invoice generation concurrent program.

Important: When you change the status of a deliverable to Completed, you cannot add, delete, or modify either of the following:

- deliverable actions
- item region

Note: If the deliverable type class of a deliverable is Document, you can change the status of the deliverable to Completed only if a document is attached in the Document Deliverables section. Similarly, if the deliverable type class of a deliverable is Item, you can change the status of the deliverable to Completed only if an item is assigned to the deliverable.

You cannot change the status of a deliverable action to Completed if:

- The deliverable action has an associated shipping function that has not been initiated
- The deliverable action has an associated procurement function that has not been initiated

- The type class of the deliverable is Item and the deliverable action has a billing function and either the item region is not defined or the item entered is not billable

Note: You can not deselect the Completed check box for a completed deliverable action if the deliverable action has an associated billing function and the event has been processed by either the revenue distribution or invoice generation concurrent program.

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 Programs, *Oracle Projects Fundamentals*

Copying Tasks, page 3-27

Creating Projects, *Oracle Projects Fundamentals*

Defining a Deliverable Type, *Oracle Projects Implementation Guide*

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 3-3

Collecting and Managing Progress, page 3-61

Collecting Progress for Deliverables, page 3-65

Deriving Physical Percent Complete, page 3-74

Microsoft Project Integration

This chapter is an overview of the integration with Microsoft Project when resource classes are enabled. 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
- Receiving Information from Oracle Projects
- Deleting a Task
- Clearing the Link to Oracle Projects
- Oracle Projects Views
- Tools
- Setting Preferences
- 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.

Additional Information: 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 linked projects, you can transfer information between Microsoft Project and Oracle Projects. If your

linked project in Oracle Projects is also a program, you can only receive information in Microsoft Project from Oracle Projects. For more information, see: Receiving Project Information from Oracle Projects, page 7-19.

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:

Additional Information: 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.

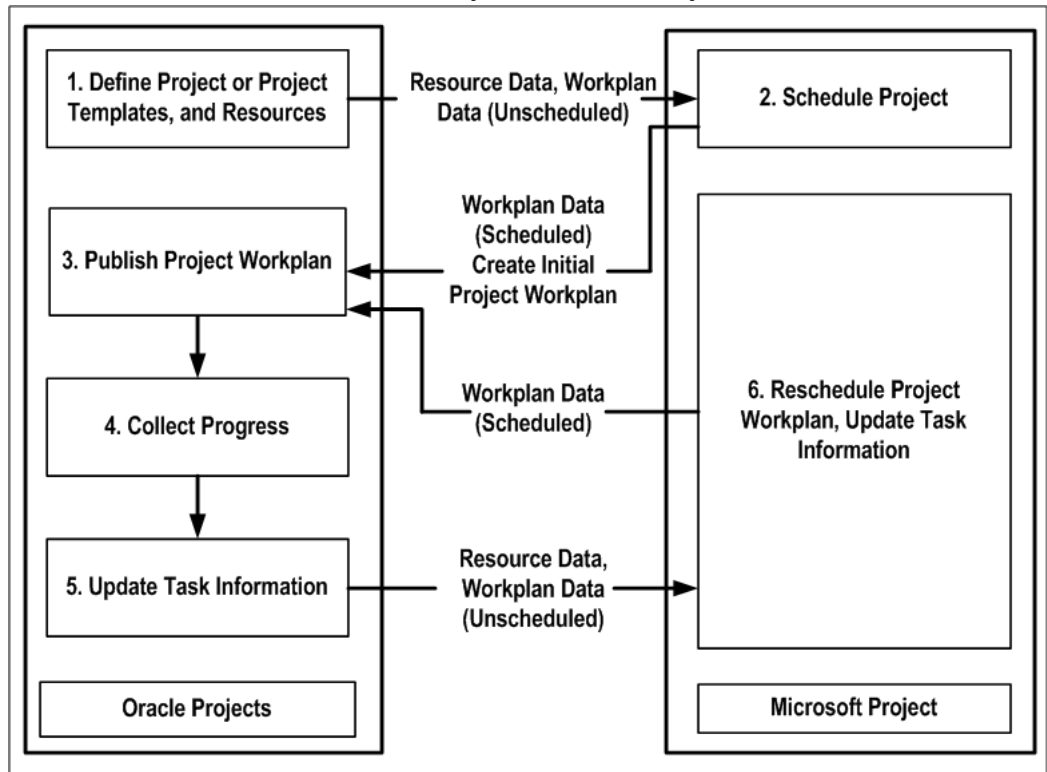
The project is now unscheduled. The unscheduled project plan is downloaded to Microsoft Project for rescheduling.

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)
 - billable and chargeable statuses

Note: To send billable and chargeable statuses to Oracle

Projects, you must enter either *Yes* or *No* in Microsoft Project for the billable and the chargeable flags. These values are not case sensitive. If you enter only *Y* or *N*, then Microsoft Project Integration ignores the values and does not send them to Oracle Projects.

- 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.

Additional Information: Actual effort 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 7-30.
- 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.

Additional Information: For version enabled structure, you must have at least one published version to send progress.

When you receive information from a project that is also a program, you will only receive task level cost, effort, and progress information for tasks having linked projects. You will not receive information rolled up from projects linked to the task.

- **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

Additional Information: Actual data can be received only from a linked project

Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

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.

Note: After Microsoft Project Integration installation, if the Oracle Projects menu is not displayed (in Microsoft Projects 2010, this menu appears under the Add-Ins tab and if the Add-Ins tab is not displayed) then perform the following steps:

1. Navigate to Microsoft Project and press Alt + F11 keys.
The Microsoft Visual Basic Editor appears.
 2. Choose Options from the Tools menu.
The Options page appears.
 3. In the Editor tab, under Code Settings section, deselect Require Variable Declaration check box if it is selected.
 4. Close the Microsoft Visual Basic Editor and Microsoft Project.
 5. Run the Microsoft Project Integration Installation again.
3. Set up security for projects, functions, and roles. For more information, see: *Protecting Data Integrity*, page 7-8

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 7-28.

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.

Setting the Automatic Calculation Option

You can set the default value for the automatic calculation in Microsoft Project to keep the data synchronized if your project is small and simple. However, if required, you can disable automatic calculation by setting the Calculation Mode option to Manual in the Tools menu in Microsoft Project and selecting Options, and then Calculation Options for MSP. You can change the mode to Automatic at any time or use the Calculate Now option to perform calculations manually when the mode is set to Manual.

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 concurrent program 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 7-1.

See also: *Sending New Project Data to Oracle Projects*, page 7-12.

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 7-37.

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.

Note: For shared structures and financial structures, when you send transaction start and completion dates from Microsoft Project to Oracle Projects, the dates must adhere to the following business rules:

- **Task transaction start date:** For top tasks, the date must be on or after the project transaction start date. For subtasks, the date must be on or after the transaction start date for its parent task.
- **Task transaction completion date:** For top tasks, the date must be on or before the project transaction completion date. For subtasks, the date must be on or before the transaction completion date for its parent task.
- **Project transaction start date:** Must be on or before the earliest task transaction start date.
- **Project transaction completion date:** Must be on or after the latest task transaction completion date.

For additional information about dates for projects and tasks, see: *Managing the Task Schedule*, page 3-17 and *Project Start and Finish Dates*, *Oracle Projects Fundamentals*.

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 7-31.

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.

Additional Information: The Project Start and End Date fields are not displayed because the dates default from Microsoft Project.

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 3-1

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.

Additional Information: 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 7-10.

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 7-12), or
- Receiving a project from Oracle Projects and retaining the link to Oracle Projects (see: Receiving Information from Oracle Projects, page 7-19)

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 7-28.

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 7-28.

Additional Information: You cannot send revised project data to a linked project that is also a program.

Sending Progress Information to Oracle Projects

All tasks have a physical percent complete value, even summary tasks. There can be some differences in Microsoft Project and Oracle Projects physical percent complete rollup calculations for summary tasks. If you prefer to see the Oracle Projects' physical percent complete in the %-Complete field, you can copy the Oracle Projects physical percent complete value from the Text 19 field using the Copy Oracle Progress Fields to MSP Progress option. You can choose to retain both values for comparison, but only one physical percent complete can be sent to Oracle Projects.

To send progress information from Microsoft Project to Oracle Projects, select the

Progress option on the Send Projects: Options page when you send project data to Oracle Projects. You can send progress information to Oracle Projects only if the project already has a published workplan version.

Note: When you enter a percent complete value in the *% Complete* column in Microsoft Project, the value overrides the data in the *Number3* column (Oracle % Complete). Therefore, to send percent complete information to Oracle Projects, you can enter values in the *% Complete* column. Alternatively, you can use the *Copy Oracle Progress Fields to MSP Fields* option to copy the percent complete values that you enter in the *Number3* column to the *% Complete* column. To access the *Copy Oracle Progress Fields to MSP Fields* option in Microsoft Project, select the Tools option from the Oracle Projects menu and select all rows you want to copy.

Before you can send progress information to Oracle Projects you must ensure that the following progress-related setup is complete:

- Enable percent complete progress for task types, page 7-15
- Enable progress options for the workplan, page 7-16
- Set the Status Date in Microsoft Project, page 7-16

Enable Percent Complete Progress for Task Types

Task types assign default planning and progress attributes to tasks. To send progress information from Microsoft Project to Oracle Projects, you must enable the *Enable Percent Complete Collection* option for tasks types that you assign to tasks.

Note: If you do not have access to update task type setup, then please contact your Oracle Projects super user or system administrator.

Note: When you use Microsoft Project Integration, if you specify a task type for a task, then Microsoft Project sends the specified task type to Oracle Projects. If you do not specify a task type for a task, then Oracle Projects assigns the task a predefined task type named *Upgraded Task Type*. The *Enable Percent Complete Collection* option is not enabled for this default task type. Therefore, if you want to send progress from Microsoft Project to Oracle Projects without specifying a task type for each task, then you must enable the *Enable Percent Complete Collection* option for the *Upgraded Task Type*.

To enable the percent complete progress option for a task type

1. Navigate to the Task Types page:

Project Super User responsibility > Setup > Task Types

2. Click the Update icon for the task type.
3. Enable the *Enable Percent Complete Collection* option.
4. Click the Apply button.

Related Topics

Task Types, *Oracle Projects Implementation Guide*

Selecting Task Types, page 3-10

Enable Progress Options for the Workplan

To send progress information from Microsoft Project to Oracle Projects, you must enable the following progress options for the workplan in Oracle Projects:

- **Allow Physical Percent Complete Collection:** Enable this option to enable the collection of physical percent complete for tasks and deliverables. If you do not enable this option, you cannot collect physical percent complete for tasks and deliverables.
- **Allow Physical Percent Complete Overrides:** Enable this option to enable the override of physical percent complete if you also select the Allow Physical Percent Complete Collection option. If you do not select this option, then physical percent complete for a task cannot be overridden.

To enable progress options for a workplan:

1. Find the project in Oracle Projects.
2. Click the name of the project to open it.
3. Click the Workplan tab.
4. Click the Setup subtab.
5. Click the Progress hyperlink.
6. Enable the *Allow Physical Percent Complete Collection* and *Allow Physical Percent Complete Overrides* options.

Related Topics

Selecting Progress Options for a Workplan Structure, page 3-58

Set the Status Date in Microsoft Project

In Oracle Projects, the *As of Date* refers to the date for which you are collecting progress.

The progress cycle that you assign to a workplan determines the As of Dates that you can select. Oracle Projects populates the list in the As of Date field with five dates, starting with a default As of Date. For additional information about how Oracle Projects determines the default As of Date, see: Understanding Progress, page 3-54.

Microsoft Project uses the *Status Date* for a project as the As of Date for progress. To send progress to Oracle Projects, set the Status Date as follows:

- If you are sending progress to a working workplan version, then you can set the Status Date in Microsoft Project to any date.
- If you are sending progress and publishing the workplan version at the same time, then the Status Date in Microsoft Project must match one of the five dates in the As of Date field list in Oracle Projects.
- If you are updating progress for a previously published workplan version, then the Status Date in Microsoft Project must either correspond to an earlier date or match one of the five dates in the As of Date field list in Oracle Projects.

To view the list of As of Dates for a workplan in Oracle Projects:

1. Find the project in Oracle Projects.
2. Click the name of the project to open the project.
3. Click the Workplan tab.
4. Click the Update Progress icon for the workplan level.
5. Click the Progress Report subtab.
6. Review the list of dates in the As of Date Field.

To set or modify the Status Date in Microsoft Project:

1. From the Project menu, select the Project Information option.
2. Enter a date in the Status Date field.
3. Click the OK button.

Sending Cost Information to Oracle Projects

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 7-30.

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.

Additional Information: 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. The plan type field displays both plan types and budget types. Select either a budget type or a plan type and enter a 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 7-37

Related Topics

Creating and Maintaining Resource Lists and Receiving Service Types, page 7-9

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.

Note: When receiving large or complex project files from Oracle Projects, you may want to disable automatic calculations in Microsoft Project and perform them manually. For more information, see *Setting the Automatic Calculation Option*, page 7-9.

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.

Note: The scheduled dates in Microsoft Project may not match the scheduled dates in Oracle Projects. The difference in dates is due to the calculations that Microsoft Project makes to determine the schedule. These calculations can cause Microsoft Project to automatically change the dates received from Oracle Projects. For example, if task assignments exist in Microsoft Project, then Microsoft Project automatically schedules the tasks according to calendar and task information such as dependencies and constraints.

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.

Additional Information: When you receive information from a project that is also a program, you will only receive task level cost, effort, and progress information for tasks having linked projects. You will not receive information rolled up from projects linked to the task.

Receiving Progress Information from Oracle Projects

The progress information that you receive from Oracle Projects, and how it affects the working workplan version in Oracle Projects, depends on whether the latest published workplan version in Oracle Projects has submitted progress. The following sections discuss these two scenarios.

Latest Published Workplan Version Has Submitted Progress

If the latest published workplan version in Oracle Projects has submitted progress, then the following actions take place if you enable the *Progress* check box when you receive a working workplan version in Microsoft Project:

1. Microsoft Project receives progress from the latest published workplan version in Oracle Projects.
2. Oracle Projects automatically applies progress from the latest published workplan version to the working workplan version in Oracle Projects. As a result, Oracle Projects overwrites any changes that you made to progress values for the working workplan version in Oracle Projects.

For example, the latest published workplan version for a project in Oracle Projects has submitted progress with an ETC quantity of 10 hours. The following actions then take place:

1. You update the ETC quantity in the working workplan version from 10 hours to 20 hours and save the changes.
2. You enable the *Progress* check box when you receive the working workplan version in Microsoft Project.
3. Microsoft Project receives an ETC quantity of 10 hours from the latest published workplan version in Oracle Projects.
4. Oracle Projects automatically applies the progress from the latest published workplan version in Oracle Projects to the working workplan version, overwriting your previous update. The ETC quantity for the working workplan version in Oracle Projects is now 10 hours, the same as the ETC quantity that Microsoft Project received.

If you save changes to progress information for the working workplan version in Oracle Projects, and you want to see the changes in Microsoft Project, then you must publish

the working workplan version in Oracle Projects *before* you receive progress information in Microsoft Project.

Latest Published Workplan Version Does Not Have Submitted Progress

If the latest published workplan version in Oracle Projects does not have submitted progress, then the following actions take place if you enable the *Progress* check box when you receive a working workplan version in Microsoft Project:

1. Microsoft Project receives progress from the working workplan version in Oracle Projects.
2. Oracle Projects does *not* automatically apply progress from the latest published workplan version to the working workplan version in Oracle Projects. Oracle Projects retains any changes that you made to progress information for the working workplan version.

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 7-30. See also, *Planning Resources and Planning Resource Lists, Oracle Projects Implementation Guide*.

Note: To receive a resource list that is *not* centrally controlled from Oracle Projects, you must first create a linked project in Microsoft Project. For example, if a resource list that is *not* centrally controlled is attached to a project template, then you must first create a project from the project template and then you can receive resources from the project.

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 7-29.

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

When you choose to receive a list of values defined in Oracle Projects, Microsoft Project Integration displays a list of values for you to use to select values. 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.

Oracle Projects strongly recommends that you use a list of values to enter values for the following attributes in Microsoft Project:

- Service Type
- Task Manager
- Priority
- Progress Status

- Item
- UOM
- Task Type
- Task Status
- Work Type

Entering Values in Microsoft Project Without a List of Values

Although Oracle Projects strongly recommends that you use a list of values to enter values in Microsoft Project whenever a list of values is available, you can choose to directly enter the values. If a value that you enter for an attribute in Microsoft Project do not exactly match a value in Oracle Projects, then Microsoft Project Integration either ignore the value, and does not send it to Oracle Projects, or the entire send process is unsuccessful. See: Attributes Transferred, page 7-37.

To send information to Oracle Projects, the values that you enter for Microsoft Project attributes must exactly match the values for attributes in Oracle Projects as listed the following table:

Columns in Microsoft Project and Matching Attributes in Oracle Projects

Attribute in Microsoft Project	Attribute in Oracle Projects
Service Type	Service Type Code
Task Manager ID	Task Manager ID
Priority	Priority Code
Progress Status	Progress Status Code
Item	Item Code
UOM	UOM Code
Task Type ID	Task Type ID
Task Status	Task Status Code
Work Type ID	Work Type ID

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.

Additional Information: Actuals are received for financial structures only.

If you are using Project Status Inquiry (PSI) to report project results, then run PRC: Update Project Summary Amounts.

If you are using Project Performance Reporting (PPR), then run:

- PRC: Update Project and Resource Base Summaries
- PRC: Update Project Performance Data

If the project is enabled for Enhanced Project Performance Reporting, then run:

- PRC: Update Project and Resource Base Summaries
- PRC: Summarize Workplan and Financial Plan Data
- PRC: Update Project Reporting Data Using Database Analytics

If you do not, project costs recorded after the last summarization program 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 7-30 , 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 7-19.

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 3-31

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 7-22

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 7-37. 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 7-31.

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 7-28.

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.

Additional Information: 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 7-29.

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 7-31.

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 7-19.

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			

Microsoft Project Outline Number	Microsoft Project Text5	Oracle Projects Task Number	Oracle Projects Description
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.

Additional Information: 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 send time-phased data for resource assignments. If you enable the Send Time Phased Data option, then the cost and effort data for your resources is summarized as per the PA or the GL period and sent to Oracle Projects. If you disable this option, then Oracle Projects spreads the amounts as per the spread curve assigned to the assignment. See, Spread Curves, *Oracle Projects Implementation Guide*.

Sending Oracle % Complete: You can send the Oracle Physical Percent Complete value from MSP. If Send Oracle Percent Complete option is enabled, then the % Complete value from the Text19 column is sent to Oracle Projects. If this option is disabled, then the MSP % Complete value is sent to Oracle Projects by default.

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 following table illustrates that the tasks at level 4 in Microsoft Project (1.1.1.1, 1.1.1.2, 1.1.1.3) that are associated with task level cost budgets, will have these items 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		

Microsoft Project Outline Number	Microsoft Project Budget	Oracle Projects Task Number	Oracle Projects Budget
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. For successful integration, columns must not contain other information that Microsoft Project Integration uses.

Workplan Attributes

The following table lists the task planning attributes for Oracle Projects and Microsoft Project.

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	Oracle Projects to Microsoft Project
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	Oracle Projects to Microsoft Project

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Task Type ID	Text7	Both ways
Scheduling Tool Task Type	Task Type	Both ways
Work Type	Text17	Oracle Projects to Microsoft Project
Work Type ID	Text8	Both ways
Service Type Code	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
Transaction Start Date	- Start1 for shared structures - Start for split structures	Both ways

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
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
Item Code	Text14	Both ways
UOM Code	Text15	Both ways

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
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
		Note: Microsoft Project receives only the first 255 characters from Oracle Projects.
Planned Work Quantity	Number2	Both ways
Cumulative Work Quantity	Number1	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

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
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	Text19	Both ways
Task Status Code	Text9	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	Microsoft Project to Oracle Projects
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
Baseline Cost	Cost 10	Oracle Projects to Microsoft Projects
Billable/Capitalizable	Text3	Both ways
Burdened Cost	Cost	Microsoft Project to Oracle
Chargeable	Text2	Both ways
ITD Burden Cost	Cost 2	Oracle Projects to Microsoft Projects
ITD Raw Cost	Cost 1	Oracle Projects to Microsoft Projects
Latest Published Cost	Cost 9	Oracle Projects to Microsoft Projects
Microsoft Project to Oracle	Projects	Quantity
Projects	Revenue	Cost
PTD Burden Cost	Cost 6	Oracle Projects to Microsoft Projects
PTD Raw Cost	Cost 4	Oracle Projects to Microsoft Projects
Raw Cost	Cost	Microsoft Project to Oracle Projects
Revenue	Cost3	Oracle Projects to Microsoft Projects
Service Type Code	Text4	Both ways
Work	Microsoft Project to Oracle	Projects
YTD Burden Cost	Cost 7	Oracle Projects to Microsoft Projects

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
YTD Raw Cost	Cost 5	Oracle Projects to Microsoft 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.

The following business rules apply to sending attribute values from Microsoft Project to Oracle Projects:

- Depending on the option you select during the Send Budget Data process, Microsoft Project Integration transfers the Cost field in Microsoft Project to either the Raw Cost, Burdened Cost, or Revenue field in Oracle Projects.
- To send billable and chargeable statuses to Oracle Projects, you must enter either *Yes* or *No* in Microsoft Project for the billable and the chargeable flags. These values are not case sensitive. If you enter only *Y* or *N*, then Microsoft Project Integration ignores the values and does not send them to Oracle Projects.
- Task manager, task type, and work type have two columns in Microsoft Project, a descriptive text column and an ID column. If you enter the description, but leave the ID column blank, then Microsoft Project Integration does not send the value to Oracle Projects. For example, if you enter the task manager name in the Task Manager column and leave the Task Manager ID column blank, then Microsoft Project Integration does not send the value you entered in the Task Manager column to Oracle Projects.
- Although Oracle Projects strongly recommends that you use a list of values to enter values in Microsoft Project whenever a list of values is available, you can choose to directly enter the values. If the value that you enter in Microsoft Project does not exactly match the value in Oracle Projects, then one of the following two outcomes can occur, depending on the attribute:
 - Microsoft Project Integration ignores the value and does not send it to Oracle Projects. However, the send process sends the remainder of the information to Oracle Projects. This outcome occurs for the following attributes: Service Type, Priority, Progress Status, Item, UOM, Task Status, and Work Type.
 - The entire send process is unsuccessful. This outcome occurs for the following attributes: Task Manager (if you enter the Task Manager ID incorrectly) and Task Type (if you enter the Task Type ID incorrectly).

Related Topics

Receiving Information from Microsoft Project, page 7-10

Deleting a Task, page 7-28

Clearing the Link to Oracle Projects, page 7-28

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 With Budgetary Control and Budget Integration
- Using Budgetary Control
- Moving and Editing Budgets as Financial Plan
- Integrating Budgets
- G-Invoicing in Oracle Projects

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.

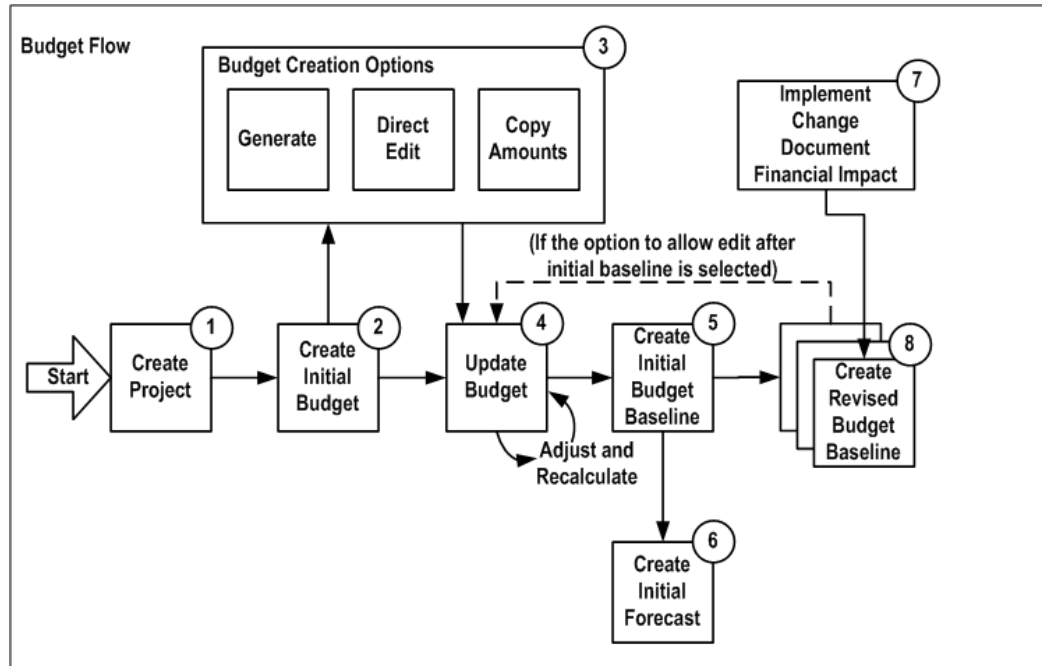
Note: For workplan baseline versioning-enabled projects, see *Managing the Workplan Lifecycle Using Baseline Versioning*, page 3-101.

Building Budgets

The following illustration shows the process flow for creating budgets in Oracle

Projects.

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 to apply a percentage for increasing or decreasing the quantity, raw cost rate, burden cost rate, bill rate, raw cost, burdened cost, and revenue. 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 8-4.

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: Budgetary control and budgetary integration is for use with budget plan types financial plan types only. The automatic creation of a budget from a workplan, staffing plan, or financial plan (other than a budget type financial plan), as well as the features that support financial impact for change documents, are not supported when budgetary control/budgetary integration is enabled.

Related Topics

Implementing and Including Financial Impact in Budgets and Forecasts, page 10-21

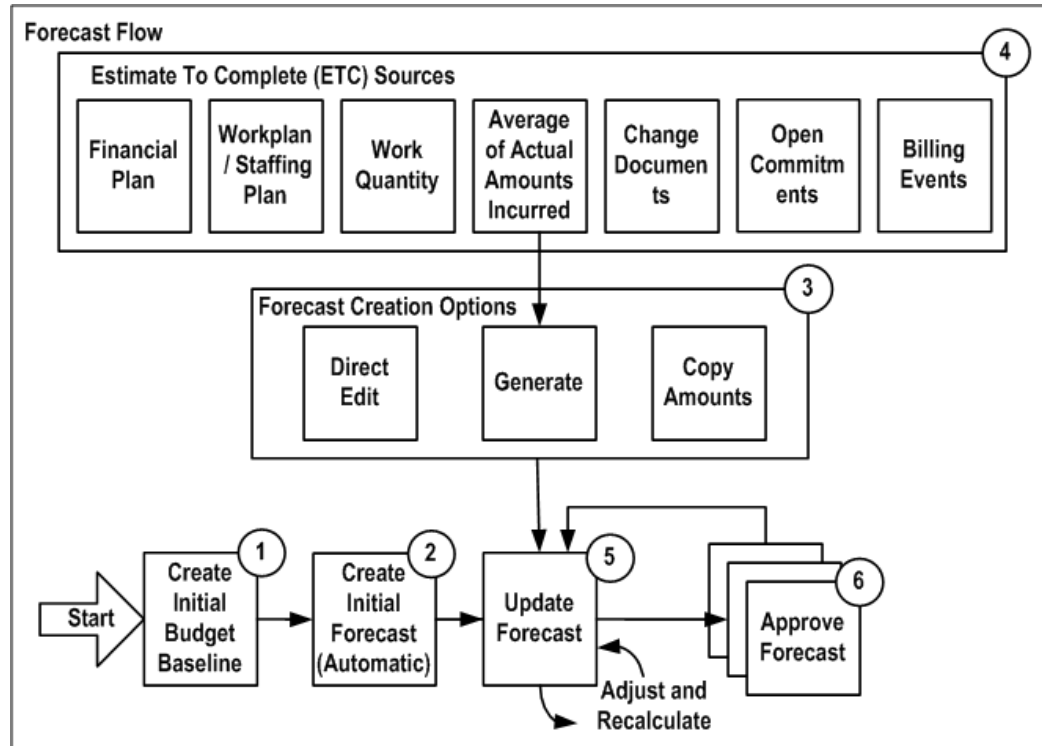
Financial Plan Types, *Oracle Projects Implementation Guide*

Period Profiles, *Oracle Projects Implementation Guide*

Building Forecasts

The following illustration shows the process flow for creating forecasts in Oracle Projects.

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

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.

Related Topics

Financial Plan Types, *Oracle Projects Implementation Guide*

Period Profiles, *Oracle Projects Implementation Guide*

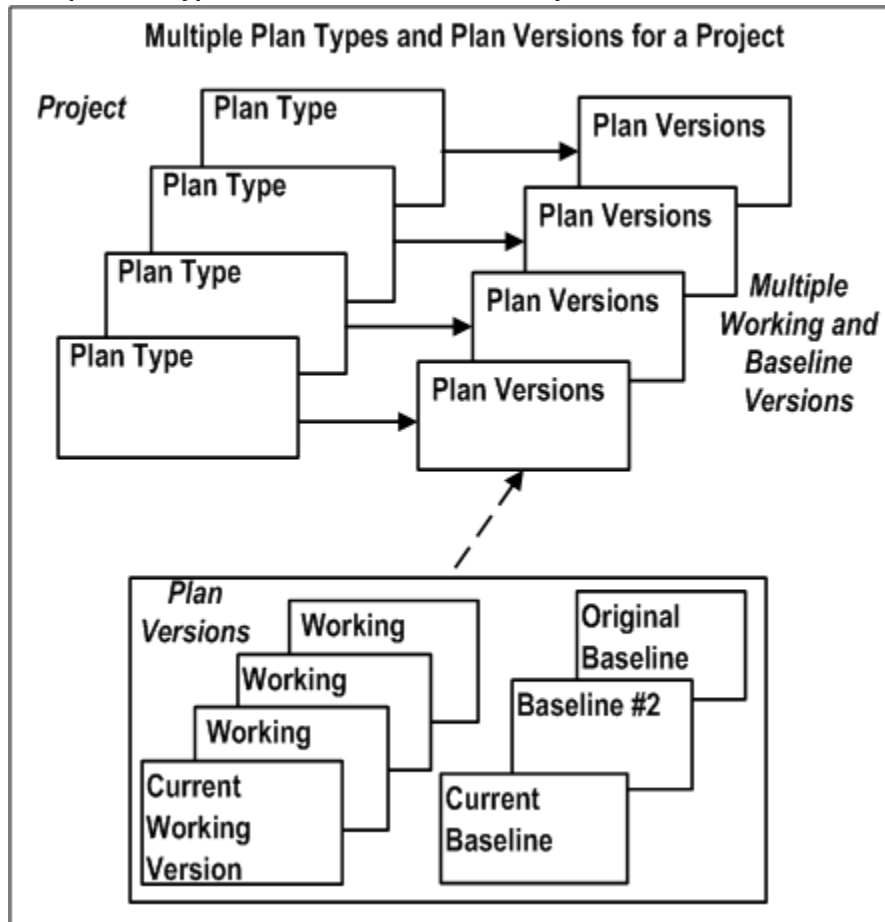
Spread Curves, *Oracle Projects Implementation Guide*

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.

Changes to Budgetary Control Overrides at Plan Type

The budgetary control overrides given at the plan type level are always applied on latest successfully baselined plan version against which funds check happens. These overrides are not specific to plan versions.

At the plan version level, the budgetary control tab is not relevant and therefore has been removed.

Related Topics

Defining Planning Options, page 8-17

Adding Plan Types to a Project, page 8-24

Creating Plan Versions, page 8-25

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 8-24.

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.

When you create budgets and forecasts that do not use budgetary control 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 that use budgetary control and budget integration features, you can choose to enter budget 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.

Note: When you enable cost breakdown planning for your project, then you can select only top task or lowest tasks as the lowest planning level.

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 that use budgetary control and budget integration, you cannot use a *planning resource list* to categorize budget 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 that uses a planning 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 that use budgetary control features, you cannot create budgets that use a time phased of *date range*.

Note: When you create budgets that use budget integration features, you must use a time phase of *GL Period*.

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 control 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 8-17

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

Note: Oracle Projects also uses spread curves to distribute planned quantities for workplan resource assignments. For more information, see: *Defining Planned Quantity and Cost for Resource Assignments on Tasks*, page 3-38.

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 amounts when you create budgets that use budgetary control 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 8-29

Generating Forecasts, page 8-42

Entering Amounts and Editing Plan Versions, page 8-58

Resource Classes, *Oracle Projects Implementation Guide*

Using Fiscal Calendar for Periodic Distribution

Apart from using the spread curve, you can also use the Fiscal Calendar to distribute the quantity, cost, and revenue among the periods. In this method the project calendar

and the number of days in a fiscal period for which the resource is assigned is used to calculate the distribution.

This method is available only for a planning transaction, that is, for a task assignment, a budget line, or forecast line.

While updating the spread basis using AMG API enter 10000 as the Spread Curve ID to select this method.

To use this method:

1. Navigate to the Update Resource Assignment, Update Budget Line Details, or Update Budget Line page in the project.
2. Select Fiscal Calendar as the Spread Basis.
3. Generate the budget or forecast.

The quantity, cost, and revenue for a planning resource will be distributed proportionately among the periods within the resource assignment duration.

Using Budgetary Control and Budget Integration

You can set up budgets that use Oracle Projects budgetary control and budget integration features. Budgetary control enables 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 with budgets in Oracle General Ledger.

Important: To create budgets that use budgetary control and budget integration features, you must follow the processes and procedures described in the section in this chapter titled *Creating Budgets With Budgetary Control and Budget Integration*, page 8-78.

Related Topics

Using Budgetary Control, page 8-106

Integrating Budgets, page 8-138

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 planned amounts based on the quantities and amounts that you enter, and rates from the rate sources 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 the actual costs, accrued costs and revenue for expenditure items. If you use actual rates, Oracle Projects determines rates for planning resources using the same logic as used to calculate actual costs and revenue. During planning the applicable rate is derived just as it is for labor actuals and multiplied by the planned hours to derived planned cost or revenue.

Planning rates are rates Oracle Projects uses to determine the cost and revenue amounts for planning resources when you enable the planning rates option for a workplan structure or for the planning options for a financial structure, budget version, or forecast version. You can assign a set of rate schedules to use specifically for planning purposes if you enable planning rates.

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 rate schedule planning options, override rates for budget lines, or apply percentage adjustments to budget versions when you create budgets that use budgetary control and budget integration features.

Note: For non-shared structures, the task descriptive flexfields are displayed in Financial: Tasks, Update Financial Tasks.

For all labor planning resources, Oracle Projects derives forecast actual costs from expenditures you generating using Oracle Project Costing. For non-labor resources, actuals may be calculated. For details of calculating actual costs, see *Using Rates for Workplan and Financial Planning, Oracle Projects Fundamentals guide*.

Related Topics

Understanding Budget and Forecast Security, page 8-16

Defining Plan Settings, page 8-18

Selecting Rate Schedules, page 8-21

Editing Budget and Forecast Amounts, page 8-61

Adjusting Version Amounts, page 8-66

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 8-66

Entering Budgets and Forecasts in Multiple Currencies

You can create budgets and forecasts that enable you to enter plan amounts in multiple transaction currencies. An exception exists for approved revenue budget versions. For related information, see *Entering Amounts and Editing Plan Versions*, page 8-58.

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 multiple currencies. If you enable your budget or forecast version for planning in multiple currencies, then Oracle Projects calculates the amounts using the rate schedule currency as the transaction currency.

Related Topics

Defining Currency Settings, page 8-21

Rate Schedule Definition, *Oracle Projects Implementation Guide*

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 8-74

Understanding the Submit Process, page 8-75

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 8-24

Financial Plan Types, *Oracle Projects Implementation Guide*

API 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 control and budget integration features. For information on creating budgets that use these features, see: *Creating Budgets With Budgetary Control and Budget Integration*, page 8-78.

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, generation options, and Microsoft Excel 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.

In addition, you can specify a Microsoft Excel spreadsheet layout for a plan type within the context of a project template or a project. You cannot change a spreadsheet layout selection at the plan version level.

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 8-11.

Changes to Edit Planning Option for Moved Budget

The Edit Options window now includes a new region, Budgetary Control, for the moved budgets from Forms as the Financial Plan.

You can only edit the Financial plan. Any updates done in the Edit Planning Options window, is visible in the budgetary control tab of project in forms. Similarly, updates made to budgetary control tab of project in forms are visible in Edit Planning options page on the Financial Plan.

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 8-24.

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 Reporting Options

Use the following options to define how you want to display and report plan quantities and amounts:

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 8-21.

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.

This option also controls whether raw cost or burdened cost amounts are displayed in the Cost column on the Budgets and Forecasts page.

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. You can determine whether to select a resource breakdown structure in which resource classes are enabled or disabled to attach to a project.

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. If cost breakdown planning is enabled for your project, then you can select only top task or lowest tasks as the lowest planning level.

For more information, see: *Selecting Planning Levels for Budgets and Forecasts*, page 8-8.

Resource Information

You can optionally select a *planning resource list* to enable the entry of plan amounts for planning resources. You can select a planning resource list with resource classes enabled or disabled. If you select a planning resource list with resource classes disabled, you cannot select a resource breakdown structure for the same plan type with resource classes enabled. If you select a planning resource list with resource classes enabled, you can select a resource breakdown structure for the same plan type with resource classes enabled or disabled. For more information, see: *Categorizing Budget and Forecast Amounts by Resources*, page 8-9, 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 8-11, 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 8-10, 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's Guide

Selecting Rate Schedules

Rate schedule planning options enable you to select the source of rates you use in planning 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 source and derives rates to calculate actual cost and revenue (bill) amounts.

You must specify rate schedules for resource class when you are using a planning resource list with resource classes enabled. 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 based on the resource class associated to the planning resource.

When resource classes are disabled, specify a default rate for all planning resources. The default rate is used in computing planned amounts for the financial plan when a rate is

not defined for a resource at any other source. For example, for an employee the rate is derived as per the following rules:

- First Preference: Labor Costing Overrides rule
- Second Preference: Organization or Operating Unit Labor Costing rule
- Third Preference: Project Resource Default Rate

The expenditure type chosen for the planning resource in the planning resource list is used to compute the burden cost for the plan lines when there are no resource classes.

If you enter a financial plan line or modify a generated line when resource classes are disabled, you specify the quantity, the revenue is computed using the default bill rate specified in the Rate Setting tab.

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

Generating Budgets, page 8-29

Generating Forecasts, page 8-42

Entering Amounts and Editing Plan Versions, page 8-58

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. If cost breakdown planning is enabled for a project, you cannot select staffing plan as the generation source. If the plan version tracks revenue, you can specify a revenue derivation method for revenue generation. The project's revenue accrual method initially determines the revenue derivation method. When cost breakdown planning is enabled for your project, then you can select only Cost or Work as the revenue derivation method. You can select another derivation method unless the revenue accrual method is Event.

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 user-specified plan lines when you generate or regenerate a budget or forecast version.

Note: When cost breakdown planning is enabled for your project, then

you cannot include billing events as a generation source.

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

Generating Budgets, page 8-29

Generating Forecasts, page 8-42

Staffing Plan, *Oracle Projects Fundamentals*

Overview of Cost Breakdown Planning, page 4-1

Defining Microsoft Excel Options

To use Microsoft Excel integration features for budgeting and forecasting, you must specify a default spreadsheet layout for a budget or forecast plan type. You can optionally specify spreadsheet layouts for plan types for both project templates and projects. You can also change the default spreadsheet layout specified for a plan type at the project template or project level. However, you cannot change the default spreadsheet layout selection at the budget or forecast version level.

Oracle Projects provides the following default spreadsheet layouts for budgeting and forecasting integration with Microsoft Excel:

- Periodic budget
- Non-periodic budget
- Periodic forecast
- Non-periodic forecast

To meet your business requirements, your implementation team can create additional custom spreadsheet layouts by duplicating the default layouts and then updating the duplicates. For more information, see: *Implementing Integration with Microsoft Excel, Oracle Projects Implementation Guide*.

You can select either one or two spreadsheet layouts for a plan type depending on whether the plan type allows entry of cost amounts only, revenue amounts only, or both cost and revenue amounts. For example:

- If you are planning for *cost only, revenue only, or cost and revenue together*, then you can select only a single spreadsheet layout.
- If you are planning for *cost and revenue separately*, then you can select a spreadsheet layout for a cost plan and a spreadsheet layout for a revenue plan.

For more information on specifying cost and revenue entry options for plan types, see: Adding Plan Types to a Project, page 8-24.

When you select a spreadsheet layout for a plan type, Oracle Projects displays a list of available amount types. You can choose from the list of amount types to define the columns displayed in a spreadsheet. When you select a spreadsheet layout for a budget or forecast plan type that is time-phased by periods, Oracle Projects enables you to select either a periodic spreadsheet layout, or a non-periodic spreadsheet layout. You can select only a non-periodic spreadsheet layout for a plan type that is not time-phased by periods.

Related Topics

Editing Budgets and Forecasts in Microsoft Excel, page 8-63

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. You cannot change the cost or revenue plan setup option after a plan version is created for a plan type.

Note: When you plan cost and revenue amounts together in the same plan version, Oracle Projects derives revenue each time that you update cost amounts. If you want revenue derivation to be independent of cost amount entry, then plan for cost and revenue in separate plan versions.

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 8-6

Financial Plan Types, *Oracle Projects Implementation Guide*

Implementing and Including Financial Impact in Budgets and Forecasts, page 10-21

Generating Forecasts, page 8-42

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 an approved revenue budget baseline version from the project funding. To enable the automatic creation of an approved revenue budget baseline version for a *plan type*, you must first create an approved revenue budget financial plan type and add the plan type to the project. In addition, you must *not* manually create any plan versions for the approved revenue budget plan type. When Oracle Projects creates an approved revenue budget baseline version from the project funding, a corresponding working version is not created.

If an approved revenue budget plan type does not exist for a project, or if plan versions already exist for an approved revenue budget plan

type, then Oracle Projects instead creates an approved revenue budget baseline version for an approved revenue budget *budget* 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 8-6

Defining Plan Settings, page 8-18

Generating Budgets, page 8-29

Generating Forecasts, page 8-42

Entering Amounts and Editing Plan Versions, page 8-58

Editing Budgets and Forecasts in Microsoft Excel, page 8-63

Copying Budget and Forecast Amounts Within a Project, page 8-68

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 an approved revenue budget baseline version from the project funding. A corresponding working version is not created. Therefore, when Oracle Projects creates a budget baseline version for an approved revenue budget *plan type*, only baseline versions are displayed on the Maintain Budget Versions page for the approved revenue budget plan type.

In addition, if Oracle Projects is unable to create a budget baseline version for an approved revenue budget plan type, and instead creates a budget baseline version for an approved revenue budget *budget type*, the approved revenue budget baseline version is not displayed on the Maintain Budget Versions page. You can view budgets created for budget types only from the Budgets window.

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

Maintenance Activities Allowed for Deleted Versions

You can perform the following activities in the deleted version region:

View the header information of historical workplans and financial plans that are deleted.

Related Topics

Project Funding Inquiry Window Reference, *Oracle Project Billing User Guide*

Entering Amounts and Editing Plan Versions, page 8-58

Copying Budget and Forecast Amounts Within a Project, page 8-68

Including and Viewing Change Documents, page 8-69

Submitting Budgets and Forecasts, page 8-74

Creating Baselines for Budgets and Approving Forecasts, page 8-76

Implementing and Including Financial Impact in Budgets and Forecasts, page 10-21

Overview of Document Management, page 11-1

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 derivation method selected for the budget.

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.

You can view a summary of the cost breakdown structure of the budget in the Cost Breakdown Summary page. You can view the planned amounts for each cost code. You can also view an analysis of the cost codes for a task in the Cost Breakdown Analysis page

Related Topics

Building Budgets, page 8-1

Selecting Rate Schedules, page 8-21

Selecting Generation Options, page 8-22

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.

Note: You can select any other generation source other than Staffing Plan when cost breakdown planning is enabled for a project.

- **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 derivation method for the budget is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue budget.
- If the revenue derivation method for the budget 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.

You cannot generate a budget from a revenue-only financial plan version. You can generate a budget from a cost-only financial plan version, or a financial plan version in which cost and revenue are planned together.

Note: The source planning resource for budget generation must have enabled resource classes if resource classes are enabled in the budget planning resource list or if the planning resource for the budget generation has disabled resource classes then the resource classes must also be disabled in the budget planning resource list.

To generate the financial plans from the source plan, the Enabled Resource Classes value must match for source version of the planning resource list and the target version of the planning resource list. In such case, the planning resource lists mapping rules are used to map the resource assignments.

To generate cost plans, if the resource classes are disabled in the planning resource list attached to the source workplan, then the

resource assignment amounts are copied over as raw costs for the generated financial plan lines. If the planning resource lists are the same, then the burdened cost is computed by using the burden multiplier in the burden schedule of the target workplan.

To compute the planned revenue when the resource classes are disabled, the mark up percentage in the bill rate schedules is applied to the raw cost of the generated line.

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 derivation method for the budget is Event, because in this case the billing events are the primary source for the budget generation.

Note: You can select any other lowest planning level option other than Project, any other revenue derivation method other than Event, and any other generation option other than Billing Events when cost based planning is enabled for a project.

Related Topics

Implementing and Including Financial Impact in Budgets and Forecasts, page 10-21

Staffing Plan, *Oracle Projects Fundamentals*

Overview of Cost Breakdown Planning, page 4-1

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 source you specify in your rate

schedule planning options. If you are using planning rates, the rates are derived from the rate schedules you setup for planning. If you are not using planning rates, the rates are derived for the resource in the same manner as they are for actual transactions.

Generating Budget Cost from Workplans with Cost Disabled

Oracle Projects enables you to generate a cost budget from a workplan even though you do not track costs in the workplan. This enables you to generate a cost budget based on the workplan effort. You can generate a project cost budget from a workplan with cost disabled if the following conditions are met:

- The workplan and financial structures are (fully) shared.
- Both the source workplan and the target cost budget use the same settings for the following planning option attributes:
 - Planning level (Lowest Level)
 - Planning resource list
 - Time phase
 - Currency settings

Related Topics

Creating and Updating Workplans, page 3-2

Selecting Rate Schedules, page 8-21

Determining the Planning Level for Generated Budgets, page 8-37

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

Oracle Projects generates budget revenue amounts only for billable tasks and resources.

If the budget generation source is a *workplan* or *financial plan*, then Oracle Projects uses the billable status associated with each task in the target budget version to determine whether to generate revenue for the task.

- If a target task is classified as billable, then Oracle Projects generates a revenue quantity and amount for the task.
- If a target task is classified as non-billable *and* cost and revenue are planned together in the target budget version, then Oracle Projects generates a revenue quantity, but not a revenue amount.

- If a target task is classified as non-billable *and* the target budget version is for revenue only, then Oracle Projects does not generate a revenue quantity or a revenue amount.

If the budget generation source is a *staffing plan*, then Oracle Projects uses the billable status of the work type associated with a project requirement or a project assignment to determine whether to generate revenue for the project requirement or assignment.

Note: You can manually create plan lines and enter budget revenue quantities and amounts for non-billable tasks and resources. If you enter only a quantity for a non-billable task or resource plan line, Oracle Projects does not calculate a revenue amount. However, if you manually enter both a revenue quantity and a revenue amount, Oracle Projects derives a rate for the plan line.

The method Oracle Projects uses to generate budget revenue depends on whether revenue amounts exist in the budget source and the revenue derivation method for the budget. If revenue amounts exist in the source, then Oracle Projects uses those revenue amounts in the budget. Else, Oracle Projects calculates budget revenue based on the revenue derivation method.

Cost-Based Revenue Accrual

When a budget's revenue derivation method is *Cost*, 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:

$(\text{Budget Cost for the Task} / \text{Total Budget Cost}) * \text{Total Budget Revenue}$

Important: If workplan cost is not enabled in the plan settings for a workplan, and the revenue derivation method for the budget is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue budget.

Event-Based Revenue Derivation

When a budget's revenue derivation method is *Event*, 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 Derivation

When a budget's revenue derivation method is *Work*, 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.

When you generate a revenue budget from a staffing plan that includes bill rate overrides for any of the project assignments and requirements, Oracle Projects uses the override rates to calculate revenue amounts.

Important: If the revenue derivation method for the budget 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 8-21

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Project and Task Attributes, *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*

Mapping Assignments with Disabled Resource Classes

If the resource classes are enabled in both the source version planning resource list and the target version planning resource list, then the planning resources are mapped based on their attributes.

If the resource classes are disabled in the planning resource list attached to the plan version and the resource classes are enabled in the resource breakdown structure, the all quantities and / or amounts are mapped to the next applicable higher node in the structure.

If the planning resource list attached to the plan version has disabled resource classes or the resource breakdown structure has disabled resource classes, then the actual transactions are mapped based on mapping rules that do not include resource classes. If the resource classes are enabled, then the actual transactions are mapped based on the standard resource mapping rules that include resource classes.

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.

For non-shared structures, the task descriptive flexfields are displayed in Financial: Tasks, Update Financial Tasks.

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 8-58

Managing Budgets and Forecast for a SOV Enabled Project

The Budgets and Forecasts page allows you to set up, generate and view budgets and forecasts. The method to generate budgets and forecasts for a SOV enabled project is similar to any other project with few differences. For more information about budgets and forecast, see: Budgeting and Forecasting, page 8-1.

Once the workplan is published, a cost budget can be generated automatically by

applying planned cost to each individual resource in the Rate Schedule. For more information about Rate Schedule, see: *Rates in Oracle Projects Fundamentals*. An approved cost budget is generated from latest published workplan version only. You cannot update or add to the approved cost budget if it is generated from the SOV enabled workplan.

The summary of all SOV lines distributed across the periods is used for the revenue budget.

The latest published version of workplan updated with progress generates the primary forecast. Other than collecting progress, no manual updates are allowed. Task level work completed or completed SOV quantity and the balance quantity are used for ETC derivation for all the assigned resources. The ETC method used is based on the ARR.

Calculation of ETC quantity and cost is based upon whether a resource is rate-based or non rate-based. For a rate-based resource, the ETC quantity is calculated based on the ETC calculation method associated with the ARR. ETC cost amount is calculated by applying rates to the ETC quantity. For a non rate-based resource, the ETC cost amount is calculated based on the ETC method only.

Generating Approved Cost Budget and Primary Forecast

Once the workplan is published and rates are updated in the Rate Schedule, you can view the cost budget and primary forecast. For more information about Rate Schedule, see: *Rates in Oracle Projects Fundamentals*. The prerequisites for generating the cost budget and primary forecast are the following:

- The SOV must be published.
- ARRs must be associated to the SOV.
- The SOV associated to the WBS must be:
 - Validated
 - Reconciled
 - Published
- All tasks must have planned start date and planned end date.
- The Rate Schedule must be published with rates for every resource.

Once the workplan is published, the cost budget is generated and can be viewed. You can also print the cost budget as a report or export to Excel.

The following validations are ensured while generating an approved cost budget and primary forecast:

- The generation source for the approved cost budget and primary cost forecast plan types is always the latest published workplan version and the option is read only.

- Upon creation of a budget version or forecast version for the approved cost budget and primary cost forecast plan types, the generation source is always inherited from the plan type. The generation source cannot be overridden and is generated only from the latest published workplan version.
- You can only select Cost Only as an approved cost budget and primary cost forecast plan type.
- The resource plan, time phase and the task level details are derived from the workplan setup to set up the Cost Plan Type.
- Multicurrency planning and the rate details are derived from the workplan setup.
- For the primary cost forecast, financial percent complete is derived from the Financial Breakdown Structure (FBS)
- For the primary cost forecast, addition or modification of forecast lines is not allowed. Any updates must first be entered in the workplan by changing the resource associations to WBS tasks.
- For the primary cost forecast, the forecast is generated from the workplan resources, the percent complete is quantity based, and is based on the forecast ETC method defined in the associated ARR.

Updating a Budget for a SOV Enabled Project

Once a budget is generated, any updates to the budget must be done by following the complete cycle of updating the contract or SOV, adjusting resources assigned to the SOV lines, activities and the WBS tasks mapped to the SOV or resources. Upon update, you must re-baseline and republish the budget. Any changes to the following require republishing the budget:

- Contracts
- SOV
- ARR:
 - Change to a different or new ARR
 - Change within an ARR
- Workplan
- Rate Schedule
- Forecast

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 8-4

Selecting Rate Schedules, page 8-21

Selecting Generation Options, page 8-22

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*

Staffing Plan, *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 derivation method for the forecast is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue forecast.

- If the revenue derivation method for the forecast 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.

You cannot generate a forecast from a workplan version that is not time-phased by PA or GL periods.

You cannot generate a forecast from a revenue-only financial plan version. You can generate a forecast from a cost-only financial plan version, or a financial plan version in which cost and revenue are planned together.

If resource classes are not enabled, Oracle Projects generates the initial forecast version if the primary forecast plan type is added to the project when you baseline the approved budget version. If the planning resource list associated with the baselined approved budget and the primary forecast type have a different value for the Enable Resource Classes option the initial forecast version is not generated.

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 derivation method for the project is *Event*, because in this case billing events are the primary source for the forecast generation.

Note: To use an existing plan as the source, you must select the Copy ETC from Plan option. Plan option is enabled for a Time-Phased and Cost Only plan in which Task Level Selection is set as the ETC Source. When you select this option the Open Commitments and Change Document options are disabled. Similarly, when you select Open Commitments or Change Document the Copy ETC from Plan option is disabled.

Generating Forecast Amounts

This section describes how Oracle Project Planning and Control determines ETC quantities, and calculates ETC cost and revenue amounts for forecasts. This section also describes how Oracle Project Planning and Control 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 Project Planning and Control 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 the time periods to use when Oracle Project Planning and Control calculates ETC quantities and amounts based on an ETC source of Average of Actuals.

You can use the Collect Actuals options available on the Edit Forecast page to collect the actual amounts for a Time Phased and Cost Only plan in which the Task Level Selection and Copy ETC from Plan options are selected. You can use this option to see the impact of the actual amounts on the ETC and EAC. Oracle Project Planning and Control also allow you to generate the forecast without having to view the impact of the actuals on the ETC and EAC amounts.

Note: Before you use the Collect Actuals option, submit the following summarization and update processes in the following order:

1. PRC: Distribute Labor Costs
2. PRC: Update Project and Resource Base Summaries
3. PRC: Update Project Performance Data

For more information, see: *Processes in Oracle Projects Fundamentals*.

If the project is enabled for Enhanced Project Performance Reporting, submit the following summarization and update processes in the following order to view the latest data:

1. PRC: Distribute Labor Costs
2. PRC: Update Project and Resource Base Summaries
3. PRC: Summarize Workplan and Financial Plan Data

For more information see *Processes in Oracle Projects Fundamentals*.

Generating Forecast Cost

The method that Oracle Project Planning and Control uses to calculate ETC quantity and cost varies based on the ETC source.

Note: Oracle Project Planning and Control distributes ETC quantities

and amounts across periods based on the spread curve associated with a planning resource. When Oracle Project Planning and Control derives spread curve allocation factors for ETC amounts, Oracle Project Planning and Control only uses the spread curve points that correspond to the ETC time period.

- **Staffing Plan:** Oracle Project Planning and Control 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 or non rate-based, as described below:

- **Rate-Based Planning Resources:** If planned quantity is available, Oracle Project Planning and Control first calculates the ETC quantity based on the ETC calculation method associated with each planning resource from the source workplan or financial plan. Oracle Project Planning and Control then calculates the ETC cost amount by applying rates from the source. If no rates are available from the source, then Oracle Project Planning and Control uses actual or planning rates based on the forecast options.

If planned quantity is not available (only planned amount is available), Oracle Project Planning and Control calculates the ETC amount only.

To calculate the ETC amount based on the rates in the target rate schedule the PA: Use Target Plan Rates for ETC Forecast Amounts profile must be set to Yes.

When the above profile is set to Yes, then costs are calculated based on the rates assigned in the forecast rate schedule. The ETC quantity is calculated for each planning resource based on the selected forecast ETC method. The ETC quantity is spread based on the time phasing selected in the target forecast plan. The raw cost rate is derived for each planning resource from the rate schedule for the target plan and used to calculate the ETC raw cost.

- **Non Rate-Based Planning Resources:** Oracle Project Planning and Control 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 Project Planning and Control 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. To track costs, you must enable the *Enable Workplan Cost* option in the plan settings for the workplan.

If you do not intend to track costs in your workplan and need to generate a cost forecast based on the effort entered in the workplan, then generate a cost budget from the workplan effort and use the cost budget as the ETC source to generate the cost forecast.

The burden schedule attached to target forecast plan is used to derive the burden multipliers for each planning resource.

The ETC burden amount for each planning resource is calculated by multiplying the ETC raw cost with the burden multiplier. The ETC raw cost and the burden cost are added to compute the burdened cost for each planning resource.

- **Average of Actual Transactions:** Oracle Project Planning and Control 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 Project Planning and Control calculates ETC quantity based on the difference between the total planned work quantity and the actual delivered work quantity per the workplan tasks. Oracle Project Planning and Control 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 8-21

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*

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
- Copy ETC from Plan

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:

$$\text{ETC} = \text{Budget at Completion} - \text{Actual Cost}$$

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:

$$\text{ETC} = \text{Budget at Completion} - \text{Budgeted Cost of Work Performed}$$

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:

$$\text{Budgeted Cost of Work Performed} = \text{Budget at Completion} * \text{Percent Complete}$$

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.

Copy ETC from Plan

In this method values from the initial base plan are used to generate the forecast. This method can be used only for time-phased and cost-only plans in which the Task Level Selection option is enabled in the Edit Planning Option page, and either Financial Plan or Workplan Resource is selected as the ETC Source.

In this method the cost plan is created by copying the values from the initial base plan, and the EAC and ETC values for the current and previous periods are updated based on the actual values collected. In case of current and previous periods, the EAC amount is the actual amount collected for that period and the ETC value is set to zero. Thus, if the actual amount for the current period is zero, the ETC and EAC amounts for current period are also zero.

For a future period, if you update the ETC amount, then the EAC amount gets updated according to this new ETC amount. All changes made to the ETC amounts are retained unless you change the base plan and generate forecast. If you update the base plan and use it to calculate the forecast, the ETC and EAC values for the future periods will be automatically updated from the updated values in the base plan.

Related Topics

Earned Value Management, page 12-52

Managing Progress, page 3-54

Generating Forecast Revenue

Oracle Projects generates forecast revenue amounts only for billable tasks and resources.

If the forecast generation source is a *workplan* or *financial plan*, then Oracle Projects uses the billable status associated with each task in the target forecast version to determine whether to generate revenue for the task.

- If a target task is classified as billable, then Oracle Projects generates a revenue quantity and amount for the task.
- If a target task is classified as non-billable *and* cost and revenue are planned together in the target forecast version, then Oracle Projects generates a revenue quantity, but not a revenue amount.
- If a target task is classified as non-billable *and* the target forecast version is for revenue only, then Oracle Projects does not generate a revenue quantity or a revenue amount.

If the forecast generation source is a *staffing* plan, then Oracle Projects uses the billable status of the work type associated with a project requirement or a project assignment to determine whether to generate revenue for the project requirements or assignments.

Note: You can manually create plan lines and enter forecast revenue quantities and amounts for non-billable tasks and resources. If you enter only a quantity for a non-billable task or resource plan line, Oracle Projects does not calculate a revenue amount. However, if you manually enter both a revenue quantity and a revenue amount, Oracle Projects derives a rate for the plan line.

Oracle Projects calculates forecast revenue based on the revenue derivation method associated with the forecast.

Cost-Based Revenue Derivation

When a forecast uses a cost-based revenue derivation method Oracle Projects uses either the total revenue by the approved revenue budget or total revenue at top task level in the approved revenue budget or the project total value for total forecast revenue.

Whether Oracle Projects uses the approved revenue budget total or total revenue at top task level in the approved revenue budget, or the project total value depends on the following:

1. Project Total Value: System uses the project total value for generation forecast revenue when there is no baseline version of the approved revenue budget in the

system.

2. Approved Revenue Budget Total: System uses the approved revenue budget total to generate the primary forecast when there is a baseline version of approved revenue budget and funding is at Project level.
 3. Top Task Revenue Amounts from Approved Revenue Budget: System uses the top task level approved revenue budget amounts for generating primary forecast revenue when:
 1. Funding is done at top task level.
 2. Source plan for forecast revenue is not staffing plan.
 3. Source financial plan is not planned at project level.
 4. Baseline version of approved revenue is not planned at project level.
 5. Primary forecast revenue planning level is not at project level.
- 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:

$$\text{(ETC Cost for the Task / (Total Forecast Cost - Inception to Date Actual Cost)) * (Total Forecast Revenue - Inception to Date Actual Revenue)}$$

Oracle Projects calculates forecast revenue for tasks based on the following formula for top task:

$$\text{(ETC Cost for the Task / (Total Forecast Rolled up Cost at Top task - Inception to Date Actual Rolled up Cost at Top Task)) * (Total Forecast Rolled up Revenue at Top Task - Inception to Date Actual Rolled up Revenue at top)}$$

Important: If workplan cost is not enabled in the plan settings for a workplan and the revenue derivation method for the forecast is Cost, then you cannot use workplan resources as one of the generation sources for a revenue forecast.

Event-Based Revenue Derivation

When a forecast uses an event-based revenue derivation 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 Derivation

When a forecast uses a work-based revenue derivation 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.

Note: When you generate a revenue forecast from a staffing plan that includes bill rate overrides for any of the project assignments and requirements, Oracle Projects uses the override rates to calculate revenue amounts.

Important: If the revenue derivation method for the forecast 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 8-21

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Project and Task Attributes, *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

Related Topics

Entering Amounts and Editing Plan Versions, page 8-58

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. You can add all newly-added but unbudgeted tasks and planning resources as planning elements.

You can enter and adjust quantities, rates, costs, and revenue amounts in total for planning elements (tasks and planning resources). If a budget or forecast is time-phased by PA or GL periods, then you can enter and adjust budget and forecast line details for each planning element by period.

Note: You must select cost codes for each budget line in a cost breakdown planning enabled project.

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, 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 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

Note: If resource classes are not enabled for a planning resource list, you cannot add or remove planning elements and cannot add all lowest tasks or add all top tasks as planning elements.

You can delete any published workplan version except the latest published or baseline, unless the workplan version is included in a program hierarchy. There is also a public API for deleting a workplan.

Distribution of Initial Quantities and Amounts: 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.

Distribution of Updated Quantities and Amounts: When you update *existing* quantities and amounts for planning elements on a time-phased budget or forecast version, 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.

Note: When some periodic lines for a budget or forecast line have only revenue amounts, Oracle Projects distributes the new raw cost amount to all periodic lines (including empty periodic lines) based on the spread curve. It then calculates burdened cost and revenue amounts for each periodic line without considering existing cost or revenue distributions across periods.

If you want an adjustment to affect only specific periods, then you must enter the adjustment by period. You can optionally 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. If the budget or forecast line does not contain quantity information, then the amounts are redistributed based on raw cost amounts. If there are no raw cost amounts, then the redistribution of amounts is based on revenue amounts.

For a project, which has cost breakdown planning enabled; you can only view the cost code information in the Update Budget Line Details page and Update Forecast Line Details pages.

Related Topics

Defining Planning Options, page 8-17

Generating Budgets, page 8-29

Generating Forecasts, page 8-42

Copying Budget and Forecast Amounts Within a Project, page 8-68

Viewing Budgets and Forecasts, page 8-70

Submitting Budgets and Forecasts, page 8-74

Period Profiles, *Oracle Projects Implementation Guide*

Spread Curves, *Oracle Projects Implementation Guide*

Overview of Cost Breakdown Planning, page 4-1

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 you can choose to enter amounts for top tasks. If you specify *Lowest Task*, then you can choose to enter amounts at *any* level in the task hierarchy.

Note: In addition to task-level entry, both the Top Task and Lowest Task options enable you to enter amounts at the project level.

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.

You can add either a single planning resource or multiple planning resources to the planning resource list. If the planning resource list is not centrally controlled, it is updated when the new resources are created.

Selecting Cost Codes

When cost breakdown planning is enabled for a project, you must associate cost codes to each task in the Task Details page. After you select or create the planning resource for a budget, you must select the cost code for each resource for the task. Once you complete all resource assignments for a task, you will be able to view the resource and cost code combinations in the Add Assignments page.

In a fully shared structure, cost codes associated to the workplan task are automatically copied to the financial view of the task. In a partially shared structure, the cost codes in the source workplan tasks are shared with the financial plan tasks and all cost codes associated with the source tasks are copied to the financial tasks when the financial structure is enabled. In an Unshared Structure with Task-Based Mapping, the cost codes associated with workplan tasks that you map to the lowest-level financial tasks are copied when you click Copy from Mapped Tasks in the Add Cost Codes page. You can add more cost codes to the financial task, but you cannot remove any that are copied from the workplan task.

Related Topics

Defining Planning Options, page 8-17

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Overview of Cost Breakdown Planning, *Oracle Project Planning and Control User 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.

Override rates that you enter on a budget or forecast line are apply while the line is retained. Oracle Projects uses the override rates on budget and forecast lines as default rates for new periodic lines, and propagates changes to the override values to periodic lines.

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 and leave the quantity blank, Oracle Projects uses the entered amount, but the resource remains rate-based. If you enter a quantity later, Oracle Projects recalculates the resource on that task.

If planning resource is not rate-based, you can enter cost or revenue amounts only (not quantity or rate).

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.

You can view the current budget amounts in the working version of the budget or forecast plan type only if the Resource Planning List for the plan version being edited and the current baselined approved budget are same and the current baselined approved budget has amounts allocated for the corresponding resource.

The following table shows the calculation precedence rules that Oracle Projects follows when you update budget or forecast components.

Changed Components	Precedence Rule
Quantity, rate, or both	Calculate amounts based on the quantity and corresponding rate
Amounts or a combination of amounts and quantity	Calculate rate from quantity, when available, and amounts

Changed Components	Precedence Rule
Rate and amounts	Calculate quantity from rate and amounts
Quantity, rate, and amounts	Calculate amounts based on the quantity and corresponding rate

For example, if you update both the quantity and the cost amount for a budget or forecast line, Oracle Projects recalculates the rate using the updated quantity and cost amounts.

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, and conversion attributes.

Note: If a field is disabled for amount entry in the Amount Entry planning options, you can still enter an amount for the field in a Microsoft Excel spreadsheet. However, Oracle Projects will ignore the amount when you upload the spreadsheet back to Oracle Projects.

- **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**

You can edit the following budget and forecast information in a Microsoft Excel spreadsheet:

- Budget/forecast quantity and amounts
- ETC quantity and amounts
- Cost and bill rates
- Dates for new budget or forecast lines for non-periodic plan versions
- Currency conversion attributes for project currency and project functional currency
- Change reason codes and descriptions for non-periodic plan versions

Note: You cannot edit actual quantity or actual cost amounts included in a forecast version.

When you download a budget or forecast version to a Microsoft Excel spreadsheet, Oracle Projects includes the following planning resource attributes for information purposes only:

- UOM
- Spread Curve
- Cost Type
- ETC Method

You cannot modify planning resource attributes within a spreadsheet. When you upload new budget or forecast lines from a Microsoft Excel spreadsheet to Oracle Projects, Oracle Projects derives attribute values for the new plan lines based on the default values associated with each planning resource.

You cannot modify the start or end date for existing planning element in Microsoft Excel spreadsheet

You can edit a Microsoft Excel spreadsheet in either online or offline mode.

- In *online* mode, you are connected to Oracle Projects and can make use of lists of values to populate certain key fields such as Task, Planning Resource, and Currency.
- In *offline* mode, you must enter values for all required fields.

Downloading Plan Versions to Microsoft Excel Spreadsheets

You can download budget and forecast versions to a Microsoft Excel spreadsheet at either the plan version or project level. You can download a budget or forecast version for a project from the Project Home page. When you choose to download a budget or forecast from the Project Home page, Oracle Projects selects either the current working version of an *Approved Budget* plan type, or the current working version of a *Primary Forecast* plan type, as appropriate.

Warning: After you download a plan version from Oracle Projects to a Microsoft Excel spreadsheet, do not make changes to the plan version in Oracle Projects prior to uploading the spreadsheet from Microsoft Excel back to Oracle Projects. If you update a plan version in Oracle Projects after downloading the plan version to a spreadsheet, then Oracle Projects does not allow you to upload the spreadsheet from Microsoft Excel back to Oracle Projects.

Oracle Projects enables you to download periodic budget and forecast lines to a non-periodic spreadsheet layout. When you download periodic lines to a non-periodic layout, Oracle Projects sums all periodic lines into a single, non-periodic plan line for each task, planning resource, and currency combination. When you upload non-periodic lines from Microsoft Excel back to an Oracle Projects plan version that is time-phased by period, Oracle Projects automatically distributes the amounts for each line across periods based on the spread curve associated with each planning resource.

Note: You cannot download non-periodic budget or forecast lines to a periodic spreadsheet layout.

Uploading Microsoft Excel Spreadsheets to Oracle Projects

When you complete your updates to a plan version in Microsoft Excel, upload the spreadsheet to Oracle Projects by choosing the *Oracle > Upload* menu option from the Microsoft Excel menu. Oracle Projects validates all attributes and amounts during the upload process.

When you choose to upload a spreadsheet, Oracle Projects performs the upload either as an online step, or by submitting the concurrent program *PRC: Upload Financial Plan Data from Microsoft Excel*. Oracle Projects determines whether to perform the upload online or as a concurrent program based on the settings of the following two profile options:

- PA: Process MS Excel Data
- PA: Process MS Excel Data Threshold

Related Topics

Defining Currency Settings, page 8-21

Defining Microsoft Excel Options, page 8-23

Upload Financial Plan Data from Microsoft Excel, *Oracle Projects Fundamentals*

Budget Change Reasons, *Oracle Projects Implementation Guide*

Implementing Integration with Microsoft Excel, *Oracle Projects Implementation Guide*

PA: Process MS Excel Data, *Oracle Projects Implementation Guide*

PA: Process MS Excel Data Threshold, *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, bill rates, raw cost, burdened cost, and revenue 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

If the budgets and forecasts in a source project template or project are time-phased, Oracle Projects creates time-phased plan versions in the target project. New periods are based on the PA or GL periods of the target project and task start dates, as described below.

When copying plan information, Oracle Projects verifies whether start dates are available for the source project (or project template) and the target project. If the source project or template does not have a date or you have not entered a start date in Project Quick Entry for the target project, then Oracle Projects copies the budget or forecast to the target project without adjusting the budget or forecast periods. However, if both the source project or template, and target project have start dates, then Oracle Projects performs the following actions:

1. Calculates the number of periods between the following:
 1. The period that contains the start date of the source project template or project
 2. The period that contains the start date of the target project
2. Derives the start period for each budget or forecast line in the target project by adding the number of periods determined above to the period of the new start date

Consider the following 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.
- Oracle Projects creates plan amounts for the target project in P12-2002, P01-2003, and P03-2003.

Note: Oracle Projects assumes that all periods are equal. If your periods are of different lengths, then you may get unacceptable results. In such a case, you must update plan 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 only include the financial impact of a change order or change request in a plan version once.
- You can only include the financial impact of approved change orders in plan versions designated as approved cost budgets or approved revenue budgets.
- You can include the financial impact of a change order or change request of any status in plan versions (including forecasts) that are not approved cost or revenue budgets. In the case of a forecast that is time-phased, you can include the financial impact of an approved change order into a forecast only in the periods after the *actuals amounts through* date. The amounts included depend on whether the change order is time-phased, as described below:
 - If the change order is time-phased, Oracle Projects ignores amounts for periods before the *actuals amounts through* date.
 - If the change order is not time-phased, Oracle Projects includes the entire

financial impact of the change order after the actuals amounts through date.

- You can create a baseline for your budgets and forecasts while implementing financial impact.

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 10-1.

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. You can use the *period* parameter to specify the range of periods for which you want to view budget and forecast information.

If the reporting resource breakdown structure does not have resource classes enabled and the planning resource list used in the financial plan has resource classes enabled, then planned resource assignments and actual transactions are mapped based on the standard mapping rules.

When the resource breakdown structure has resource classes that are enabled and the planning resource list in the financial plan version has resource classes that are not enabled, then all quantities and amounts are mapped to the next higher node in the structure that is not a resource class node.

Actual transactions are mapped to a node that is at a higher level to the resource class nodes and wherein most of the cost attributes match with the cost attributes specified for actual transactions.

When resources are disabled for a financial plan, the effort amounts for labor and non labor resources are not rolled up.

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.

If the project is enabled for Enhanced Project Performance Reporting and the Enable Deferred Rollup for Task and Resource Analysis check box is selected, click the Summarize button to view the latest data. For more information, see: Enhanced Project Performance Reporting, page 12-13.

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.

If the project is enabled for Enhanced Project Performance Reporting and the Enable Deferred Rollup for Task and Resource Analysis check box is selected, click the Summarize button to view the latest data. For more information, see: Enhanced Project Performance Reporting, page 12-13.

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.

Changes to Edit Budget Window

For moved budget as the Financial Plan, following options are added in the Actions Menu.

- The Actions menu includes the Edit Planning Options. Any updates done in Edit Planning options page is visible in the budgetary control tab in forms. Any updates done in budgetary control tab of project in forms should be visible in Edit Planning options page.
- The Actions menu includes Edit as Budget the new option. The financial plan is moved to forms-based budget after confirmation. You can edit the budgets in forms.

Viewing Budget and Forecast Versions - Cost Breakdown Options

You can use the View Budget (Cost Breakdown Summary) and View Forecast (Cost Breakdown Summary) pages to view amounts in total by cost code for budget and forecast versions. These pages display cost code amounts based on the cost breakdown structure selected for the project.

When you are viewing the cost breakdown summary pages, you can also select a cost code 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 cost code. 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 cost code. 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, cost code or time and to view this information at summary and detail levels.

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.

Viewing Workplan Cost and Effort

For information about viewing workplan effort and cost, see: *Reviewing Workplan Cost and Effort*, page 3-43.

Submitting Budgets and Forecasts

When you submit a current workingplan 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 8-26.

For non-shared structures, the task descriptive flexfields are displayed in Financial: Tasks, Update Financial Tasks.

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 8-24

Budget Workflow, *Oracle Projects Implementation Guide*

Financial Plan Types, *Oracle Projects Implementation Guide*

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 8-75.

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 8-74.

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 8-26.

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*.

Creating Budgets With Budgetary Control and Budget Integration

The following section describes the processes for creating budgets and forecasts when you want to use budgetary control and budget integration. 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 within Oracle Project Planning and Control. To use budgetary control and budget integration for budgets created in Oracle Project Costing, see the *Oracle Project Costing User Guide*.

You can enter and submit budget drafts, and create budget baselines from the Budgets window.

Note: When cost breakdown planning is enabled for a project, you cannot create integrated budgets, or use budgetary control for budgets or financial plans.

Related Topics

Using Budgetary Control, page 8-106

Integrating Budgets, page 8-138

Implementing Budgetary Controls, *Oracle Projects Implementation Guide*

Implementing Budget Integration, *Oracle Projects Implementation Guide*

Setting Up Budgetary Control

Use the Edit Budgetary Control link on the project type to specify the budgetary control options for the selected project type.

Budgetary Control - Project Type

Project Planning and Control allows you to search for a project type through the Projects Setup, Project Type page using the Projects Super User responsibility. Set up the budgetary control using the Edit Budgetary Control link provided against the selected project type.

If you select the Allow Override at Project Level check box in this page, then you can modify the budgetary control for a project.

Related Topics

Adjusting Budgetary Control Levels, *Oracle Project Costing User Guide*.

Budgetary Control - Project

You can set up budgetary control at the project level and also override the controls defined at the Project Type level. The Allow Override at Project Level check box allows you to modify the budgetary control options at the project level. If this check box is not selected, changes can only be made to budgetary control options at the project type level.

Select the Control Flag check box to define budgetary control at the project and task level. You can also define the amount type and boundary code time phases for the selected project.

You can add exceptions to the default budgetary control levels defined for tasks in the Exceptions Listing page.

Budgetary Control - Project Template

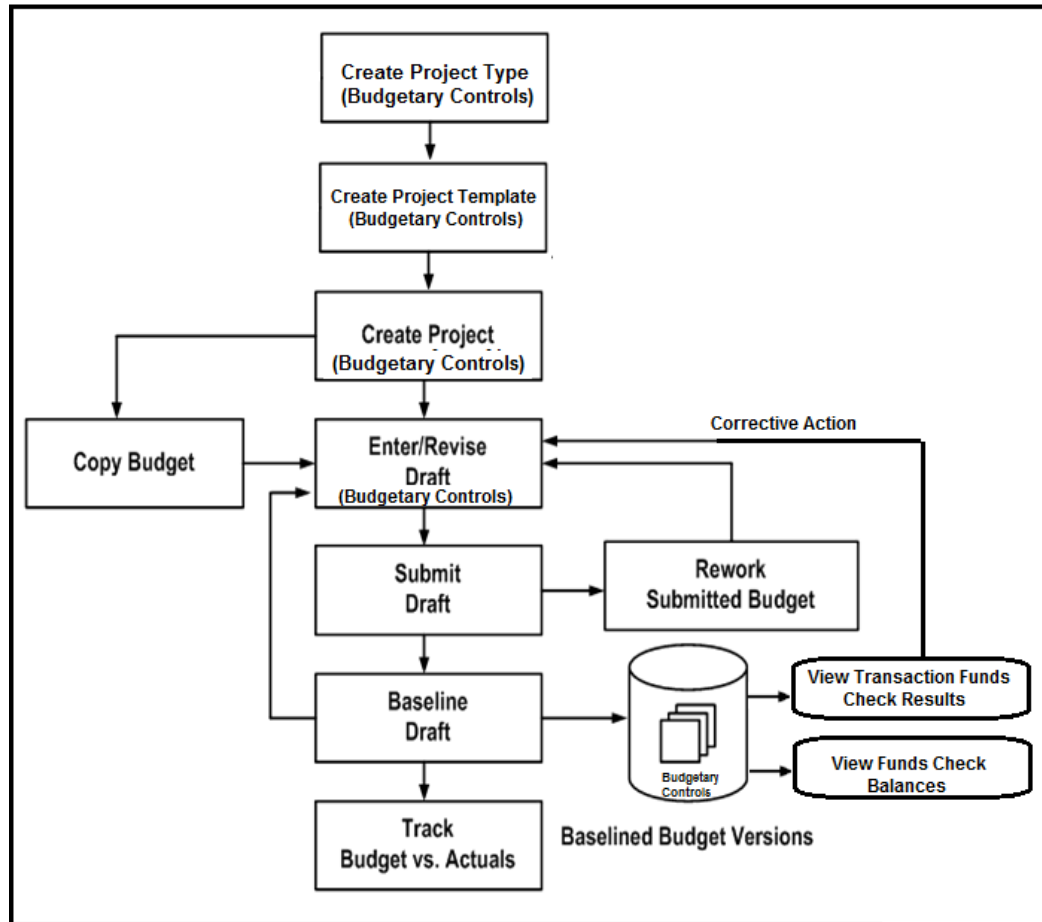
You can set up budgetary control at the project template level during project template setup. You can use the default budgetary control from the project type level or overwrite these at the template level provided the Allow Override at Project Level options has been enabled.

Budgetary control defined at the project type level can be overwritten at the project template level (or project level) providing the Allow Override At Project Level option has been set.

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 type and optionally define the project type level budgetary controls.
2. Create a template for the project type. Optionally, you can define budgetary control at the project template level, or use the default control options from your defined project type.

Note: To modify the default controls, you must select the Allow Override at Project Level in the budgetary control setup at the project type level.

3. Create a project and a work breakdown structure. 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.

4. Enter or revise a draft budget for the project. See: Entering or Revising a Budget Draft, page 8-81.
5. 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 8-88.
 - Enter the budget cost and/or revenue amounts directly. See: Entering Budget Lines, page 8-85.
 - 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 8-90.
 - Copy the actual amounts to the budget amounts. See: Copying Actuals to Budget Amounts, page 8-91.
6. Submit your budget to indicate that budget entry is complete. See: Submitting a Draft, page 8-94.
7. Create a baseline. See: Creating a Baseline for a Budget Draft , page 8-98.
8. Revise the current budget to reflect changes in the project or to correct data entry errors. See: Revising a Budget Baseline, page 8-103, Revising an Original Budget, page 8-103.

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. Edit As Financial Plan

Select the Edit as Financial Plan button. On selecting the Edit as Financial Plan option, a popup displays requesting you to confirm Yes or No.

5. Version Name

Enter the version name.

6. 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.

7. 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*.

8. Description

You may enter a description for the budget version.

9. 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 8-9.

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*.

10. 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.

11. 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).

12. 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.

13. 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.

14. 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.

15. 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: *Accruing Revenue for a Project, Oracle Project Billing User Guide* and *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.

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 8-91.
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 8-90.

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 12-33.

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 an 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

Resource Group	Resource	Resource 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 concurrent program 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 12-30

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.

Using a Concurrent Program to Copy Actual Amounts

You can submit the concurrent program *PRC: Copy Actuals* to copy actual amounts to budget amounts instead of copying them from the Budgets window. The concurrent program runs in the background and enables you to continue working while it is copying.

Note: You must create the working budget version for the project and budget type combination before you submit the concurrent program.

For additional information about the concurrent program, see: *Copy Actual Amounts, Oracle Projects Fundamentals*.

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 8-88

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*.

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 8-103.

Prerequisites

Enter a draft. See: *Entering a Draft*, page 8-81.

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.

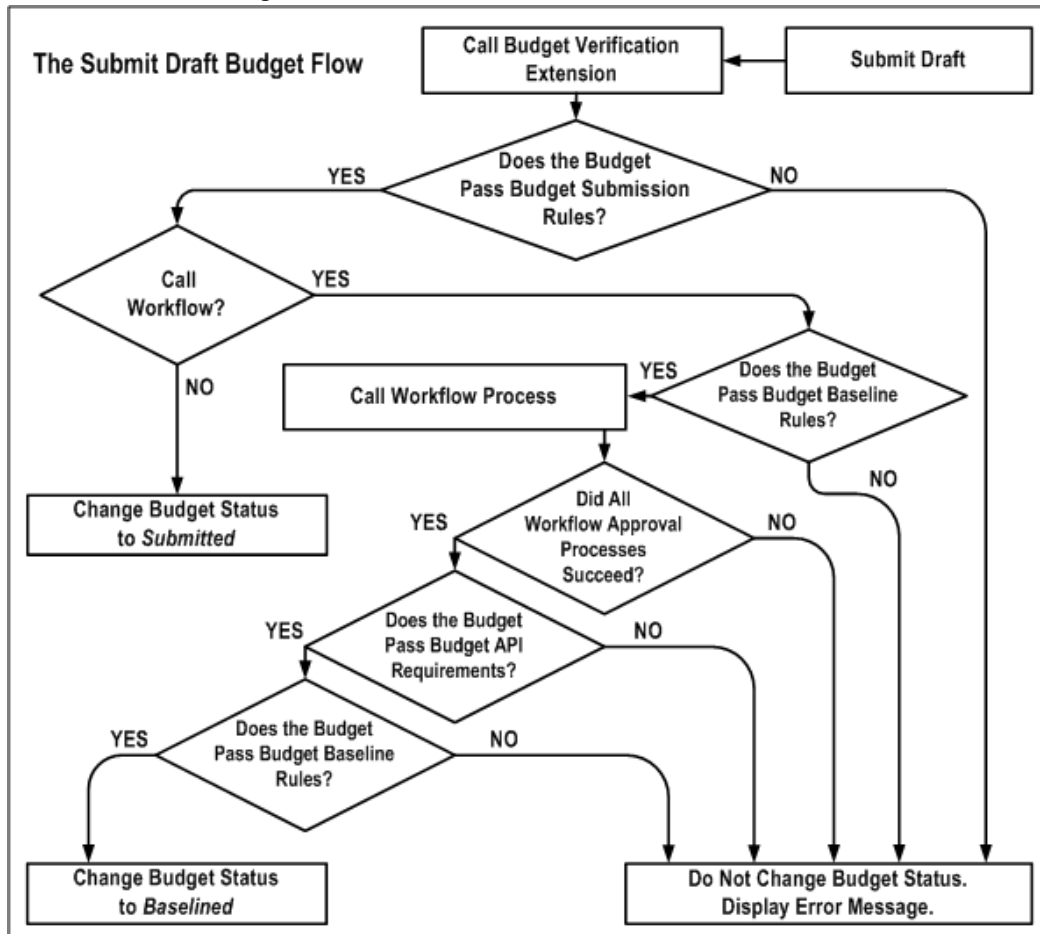
After you have completed the changes, you can resubmit the draft.

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*

Creating a Baseline for a Budget Draft

Creating a baseline for a budget draft is the process of approving a budget for use in reporting and accounting. When the baseline function is called, the system copies the draft amounts into a new baseline budget version.

The most recent baseline version is named the Current Budget, which is used for reporting. All prior baseline budgets are historical baseline versions. The Current Budget, and all other baseline 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 baseline for a draft budget is automatically after it is submitted, if it passes all the Workflow approvals and other requirements. See *Submitting a Draft*, page 8-94.

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 8-81.
- 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.

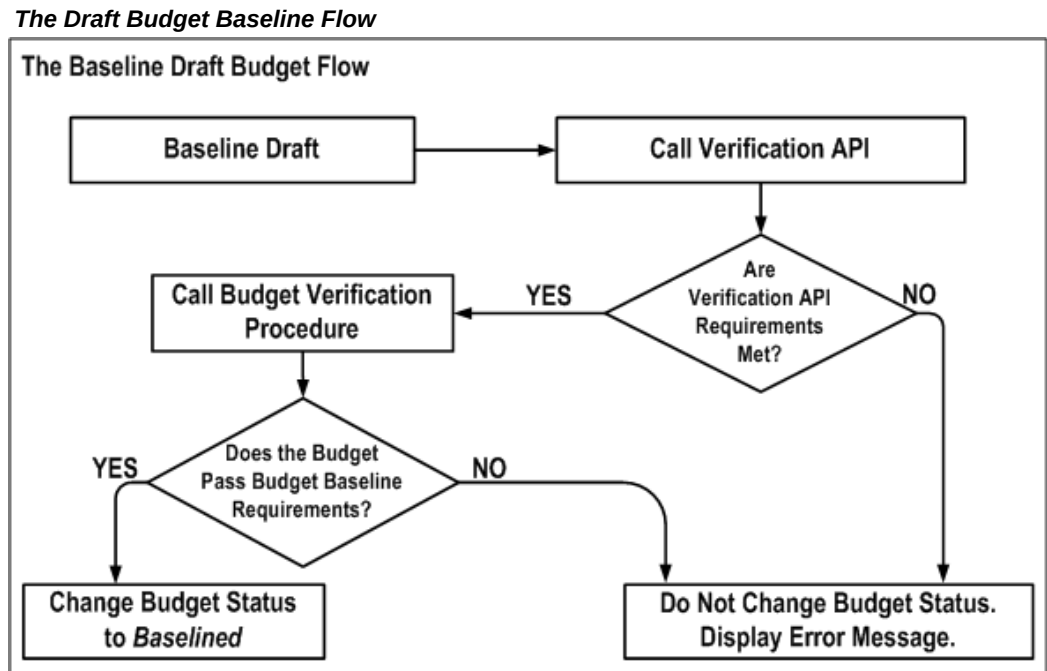
To baseline a draft:

- 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.



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.

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 version for an integrated project budget, Oracle Projects performs the following activities:

1. Validates the submitted budget version.
2. Creates a baseline for the new budget version.
3. Validates funds.

For top-down integrated budgets, Oracle Projects validates existing approved transaction amounts (at resource, resource group, task, top task and project levels) against the project budget. For financial plans, validation occurs only at the task, top task and project levels.

4. Generates accounting events to reverse the accounting for the most recent baseline version, if one exists, and to create accounting for the new baseline version.

For bottom-up budget integration, Oracle Projects generates accounting events to create budget journal entries.

For top-down integrated budgets, Oracle Projects generates accounting events to create encumbrance journal entries.

5. Create accounting in final mode for the accounting events in Oracle Subledger Accounting.
6. Validates funds.

For bottom-up budget integration, Oracle Projects validates the budget amounts against an organization-level Oracle General Ledger budget.

For top-down integrated budgets, Oracle Projects validates budget amounts against the General Ledger Funding Budget and then validates existing approved transaction amounts (at account level) against the project budget.

Note: If the budget fails funds validation, then the baseline process removes the accounting entries it created from Oracle Subledger Accounting and updates the submitted budget version to *Rejected* status.

You run the process PRC: Transfer Journal Entries to GL to transfer the journal entries

to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

For non-integrated budgets with budgetary control, Oracle Projects validates the submitted budget version, creates baseline version, and validates existing transaction amounts against the project budget. Oracle Projects does not generate and process accounting events for non-integrated budgets.

Additional Information: When you use the PA: Budget Workflow to control budget status changes, Oracle Projects performs funds validation only after the budget is approved. See: PA: Budget Workflow, *Oracle Projects Implementation Guide*.

You cannot post journal entries in Oracle General Ledger if the journal entry violates the defined budgetary control. Funds validation in Oracle General Ledger depends on the type of budget integration as follows:

- For *bottom-up* budget integration:

Oracle General Ledger funding budgets define spending limits for accounts. You can enable budgetary control 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 Oracle General Ledger funding budget that has budgetary control enabled, then Oracle Projects performs a funds check against the funding budget as follows:

- To perform a funds check for the initial baseline version, Oracle Projects sends all project budget lines for the draft budget version for funds check.
- To perform a funds check when a prior baseline version exists, Oracle Projects sends all project budget lines for both the most recent baseline budget version (credits) and for the new budget version (debits) for funds check.

Note: Oracle Projects cannot generate funds check failures when you create the initial baseline version for a top-down integrated budget. In this case, the budget journal entries that you transfer from Oracle Subledger Accounting to Oracle General Ledger are only adding amounts to the organization-level budget in Oracle General Ledger. Oracle Projects can generate funds check failures when you create subsequent baseline versions for the budget. In

this case, Oracle Projects creates reversal budget journal entries for the most recent baseline version and new budget journal entries for the new baseline version. Budget reductions in the new version can result in an overall reduction in the organization-level budget balances in Oracle General Ledger. The funds check fails if the changes reduce the budget balance for an account to a value that is less than the current total cost for the account (actual cost plus encumbrances).

If funds are not available in the Oracle General Ledger funding budgets for all amounts to be transferred, then the baseline process fails.

- For *top-down* budget integration:

The baseline process in Oracle Projects performs a funds check against the General Ledger Funding Budget. Oracle Projects performs a funds check against the funding budget as follows:

- To perform a funds check for the initial baseline version, Oracle Projects sends all project budget lines for the draft budget version for funds check.
- To perform a funds check when a prior baseline version exists, Oracle Projects sends all project budget lines for both the most recent baseline budget version (credits) and for the new budget version (debits) for funds check.

If funds are not available in the General Ledger Funding Budget for all amounts to be transferred, then the baseline process fails.

Troubleshooting Baseline Failures

If the Oracle Projects baseline process fails as a result of a funds check failure, you can use the By Account tab of the Budget Accounts Details window to identify the project budget amounts that generated the funds check failure. In addition, the Workflow notification provides information about the failure.

You can use the Transactions Funds Check Results window to review funds check failures that occur during baseline processing. You can also use this window to review funds check failures that occur during transaction processing. . The corrective actions displayed on the Transactions Funds Check Results window will assist you in resolving the failed transactions.

For projects that have cost breakdown planning enabled, you cannot perform a funds check.

Related Topics

Integrating Budgets, page 8-138

Integrating with Oracle Subledger Accounting, *Oracle Projects Fundamentals*

Oracle Projects Navigation Paths, *Oracle Projects Fundamentals*

Troubleshooting Baseline Failures for Integrated Budgets, page 8-106

Transfer Journal Entries to GL, *Oracle Projects Fundamentals*

Overview of Cost Breakdown Planning, *Oracle Project Planning and Control User Guide*

Revising a Budget Baseline

After you create a budget baseline, you can modify the following descriptive fields for a baseline version:

- Version Name
- Change Reason
- Description
- Comment

You cannot directly change the amounts or structure of a budget baseline. If you need to make changes to a budget baseline, you must update the draft and create a budget baseline for that version.

After you baseline a budget, the draft is the same as the last current budget version.

Related Topics

Entering a Draft, page 8-81

Creating a Baseline for a Budget Draft, page 8-98

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 baseline processing. See: Submitting a Draft, page 8-94.

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 12-21.

Reviewing and Overriding Budget Account Details for Integrated Budgets

You can review and optionally override default accounts, or an account segment, generated by the Project Budget Account workflow when budget integration is in use.

Note: Do not update the account for the budget line if the budget line is associated with transactions. Updating the account causes the baseline process to fail.

If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of accounts, that Oracle Projects generates using the Project Budget Account Workflow. If no transactions exist for a budget line, then Oracle Projects updates the budget line with the new account when you manually update accounts on the Budget Accounts Details window and when you define account derivation rules in Oracle Subledger Accounting to overwrite accounts.

Important: If you update account derivation rules for budgets in Oracle Subledger Accounting, then you must carefully consider the affect of the updates on existing integrated budgets. The baseline process fails if a revised account derivation rule overwrites accounts for budget lines that are associated with transactions.

See also, Project Budget Account Workflow, *Oracle Projects Implementation Guide*.

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.

When you override GL accounts on the By Budget Line tab, you can use one of the following options to view the account summary information on the By Budget Account tab:

- Select the Check Funds button to initiate a funds check for the budget lines

Note: You can check funds for a draft budget version in either working or submitted status. The funds check option is not enabled for baseline budget versions, budget versions where the budget integration workflow has a status of *In Process*, and for budget versions for project templates.

- Select the Generate Accounting option from the Tools menu
- Submit the budget
- Create a budget baseline

To enter overrides for default accounts in the Budget Account Details window, the budget version must be in *Working* status. If the budget version is in Submitted status, then you must first choose to rework the budget to return it to *Working* status.

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.

Important: 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, then allow the budget submission process to generate accounts for the new lines.

For more information about budget integration, see: Integrating Budgets, page 8-138.

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 amounts from the previous baseline budget version. The Current amount fields display the new budget amounts. The Accounted Amount field (viewed using the horizontal scroll bar) displays the amounts to be transferred from Oracle Projects to Oracle Subledger Accounting and, in turn, from Oracle Subledger Accounting to Oracle General Ledger when you create the new baseline. 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 you select this button, 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 control defined for the funding budget.

Related Topics

Creating a Baseline for an Integrated Budget, page 8-100.

Using Budgetary Control

Budgetary control enables 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 control for:

- Project-related purchase requisitions and purchase orders entered in Oracle

Purchasing

- Contingent worker purchase orders entered in Oracle Purchasing
- Supplier invoices entered in Oracle Payables
- Project-related prepayments not matched to a purchase order and the application of unmatched prepayments to supplier invoices

Budgetary Control for Expense Reports

Budgetary control is enforced for supplier invoices entered in Oracle Payables. However, because expense reports are generally entered after costs are already incurred, budgetary control is not enforced for project-related expense reports entered in Payables. Therefore, you should ensure that your procedures for approving expense report expenditures include verification of available funds according to your business requirements.

Budgetary Control For Prepayments

Oracle Projects enforces budgetary control only for unmatched prepayments and for applications of unmatched prepayments to supplier invoices.

Budgetary and Transaction Validation

You can optionally define budget accounts for project budget lines at a higher level than transaction accounts. You must ensure that transaction accounts roll up to budget accounts within the budget account hierarchy in Oracle General Ledger. Similarly, if you define your own rules in Oracle Subledger Accounting to overwrite accounts, then you must ensure that the rules derive transaction accounts that roll up to budget accounts.

Note: Oracle General Ledger does not allow you to post encumbrance journal entries to summary accounts.

Online Funds Check

When budgetary control is 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.

Funds check is also triggered when you review the budget accounting for GL integrated budgets. When you select the By Account tab in the Review Budget Account Details page, an automatic funds check is performed.

Budget and Encumbrance Journals Inquiry

You can view budget and encumbrance subledger journal entries from the Oracle Subledger Accounting Inquiry menu in Oracle Purchasing, Oracle Payables, and Oracle Projects.

From the Oracle Subledger Inquiry menu, choose Subledger Journal Entries. From the Subledger Journal Entries page you can choose how you want to run the inquiry. If you choose to view data when any option is met, you must minimally specify either the ledger or GL date. You can choose either *Budget* or *Encumbrance* as the Balance Type. You can select additional options as needed.

For additional information about encumbrance event classes and event types, see: *Integrating with Oracle Subledger Accounting*, *Oracle Projects Fundamentals* and *Data that Oracle Projects Predefines for Oracle Subledger Accounting*, *Oracle Projects Fundamentals*.

Additional Information: You cannot drill down from the subledger accounting level to see details of the journal entries.

Related Topics

Implementing Budgetary Controls, *Oracle Projects Implementation Guide*

Creating Budgets With Budgetary Control and Budget Integration, page 8-78

Integrating Budgets, page 8-138

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

Budget Time Phase	Amount Type	Boundary Code
PA or GL Periods	Period To Date	Period

Note: When budgetary control is 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.

You can enter different values at each 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, and task, 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
Project	Yes	Yes	No
Project	No	Yes	No
Top Task	Yes	Yes	Yes
Top Task	No	Yes	Yes

Budget Entry Level	Categorized by Resources	Override at Project Level	Override at Task Level
Lowest Task	Yes	Yes	Yes
Lowest Task	No	Yes	Yes
Top Task and Lowest Task	Yes	Yes	Yes
Top Task and Lowest Task	No	Yes	Yes

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

You must enter raw cost or burdened cost for cost budgets and revenue amounts for revenue budgets when you enter budget amounts for budgets that have budgetary control enabled. Additional consideration is required when your budget entry method uses a resource list and when burdening is enabled for your project.

Entering Cost and Revenue Amounts

When you enable a budget for budgetary control, you must enter raw cost or burdened cost amounts for cost budgets or revenue amounts for revenue budgets. If you enter only quantities, the baseline process fails because it does not use quantity for budgetary control purposes. The baseline process uses only amounts from the *Burdened Cost* and *Revenue* amount types.

For example, if you enter revenue budget amounts only for the *Hours* and *Currency* amount types, the baseline process fails. You must enter amounts for the *Revenue* amount type.

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 control 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.

Budget Definition Strategies

Oracle Projects budgetary control only applies to expense commitment transactions. Budgetary control does not apply to other project-related transactions such as timecards, expense reports, or inventory item purchases. Therefore, when you enable budgetary control 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 control 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.

Important: Do not change project attributes on any purchasing or payables document with existing accounting entries. This results in funds validation errors and incorrect budgetary control data. You must reverse any existing accounting entries before you modify the project attributes on the document.

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. You interface project-related expense commitment transactions from Oracle Purchasing and Oracle Payables to Oracle Projects as supplier costs.

After you interface actual supplier costs to Oracle Projects, you can adjust the expenditure items in Oracle Projects. The following types of adjustments can affect the available funds for a project:

- Transfer
- Split
- Reverse
- Recalculate burden cost (for example, due to a burden multiplier change)

The process PRC: Distribute Supplier Cost Adjustments is used to recost supplier costs after you make adjustments. This process performs a funds check for transactions meeting all of the following criteria.

- The supplier cost originated in Oracle Purchasing or Oracle Payables
- The transaction is charged to a project with budgetary controls enabled
- The transaction is an expense item

When you change a burden multiplier, you must run one of the following processes to perform a funds check for the changed burden amounts. The process you run depends on the burdening method for the project.

- PRC: Distribute Total Burdened Costs

Run this process if the project is set up to account for total burdened costs.

- PRC: Create and Distribute Burden Transactions

Run this process if the project is set up to account for burden costs by burden cost component.

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 process PRC: Distribute Supplier Cost Adjustments:

- 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 an adjusted 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.

Related Topics

Create and Distribute Burden Transactions, *Oracle Projects Fundamentals*

Distribute Supplier Cost Adjustments, *Oracle Projects Fundamentals*

Distribute Total Burdened Costs, *Oracle Projects Fundamentals*

Overview of Burdening, *Oracle Project Costing User Guide*

Viewing Transaction Funds Check Results

Once funds checking has been performed in Oracle Projects, you can view the results from the Transaction Funds Check Results window. Results are displayed for both the passed and failed funds check transactions. To help resolve the failed transactions corrective actions are also displayed.

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 Results for Financial Plans

To view transaction funds check results for financial plans, select the project, and:

1. Search for the project or list of projects.
2. Navigate to the Financial tab, and then the Budgets and Forecasts sub tab.
3. Select the current baseline plan version in the Working Versions region.

From the actions options, select View Transaction Funds Check. Similarly, you can select the View Budget Funds Check Balances option to view the budget balance.

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	Financial Name for Financial Plans	Description
Packet ID	Packet Number	Identifier assigned to the budgetary control packet
Status	Funds Check Status	Funds check status
Document Type	Document Type	Type of document (for example, purchase requisition)
Version Number	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.*

You can view the transaction funds check start and end dates, amount type, and boundary code fields. While funds check is performed for a transaction, the actual budget available is displayed at the following levels: resource, resource group, task, top task, and project, on the respective tabs.

Funds Check Detail Information

The detail region displays the fields shown in the table below:

Field Name	Description
Actuals	Commitment transactions interfaced to Projects
Commitments	Approved commitment transactions not yet interfaced to Projects

Field Name	Description
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

Changes Made to Transaction Funds check Results for Moved Budget

Once the cost budget is enabled for budgetary control, and is moved to the financial plan, the transaction funds check results they cannot be viewed in forms. Each transaction is tagged with version where user-defined data are temporary stored. You can see the transactions in any version, if they are not purged, with Profile options setting PA: Days to Maintain BC Packets. You can view them in the Financial Plan by navigating to Projects > Financial tab > Budgets and Forecasts > Baselined Versions > Plan Version > From Actions LOV View Transaction Funds Check Results. Transaction funds check balance information is available at the resource group and resource level. 4. The Resource Group and Resource columns added to the results table. Funds check information is also available at the Resource Group Level and Resource level.

If the financials plan budget is moved back to forms-based budget, then the data is available for viewing in Transaction funds check window. I

Maintaining Budgetary Control Balances

Oracle Projects maintains budgetary control balances for all projects that use budgetary control. 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: summary, project or project account, top task, and task. 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.

For the latest budget version, choose the Summary tab to view the budget, commitments, actuals, funds consumed, and funds available. When you click the Commitments or Actuals details button the following fields are available for searching and filtering details: Task Number, Expenditure Type, Organization, Commitment Dates or Actual Dates, Commitment Type, Supplier Name, and Supplier Number.

Choose the Commitments button to display the commitments total for the selected line, summarized by commitment type.

In case of financial plans, select the project and perform the following steps:

1. Navigate to the Financial tab, and then the Budgets and Forecasts sub tab.
2. Select the current baseline plan version in the Working Versions region.
3. Select View Funds Check Balances from the actions drop down and click Go. The View Funds Check Balances page appears.

If your budget is GL integrated, you will see the Project Account Balances region on this page. If it is not GL integrated, you will be able to view Project Balances. Similarly there is a region where you can view the task balances.

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

Field Name	Description
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)

Changes Made to Funds Check Balance for Moved Budget

The View Funds Check Balance window displays the details in a new tabbed user-interface, Summary, Project, Top Task, Task, Resource Group and Resource.

A Search Criteria added with Resource Group and Resource fields. The Resource Group and Resource columns added to the results table. Funds check information is also available at the Resource Group Level and Resource level.

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 control 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 for the first time, Oracle Projects creates default budgetary control level settings for each budget level based on the values in the Budgetary Control option. You can override the default control level values for the baseline budget version. When you create subsequent baselines for the project budget, Oracle Projects uses the revised budgetary control level settings and not the default settings. For example, if you override the budgetary control level for a task, Oracle Projects does not reset the task to the default value the next time that you create a baseline for the budget.

If you add new tasks to the project assigned to the budget, the next time you create a baseline for the budget, Oracle Projects automatically creates default budgetary control settings for the new tasks. 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.

Important: You can select the *Reset Defaults* button on the Budgetary Control window to restore the default budgetary control settings for the project. When you select the *Reset Defaults* button, Oracle Projects resets all budgetary control settings to the default values, including any settings that you have manually overridden.

Default Budgetary Control and Changing the Budget Entry Method

You can change the budget entry method for a budget after you create a baseline version. If the budget entry level for the new budget entry method is different from the budget entry level for the current budget entry method, Oracle Projects resets to the budgetary control to the default budgetary control level settings when you create the next budget baseline.

For example, if the budget entry level of the current budget entry method is *Top Tasks* and the budget entry level for the new budget entry method is *Lowest Tasks*, Oracle Projects resets the budgetary controls to the default budgetary control level settings when you create the next budget baseline.

Budgetary Control Cross Charge Restriction

A transaction is subject to the budgetary controls defined for only the ledger in which the transaction originates. Therefore, when budgetary control is enabled for a project, you cannot enter cross charge transactions that cross ledgers.

The following scenario illustrates the need for this restriction:

- Two ledgers are defined in an installation of Oracle Applications.
- In Ledger One (L1), budgetary controls are enabled in Oracle General Ledger and Oracle Payables.
- In Ledger Two (L2), budgetary controls are not enabled in any application.

Project A is defined in L1 and budgetary controls are enabled for the project. If you enter a commitment transaction in L2 for Project A, the transaction is not funds checked, because budgetary controls are not enabled in L2.

Budgetary Control Result Messages

The following table lists budgetary control result codes and messages, and provides information on responding to each message.

Result Code	Result Text	Corrective Action
F100	Insufficient Funds	Ensure that funds are available
F103	No budget exists at the task level	Ensure that a budget exists at the task level
F104	No budget exists at the top task level	Ensure that a budget exists at the top task level
F105	No budget exists at the project level	Ensure that a budget exists at the project level
F106	No budget exists at the project account level	Ensure that a budget exists at the project account level
F110	The transaction failed budgetary control at the task level	Increase the budget at the task level or change the budgetary control level to <i>Advisory</i> or <i>None</i>
F111	The transaction failed budgetary control at the top task level	Increase the budget at the top task level or change the budgetary control level to <i>Advisory</i> or <i>None</i>
F112	The transaction failed budgetary control at the project level	Increase the budget at the project level or change the budgetary control level to <i>Advisory</i> or <i>None</i>
F113	The transaction failed budgetary control at project account level	Increase the budget amount at the project account level
F114	The transaction failed to populate burden cost	Contact your system administrator for assistance

Result Code	Result Text	Corrective Action
F118	Budgetary control failed due to invalid budget versions	Create a baseline version for the project budget
F120	Budgetary control failed during setup and summarization	Contact your system administrator. Your system administrator can run funds validation with PA debug on to identify the error.
F122	The amount type or boundary code is invalid	Update the amount type or boundary code in the budgetary control settings for the project
F123	The amount type or boundary code is invalid for no time phase	To create a budget without time phases, select an amount type of <i>Project to Date</i> and a boundary code of <i>Project</i> in the budgetary control settings for the project
F124	Invalid boundary code for amount type Project To Date	Contact your Oracle Projects super user for assistance. Your Oracle Projects super user can verify the amount type and boundary code combination for the project.
F125	Invalid boundary code for amount type Year To Date	Select either <i>Year</i> or <i>Period</i> as the boundary code in the budgetary control settings for the project
F127	Invalid boundary code for amount type Period To Date	Select <i>Period to Date</i> as the boundary code in the budgetary control settings for the project

Result Code	Result Text	Corrective Action
F129	Start date or end date is null for the specified date range	<p>For a budget with a <i>Project to Date</i> amount type and <i>Project</i> boundary code, ensure that a budget line exists for the period or that you specify both a start date and an end date for the project.</p> <p>For other amount type and boundary code combinations, ensure that a budget exists for the period associated with the transaction.</p>
F130	Start date or end date is null for the specified PA period	<p>For a budget with a <i>Project to Date</i> amount type and <i>Project</i> boundary code, ensure that a budget line exists for the period or that you specify both a start date and an end date for the project.</p> <p>In addition, ensure that the PA period is valid.</p>
F131	Budgetary control failed because of invalid budget entry method	Ensure that the <i>Burdened Cost</i> option is enabled for the budget entry method
F132	Could not map to a budget line while deriving budget account	Ensure that budget lines are generated for all periods
F134	Start date or end date is null for the specified GL period	<p>For a budget with a <i>Project to Date</i> amount type and <i>Project</i> boundary code, ensure that a budget line exists for the period or that you specify both a start date and an end date for the project.</p> <p>For a budget with a time phase of <i>GL Period</i>, ensure that the period is valid and that it is not set up as an adjustment period.</p>

Result Code	Result Text	Corrective Action
F136	Budgetary control failed while calculating start date or end date	Contact your system administrator. Your system administrator can trace the process to obtain additional information.
F137	No matching requisition was found for this purchase order	Contact your system administrator. Data issues can cause this error.
F138	No matching purchase order was found for this invoice	Contact your system administrator. Data issues can cause this error.
F140	Failed due to fatal error while inserting burden cost	Contact your system administrator. Your system administrator can trace the process to obtain additional information.
F141	Lock not acquired due to concurrent budgetary control validations	Retry budgetary control
F142	Budgetary control failed due to unexpected error	Contact your system administrator. Your system administrator can trace the process to obtain additional information.
F143	Budgetary control failed because baseline process is in progress	Retry the funds check after the baseline process for the budget is complete
F150	The GL budgetary control failed for the check funds mode	Decrease the project budget or increase the GL budget
F151	The GL budgetary control encountered fatal errors	Contact your system administrator. Your system administrator can trace the process to obtain additional information.

Result Code	Result Text	Corrective Action
F155	The GL budgetary control failed for the full mode	Decrease the project budget or increase the GL budget
F156	The GL budgetary control failed for the partial mode	Decrease the project budget or increase the GL budget
F160	Budgetary control failed to generate the return code	Contact your system administrator. Your system administrator can trace the process to obtain additional information.
F162	Budgetary control failed to update budget account balances	Contact your system administrator. Your system administrator can trace the process to obtain additional information.
F165	No budget account on raw line	Ensure that a budget account exists
F166	No baselined budget version exists for this project	Create a baseline version for the project budget
F168	Encumbrance accounting event could not be created	Contact your system administrator. Your system administrator can review the log files to obtain additional information. This error relates to setup for Oracle Subledger Accounting. If you modified a predefined application accounting definition, then you must revalidate it. In addition, verify any modifications to the predefined subledger accounting setup.
F169	Account changed for a budget line with an existing transaction	Ensure that account has not been changed for a budget line with an existing transaction

Result Code	Result Text	Corrective Action
F170	Transaction failed in full mode	A related transaction in the process failed. Fix the related distribution line that failed funds check and then rerun the funds check.
F172	Oracle Subledger Accounting application failed	<p>Contact your system administrator. Your system administrator can review the log files to obtain additional information.</p> <p>This error relates to setup for Oracle Subledger Accounting. If you modified a predefined application accounting definition, then you must revalidate it. In addition, verify any modifications to the predefined subledger accounting setup.</p>
F173	Distribution record missing in General Ledger table	<p>Contact your system administrator. Your system administrator can review the log files to obtain additional information.</p> <p>This error relates to setup for Oracle Subledger Accounting. If you modified a predefined application accounting definition, then you must revalidate it. In addition, verify any modifications to the predefined subledger accounting setup.</p>

Moving and Editing Budgets as Financial Plan

This topic explains moving forms-based Budgets to OA framework as Financial Plan that lets you manage and maintain project Budgets through enhanced financial planning. You can perform the following:

- Move forms-based Budgets to the Financial Plan (OAF)

- Add hierarchical resources to moved Budget
- Move the Financial Plan back to forms-based Budgets along with the edits as applicable. This helps you manage Budgets further in the forms user-interface
- Forms-based Budget amounts in Project Functional Currency is moved to the Financial Plan, by choosing the option, Edit as Financial Plan
- Availability of Budgetary controls at the Resource Group and Resource in Financial Plan
- Multilevel Budgetary Control capabilities in Financial Plan
- Multidimensional reporting capabilities of Project Performance Reporting is available for moved Budgets

Moving Budgets to Financial Plan

You can move Budgets from forms-based to the Financial Plan by selecting the Edit as Financial Plan option. The following restrictions apply for movement of Budgets to Financial Plan:

- Budgets in submitted status cannot be moved
- Budget that is bottom-up integrated with the control flag enabled cannot be moved

This action lets you edit Budget in the Financial Plan.

1. Navigate to the Budgets window using Projects > Budgets.

Includes a new button, Edit as Financial Plan.

2. Select the option, Edit as Financial Plan.

On selecting the Edit as Financial Plan option, a popup displays requesting you to confirm the move, Yes or No.

3. When the move is successful, you get the successful move confirmation message.

The selected Budget is moved to the Financial Plan, OA framework. You can edit as Financial Plan.

Move Financial Plan back to Forms based Budgets

You can move the Financial Plan Budget back to forms-based Budget.

1. Navigate to a working version of the Budget.
2. Click the Edit as Budget option in the Action menu.

On choosing the Edit as Budget, the Financial Plan are moved to forms-based Budget after confirmation. You can edit the Budgets in forms. You can use the Edit as Budget option only on working version of the Budget. The Edit as Budget option is available only for moved Budgets.

Using Edit Planning Options

When the budgetary control-enabled Budget from forms is moved to the Financial Plan, the budgetary control set up for the project is available in the OA framework, Projects > Financial Tab > Set up > Budgetary controls > Edit Planning Options page. If the project has other Budgets not moved to Financial Plan, then the budgetary control setup displays it in both forms and OA page.

If a Budget is moved to the Financial Plan, but still displays in the Project > Options > Budgetary Control window, you cannot update such budget. When you try to update the moved Budget in the forms-based windows, an error displays.

Updates done in Edit Planning options page is visible in the Budgetary Control tab of project in forms. Any updates done in the Budgetary Control tab of project in forms should be visible in Edit Planning options page.

1. Navigate to the Edit Planning Options window using Projects OA page > Financial Tab > Budgeting and Forecasting > Any Financial Plan moved as Budget plan type.
2. Choose Edit Planning Options from the Actions menu.
3. Click Go.
4. The Edit Planning Options: Financial Plan type displays, based on the moved Budget.
5. New Search Criteria have been added to both Simple and Advanced Search.
6. The page is equipped with search criteria – Simple and Advanced Search. Simple Search includes:
 - Task Number - the list of values displays task numbers that have overrides after baselining of Budget.
 - Resource Group
 - Resource

Advance Search includes:

- Task Number - the list of values displays task numbers that have overrides after baselining of Budget.
- Resource Group

- Resource
 - Resource Group Alias
 - Resource Alias
 - Task Name
7. In the Budgetary Control Override region, you can add a new override, use the existing overrides, delete the override, or reset the defaults.
 8. Budgetary Control Override includes the following fields:
 - Override Level
 - Task Number
 - Task Name
 - Top Task Number
 - Top Task Name
 - Resource Group
 - Resource Group Alias
 - Resource
 - Resource Alias
 - Control Level
 9. Click Apply to apply the changes.

Viewing and Setting Up Financial Plan

You can edit only Reporting and Display region of the Plan Settings tab of the Financial Plan. All other setups default from the forms-based Budget and you cannot edit them in the Financial Plan. The current planning period defaults the values from the forms-based Budget. The Project Functional Currency used in the forms-based Budget is the same and used for the Financial Plan as well. Generation Options setup tab is not available for the moved Budgets.

1. Select Project > Delivery > Search Project.
2. Search the Project name for which you moved the Budget to Financial Plan.

3. Click the Financial tab > Budgets and Forecasts tab.

Budgets and Forecasts window displays. You can view the Financial Plan type of the moved Budget.

4. Select the Financial Plan Type of the moved Budget.

5. Click Maintain Versions to edit the Budget.

Maintain Budget Versions: any Financial Plan type displays based on the moved Budget. Approved Cost Budget window displays. Baseline Versions display, if the moved Budget had baseline versions at the time of move. The Budgetary Control Overrides at the plan type-level apply on the recent successfully baselined plan version, against which funds check happens. These overrides are not specific to plan versions. If you choose to move back to forms-based Budget planning, then choose the Edit as Budget option on the Maintain Versions window.

Note: You can move the Budget back to Forms, only if a single working version of the Financial Plan exists. When multiple working versions exist, this option is restricted.

6. Click Edit in the Working version region.

The Edit Budget: Financial Plan type window of the moved Budget displays.

7. The Actions menu includes Edit as Budget the new option.

8. Select Edit Planning Options and click Go.

Based on the type of the moved Budget the respective Financial Plan type appears.

You can only add hierarchical resources to the moved Budget. You have the ability to move back to forms based Budgets at any point in time.

The Period profile, Current Planning Period, is set to default and you can modify the same. There are no comparative field in forms-based Budget. The default value for the Period Profile is GL Period. The current planning period defaults the value existing for Forms-based at the time of Move.

Ability to import Budgets from Microsoft excel should be available for moved Budgets as well.

The spread against the resources is set to Even as default.

The Periodic Distribution that is available in forms-based Budget is moved to the Financial Plan. Any edits done on the Budgets in the Financial Plan are available on forms-based Budget when moved back.

Impact on Project Type Budgetary Control and Project Template Setup

The impacts on Project Type Budgetary Control Setup are as follows:

- The Type column in the Budget Integration region, of the Project Type (Budgetary Control) and Project Template Setup windows, now displays Financial Plan
- The Budgetary Controls region displays only when the Control flag is enabled
- The Controls section of the Budgetary Controls region displays Resource group and Resource
- All the existing validations in forms apply for the OA page as well

Impact on Projects Budget Integration

The Budget Integration has been modified as shown:

1. Navigate to the Projects: Budget Integration window using Projects > Query Projects or Projects Template window > Options Region.
2. Select Budgetary Controls. The Projects: Budget Integration window displays.
3. A new column, Type, is added that indicates whether a Budget is the Forms Budget or Financial Plan.
4. The Budget Type has been renamed to Name.
5. This project level budgetary control displays controls for both forms-based Budget and Financial Plan. You can only update the Forms-based controls for Budget.

Validations

- When budgetary control-enabled project Budget from forms is moved to the Financial Plan, the budgetary control set up for the project is available in Projects in OA page, Financial Tab > Setup > Budgetary Controls tab > Edit Planning Options window.
- Project could have other Budgets that are not moved to Financial Plan model, the budgetary control set up for such Budgets display in both forms and in OA pages.
- For the Budget moved to Financial Plan, the budgetary controls still displays in the Forms Project > Options > Budgetary Control, but you cannot edit them. The Budget that is not moved to Financial Plan, you can still update them.
- The Edit Planning Options window on Budgetary Controls tab in the OA page, both

forms-based Budget and Financial plan display. You can only edit the Financial plan.

- Any updates done in the Edit Planning Options window, must also be visible in budgetary control tab of project in forms. Similarly, updates made to the budgetary control tab of project in forms are visible in Edit Planning options page on the Financial Plan.

Changes Budgetary Control Overrides at Plan Type and Plan Version Levels

The Overrides for Budgetary Control with Plan Type and Version levels are as follows:

- The Resource group and Resource columns list default controls, you can override them.
- Similar to forms-based Budget, the Resource group and Resource table list the default controls and you can override them. The overrides specified is applicable on the latest successfully baselined Budget version.
- When you add a new line, overrides level is automated based on the entered values. The least level is considered first, for example, if you enter the override combination as Task - Resource Group – Resource, then the override level is set to Resource.
- If you make any changes to the budgetary control override, then you must baseline your Budget to reflect the changes. If you delete an override, a warning displays.
- When you apply changes made to the overrides, you must re-baseline your Budget.
- When you delete an override, the override is deleted after confirmation.
- A resource is assigned against multiple tasks. If that resource override is modified, then a message displays, and the modified Resource Override updates all occurrences of the resource associated with tasks and resource groups.
- Each override combination must be unique. If you enter an override that already exists, then an error displays.
- The budgetary control overrides given at the plan type-level are always applied on the latest successfully baselined plan version against which funds check happen. These overrides are not specific to plan versions.
- At the plan version level, the Budgetary Control tab is not relevant and has been removed.

Impact on Transaction Funds check Results

Once the cost Budget is enabled for budgetary control, and is moved to the Financial

Plan, the transaction funds check results cannot be viewed in forms. Each transaction is tagged with version where user-defined data are temporarily stored. You can see the transactions in any version, if they are not purged, using the Profile option setting, PA: Days to Maintain BC Packets. You can view them in the Financial Plan by navigating, Projects > Financial tab > Budgets and Forecasts > Baselined Versions > Plan Version > From Actions LOV View Transaction Funds Check Results. Transaction funds check balance information is available at the resource group and resource level.

1. Select View Transactions Funds Check Results on the Search a Version dropdown menu, from the Baseline Versions region. For the Self-Service, check the Version option.

The View Transactions Funds Check Results window displays.

2. The Funds Check Setup region is moved up to the top of the page.
3. A Search Criteria is added with Resource Group and Resource fields along with Task Number and Name, and Funds Check Status and Funds Check Date.
4. The Resource Group and Resource columns added to the results table. Funds check information is also available at the Resource Group Level and Resource level.

If the Financial Plan Budget is moved back to forms-based Budget, then the data is available for viewing in the Transaction funds check window.

Impact on Funds Check Balance

1. Select View Funds Check Balance on the Search a Version dropdown menu, from the Baseline Versions region.

The View Funds Check Balance window displays.

Displays the details in a new tabbed user-interface that includes, Summary, Project, Top Task, Task, Resource Group and Resource

2. Search is introduced for each Tab that contains search criteria relevant for the selected tab.
3. View Funds check balances window includes tabs for displaying balances at Project, Top task, Task, Resource group and Resource levels.

Note: If the Budget integrates with GL, an Account tab displays instead of Projects.

4. A Search Criteria added with Resource Group and Resource fields.
5. The Resource Group and Resource columns added to the results table. Funds check information is also available at the Resource Group Level and Resource level.

The Summary Tab, displays a dropdown menu with Actuals and Commitments as list of values. Document Type search criteria in the Summary tab represents commitment type. List of Values for Document Type, and Purchase Order, Purchase Requisition and Invoices. Filter commitment data at the Summary and table levels. Project and Project Accounts tabs are mutually exclusive; if the Budget a GL Integrated Budget, then only Project Account Balances displays.

View Commitment Details page which is a current functionality (Click on Total Commitments) is not available as the details provided is the details table in the summary tab.

Enhanced Planning Resource List

If the Budget includes resources then they are moved as well. You can edit Budget in the Financial Plan, on the moved Budget, by adding only hierarchical resources. A new Hierarchical Resources tab is included on the Update Planning Resource List window. On selecting this tab, the list of resources display hierarchically. The Outline number indicates the parent-child relationship. You can add new resources through the Update Child Elements page. You can perform the following:

1. Navigate to the Planning Resource Lists window by using Projects > Setup > Planning Resource Lists.
2. Delete the resources using the Delete option.
3. Update or add the Control level options as Absolute, Advisory, None.
4. Select Enable option for resources.
5. Click Update.

The Update Planning Resource Lists window displays.

The Hierarchical Resources tab is added, that displays only for the migrated Planning Resource List (PRLs). When you add new resources in Resource List or Hierarchical Resources tab, it appear in both RL and PRL. If a resource is added in PRL resource list, then it does not appear in RL and Hierarchical tab. All enabled hierarchical resources are used for further financial planning.

Hierarchical Resources Field References

Following options display:

1. Select the resources to group by.
2. You can select an element, delete a selected element or update a child element.
3. Select an element has the following fields:

- Focus
- Outline Number
- Resource Type
- Resource
- Alias
- Control Level
- Enabled

Update Child Elements

1. Navigate to Update Child Element window by clicking Update Child Elements on Hierarchical Resources tab on the Update Planning Resource Lists window.

In the Update Child Elements window, the section Parent Element depends on the parent selected for adding the child elements.

You cannot add any records below outline level 2, which is below the resource level. Add Resource Group (Parent) and Resource (Child) by selecting the appropriate parent to the Planning Resource List.

You can perform the following actions:

- Add resources by clicking the plus (+) icon at the table level
 - Delete resources by clicking Delete available at the line level
 - Update or add the Control level options from Absolute, Advisory, None
 - Select Enable option for the resources
2. Enter Resource list name.
 3. Select or choose Job Group by category.
 4. Select the Enable Resource Classes by choosing Yes. The default option is No.

Parent Element

- Displays the Outline number

Child Elements

1. Displays the order number.

2. Displays the resource type.
3. Displays the resource.
4. Displays the alias for the selected resource.
5. Displays the control level assigned to the child element.
6. Indicates if the selected child element is enabled.
7. You can choose the line to delete.

Upgrade Program for Migration

Removal of Restriction on Migration of Budgetary Control Enabled Project

The forms-based Budgets that are enabled for budgetary control setup, cannot be migrated to a Financial Plan. The concurrent Program, UPG: Upgrade Budget types and Budget Versions, does not process Budgets with budgetary control setup. The output report lists such Budgets as exceptions with the reason, BUDGET_INTEGRATION_EXISTS.

This enhancement lets you migrate Budgets with budgetary controls at the project and task-levels. The restriction for Budgets with budgetary controls at the resource group and resource levels still remains. The concurrent Program, UPG: Upgrade Budget types and Budget Versions, does not process Budgets with budgetary controls at resource group and resource levels and the output report of the program lists such Budgets as exceptions with the reason, Budgetary Controls exist at the resource group or resource level.

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 submit a bottom-up integrated budget to create a baseline version, Oracle Projects validates the submitted budget version, creates a baseline version, generates accounting events, creates budget journal entries in final mode for the accounting events in Oracle Subledger Accounting, and validates the budget amounts against an organization-level Oracle General Ledger budget. You run the process PRC: Transfer

Journal Entries to GL to transfer budget journal entries from Oracle Subledger Accounting to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds 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

When you submit a top-down integrated budget to create a baseline version, Oracle Projects validates the submitted budget version, creates a baseline version, validates existing approved transaction amounts (at resource, resource group, task, top task and project levels) against the project budget, generates accounting events, creates encumbrance journal entries in final mode for the accounting events in Oracle Subledger Accounting, validates budget amounts against the General Ledger Funding Budget, and validates existing approved transaction amounts (at account level) against the project budget. You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries from Oracle Subledger Accounting to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

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 8-140
- Using Top-Down Budget Integration, page 8-144

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. You define Oracle General Ledger budgets at the account level, and you enter budget amounts for an account and a GL period combination. Therefore, when a project budget is integrated with a GL budget, an account must be assigned to each project budget line.

Project Budget Account Generation Workflow

The Project Budget Generation Account workflow enables you to automate the account generation and assignment process. You can optionally set up detailed accounting rules in Oracle Subledger Accounting. If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of accounts, that Oracle Projects generates using the Project Budget Account Workflow. In this case, Oracle Projects updates the budget lines with the new accounts.

Important: If you update account derivation rules for budgets in Oracle Subledger Accounting, then you must carefully consider the affect of the updates on existing integrated budgets. The baseline process fails if a revised account derivation rule overwrites accounts for budget lines that are associated with transactions.

For details about this workflow, see: Project Budget Account Generation Workflow, *Oracle Projects Implementation Guide*.

For details about Oracle Subledger Accounting, see: Integrating with Oracle Subledger Accounting, *Oracle Projects Fundamentals*.

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.

Additional Information: When you use bottom-up budgeting, budgetary control is not enforced. Bottom-up budgets are implemented primarily to send budget journals to Oracle General Ledger. Oracle General Ledger performs the funds check against the GL budget.

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 baseline versions for your project budgets.

The budget baseline process validates the submitted budget version, creates a baseline version, generates accounting events, creates budget journal entries in final mode for the accounting events in Oracle Subledger Accounting, and validates the budget amounts against an organization-level Oracle General Ledger budget.

- Import budget journal entries in General Ledger.

You run the process PRC: Transfer Journal Entries to GL to transfer budget journal entries from Oracle Subledger Accounting to Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

- Review and post the budget journal entries to add the project budget amounts to the organization-level budget balances.

When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

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's 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.

You maintain budgets that you define in Oracle General Ledger are account-level budgets 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 Generation workflow, which enables you to automate the process of generating accounts for budget lines.

Note: Do not update the account for the budget line if the budget line is associated with transactions. Updating the account causes the baseline process to fail.

If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of

accounts, that Oracle Projects generates using the Project Budget Account Workflow. Oracle Projects updates the budget lines with the new accounts.

Important: If you update account derivation rules for budgets in Oracle Subledger Accounting, then you must carefully consider the affect of the updates on existing integrated budgets. The baseline process fails if a revised account derivation rule overwrites accounts for budget lines that are associated with transactions.

For more information about the Project Budget Account Generation workflow, see: *Project Budget Account Generation Workflow, Oracle Projects Implementation Guide.*

Workflow and Creating a Baseline Version

When a project is set up to use bottom-up integration, the process to create a baseline version varies depending on whether you use workflow to control budget status changes.

If you do *not* use workflow to control budget status changes, then Oracle Projects calls the *PA: Budget Integration Workflow*. For information about the workflow, see: *PA: Budget Integration Workflow, Oracle Projects Implementation Guide.*

If you use workflow to control budget status changes, then Oracle Projects changes the budget version status to In Progress and calls the budget approval workflow. For information about this workflow, see: *PA: Budget Workflow, Oracle Projects Implementation Guide.* After the budget is approved, baseline processing continues for the budget version. Oracle Projects displays any rejections encountered during baseline processing in the budget approval notification. For information about the activities that take place during baseline processing, see: *Creating a Baseline for an Integrated Budget, page 8-100.*

Baseline Validations

When you create a baseline for a bottom-up integrated project budget, the budget baseline validates the submitted budget version, creates a baseline version, generates accounting events, creates budget journal entries for the accounting events in Oracle Subledger Accounting, and validates the budget amounts against an organization-level Oracle General Ledger budget.

If the baseline version is the initial baseline version for the budget, then Oracle Projects creates and validates budget journal entries for this budget version. If a prior baseline version exists, then Oracle Projects creates and validates reversal budget journal entries for the most recent baseline version and new budget journal entries for the new baseline version.

Note: If the budget fails funds validation, then the baseline process removes the accounting entries it created from Oracle Subledger

Accounting and updates the submitted budget version to *Rejected* status.

For details about creating a baseline for a bottom-up integrated project budget, see: *Creating a Baseline for an Integrated Budget*, page 8-100.

For information about troubleshooting baseline failures, see: *Troubleshooting Baseline Failures for Integrated Budgets*, page 8-106.

Transferring Budget Journals to Oracle General Ledger

After you create a baseline version for an integrated project budget, you run the process PRC: Transfer Journal Entries to GL to transfer the journal entries to Oracle General Ledger and initiate the process Journal Import in Oracle General Ledger. If the baseline version is the initial baseline version for the budget, then Oracle Projects transfers the budget journal entries it creates for this version. If a prior baseline version exists, then Oracle Projects transfers reversal budget journal entries for the most recent baseline version and new budget journal entries for the new baseline version.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

Posting Budget Journals

When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger. You can review and post the entries using the General Ledger Post Journals window.

For more information on reviewing and posting journals, see the *Oracle General Ledger User's Guide*.

Related Topics

Transfer Journal Entries to GL, *Oracle Projects Fundamentals*

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 control 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 control and encumbrance accounting. To use top-down integration, you must first do the following:

- Enable budgetary control in Oracle General Ledger.

When you enable budgetary control 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 Oracle 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's 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 control for the project. The Project control level is automatically set at Absolute and cannot be changed. Oracle Projects uses budgetary control 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 Control, see *Using Budgetary Control*, page 8-106.

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 you submit a top-down integrated budget to create a baseline version, Oracle Projects performs the following activities:

1. Validates the submitted budget version
2. Creates a baseline version
3. Validates existing approved transaction amounts (at resource, resource group, task, top task and project levels) against the project budget
4. Generates accounting events

5. Creates encumbrance journal entries in final mode for the accounting events in Oracle Subledger Accounting
6. Validates budget amounts against the General Ledger Funding Budget
7. Validates existing approved transaction amounts (at account level) against the project budget

If the baseline version is the initial baseline version for the budget, then Oracle Projects creates and validates encumbrance journal entries for this budget version. If a prior baseline version exists, then Oracle Projects creates and validates reversal encumbrance journal entries for the most recent baseline version and new encumbrance journal entries for the new baseline version.

You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries from Oracle Subledger Accounting to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

Note: If the budget fails funds validation, then the baseline process removes the accounting entries it created from Oracle Subledger Accounting and updates the submitted budget version to *Rejected* status.

For information on creating a project cost budget, see: *Creating Project Budgets for Top-Down Budget Integration*, page 8-153.

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 control 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

Expenditure Organization	Expenditure Category	Oct-01	Nov-01	Dec-01
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 version. 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 version for the commitment budget. The baseline process validates the submitted budget version, creates a baseline version, validates existing approved transaction amounts (at resource, resource group, task, top task and project levels) against the project budget, generates accounting events, creates encumbrance journal entries in final mode for the accounting events in Oracle Subledger Accounting, validates budget amounts against the General Ledger Funding Budget, and validates existing approved transaction amounts (at account level) against the project budget.

The Finance Department submits the process PRC: Transfer Journal Entries to GL and selects *Yes* for the parameter Post in General Ledger. The process transfers encumbrance journal entries from Oracle Subledger Accounting to Oracle General Ledger and posts

the journal entries in Oracle General Ledger. The following table shows the journals that the system creates from the budget amounts interfaced by the payroll project.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

GL Period	Account	Account Description	Debit	Credit
Oct-01	04-420-7580-000	Consulting Labor	1,000	
Oct-01	04-420-7640-000	Consulting Expenses	1,000	
Oct-01	04-000-1250-000	Reserve		2,000
Nov-01	04-420-7580-000	Consulting Labor	1,000	
Nov-01	04-420-7640-000	Consulting Expenses	1,000	
Nov-01	04-000-1250-000	Reserve		2,000
Dec-01	04-420-7580-000	Consulting Labor	1,000	
Dec-01	04-420-7640-000	Consulting Expenses	1,000	
Dec-01	04-000-1250-000	Reserve		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. (Budgeted Funds for each account in each period are 5,000.)

GL Period	Account	Actual Costs	Committed Costs	Available Funds
Oct-01	Consulting Labor	2,000	2,000	2,000
Oct-01	Consulting Expenses	2,000	2,000	2,000

GL Period	Account	Actual Costs	Committed Costs	Available Funds
Nov-01	Consulting Labor	0	4,000	1,000
Nov-01	Consulting Expenses	0	4,000	1,000
Dec-01	Consulting Labor	0	2,000	3,000
Dec-01	Consulting Expenses	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 control is 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 process to create a baseline version varies depending on whether you use workflow to control budget status changes.
- Additional validations occur when you create a baseline for an integrated project budget.

Budgetary Control in Top-Down Budget Integration

When you define top-down budget integration, the system automatically enables budgetary control for the integrated budget type. When you enter amounts for budgets or financial plans with budgetary control enabled, additional consideration is required if you use a resource list for budget entry, or if you have enabled burdening for your project. For example, you cannot perform funds check at resource or resource group level for financial plans. Similarly, if burdening is enabled for the project, sufficient funds must be available to cover the burden amounts.

For more details, see: *Entering Budget Amounts for Controlled Budgets*, page 8-112.

Budgetary control can be defined at the Project Template level. To defined budgetary control at the project template level, navigate to the Setup subtab of the Financial - Budgeting and Forecasting page. Budgetary control defined at the project type level can be overwritten at the project template level (or project level) providing the "Allow Override At Project Level" option has been set.

The Budgetary Controls option under the Setup tab in the Financial - Budgeting and Forecasting page enables you to search for a project template and set up the budgetary control for it. You can override the budgetary control defined at the project type at the project template level (or project level) provided the Allow Override at Project Level option has been set.

You can set up budgetary control at the project template level during project template setup. The budgetary control can be defaulted from the project type or overwritten at the template level provided the Allow Override at Project Level options has been enabled.

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. You maintain funding budgets by account and GL period. In Oracle Projects, you create the project budget using an entry method that is time phased by GL Period. For more information on account generation, see: Budget Integration Procedures, page 8-139.

Enter Budget Lines for All Budget Periods

When you enter and approve expense commitment transactions related to the integrated project, the processing liquidates project encumbrances and creates commitment encumbrances. 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, then 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 Generation workflow process to generate an account for each new budget line.

Note: Do not update the account for the budget line if the budget line is associated with transactions. Updating the account causes the baseline process to fail.

For example, you create a project under the following conditions:

- The fiscal year runs January-December
- The budgetary control time boundary code for a project is *Year*
- You do not specify a project end date
- You enter budget amounts for the January-May GL periods

In this case, the baseline process creates zero amount budget lines for the June through December GL periods.

For additional information, see: *Project Budget Account Workflow, Oracle Projects Implementation Guide*.

If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of accounts, that Oracle Projects generates using the Project Budget Account Workflow. Oracle Projects updates the budget lines with the new accounts.

Workflow and Creating a Baseline Version

When a project is set up to use top-down integration, the process to create a baseline version varies depending on whether you use workflow to control budget status changes.

If you do *not* use workflow to control budget status changes, then Oracle Projects calls the *PA: Budget Integration Workflow*. For information about the workflow, see: *PA: Budget Integration Workflow, Oracle Projects Implementation Guide*.

If you use workflow to control budget status changes, then Oracle Projects changes the budget version status to In Progress and calls the budget approval workflow. For information about this workflow, see: *PA: Budget Workflow, Oracle Projects Implementation Guide*. After the budget is approved, baseline processing continues for the budget version. Oracle Projects displays any rejections encountered during baseline processing in the budget approval notification. For information about the activities that take place during baseline processing, see: *Creating a Baseline for an Integrated Budget*, page 8-100.

Baseline Validations

When you create a budget baseline for a top-down integrated project budget, Oracle Projects validates the submitted budget version, creates a baseline version, validates existing approved transaction amounts (at resource, resource group, task, top task and project levels) against the project budget, generates accounting events, creates encumbrance journal entries in final mode for the accounting events in Oracle Subledger Accounting, validates budget amounts against the General Ledger Funding Budget, and validates existing approved transaction amounts (at account level) against the project budget.

If the baseline budget version is the initial baseline budget version for the budget, then Oracle Projects creates and validates encumbrance journal entries for this budget version. If a prior baseline budget version exists, then Oracle Projects creates and validates encumbrance journal entries for both the most recent baseline budget version (credits) and for the new budget version (debits).

After you create a baseline version for a top-down integrated project budget, you run the process PRC: Transfer Journal Entries to GL to transfer the encumbrance journal entries to Oracle General Ledger and initiate the process Journal Import in Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

For details about creating a baseline for a top-down integrated project budget, see: *Creating a Baseline for an Integrated Budget*, page 8-100.

For information about troubleshooting baseline failures, see: *Troubleshooting Baseline Failures for Integrated Budgets*, page 8-106.

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 Balance	\$1,000				
Approve \$100 Purchase Requisition	\$900	\$100			

Step in Process Flow:	Project Encumbrance Balance	Commitment Encumbrance	Obligation Encumbrance	Invoice Encumbrance	Actual Costs
Create and Reserve Purchase Order		0	\$100		
Validate Supplier Invoice			0	\$100	
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 and reserved, the Commitment encumbrance is liquidated and an Obligation encumbrance is created.
3. When a supplier invoice is matched to the purchase order and validated, 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, Oracle Payables creates accounting in Oracle Subledger Accounting for all costs associated with the transaction. Oracle Subledger Accounting transfers the final accounting to Oracle General Ledger. However, when a commitment transaction is burdened, Oracle Payables creates accounting for the raw transaction costs in Oracle Subledger Accounting, and Oracle Projects creates accounting for the burdened costs in Oracle Subledger Accounting. Oracle Subledger Accounting transfers the final accounting to Oracle General Ledger. For additional information, see: *Integrating with Oracle Subledger Accounting, Oracle Projects Fundamentals*.

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 assign 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.

If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of accounts, that Oracle Projects generates using the Project Budget Account Workflow. If the budget lines are not associated with transactions, then Oracle Projects updates the budget lines with the new accounts.

Important: If you update account derivation rules for budgets in Oracle Subledger Accounting, then you must carefully consider the affect of the updates on existing integrated budgets. The baseline process fails if a revised account derivation rule overwrites accounts for budget lines that are associated with transactions.

Note: You can optionally define budget accounts for project budget lines at a higher level than transaction accounts. You must ensure that transaction accounts roll up to budget accounts within the budget account hierarchy in Oracle General Ledger. Similarly, if you define your own rules in Oracle Subledger Accounting to overwrite accounts, then you must ensure that the rules derive transaction accounts that roll up to budget accounts.

Oracle General Ledger does not allow you to post encumbrance journal entries to summary 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.

When the invoice is final accounted, Oracle Payables creates accounting in Oracle Subledger Accounting to liquidate the commitment encumbrance for the raw costs. When you run the process Create Accounting in final mode, you can choose to transfer encumbrance journal entries to Oracle General Ledger, and you can optionally choose to have the process post journal entries. Otherwise, you can manually post journal entries in Oracle General Ledger. Oracle General Ledger liquidates the commitment encumbrance for the transaction raw cost when you post the journal entry.

Oracle Projects generates accounting events to liquidate the commitment encumbrance for the transaction burdened cost and creates encumbrance journal entries in Oracle Subledger Accounting for the accounting events. You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries to Oracle General Ledger and initiate the process Journal Import in Oracle General Ledger.

When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger. Oracle General Ledger liquidates the commitment encumbrance for the transaction burdened cost when you post journal entries.

See also, *Integrating With Oracle Subledger Accounting, Oracle Projects Fundamentals*.

Note: The funds available inquiry in Oracle General Ledger reflects the complete liquidation of the encumbrance after you create the final accounting for both the raw and burdened costs from Oracle Payables and Oracle Projects.

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	Projects	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	Projects	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	

When the invoice is final accounted, Oracle Payables creates accounting to liquidate the commitment encumbrance for the raw costs. When you run the process Create Accounting in final mode, you can choose to transfer encumbrance journal entries 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

When the burdened transaction is accounted in Oracle Projects, Oracle Projects creates accounting to liquidate the commitment encumbrance for the burdened costs. You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries 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.

Note: You can optionally define budget accounts for project budget lines at a higher level than transaction accounts. You must ensure that transaction accounts roll up to budget accounts within the budget account hierarchy in Oracle General Ledger. Similarly, if you define your own rules in Oracle Subledger Accounting to overwrite accounts, then you must ensure that the rules derive transaction accounts that roll up to budget accounts.

Oracle General Ledger does not allow you to post encumbrance journal entries to summary 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 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.

When the invoice is final accounted, Oracle Payables creates accounting in Oracle Subledger Accounting to liquidate the commitment encumbrance for the raw costs. When you run the process Create Accounting in final mode, you can choose to transfer encumbrance journal entries to Oracle General Ledger, and you can optionally choose to have the process post journal entries. Otherwise, you can manually post journal entries in Oracle General Ledger. Oracle General Ledger liquidates the commitment encumbrance for the transaction raw cost when you post the journal entry.

Oracle Projects generates accounting events to liquidate the commitment encumbrance for the transaction burden cost and creates encumbrance journal entries in Oracle Subledger Accounting for the accounting events. You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries to Oracle General Ledger and initiate the process Journal Import in Oracle General Ledger.

When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger. Oracle General Ledger liquidates the commitment encumbrance for the transaction burdened cost when you post journal entries.

Note: The funds available inquiry in Oracle General Ledger reflects the complete liquidation of the encumbrance after you create the final accounting for both the raw and burden costs from Oracle Payables and Oracle Projects.

The Project Budget Account Workflow and the Burden Cost Account AutoAccounting rules must use the same business rules when generating accounts for burden costs. If you define your own detailed accounting rules in Oracle Subledger Accounting, then Oracle Subledger Accounting overwrites default accounts, or individual segments of accounts, that Oracle Projects generates using the Project Budget Account Workflow and AutoAccounting. If the budget lines are not associated with transactions, then Oracle Projects updates the budget lines with the new accounts.

Important: If you update account derivation rules for budgets in Oracle Subledger Accounting, then you must carefully consider the affect of the updates on existing integrated budgets.

The baseline process fails if a revised account derivation rule overwrites accounts for budget lines that are associated with

transactions.

For additional information, see: Integrating with Oracle Subledger Accounting, *Oracle Projects Fundamentals*.

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	Projects	A1	Capp Construction Budget Line Account	1,000	
2	Projects	A2	Budget Line Account for Resource: Material Handling	50	
3	Projects	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	Projects	A1	Budget Line and Invoice Line Account		50.00
2	Projects	A2	Material Handling Budget Line Account		2.50
3	Projects	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	

When the invoice is finally accounted, Oracle Payables creates accounting to liquidate the commitment encumbrance for the raw costs. When you run the process Create Accounting in final mode, you can choose to transfer encumbrance journal entries 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

When the burden transaction is accounted in Oracle Projects, Oracle Projects creates accounting to liquidate the commitment encumbrance for the burden costs. You run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries 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	A2	Material Handling Budget Line Account		2.50
2	Invoice Encumbrance	A3	R&D Budget Line Account		5.00

Accounting For Burden and Total Burdened Cost Encumbrances in Oracle Subledger Accounting

When you create encumbrances in Oracle Purchasing and Oracle Payables, each respective application creates accounting in Oracle Subledger Accounting. You run the Create Accounting process in Oracle Purchasing and Oracle Payables to create encumbrance accounting for raw costs and for burden or total burdened costs, depending on the setup for the project. When you run the process Create Accounting in final mode, you can choose to transfer encumbrance journal entries to Oracle General Ledger, and you can optionally choose to have the process post journal entries. Otherwise, you can manually post journal entries in Oracle General Ledger.

Related Topics

Integrating with Oracle Subledger Accounting, *Oracle Projects Fundamentals*

Budgetary Control Balances

Oracle Projects uses budgetary control 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

Budgetary Control Balances, page 8-118

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 control defined for the project budget
- Validates the budgetary control defined for the funding budget
- Validates the General Ledger period statuses
- Updates the project encumbrance against the funding budget

Project Budgetary Control

The system validates budgetary control 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 control 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 control, the funds check process, and the Budget Funds Check Results window, see: *Using Budgetary Control*, page 8-106.

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 8-104 and *Troubleshooting Baseline Failures for Integrated Budgets*, page 8-106.

General Ledger Period Statuses

After you create a budget baseline for the modified budget version, you run the process PRC: Transfer Journal Entries to GL to transfer encumbrance journal entries from Oracle Subledger Accounting to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

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 8-104.

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 PRC: Year End Budget Rollover process transfers year-end balances for top-down integrated project budgets to the next fiscal year. The process performs budget rollover functions for all selected top-down integrated budgets. The process calculates transfer amount for each project budget line by subtracting the total actual and commitment balances from the budgeted amounts. The process then adds the transfer amount for each project budget line to the budget amount for the first period of the next fiscal year.

When the year-end budget rollover process creates a baseline version for the new project budget version, it adjusts project encumbrances for the funding budget. The year-end budget rollover process generates liquidation entries to remove the project reservation for the funding budget for the closing fiscal year. For each account, the process subtracts the transfer amount from last period with a budget amount. If a task, a resource, or task and resource combination is budgeted across multiple accounts, then the process subtracts the transfer amount for each account from the last period with a budget amount. For an example of how the process subtracts the transfer amounts, see: Year-End Rollover Example, page 8-168.

The process also generates new encumbrance entries to reserve funds for the new year. The year-end budget rollover process generates an entry for each transferred amount and posts it to the first period of the next fiscal year.

Note: If a budget line does not exist for the first period of the next fiscal year, then the process calls the Project Budget Account Generation workflow to generate a new default account. If a budget line already exists for the first period of the new year, then the process does *not* derive a new default account.

As part of the year-end budget rollover process, Oracle Projects performs the following actions:

- Creates a baseline for the new budget version
- Generates encumbrance accounting events for both the most recent baseline budget version (credits) and for the new budget version (debits) to transfer the unspent project budget encumbrance amounts from the current fiscal year to the next fiscal year
- Creates accounting in final mode for the encumbrance accounting events in Oracle Subledger Accounting
- Validates funds against the General Ledger Funding Budget

Note: The baseline process performs a funds check on the new encumbrance entries in force pass mode. In force pass mode, all budgetary control is ignored. The encumbrance entries to reserve additional funds in the new year are generated even if available

funds for the General Ledger Funding Budget will be exceeded.

- Creates final encumbrance journal entries in Oracle Subledger Accounting

When the process PRC: Year End Budget Rollover is complete, you run the process PRC: Transfer Journal Entries to GL to transfer the encumbrance journal entries to Oracle General Ledger. When you submit the process PRC: Transfer Journal Entries to GL, you can optionally choose to have the process post the journal entries. Otherwise, you can manually post the journal entries in Oracle General Ledger. For additional information, see: Transfer Journal Entries to GL, *Oracle Projects Fundamentals*.

Note: The baseline process updates funds balances in Oracle General Ledger. The process PRC: Transfer Journal Entries to GL does not affect funds balances.

Year-End Rollover Example

Note: Fiscal year in this example runs January-December.

In this example, the following table lists budget lines from the closing year.

Task Number	Resource	Account	Last Period with Budget Amount	Unspent Budget Amount
1.0	Office Supplies	01-422-7490-000	JAN-06	\$200
1.0	Computer Supplies	01-422-7490-000	JAN-06	\$200
1.0	Computer Supplies	01-422-7490-000	FEB-06	\$400
1.0	Computer Supplies	01-422-7630-000	JUN-06	\$500
2.0	Furniture	01-422-7630-000	MAR-06	\$800

In this case, the process PRC: Year End Budget Rollover subtracts transfer amounts from the closing year as follows:

- \$200 from task 1.0, Office Supplies, account 01-422-7490-000, JAN-06
- \$600 from task 1.0, Computer Supplies, account 01-422-7490-000, FEB-06

- \$500 from task 1.0, Computer Supplies, account 01-422-7630-000, JUN-06
- \$800 from task 2.0, Furniture, account 01-422-7630-000, MAR-06

The following table lists the budget lines that the process creates for the new fiscal year.

Task Number	Resource	Account	Period	Budget Amount
1.0	Office Supplies	01-422-7490-000	JAN-07	\$200
1.0	Computer Supplies	01-422-7490-000	JAN-07	\$600
1.0	Computer Supplies	01-422-7630-000	JAN-07	\$500
2.0	Furniture	01-422-7630-000	JAN-07	\$800

Related Topics

Year End Budget Rollover, *Oracle Projects Fundamentals*

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 organization 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 Budgets.** The commitment budget defines the amount of commitments an organization is willing to enter 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 control defined for the commitment budget. The commitment line payment schedules are subject to the budgetary control defined for the standard budget.

Integrating with Oracle Contract Commitments

Oracle Projects enables you to define top-down budget integration for 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. For more information, see: Prerequisites for Top-Down Budget Integration, page 8-145.

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.

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 control. The project control level is automatically set to Absolute and cannot be changed. Oracle Projects uses budgetary control 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 Control, see Budgetary Control Settings, page 8-108.

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 8-177.

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	\$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 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	15,000	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 Encumbrance	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 Encumbrance	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

Contract Commitments Funding Budget

The contract commitments funding budget balances are adjusted as shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Encumbrance	Actual Amount	Available Funds
Jan-01	01-422-7550-000	300,000	28,200	1,800	0	270,000

General Ledger Funding Budget

The General Ledger funding budget balances are adjusted as shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Encumbrance	Actual Amount	Available Funds
Jan-01	01-422-7550-000	100,000	14,100	900	0	85,000

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Encumbrance	Actual Amount	Available Funds
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 8-153.

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 Procedure, page 8-138.

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 Enter Budget Lines for All Budget Periods, page 8-154.

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 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 combination.
- 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 Oracle 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 8-100.

For more information about troubleshooting baseline failures, see: *Troubleshooting Baseline Failures for Integrated Budgets*, page 8-106.

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 8-118.

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, 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 control defined for the project standard budget.
- Validates the budgetary control defined for the project commitment budget.
- Validates the budgetary control defined for the General Ledger funding budget.
- Validates the budgetary control 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 Control

For information about project budgetary control for top-down budget integration, see: Using Top-Down Budget Integration: Project Budgetary Control, page 8-165.

Funding Budget Control

For more information about funding budget control for top-down budget integration, see: Using Top-Down Budget Integration: Funding Budget Control, page 8-166.

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, 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 8-106.

Project Encumbrance Maintenance

For information about project encumbrance maintenance for top-down budget integration, see: Using Top-Down Budget Integration: Project Encumbrance Maintenance, page 8-166.

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 8-166.

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

Period	Budget	Account	Debit	Credit
Jan-02	GL Funding	01-422-7550-000	5,000	
Jan-02	GL Funding	01-422-7760-000	2,000	

Contract Commitment Year-End Rollover Encumbrance Entries

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*.

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	

G-Invoicing in Oracle Projects

Overview

The Oracle E-Business Suite solution for G-Invoicing works with the Federal G-Invoicing application to facilitate the exchange and processing of intragovernmental (IGT) buy/sell data and transactions. The solution is integrated with Oracle Contract Lifecycle Management for Public Sector, Oracle Purchasing, and Oracle Projects.

As a Federal Program Agencies (FPAs), you can use the G-Invoicing solution to:

- Initiate the exchange and approval of IGT Buy/Sell transactions using a common data repository of brokered transactions.
- Integrate data from these activities into accounting systems.
- Integrate data from these activities into accounting systems.
- Exchange data related to General Terms and Conditions (GT&C) and Orders.
- Improve auditability by associating related transactions with a common identifier.

The G-Invoicing solution uses REST services to communicate with the Federal G-Invoicing web application. Agencies push and pull IGT data to and from the G-Invoicing application. Data retrieved from the G-Invoicing application is validated, and corresponding transactions are created within Oracle E-Business Suite.

The G-Invoicing solution includes:

- Default attributes from GT&C for order creation and validation
- Predefined and customizable User Defined Attributes (UDA) templates and document styles
- A tracking mechanism for IGT transactions
- A request log

For information about setting up and G-Invoicing in Oracle E-Business Suite, see:

- *G-Invoicing Overview, Oracle Contract Lifecycle Management for Public Sector Implementation Guide*
- *Setting Up G-Invoicing for Oracle Projects, Oracle Projects Implementation Guide.*

G-Invoicing Flow

G-Invoicing is the interface between a buyer and seller. All the transactions flows through G-Invoicing.

- A buyer creates an order, updates and approves the same. Once the order is approved, it is shared with the seller with the status, Shared with Servicing Agency (SSA).
- The approved order interfaces with G-Invoicing as the status Shared with Servicing Agency (SSA). The Servicing Agency pulls in the approved order, updates with the required attributes. After reviewing the Order, the agency either accepts or rejects it. If the seller accepts the order, then it is marked as received and the status in G-Invoicing shows as Open.

Setting Up G-Invoicing for Oracle Projects

The implementers must perform the setups explained in the G-Invoicing Implementation Setup topic to use this functionality. Refer to the *Setting Up G-Invoicing for Oracle Projects* topic in the *Oracle Projects Implementation Guide* for details on setup steps to implement for using G-Invoicing.

Oracle E-Business Suite Release and Patch Requirements

To use the G-Invoicing Solution for Projects, you must be running the following Oracle

E-Business Suite Application Release version and also download the patches as described:

- Oracle E-Business Suite Application, Release 12.2.7+.
- Apply the following Patches:
 - 31283432:R12.PJT.C
 - 31141541:R12.PA.C (ECC)

Setting Up Enterprise Command Center Version 3

Perform the following steps to setup Enterprise Command Center Version 3 to use the G-Invoicing functionality:

1. Refer to the My Oracle Support Knowledge Document: 2611435.1, *Installing Oracle Enterprise Command Center Framework, Release 12.2 V3 (Doc ID 2611435.1)*, for Enterprise Command Center ECC Version 3 installation.
2. Post Enterprise Command Center Version 3 (ECC V3) Installation, Apply a Hot fix as explained.

The ecc war file containing hot-fix is available at the location, https://artifacthub.oraclecorp.com/ecc-dev-dev-local/com/oracle/v3/etl_performance_search_fix/ecc.war.

Perform the following steps for setting up the war file:

1. Replace existing ecc.war with new file. Path for existing war file:
\$ECC_BASE/Oracle/Middleware/user_projects/domains/ecc_domain/servers/AdminServer/upload/ecc.war

https://artifacthub.oraclecorp.com/ecc-dev-dev-local/com/oracle/v3/etl_performance_search_fix/ecc.war.
2. to the ECC Weblogic console URL - `http:<ECC_HOST>:<ADMIN_PORT>/console`.
3. Navigate to Domain Structure > Deployments.
4. Login and Edit from the change Center.
5. Select the checkbox for war file and click update.
6. Select the war file from location.
7. Click finish.
8. Click Activate changes.

Loading Projects Command Center Data

Perform the following to load the Projects G-Invoicing ECC data:

1. Navigate to Request submission using Projects > Requests > Run.
2. Query the concurrent process, Projects G-Invoicing ECC Data Load. The Parameters window displays.
3. Enter the System Name.
4. Enter the Load Type, such as Incremental Data Load. Load type has the following options:
 - **Full Load:** Loads all data from Oracle E-Business Suite.
 - **Incremental Load:** Loads only the data modified since the previous load. Schedule incremental load to run as often as required to keep the ECC dashboards current.
5. Enter the Language code.
6. Select the Log Level you want the program to report.
7. Select or enter the SQL Trace.
8. Click Ok.
9. Click Submit to run the concurrent program.

Running the Concurrent Process to Import GT&C Data from G-Invoicing Portal to Oracle Projects

Seller can pull the GT&C information into G-Invoicing and then has to run the Load program to display GT&C data in the G-Invoicing dashboard of Projects Command Center. You can schedule these requests periodically to run.

Perform the following to pull the GT&C into the G-Invoicing Dashboard:

1. Navigate to Submit Request window using Projects > Requests > Run or Projects > Requests > Schedule.
2. Query the concurrent process, Intragovernmental Agreements (GT&C) Interface Program. The Parameters window displays.
3. Select or enter the Agency Type, such as the Requesting Agency or Servicing Agency. This is a mandatory field. As you are pulling from Servicing Agency, select

Servicing Agency.

4. Select or enter the Request Mode, such as Pull or Push. This is a mandatory field. For the Servicing Agency, you select Pull.
5. Select or enter the Request Type. This is a mandatory field. Select Get GT&C List. Following options are provided:
 - Get GT&C List
 - Get GTC Attachment
 - Get GTC by ID
6. Select or enter the Operating Unit.
7. Select and enter the Agency Location Code. This is a mandatory field.
8. Select or enter the Document Number, Document Status, Attachment Number, and Process Error Documents. These are optional fields.
9. Click Ok.
10. Click Submit.

This program pulls the GT&C list and extracts list of GT&C based on date and agency location code. Submits the concurrent request for each GT&C. After response is received from G-Invoicing for all the GT&Cs, a business event is invoked with the parent Request ID. Subscription to this business event can create GT&C document in the system.

Running the Concurrent Process to Import and Export Orders to and from G-Invoicing

Once the order is created and approved the Seller can pull those orders into G-Invoicing dashboard of Projects Enterprise Command Center. You have to run the Load program to display order data in the G-Invoicing dashboard. You can schedule these requests periodically to run.

Perform the following to pull the orders into the G-Invoicing Dashboard:

1. Navigate to Submit Request window using Projects > Requests > Run or Projects > Requests > Schedule.
2. Query the concurrent process, Intragovernmental Orders Interface Program. The Parameters window displays.
3. Select or enter the Agency Type, such as the Requesting Agency or Servicing Agency. This is a mandatory field. As you are pulling or pushing from the Servicing

Agency, select Servicing Agency.

4. Select or enter the Request Mode, such as Pull or Push. This is a mandatory field.
5. Select or enter the Request Type. This is a mandatory field. Select Get Order List. Following options are provided:
 - Get Order Attachment
 - Get Order List
 - Get Order by ID
 - Post Attachments
 - Post Orders
6. Select or enter the Operating Unit.
7. Select and enter the Agency Location Code. This is a mandatory field.
8. Select or enter the Document Number, Document Status, Attachment Number, and Process Error Documents. These are optional fields.
9. Click Ok.
10. Click Submit

Order Pull

You submit the Order pull with the Request type as Get Order List. Response from G-Invoicing contains list of Orders. Child concurrent request is submitted to extract each Order from G-Invoicing. Response for each request is stored. A Business event is raised at the end of each request. The business event synchronizes the order data in Enterprise Command Centre (ECC) and auto-creates Agreement.

Order Push

Order push happens when the Agreement is approved. You cannot submit this standalone program. The Order Status must be Pending. When the scheduled program runs, the status is updated to In Process. A Parent Program spawns the sub-requests for each Order. A business event is invoked at end of each sub-request. Subscription to this business event synchronizes up status of the Order in the internal system.

Projects G-Invoicing Dashboard

The Servicing Agency pulls the orders with SSA status and GT&C with the status Open for Orders successfully into the system, and view these orders and GT&C details using the G-Invoicing Dashboard. Orders and GT&C details, on successful completion of the

configured business event, and successful completion of the load program for Enterprise Command Centre (ECC), displays. The Project Command Centre includes a new dashboard, G-Invoicing, which provide us complete information on the GT&C and Orders.

Refer to *G Invoicing Dashboard* in the *Oracle Projects Command Center* topic for more information on ECC-related functionality for G-Invoicing.

1. Navigate to Projects Command Center using Projects > Projects Command Center.

Note: After the RBAC Setup, the navigation will be Projects > ECC Command Centers > Costing Command Center > G-Invoicing Tab.

2. Click G-Invoicing tab.
3. The G-Invoicing Dashboard displays. The G-Invoicing Dashboard encompasses three components of G-Invoicing solution - GT&C, Order, and Exception.

Using Select Refinement Search Area

The G-Invoicing Dashboard has Refinement Search area, categorized by attributes, that you can use for searching. A refinement on the dashboard helps you slice and dice data based on various attributes, which help in narrowing down the results and show contextual information for easy analysis. Multiple refinements can be applied simultaneously for quick analysis of data.

The following Attribute Groupings or categories refinements exist:

- Agency
- Agreement
- GT&C
- Order
- Order Line
- Order Line Schedule

Orders belonging to the selected Operating Unit have the same Agency Location Code, allowed by the user's security profile settings, display.

The G-Invoicing Dashboard contains several regions that displays details on the following:

Summary Region

Includes the following metrics:

GT&C:

- **Currency:** Displays the Servicing Agency Currency used.
- **Active:** Displays the number of GT&C that have active status, REC open for Orders. This value renders with the filter applied on the Buying Agency.
- **Ordered Value:** Displays the Ordered Value. Revised Ordered Value definition: Total Estimated Amount – Total Remaining amount is Ordered value.
- **Remaining Value:** Indicated as the difference between the total value of Valid GT&C (Total estimated amount) and Ordered Value. Remaining amount is provided from the G-Invoicing XML, directly sourced from the G-Invoicing XML
- **Latest validity:** Displays the validity date of the valid GT&C

Orders:

- **New:** Displays details such as the number of Orders pushed in to G-Invoicing by the Buyer and not reviewed by the seller. Includes SSA status.
- **Pending Approval Submission:** Displays the number of Orders under review and in progress and also includes Project creation, Performance Obligation (PoBG) creation and publishing, and Agreements in the draft status.
- **Pending Approval:** Indicates the number of agreements in Work In Progress Status submitted for Approval and the workflow on agreement has been initiated.
- **Accepted:** Indicates the number of orders Accepted.
- **Rejected:** Displays the number of orders Rejected by the seller and sent back to the buyer.
- **Modified:** Displays the number of orders accepted by the seller but the buyer modifies the order and versions.

Exceptions:

- **Failed Pull:** Displays details on the number of orders in G-Invoicing for which agreement could not be created.
- **Failed Push:** Displays details on the number of orders that are approved in Oracle Projects through agreement approval, but could not be pushed to G-Invoicing due to technical reasons.

Customer Status Region

Charts and graphs are available for analysis of various GT&C and Orders data. Performance of various orders can be tracked for analysis. The charts represent the

values based on the user context and the filters selected at the page level. The charts on the dashboard reflect the selected refinements on the page, such as GT&C Number, Order Number, and Customer and so on. Includes the following details:

- **GT&C:** Displays the bar diagram Buying Agency-wise details of Ordered Value and Remaining Value of the Active GT&C between the Servicing Agency and the Buying Agencies.

Clicking one of the Buying Agencies, the stacked bar chart renders with the individual GT&C of the selected Buying Agency and its associated GT&C's with the Servicing Agency, where:

The X-axis represents the Buying Agency and GT&C Number.

The Y-axis represents the Ordered and Remaining value.

- **Order:** Displays the New Orders with the statuses Pending Approval Submission, Pending Approval, Accepted, Rejected, Modified Orders along with Failed Pull Orders and Failed Push Orders display.

Clicking one of the agencies, the charts renders with the individual order details between the Servicing Agency and the Buying Agency, where:

The X-axis represents the Buying Agency name.

The Y-Axis represents the value of Orders for each of the status.

GT&C / Orders Region

The summary result tables display data grouped by Attribute Groups. Persistent columns on the result table are displayed irrespective of the attribute group selected. The group highlighted in result table is the default attribute group to be displayed on the dashboard. Displays GT&C and Order details. There are two Tabs, GT&C and Orders. These tables display detailed view of data at Order, GT&C and Performance levels. In the Orders tab, View Agreement for the Orders, Create Project, Associate Project, and View GT&C actions are available for you to define further actions.

The Action (three vertical ellipses) menu displays the following options:

- Create Agreement
- Order Modification Uptake - Perform order modification uptake
- Resync Order - Resynchronize approved orders that failed push process to G-Invoicing

Order Line / Order Line Schedules Region

Displays the Order line and Order Line Schedules details for the selected order.

Viewing GT&C and Order Details

GT&C Tab

GT&C tab displays a summary of GT&C details. You can view the data in the following groupings of columns for GT&C:

- Preparer Information
- Requesting Agency
- Approval Information
- Servicing Agency Approval Information
- Preparer Information
- Requesting Agency Approval Information
- Servicing Agency Approval Information

Orders Tab

Orders tab displays a summary of order details. You can view the data in the following groupings of columns for Orders:

- Order & Funding Information
- Billing & Delivery Information
- Partner Information

Manage and Maintain General Terms and Conditions

GT&C is pulled, displayed, and viewed in G-Invoicing solution. GT&C provides information on the terms and conditions drawn between the Seller and Buyer parties.

The Intragovernmental Agreements (GT&C) Interface Program pulls GT&C.

You can access these details from the Enterprise Command Centre > G-Invoicing Dashboard.

- All the fields of GT&C display data pulled-in
- When the GT&C is modified, only the versionable fields are pulled
- GT&C with statuses Approved and Closed are pulled from G-Invoicing
- If a GT&C has corresponding data, project, GT&C details, such GT&C have closed status

- Rejection Reason are not considered, since only Approved and Closed GT&C lists are pulled
- Attachments are not supported for GT&C

Manage and Maintain Orders

An Order is an agreement between the parties to deliver goods and services within the agreed timelines and specifications. A buyer creates an order, approves internally and sends it to the Servicing Agency. Servicing Agency Accepts or Rejects the order. This process would require an ability to:

- View Order with all the details provided by the Buying Agency
- Update Order with necessary and mandatory attributes related to the Servicing Agency

In G-Invoicing, the buyer creates an Order, updates and approves the same. The order is shared with the seller with the status Shared with Servicing Agency (SSA). The Servicing Agency pulls the order, updates and approves or rejects it.

Order Mapping to Project Entities

The order is mapped to different entities in Oracle Projects. The Order header is mapped to the Agreement; and Order Lines are mapped to Performance Obligation, and the Order line schedules are mapped to the Performance Obligation Lines. You can view these from the G-Invoicing Dashboard on the Projects Enterprise Command Center (ECC).

Generating Draft Agreement and Initiate Workflow Process

Servicing Agency updates the agreement and submits it for approval. Orders with Shared with Service Agency (SSA) status are pulled in to the G-Invoicing dashboard. Agreements are created with the Work In Progress status.

- The System > Implementation Options setup have the ability to select agreement type that default onto the auto-create agreement. The auto-created agreement defaults the agreement type selected as setup in the implementation options.
- Pulled orders with Agreement status the Work In Progress are created.
- Customer Number is mapped to Requesting Agency Location Code (ALC).
- All the Servicing Agency mandatory attributes are checked for before the agreement is submitted for approval. If any of the mandatory attributes is missing, then an error displays.

- If the customer does not exist, the autocreation of agreement fails and you must create the customer in AR.
- The table in ECC lists out the errors hindering autocreation of Agreement.
- If there are errors during autocreation of agreements, these errors display on ECC. Following conditions can result in failure of autocreation of agreement from an Order:
 - Inactive Customer
 - Missing Agreement Type in Implementation Setup
 - Agreement Type is not enabled for Workflow
 - Invalid implementation Options Setup (ALC)
- If the customer exists in the AR, then autocreation of agreement processes it as the customer name for the agreement.
- After the errors are resolved, create the agreement. In the next autocreation, the orders with status SSA and error resolved are picked up for processing.
- Navigate to Result Set > Order tab.
- Select the appropriate order and select Create Agreement from the Actions menu.

Order Approval Flow

Multiple Orders received by the Servicing Agency generate multiple agreements when pulled in to Oracle Projects in the Work In Progress Status.

You can associate one order to a project at any time.

- At any given time, one Work In Progress (WIP) agreement exists for a project, both in order creation processing and update flow

The Order Approval is at agreement level and is run submission of agreement for approval: When the order submitted for approval:

- All the Order lines and Order Line Schedules are associated to a Project All the Servicing Agency attributes are entered.
- All mandatory attributes are entered

On Approval

- When an agreement is approved, Performance Obligations gets published with Funding and Revenue Budgets are created and baselined, and Accounting entries

are created in GL

- Both for first time approval or incremental approval

On Rejection

- For the orders associated first time, the order is disassociated from the project
- For the incremental orders or updates, the delta is rolled back and original status is restored

Order Attachments

Orders being a contractual document have attachments reinforcing the order and its requirements. These attachments are provided by both buyers and sellers. You have the ability in the agreement page to download the attachments and view the same.

You can manually pull the attachments, using the Pull Attachments option from the Action dropdown option in the Update Agreement window. This pulls all the attachments that are pending for download. Until the Pull Attachments option is run, the attachments are in the Download pending status and display the URL in the attachment table. Navigation for Pull Attachment option is from both Project Command Center and Oracle Project Billing are:

- **Project Command Center (PCC):** Refine by Order Number > Scroll down to Order Result Set > Click on Update Agreement link > Pull Attachment

Project Billing: Project SU > Billing > Query for Agreement > Update Agreement > Pull Attachment

Following attachment statuses apply:

- Download Pending
- Download Successful

Order Modification

The modification on the Order are absorbed against the mapped entities. You can track the changes to the Order, Order Line, and Order Line Schedule.

Order Pull and Push Fail and Resynchronizing Orders

Orders that do not comply with the validations necessary for creating an agreement pulled and stored in the shared structures but the system cannot create agreements automatically. Those orders display on G-Invoicing Enterprise Command Centre (ECC) dashboard with an option to create agreements manually after resolving the issues.

Similarly, Orders (Agreements) that are approved by the Servicing Agency pushed to

G-Invoicing could fail due to a few technical reasons.

These Push failure to G-Invoicing, you must rectify the errors, and push them back to G-Invoicing using the Resync Order option available on ECC, in the Actions dropdown menu on the Update Agreement window. On selecting Resync option, push program is run and the order gets pushed to G-Invoicing.

Updating Agreement

You can update agreements as follows:

1. Navigate to Update Agreement window by clicking the Update Agreement button from the G-Invoicing Dashboard > GT&C/Orders Region > Orders tab.
2. Actions menu on the Update Agreement window now includes these options:
 1. Additional Agreement Attributes
 2. Pull Attachments
 3. View Agreement Versions
3. Following new fields are added on the Update Agreement window:
 - **Acceptance Point:** Displays the acceptance point value.
 - **Order Creation Date:** Displays the calendar date the order was created.
 - **Order Status:** Displays the current status of the order, such as, Shared with Service Agency SSA.
 - **Billing Frequency:** You can select from the options, Monthly, Other, Quarterly, Weekly. If you select Other, then the Billing Frequency Other field is enabled. It is a mandatory field. The available values are Weekly, Monthly, Quarterly and Other. If the value Other is chosen, then a value must be given in the Billing frequency Other field.
 - **Billing Frequency Other:** Enter the frequency of billing.
 - **Order Acceptance Date:** Displays the Acceptance date of the order.
 - **Total Net Order Amount:** Displays the sum of the ordered amount.
 - **Servicing Agency ALC:** Displays the Service Agency's ALC contained in the GT&C
 - Click Additional Agreement Attributes in the Actions menu and click Go.

Creating Additional Agreement Attributes

You can select the Additional Agreement Attributes option from the Actions menu on the Update Agreement window.

Enter the Servicing Agency details:

1. Navigate to the Agreement Additional Attribute window from the Additional Agreement Attribute from the Actions menu of Update Agreement window.
2. Agreement Region displays the following:
 1. Customer Name
 2. Customer Number
 3. Agreement Number
 4. Customer Order Number
 5. Start Date
 6. Expiration Date
 7. Operating Unit
 8. Agreement Type
 9. Description
 10. Currency
 11. Amount
3. Header region displays the following details:
 1. Assisted Acquisition Indicator
 2. Comment
 3. General Terms and Conditions (GT&C) Number
 4. Order Identification Number
4. In the Partner Information region, select or enter the following for the Servicing Agency:
 1. Servicing Business Unit - Enter a value that matches the Business Unit value

provided in the parent GT&C.

2. Servicing Cost Center - Enter a value that matches the Cost Center value provided in the parent GT&C.
3. Servicing Department ID - Enter a value that matches the Department ID value provided in the parent GT&C.
4. Business Transaction Identifier

In the Partner Information region, the following details default and display for the Requesting Agency:

1. Requesting Business Unit
 2. Requesting Cost Center
 3. Requesting Department ID
5. In the Authority region, select or enter the following for the Servicing Agency:
1. Servicing Program Authority Citation
 2. Servicing Program Authority Title

In the Authority region, the following details default and display for the Requesting Agency:

1. Requesting Agency Authority Fund Type Citation
 2. Requesting Agency Authority Fund Type Code
 3. Requesting Program Authority Citation
 4. Requesting Program Authority Title
 5. Requesting Agency Authority Fund type Title
6. In the Delivery region, enter the following for the Servicing Agency:
1. FOB Point
 2. Point of Acceptance
 3. Inspection Point
 4. Inspection Place

7. In the Advance and Billing region, enter or select the following for the Servicing

Agency:

1. Advance Revenue Recognition Methodology
2. Servicing Agency's Advance Payment Authority Citation
3. Servicing Agency's Advance Payment Authority Title

You must enter the values in the above fields, if Advance is enabled in the Performance Obligation (PoBG) lines. If advance is not enabled, the fields must not contain values. In the Advance and Billing region, the following details default and display for the Requesting Agency:

1. Capital Planning and Investment Control Screening Indicator
2. Priority Order Indicator
3. Advance Revenue Recognition Description

8. In the Point of Contact region, enter or select the following for the Servicing Agency:

1. Serving Agency POC Email - Enter a value with the minimum of 7 characters
2. Serving Agency POC Fax - Enter a value with the minimum of 1 characters
3. Serving Agency POC Name - Enter a value with the minimum of 1 character
4. Serving Agency POC Phone - Enter a value with the minimum of 1 character

In the Point of Contact region, the following details default and display for the Requesting Agency:

1. Requesting Agency POC Email
2. Requesting Agency POC Fax
3. Requesting Agency POC Name
4. Requesting Agency POC Phone

9. In the Approval region, enter or select the following for the Servicing Agency:

1. Rejection Reason
2. Void or Close Comments

10. In the Funding Approval region, enter or select the following for the Servicing Agency:

1. Servicing Agency Funding Official Email - Enter a value with the minimum of 7 characters
2. Servicing Agency Funding Official Fax - Enter a value with the minimum of 1 character
3. Servicing Agency Funding Official Name - Enter a value with the minimum of 1 character
4. Servicing Agency Funding Official Phone - Enter a value with the minimum of 1 character
5. Servicing Agency Funding Official Date Signed - Date Must be given
6. Servicing Agency Funding Official Title - Enter a value with the minimum of 1 character

In the Funding Approval region, the following details default and display for the Requesting Agency:

1. Requesting Agency Funding Official Email
2. Requesting Agency Funding Official Fax
3. Requesting Agency Funding Official Name
4. Requesting Agency Funding Official Phone
5. Requesting Agency Funding Official Date Signed
6. Requesting Agency Funding Official Title

11. In the Program Approval region, enter or select the following for the Servicing Agency:

1. Servicing Agency Program Official Email - Enter a value with the minimum of 7 characters
2. Servicing Agency Program Official Fax - Enter a value with the minimum of 1 character
3. Servicing Agency Program Official Name - Enter a value with the minimum of 1 character
4. Servicing Agency Program Official Phone - Enter a value with the minimum of 1 character
5. Servicing Agency Program Official Date - Date Must be given

6. Servicing Agency Program Official Title - Enter a value with the minimum of 1 character

In the Program Approval region, the following details default and display for the Requesting Agency:

1. Requesting Agency Program Official Email
2. Requesting Agency Program Official Fax
3. Requesting Agency Program Official Name
4. Requesting Agency Program Official Phone
5. Requesting Agency Program Official Date Signed
6. Requesting Agency Program Official Title

12. In the Preparer region, enter or select the following for the Servicing Agency:

1. Servicing Agency Prepared Email - Enter a value with the minimum of 7 characters
2. Servicing Agency Prepared Name - Enter a value with the minimum of 1 character
3. Servicing Agency Prepared Phone - Enter a value with the minimum of 1 character

In the Preparer region, the following details default and display for the Requesting Agency:

1. Requesting Agency Prepared Email
2. Requesting Agency Prepared Name
3. Requesting Agency Prepared Phone

Create or Associate Project against an Order

Customers create or associate an Order to an existing project. The Order lines are mapped to the new entity in the project, Performance Obligation and corresponding Order line schedules are mapped to the Performance Obligation Lines. After creation of a new project with specific order lines or association of an existing project to order lines, you are navigated to the Performance Obligations (Update) window. The Performance Obligation is published when the Agreement is approved.

These validations are implemented and appropriate errors display:

- You can select only one order at any time and associate it to a single project.
- You cannot associate a closed order to a project. CLZ signifies the Close status of the Order.
- The Project type should be Contract. The source project or template should be a Contract.
- Source project should not be a Project with IGT flag set as N and the PoBG Lines exists for it.
- Project templates associated with agreement templates cannot be used as source for project creation.
- Copying details of Approved Revenue Budget that are part of source project or template are restricted as revenue budget is generated when Performance Obligations are published.
- All validations respective to enabling Performance Obligations are selected when a project is created and auto-enabled for Performance Obligation.
- In the case of failure of any validations, errors display.

CLZ signifies the status of the Order.

- Projects with PoBG and IGT flags marked are available for association
- Upgraded Projects with No PoBG Lines (regular agreement projects) cannot be associated
- Project cannot be Grants project
- Projects with a non-IGT Agreement are not allowed
- Cost Breakdown Structure (CBS) enabled projects are not available for association
- Project cannot be RMCS enabled
- Projects that are Closed, Partially Closed, Purged, and Pending Purge cannot be associated to order lines.
- Projects whose start date is before the Order Date and end date is before the order effective end date can be associated
- Projects with Work in Progress agreements cannot be associated

The Seller, after the orders are pulled into G-Invoicing, can perform the following tasks:

1. Navigate to the G-Invoicing Dashboard.

2. Scroll down to GT&C/Orders Region.
3. Click Orders Tab.
4. Query the Order.
5. Create a project against an order or associate an existing project to the order.

Associate an Existing Project

1. Click the Associate Project to associate an existing project to the order.
Associate Project window displays.
2. Click Advance Search.
3. Search a Project Name or Number.
4. Select the Project to associate.
5. Click Associate option.

The Associate Flow runs and you are taken to the Performance Obligation Page.

Create a Project

1. Click and select Create Project for the order. Create Project:
Select Source window displays.
2. Choose Copy From a Template or Project.
3. Click Advance Search.
4. Search an Operating Unit Name or Number.
5. Select the OU to create a project.
6. Click Continue.
The Create Project: Details window displays.
7. Enter the Project Number.
8. Enter the Project Name.
9. Enter or select the Project Start Date.
10. Enter or select the Project End Date.

11. Click Finish to complete the project creation.

The Associate Flow runs and you are taken to the Performance Obligation Page.

Updating Performance Obligations

Performance Obligation region displays the attributes of order line as shown:

1. Click Update.

The agreement lines and PoBG order lines for performance obligations display.

2. Number represents the Order Line Number.
3. Agreement Number indicates the assigned agreement number.
4. Displays the Customer that is associated to the agreement, which is the Requesting Agency.
5. Item Code displays the item code.
6. Item Description displays the description of the selected item.
7. Quantity displays the number of quantity.
8. Unit of Measure displays the UOM of the Service Agency.
9. Currency indicates the currency used by the agency.
10. Transaction Amount is the Line level amount; that is the sum of all transaction amount of the Order Line schedules represented on the Performance Obligation level.
11. Status displays the status of the agreement.
12. Capitalized Asset Indicator displays the asset indicator value, True or False. A value must be chosen.

Performance Obligation Order Line Schedules

Treasury Account Symbol (TAS - Concatenated string) and Business Event Type Code (BETC) attributes are available at the performance obligation line level; these values are sourced from the US Federal Admin module. These values flow to AR for further processing.

The Performance Obligation Order Line-level displays the following attributes:

1. Displays the Performance Obligation Order Line Number.

2. Displays the Description of the order line.
3. Select or enter the Top Task Number for each PoBG Order line schedule. Assigning Top task to PoBG Line is mandatory. A unique top task number must be chosen.
4. Displays the Quantity for the order line.
5. Displays the Transaction Price for each order line.
6. Displays the Transaction Amount of each order line against the PoBG line.
7. Progress Quantity is not available for use.
8. Progress Percentage is not available for use.
9. Additional information displays the trading partner TAS.
Treasury Account Symbol (TAS - Concatenated string) and Business Event Type Code (BETC) attributes are available at the performance obligation line level; these values are sourced from the US Federal Admin module. These values flow to AR for further processing. Requesting Agency's TAS, BETC, and Additional Information attributes are sent along with Invoice details to Receivables.
10. Select or enter the TAS for Servicing Agency for the each order line. This value flows to AR for further processing. A values must be chosen.
11. BETC (Servicing Agency) is auto selected on selecting the TAS value. This value flows to AR for further processing.
12. Displays the Order Line Schedule status.
13. Displays the Reimbursable flag value. Valid values are Direct and Reimbursable. A value must be chosen.
14. Click Additional Attributes (User Defined Attributes UDA).
15. Apply Receipts Button.
16. Save.

Publishing of PoBG generates funding.

Defining Performance Obligation Additional Attributes

1. In the Schedule Funding Region, select or enter the following for the Servicing Agency:
 1. Servicing Agency Object Class Code

2. Servicing Agency Additional Accounting Classification
3. Descr of Products Including BonaFide Need for This Order

In the Schedule Funding region, the following details default and display for the Requesting Agency:

1. Requesting Agency Object Class Code
 2. Requesting Agency Additional Accounting Classification
2. In the SLOA region, select or enter the following for the Servicing Agency:
1. Servicing Agency Federal Award Identification Number (FAIN)
 2. Servicing Agency Unique Record Identifier (URI)
 - 3.
 4. Servicing Agency Activity Address Code - This field is optional. If you specify a value, then it must be a minimum of 6 characters.
 5. Servicing Agency Budget Line Item
 6. Servicing Agency Budget Fiscal Year
 7. Servicing Agency Security Cooperation
 8. Servicing Agency Budget Fiscal Year
 9. Servicing Agency Sub-Allocation
 10. Servicing Agency Accounting Identifier
 11. Servicing Agency Funding Center Identifier
 12. Servicing Agency Cost Center Identifier - This field is optional. If you enter a value, the value provided must match the Cost Center value provided in the parent GT&C
 13. Servicing Agency Cost Element Code
 14. Servicing Agency Work Order Number
 15. Servicing Agency Functional Area
 16. Servicing Agency Cooperation Case Designator
 17. Servicing Parent Award Identifier (PAID)

18. Servicing Procurement Instrument Identifier (PIID)
19. Servicing Security Cooperation Case Line Item Identifier
20. Servicing Agency Disbursing Identifier Code
21. Servicing Agency Accounting Classification Reference Identifier - This field is optional. If you specify a value, then it must be a minimum of 2 characters.
22. Servicing Agency Project identifier
23. Servicing Agency Reimbursable Flag

In the SLOA region, the following details default and display for the Requesting Agency:

1. Requesting Agency Federal Award Identification Number (FAIN)
2. Requesting Agency Unique Record Identifier (URI)
3. Requesting Agency Activity Address Code
4. Requesting Agency Budget Line Item
5. Requesting Agency Budget Fiscal Year
6. Requesting Agency Security Cooperation
7. Requesting Security Cooperation Implementing Agency Code
8. Requesting Agency Sub-Allocation
9. Requesting Agency Accounting Identifier
10. Requesting Agency Funding Center Identifier
11. Requesting Agency Cost Center Identifier
12. Requesting Agency Cost Element Code
13. Requesting Agency Work Order Number
14. Requesting Agency Functional Area
15. Requesting Agency Cooperation Case Designator
16. Requesting Parent Award Identifier (PAID)

17. Requesting Procurement Instrument Identifier (PIID)
 18. Requesting Security Cooperation Case Line Item Identifier
 19. Requesting Agency Disbursing Identifier Code
 20. Requesting Agency Accounting Classification Reference Identifier
 21. Requesting Agency Activity identifier
3. In the Schedule Shipping Information region, select or enter the following for the Servicing Agency Additional Information:
1. Ship to Address Identifier
 2. Ship to Address 1
 3. Ship to Address 3
 4. Ship to Postal Code e. Ship to Country Code
 5. Special Shipping Information for Product
 6. Shipping Information for Product POC Title
 7. Shipping Information for Product POC Phone

In the Schedule Shipping Information region, select or enter the following for the Requesting Agency Additional Information:

1. Ship to Agency Title
2. Ship to Address 2
3. Ship to City
4. Ship to State
5. Ship to Location Description
6. Shipping Info for Product POC Name
7. o. Shipping Information for Product POC Email

Order Modification and Uptake

Modified Order are pull and the agreement status changes to Work in Progress. This changes the status of the agreement to In Progress. Uptake of Order modification is

through an action Order Modification Uptake on ECC. You can uptake one modified order at one point of time. Performance Obligation and Performance Obligation Line are mapped to Order Line and Order Line Schedule respectively. Any new row addition or deletion of existing lines should be through Order Modification flow. Therefore, you cannot delete or add any PoBG line PoBG Order Lines.

When an Order line schedule is deleted, the quantity will be made zero and a negative funding line will be generate to negate the corresponding value.

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 list shows the possible participants and their level of participation.

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 if you can update it. Only the issue owner and a user with 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. When you create a new issue document, you can only select from the associated control item status list, statuses that have been marked as starting statuses and mapped to a system status of Draft or Working.

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: *Defining Statuses and Status Options, Oracle Projects Implementation Guide*, and *Control Item Statuses and Status Lists, Oracle Projects Implementation Guide*.

The following list shows the predefined system statuses and the business rules associated with each status.

Draft	<p>The issue 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 an issue only if it is in Draft status.</p> <p>Next Allowable Status: Working</p>
Working	<p>The issue is visible to action assignees and team members. You can update the issue.</p> <p>Next Allowable Statuses: Submitted (only if approval is enabled), Canceled, Closed (only if approval is disabled)</p>
Submitted	<p>The issue is awaiting approval. You can update progress and comments, but you cannot modify the issue. If you want to make other changes, you must rework the issue.</p> <p>Next Allowable Statuses: Approved, Rejected, Canceled</p>
Approved	<p>The approver has approved the issue resolution and the issue can be closed. You can update progress and comments, but you cannot modify the issue.</p> <p>Next Allowable Statuses: Closed, Canceled</p>
Rejected	<p>The approver has rejected the issue. You can update</p>

progress and comments, but you cannot modify the issue.

You can either rework the issue to make corrections and then resubmit it, or you can cancel the issue. Reworking the issue automatically changes the status back to Working.

Next Allowable Statuses: Working, Canceled

Closed

The issue is resolved and no additional work is necessary. You cannot modify the issue.

If approval is enabled, you can close an issue at any time after it has been approved. If approval is not enabled, you can close the issue from Working status.

Next Allowable Statuses: Working

Canceled

The issue is no longer a concern and does not require further work. You cannot modify the issue.

Next Allowable Statuses: 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 Project Manager.

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.

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 9-6.

- **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 9-8.

- **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 9-11.

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 10-1.

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 11-1.

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.

If the change document approval fails due to lack of privileges, then the status of the issue is changed to Working and a notification message is sent to the approver and requestor.

Reworking and Canceling Issues

STUB THIS FILE 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.

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 plan for and document potential changes to the scope of a project and facilitate its approval. Using a change request you can estimate changes to a project's cost or revenue financial plans by entering and tracking potential changes in cost transactions. You can plan for changes in cost transactions based on use of direct project resources or resources obtained from suppliers. The estimated transactions are then summarized as impacts so you can view the potential changes to your project financial plans. Once the impacts are summarized, you can modify them or add additional revenue impacts if your project has a separate revenue budget. For more information on cost and revenue planning lines, see: Planning for Cost and Revenue Impacts section. A change request can also have workplan, staffing, contract, supplier, and other impacts. Impacts enable you to define and quantify the effect of a change to the scope of a project. Once a change Request is approved, you can either include the change request in a change order to implement the impacts or include the impact directly into plan versions of unapproved financial plan types. 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, you can use the change order to plan for project changes by estimating changes in cost transactions and summarize them as budget impacts. A change order can also have workplan, staffing, 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.
- Create and update cost planning lines with direct costs and supplier costs on a

change request or a change order to estimate the functional impact changes in project scope.

- View the history of updates to cost planning lines for tracking negotiations with suppliers.
- Calculate cost budget impacts from cost planning lines.
- View cost budget impacts for a change document.
- Calculate revenue budget impacts from cost planning lines.
- Manually enter planned changes to revenue budget lines when revenue budgets are separate from cost budgets.
- View details of budget impacts from cost planning lines.
- Implement the financial impact of change orders in project budgets and forecasts.
- Generate a Potential Change Order (PCO) report.
- Create new financial tasks and send the task for approval if you do not have task approval authority.

Any task that you create from a change document can only be used in the change document until an authorized user approves it.

Setup is required in order to use change management. For information on implementing change management, see: Issue and Change Management, *Oracle Projects Implementation Guide*.

Note: For workplan baseline versioning-enabled projects, see Managing the Workplan Lifecycle Using Baseline Versioning, page 3-101.

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.

Additional Information: These participants can also create financial tasks in the change document and generate PCO report.

For more information, see *Managing Tasks In a Financial Structure, Oracle Projects Fundamentals*.

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. When you create a new change order document, you can only select from the associated control item status list, statuses that have been marked as starting statuses and mapped to a system status of Draft or Working.

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: *Defining Statuses and Status Options, Oracle Projects Implementation Guide*, and *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

Status	Description	Next Allowable Statuses
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
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.

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 10-12.

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 10-21.

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 plan financial changes to a project budget by estimating changes in planned cost transactions. You can also create a change document by copying an existing issue or change document. For more information, see: Creating Change Documents, page 10-10.

- **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 10-15.

- **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 10-18. For more information on implementing the financial impact of change orders, see: *Including and Viewing Change Documents*, page 8-69.

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 cost and revenue planning lines. For more information on cost and revenue planning for a change document, see: *Planning for Cost and Revenue Impacts* section.
6. Define other impacts for the change document.
7. Define additional actions.
8. 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 9-1.

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 11-1.

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 either plan for the changes by estimating changes in cost transactions and calculating the revenue budget impact automatically, or simply entering the budget impacts. Enable the Cost and Revenue Planning option by selecting the corresponding Budget Update method for a change document type.

If you are using the Cost and Revenue Planning budget update method, you enter

changes you expect in cost transactions either from self-performed work, known as Direct Costs, or in subcontracted work, also known as Supplier Costs. For each planned change, you specify details to help you track the change and charge it to the correct budget line. For each change you can enter descriptive text, estimate amounts, detail plan lines, details of negotiations with suppliers, 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 and the change document type settings. You can view historical values of supplier negotiations. Oracle Projects uses the change document type setup to determine whether you can enter cost impacts only, revenue impacts only, or both cost and revenue impacts. You cannot select a change document type for revenue impacts only if the project revenue budget is not planned together with the cost budget.

When cost breakdown planning is enabled for a project, you can use cost codes to map financial impacts to the lines of the approved cost or revenue budget plan types.

When the impact is complete for the change request, the new planned amounts also impact the existing budget lines defined for the task.

If you are using the Edit Budget Lines budget update method, you enter the new budget values you want to implement. 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 also 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 8-16.

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. This insures the revenue impacts are implemented on the appropriate revenue plan.

Whether you plan for financial impacts or enter them manually, you view the cost and revenue impacts summary in the Financial Summary region of the Impacts sub-tab. The summary displays the total change amounts for the change document and the detailed budget line values.

Note: You can override Raw Cost and Burdened Cost amounts in the detailed budget impact section if you want to implement a different budget change amount. Updating the override value on the budget summary detail region does not change the values you entered in the Planning tab or the Edit Budget page.

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 10-21.

Planning for Cost and Revenue Impacts

The Planning sub tab allows you to plan for financial changes to a project budget by estimating changes in planned cost transactions. These impacts are summarized and displayed as Budget Impacts. The cost planning option improves the accuracy of identifying impacts associated to a project, because you can plan for changes at a transaction level and not only at the budget line level.

The type of information you can plan depends on the options enabled on the control item also known as change type you select when you create your change document.

When you define a control item type, you can determine whether to plan for cost, revenue or both cost and revenue. You also determine whether to plan for only direct cost, that is, work you self-perform or a supplier cost, that is, work you subcontract. After enabling the Budget Update Method of the Control Item Type for Cost & Revenue Planning, you also determine if you want to enable the Control Item for planning direct costs, supplier costs or both. Enable cost planning option before you select the cost types you want to plan. If you enable revenue planning only, then you can use the control item type with projects that have separate revenue budgets.

Note: An approved revenue budget is used to define a revenue planning line.

For more information on how to set up a control item types, see: Control Item Types, *Oracle Projects Implementation Guide*.

To create cost and revenue planning lines for a change document:

1. Navigate to the Change Requests or Change Orders page for a project.
2. Select a control item type from the Create list and click Go.
3. Enter the header information for a Change Request or a Change Order and click Apply.
4. Click the Update icon. The Update Change Request or Change Order page appears.
5. Select the Planning sub-tab.

Note: The budget update method combination that you have a selected for a control item type enables the Direct Costs, Supplier Costs, or Revenue Planning regions.

When the current working version of the approved budget uses a planning resource list with disabled resource classes and Edit Budget Lines is chosen as the budget update method, you cannot

add or remove planning elements, and cannot add planning elements as all lowest tasks or all top tasks.

6. Define the direct cost planning line in the Direct Costs region.
7. Define the supplier cost planning line in the Supplier Costs region.

Note: Enter the transaction dates that effect the budget line dates. Budget line date changes affect the periodic spread of costs or revenue over the project planning periods when budgets or forecasts are updated and baselined.

8. Define the revenue impacts in the Revenue Planning region if costs and revenue are planned separately.
9. Click Apply to save the planning lines.

Note: The cost and revenue planning lines enables you to select an expenditure type and a planning resource for changes that are planned on a change document.

After entering details for planned changes in cost and revenue planning lines, you can calculate and summarize the financial impacts to the cost and revenue budgets. You can view these financial impacts in the Impact sub-tab of the change document.

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.

Viewing Financial Impacts

Whether you plan for financial impacts by entering planning lines in the Planning sub-tab or enter them in the Edit Budget page, you can view a summary of financial impacts in the Financial region of the Impacts tab. This view allows you to view the summary of financial impacts included in the change document. The summarized information of changes to the current budget, and the budget details are displayed in the Budget Impact Summary region of the Impacts sub-tab.

You can view the People Effort, Equipment effort, Raw Cost, Burdened Cost, Revenue, Margin, and Margin% information.

You can also view the changed totals in each category before and after impact of the current change document.

The detailed budget line amount is displayed in the Financial Impact Details region of the Impacts sub-tab. The planned amounts from the planning lines are rolled up based on planning resources selected for each line.

Viewing Supplier Cost Planning Line History

If you are planning for supplier costs, then you can view a history of the updates to each cost planning line. This enables you to track the history of negotiations with suppliers. Each time you save the Planning tab page after updating values on the supplier cost planning lines, a historical record is maintained. You view the update history using the History icon for the supplier cost planning line.

Note: You can use only the Edit Budget Lines method to update a budget for projects that have cost breakdown planning enabled.

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.

Updating Cost and Revenue Planning Lines

You can view and update the cost planning lines for a change order or a change request in the Update Change Request or the Update Change Order page. You can update the Effective From Date, Effective To Date, Change Reason, Change Description, Quantity and Raw Cost in the Direct Costs region of the Planning sub-tab. To modify other fields, you must remove the cost planning line and create a new one.

You can update the Change Type, Supplier, Effective From Date, Effective To Date, Negotiation Details, Raw Cost, Need By Date, Change Reason, Quote Negotiation Reference, and Supplier Quote Reference Number in the Supplier Costs region of the Planning sub-tab. If the change type is Create New, you can also update the Expenditure Organization. If the change type is Update Existing you can update the PO Number and Line Number.

You can view and update the revenue planning lines for a change order or a change request in the Update Change Request or the Update Change Order page. You can update the Effective From Date, Effective To Date, Quantity, Revenue Override Rate, and Revenue Amount in the Revenue Planning region of the Planning sub-tab.

Note: In the Planning sub-tab, you cannot override revenue amount when you plan the cost and revenue planning lines together. If cost and revenue is planned separately, then you can override the revenue amounts.

Note: You cannot override the Burdened Cost amounts in the Planning sub-tab for a cost planning line.

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

Activity	Change Document Owner	Project Team Member	Action Assignee
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. Then you can include the change request in a change order to implement the impacts that are associated with the change request.

Note: You can include a change request in a change order or implement it directly.

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.

Note: The Planning sub-tab is in read only mode in the approved change order.

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 10-20.

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 8-69.

Creating Financial Tasks

You can create financial tasks in a change document, using a reference task from the financial task structure, if you need to track the cost associated with the task. If you have the Projects: Options: Tasks function security these financial tasks will be automatically approved upon creation. If you not have the authority to approve the task, you must submit the task for approval. The PA: Task Approval workflow defines the approval process. The corresponding change order can be approved only after the associated financial tasks are approved.

All persons who are a key member of a project and have the authority to create and update financial tasks can approve the tasks.

The following table lists the predefined system statuses and describes the business rules associated with each status.

Status	Description
New	User has created and saved the task, but not submitted for approval.
Submitted	User has submitted the task for approval and notification is sent to the approver.
Pending	User has submitted the task for approval, but it has an unapproved parent task. The notification for approval of the task will be sent to the approver only after the parent task is approved.

If you create a task and the Projects: Options: Tasks function security is enabled, then the application automatically approves the task upon creation.

Change management tasks with the status New, Pending, or Submitted can be used only in a change document. The application will not allow you to use these tasks for any other transaction entries in Oracle applications.

Once you have created a change management task, you must submit the task for approval. Only after the task has been submitted for approval you can submit the associated change order for approval. You cannot perform the following actions on a parent task whose child task is unapproved:

- Create pre-approved expenditure
- Create purchase requisitions
- Create purchase order
- Create timecards in TOL

- Create invoice in Payables
- Create expense reports in Payables
- Create allocation rules
- Mark as intercompany tax receiving task
- Mark as burden cost task
- Mark as intercompany billing receiver task.

Submitting Financial Task for Approval

Even if you don't have the functions security to update a task, you can still create a task using a reference task and submit the task for approval. If you have the Projects: Options: Tasks function security to create a task then the task is automatically approved when you create it.

You can submit a single task for approval, or you can select multiple financial tasks, in status New, and submit them for approval. If you have selected multiple tasks for approval, then the application gives you an option to select a single approver for all the financial tasks, or you can select approver for each individual task. The approver that you select at an individual task level overrides the approver selected for all the financial tasks at the header level.

Once you have submitted a task for approval, the application initiates the PA: Task Approval workflow and changes the status of the task to Submitted. This workflow manages the approval process of the task. But, if you delete a task after it has been submitted of approval then its associated approval notification also closes.

If you submit multiple financial tasks for approval, then the task approval workflow notification is sent for each task.

Additional Information: The Project Manager or any other user who has the authority can approve a task. To approve a task navigate to the Financial Tasks page. You can approve change management tasks that have a status of New, Pending, or Submitted.

If you have submitted a change request that has unapproved financial tasks, for approval, then the PA: Change Request workflow will not send a notification to the approver, until all the financial tasks used in the change document are approved.

For more information, see *PA: Task Approval, Oracle Projects Implementation Guide*.

Important: An unapproved child task may lead to failure of the transaction during an import from Oracle Project Manufacturing to Oracle Projects, if a cost is incurred on the parent task. The Oracle

Project Manufacturing user should ensure that only an user with the Projects: Options: Tasks function security creates the task using change document, as such tasks do not need approval. Should the user not have the function security to create the task, the task approval workflow should be set to auto approval.

Generating Potential Change Order Report

Managers often negotiate changes in a project with the funding sources or customers paying for the project. The changes may be due to damages caused in the normal course of project completion or due to changes requested by the customer. The Potential Change Order (PCO) report lists all these changes as contractor and sub-contractor estimates, which can be a basis for negotiations.

You generate a PCO report after a change document is created but before it is submitted for approval. Changes are typically not implemented on a project until the final approval from the funding customer is obtained. Once the changes are firm, the PCO report is shared with the customer and used for negotiations. The PCO report gives better flexibility to Project Managers to negotiate the changes with funding customers.

Additional Information: You can generate a PCO report only from a change request and only if the change request is enabled for external approver and the change request is enabled for financial plan impact.

Generation Parameters

You can generate a PCO report in either Draft mode or Final mode. If you select the Draft mode then all parameters, related to numbering of the document, are disabled. When you generate a PCO report, the application assigns a unique identifier to the report. This identifier is defined by what you select as the Document Number Generation method. The Document Number Generation method has the following options:

- **Standard:** The application uses the change request number as prefix, and suffixes it with a unique number in the series for PCO report generation.

For example, the first time a user generates PCO report for the change request #8576, the application assigns #8576-1 to the PCO report. Next time, when the user generates a PCO report for the change document, the application assigns #8576-2 to the PCO report, and so on.

- **Custom:** The application retrieves a number from the PA_PCO_DOC_NUMBER_CLEINT_EXTN client extension and uses it to number the PCO report.

- **None:** The application does not number the PCO report and you have to enter the Override document Number.

After you have provided all the necessary parameters, you can:

- **Generate and save the PCO report:** Application will create the PCO report and store its content. You will not be able to distribute the report from this page. To distribute this report, navigate to the view PCO Report page from the change request header.
- **Generate and send the PCO report:** Application will create the PCO report and you can distribute the report via email, fax or a hard copy.
- **Cancel:** Application stops the PCO generation process and returns to the change request page.

You can distribute the PCO from the following locations:

- **Generation of PCO report:** You can distribute the PCO report immediately after you have created it by clicking **Generate and Send**.
- **Change document:** You can distribute an already generated PCO report. Navigate to the PCO report by clicking the PCO report number at the change document header and then click **Send**. You can also directly distribute the PCO report, without viewing it, by clicking **Send**.

Additional Information: If you have generated the PCO report in Draft mode, then **Send** is not displayed against the PCO report number.

For the delivery options in XML Publisher, you must set up a configuration file in the <XDO_TOP>/resource directory. For more information on setting up the configuration file, see Configuration File Support, *Oracle XML Publisher Administration and Developers Guide*.

The information you can include on the PCO report depends on the type of impacts you enter. If you are using the Cost and Revenue Planning method, then include details of the estimated changes in cost transactions. If you are using the Edit Budget Lines method, then use the values you entered as budget impacts.

You can view the Estimated Revenue information in the PCO report generated for a change request. The estimated revenue is calculated based on the cost and revenue planning amounts if you use the Cost and Revenue Planning method to calculate financial impacts.

Additional Information: You can only view the PCO reports that you have generated for previous versions.

The reports generated for previous versions of change document can be viewed in the

Version history page where a PCO Number link is displayed against the change document version for which report was generated.

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 or copy 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. You can also copy attachments anytime, even after creation of the project, either from a different project or template but within the same operating unit.

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 E-Business Suite 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 E-Business Suite 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.

Before you can attach files and folders to a project, task, or function using the appropriate attachment category, you must define the document repository for the E-Business Suite. This enables integration with the defined document repository. For information on defining and integrating with document repositories, see *Setting Up Content Management Repositories, Oracle Product Hub Implementation Guide*.

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
- Project Manager Reporting Pack
- 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 summaries by project, task, resource, and time online, or receive this information as reports in a reporting pack sent as e-mail attachments.

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.

A reporting pack enables you to stay informed on the performance of your projects when you have no access to the application. You can control the type, content, layout, and output format of the reports you receive as well as the schedule for their generation and distribution. Because you receive the reporting pack by e-mail, you can archive the reports and refer to them as required.

Related Topics

Overview of Program Management, page 5-1

Creating Budgets With Budgetary Controls and Budget Integration, page 8-78

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.

Note: You must use the project performance reporting feature to track the performance of your projects if you have not created budgets and forecasts that use budgetary control and budget integration. For such projects, see: Project Status Inquiry, page 12-17.

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.

The project status parameter enables you to process the projects that are marked for performance reporting and eligible for summarization. For example if the status is Active for four out of six projects, then only four projects with the Active status are summarized.

Note: If you are using both Project Performance Reporting (PPR) and Project Status Inquiry (PSI) to report project results, then the data for commitment transactions on the PSI form displays only header level information but no detail information. If you have opted to use both PSI and PPR for financial reporting, then you must execute the summarization programs in the following sequence to get the correct commitment details:

- PRC: Update Project Summary Amounts
- PRC: Update Project and Resource Base Summaries
- PRC: Update Project Performance Data

Note: If the project is enabled for Enhanced Project Performance Reporting, submit the following summarization and update processes in the following order to view the latest data:

- PRC: Update Project Summary Amounts

- PRC: Update Project and Resource Base Summaries
- PRC: Summarize Workplan and Financial Plan Data
- PRC: Update Project Reporting Data Using Database Analytics

For more information, see: Enhanced Project Performance Reporting, page 12-13.

Related Topics

Project Performance Reporting, *Oracle Projects Implementation Guide*

Reporting by Project

When you initially access project performance reporting for a project, Oracle Project Planning and Control 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.

If your database is enabled for the OLAP CUBE analytics, the Reporting Setup Information page displays the Enable In Database Analytics (OLAP Cube) Based Summarization check box. Once you select this check box, the Enable Deferred Rollup for Task and Resource Analysis check box is displayed. You can select these check boxes to enable your project for Enhanced Project Performance Reporting. If the OLAP CUBE analytics are not enabled, you cannot enable these options in the Reporting Setup Information page.

The Project Reporting Information pages appear blank if the summarized amounts have any error when processed for summarization or the data fails to pass the reconciliation parameters. You can generate and view the reconciliation report as an output when you run the summarization programs PRC: Summarize Workplan and Financial Plan Data to summarize the data for the project plans and PRC: Update Project Reporting Data Using Database Analytics to summarize the data for the Project Reporting Information and Project List Home pages. You must correct the errors, generate the reconciliation reports to validate the data and then summarize the data again to view the latest summarized data. For more information about the reconciliation reports, see: Enhanced Project Performance Reporting Reconciliation Reports., page 12-10

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

Note: When you initially access project performance reporting for a project, the Performance Reporting Overview page displays the forecast and ETC data, if there is a Primary Cost Forecast or Primary Revenue Forecast plan type attached to the project. Else, you have to manually select the relevant forecast plan type from the list to view the forecast and ETC data.

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.

You can view a summary of financial performance of the project and project progress together for a fully shared project in the Project Controls subtab. This tab provides a holistic project control view by displaying few critical earned value, cost and profitability measures along with a few workplan measures related to work quantity.

You can view the project-related controls when the following conditions are met:

- Progress is enabled for the workplan
- Work quantity based progress is enabled for at least one task
- Actual transactions must be collected and summarised
- Progress is entered
- Workplan cost is enabled
- At least one workplan version is approved or baselined
- Workplan version is published
- Budgets and forecast versions must be planned either at the lowest or the top task levels
- Latest baselined budget version for the plan type must be generated from the workplan
- Latest approved forecast version for the plan type must be generated from a budget

You can view the following financial information under the Project Controls subtab.

- Financial Percent Complete
- Planned Quantity
- Actual Quantity
- Original Cost Budget
- Budget To date
- Actual Cost to date
- Earned Value

- Estimate to Complete
- Estimate At completion
- Cost Performance Index
- Schedule Performance Index
- Current Revenue Budget
- Original Gross Profit
- Revenue Rec To Date
- Estimated Gross Profit
- Gross Profit to Date
- Cost Accrual Amount
- Physical Progress %

The planned quantity is equal to the planned work quantity and the actual quantity is equal to the actual work quantity in the workplan and the cost accrual amount equals the earned value minus the actual cost to date.

For a project that is designated as a program or is associated to another program as a subproject, project control measures are displayed only for the project-level data.

Related Topics

Project Structures, *Oracle Projects Fundamentals*

Financial Structures, *Oracle Projects Fundamentals*

Reporting by Resource

You can view cost, profitability, and effort for resources. If the resource breakdown structure contains a level for suppliers, you can view cost, profitability, and effort for the contingent workers that the supplier is responsible for. 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, *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).

Use the *period* parameter to enter the range of periods for which you want to report project performance reporting information. Otherwise, Oracle Projects determines the start and end dates for the duration reported 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.

Enhanced Project Performance Reporting Reconciliation Reports

You can generate a reconciliation report when you summarize project performance reporting data to make sure that the data is accurate and displayed correctly in the various pages. The reconciliation report is an easy reference to the summarized data for each project and also enables you to identify the any errors in the data at an early stage.

If the summarized amounts have any errors based on the reconciliation or the data fails to pass the reconciliation parameters, the reporting pages will not display any incorrect data. You must identify and correct the errors, generate the reconciliation reports to validate that the data is correct and then summarize the data again to view the latest summarized data.

You can view the reconciliation report as an output of the summarization programs.

The reconciliation reports display the data before summarization, the delta amount processed during the current summarization and the data after summarization as the total amount. The summary section of this report displays the number of projects that were processed and not processed during summarization. The Projects Unprocessed section displays the projects that were not processed at the time of program execution along with the reason, such as, no data to summarize, or , project not in valid status. The details section of the report displays successfully summarized and processed

projects along with the details, such as project number, total actuals amounts, total amount before summarization, changed actuals summarization and total after summarization.

Reconciliation Report as an Output of the Summarization Program

To view the reconciliation report as an output of the summarization program, run the following summarization programs:

- Summarize Workplan and Financial Plan Data (to summarize the data in project plan pages)
- Update Project Reporting Data Using Database Analytics (to summarize the data in the reporting pages)

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. In addition, your implementation team can create additional page layouts and attach them to the project template. Alternatively, you can attach to your project additional page layouts that your implementation team creates and enables for attachment. You can also customize the layout of a project performance reporting page (predefined or created) for your project using the Oracle Applications page and region personalization features.

Attaching Project Performance Reporting Page Layouts to a Project

Follow these steps to attach additional project performance reporting page layouts to a project.

1. In the project, navigate to the Setup subtab under Reporting.
2. Click Performance Page Layouts.
3. Preview, select, and apply a page layout to a project performance reporting page.

Related Topics

Page Layouts, *Oracle Projects Implementation Guide*

Enhanced Project Performance Reporting

The primary features of the Project Planning and Control application, such as workplan and progress management, budgeting and forecasting and performance reporting, rely upon information from the project plans, project expenditures and revenue transactions. The data must be summarized by multiple dimensions to be utilized in various types of project plans, project status reports and project performance metrics.

For very large and complex projects, the size of the datasets can be extremely large and require complex processing to summarize the data on the required dimensions including dates, task structures, currencies and program structures.

Enhanced Project Performance Reporting provides a high performing platform for displaying summarized data in workplans, financial plans and project performance reporting pages and reports.

When you use Enhanced Project Performance Reporting, the data needed to display plan information and analysis reports is available at all times and does not require the execution of any concurrent programs. When your projects are extremely large and complex, you can use the option to defer the automatic rollup and data summarization in the Task and Resource Analysis pages. You can manually summarize and view the current data by clicking the Summarize button.

The high-performing platform of Enhanced Project Performance Reporting also leverage the powerful analytics of your database to summarize data for the project performance metrics, charts and graphs on the Project Reporting Information page as well as the health check key metrics available on the Projects Home Page.

You can verify the accuracy of the summarized data by generating the available reconciliation reports. You can generate and view the reconciliation reports as an output when you run the summarization programs PRC: Summarize Workplan and Financial Plan Data and PRC: Update Project Reporting Data Using Database Analytics to summarize the data for the project reporting information page and the project list home page. These reports allow you to identify errors the occurred in processing the data. You must correct the errors, generate the reconciliation reports to validate the data is correct and then re-summarize the data to view the latest summarized information. When there are errors, data is not displayed in the project reporting information page and the project list home page. For more information about the reconciliation reports, see: Enhanced Project Performance Reporting Reconciliation Reports, page 12-10.

Enabling Enhanced Project Performance Reporting for a Project

You can enable Enhanced Project Performance Reporting on a project template or for a project by selecting the following check boxes in the Project Setup page in the Project Reporting Information section. The following options are displayed in the Reporting Setup section once you enable OLAP CUBE (a data analytics option) for your database

instance. For more information on enabling OLAP CUBE in the database, see: *Preparing Database and Enabling OLAP Cubes* section of the *Oracle Project Implementation Guide*.

- **Enable In Database Analytics (OLAP CUBE) Based Summarization:** This check box allows you to enable Enhanced Project Performance Reporting for a project.

When this check box is selected, the pre-aggregated data needed for reporting is stored in the OLAP CUBE architecture and the summarized data is stored in new FACT tables specifically created for the WBS (work breakdown structure tasks), the RBS (resource breakdown structure) and the WBS - RBS combinations required for task analysis and resource analysis. The data required for Periodic Analysis is generated into temporary table when you request it from the plan analysis pages.

All the data displayed in the task summary, resource summary, and periodic summary is generated from the FACT tables. The periodic analysis, resource analysis and task analysis is calculated and displayed online. The amount or quantity-based progress calculation is done using the data from the new FACT table.

For the reporting pages and the project list page, the current data is displayed by running the following concurrent programs that process pre-aggregated data from the CUBE and complete the needed summarizations::

- Current and original baselined data for budgets and forecast: PRC: Update Project Reporting Data Using Database Analytics
 - Actual and activity (cost, revenue, bill, funding, and so on): First, run the PRC: Update Project and Resource Base Summaries concurrent program and then run the PRC: Update Project Reporting Data Using Database Analytics concurrent program.
- **Enable Deferred Rollup for Task and Resource Analysis:** This check box allows you to defer summarization for the Task and Resource *Analysis* pages only. The summarization is not affected for the Task and Resource *Summary* or *Periodic Summary* pages.

When this check box is selected, the data for the task analysis and resource analysis page is not regenerated every time you visit the page and only the last summarized data is displayed by default. If you are visiting the resource or task analysis pages for the first time without summarizing the data, then only the RBS or applicable WBS structure is displayed with blank amounts. To view the current summarized or rolled up data, you must click the Summarize button.

When this check box is not selected, the task analysis, resource analysis and periodic analysis data in the page is generated when you open the page online. The standard processing page is displayed till the data is refreshed and displayed. The Summarize button is not available in the Resource Analysis and Task Analysis pages. The non periodic data is stored after the summarization process is run, therefore, the previously generated data is displayed when you view the task or

resource analysis.

When you navigate to the Project Reporting Information page, only the Enable In Database Analytics (OLAP CUBE) Based Summarization check box is displayed. When you select the Enable In Database Analytics (OLAP Cube) Based Summarization check box, the Enable Deferred Rollup for Task and Resource Analysis check box is displayed and you can select this option to enable deferred summarization on the analysis pages.

Note: The periodic data which is summarized and displayed in the Task Analysis and Resource Analysis pages is deferred if the Enable Deferred Rollup for Task and Resource Analysis check box is selected. The non periodic data which is displayed in the Task Summary and Resource Summary pages is summarized regardless of the status of the check box. The periodic data for the Periodic Analysis page is always summarized online depending on the user input values to select a date range.

The following validations and business rules insure data consistency:

- Enhanced Project Performance Reporting only affects the planned and actual data populated in Task Analysis and Resource Analysis pages (including the periodic and non periodic data), the Project Reporting Information and Project List home pages.
- By default, only the Enable Database Analytics (OLAP CUBE) Based Summarization check box is displayed on the Reporting Setup page. Once you select this check box, the Enable Deferred Rollup for Task and Resource Analysis check box is displayed.
- While copying a project or template, if the source has these options enabled, these option values are copied to the target project or template.
- When you create a project from a template, you can disable or enable these options later until there is data populated in the FACT tables.
- Once the data is populated in the summarization FACT tables, these options become unavailable and you cannot change the option values. In the workplan, the FACT table is populated when you create a resource assignment for a task in the current working version. In financial plans, the FACT table is populated when a plan line is created. Data is also populated by running the PRC: Update Project Reporting Data Using Database Analytics or PRC: Update Project Reporting Data Using Database Analytics concurrent programs.
- If you have only selected the Enable In Database Analytics (OLAP CUBE) Based Summarization check box, the Enable Deferred Rollup for Task and Resource Analysis check box can be selected or changed until the data is populated in the new summarization FACT tables. Once the populated in the FACT table, you

cannot change the selection.

- All events for a project, including changes in the WBS or FBS, which trigger the process update action, continue to reference data from the existing FACT tables.
- You cannot enable Enhanced Project Performance Reporting for a program type project
- The Enable In Database Analytics (OLAP CUBE) Based Summarization and Enable Deferred Rollup for Task and Resource Analysis check boxes do not impact data entered or refreshed for a template. If a template has both the options enabled, you cannot disable them once data is populated in the FACT tables.
- When a new project or template is created from a source template with both the check boxes selected, the target project or template also follows the enhanced model and the resource assignments are copied into the new FACT tables at the time of project creation. Therefore, the options are disabled and you cannot change the selection.

Upgrade Considerations

You can upgrade existing projects by moving performance reporting data to the enhanced Project Performance Reporting model:

Pre-requisites: Before executing the upgrade steps, validate that the following processes have been run with the latest transactions:

1. PRC: Update project and resource base summaries
2. PRC: Update project performance data
3. PRC: Process Resource breakdown structure updates (for newly frozen resource breakdown structures)
4. PRC: Refresh Project and Resource Base Summaries (for all the projects you wish to upgrade)

Upgrade Steps:

1. Code the client extension PA_PPR_PROJ_BATCH_EXTN.populate_proj_batch to populate selected projects. Optionally use the project number range parameter.
2. Set the profile PA: Upgrade projects to new project performance reporting model to Yes.
3. Run PRC: Summarize Workplan and Financial Plan Data process in refresh mode.
4. Run PRC: Refresh Project Reporting Data Using Database Analytics process.

Validations: The refresh process will pick up old projects when the profile option is enabled. Projects will be selected based on the selection criteria, either the input parameters or the client extensions.

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.

Note: You must use the Project Status Inquiry window to track the performance of projects that use budgetary control and budget integration. For all other projects, see Project Performance Reporting, page 12-2.

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 (PSI) are shown in the functional currency.

Note: If you are using both Project Performance Reporting (PPR) and PSI, then the data for the commitment transactions on the PSI form

displays only header level information but no detail information. If you have opted to use both PSI and PPR for financial reporting, then you must execute the summarization programs in the following sequence to get the correct commitment details:

- PRC: Update Project Summary Amounts
- PRC: Update Project and Resource Base Summaries
- PRC: Update Project Performance Data

Note: If the project is enabled for Enhanced Project Performance Reporting, submit the following summarization and update processes in the following order to view the latest data:

- PRC: Update Project Summary Amounts
- PRC: Update Project and Resource Base Summaries
- PRC: Summarize Workplan and Financial Plan Data
- PRC: Update Project Reporting Data Using Database Analytics

For more information, see: Enhanced Project Performance Reporting, page 12-13.

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. For more information on exporting records to a file, see the *Oracle E-Business Suite User's Guide*.

Note: You can customize this folder to show the Project Status information that you need. For more information on customizing folders, see the *Oracle E-Business Suite 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 12-30.

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.

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 12-29.

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 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 8-81 and Creating a Baseline for a Budget Draft, page 8-98.
2. Run the Update Project Summary Amounts process for your projects. See: Updating Project Summary Amounts, page 12-30.

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 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 and the Oracle Purchasing View Receiving Transactions form.

The following table shows from which status windows you can drill down to actuals, commitments, and events detail, and the limitations on drilling down to those details. 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 you choose the Commitments or Actuals button, or choose a top task before you choose the Events button.
Resource Status				

As prerequisites to view budget summarization information:

- Enter and create a baseline budget for the project. See: Entering or Revising a Budget Draft, page 8-81 and Creating a Baseline for a Budget Draft, page 8-98.
- Run the Update Project Summary Amounts for your projects. See: Updating Project Summary Amounts, page 12-30.

To review actuals details for a task or resource:

- Navigate to the Project Status window.
- Find the project(s) you want in the Find Project Status window.
- Choose the **Actuals** button from either 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.

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:

- 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 for expenditure items whose expenditure type class is either Supplier Invoice or Expense Report and which correspond to either invoices in Oracle Payables or PO receipts in Oracle Purchasing that have been matched to a single supplier invoice. In addition, function security must be implemented in such a way that the user can 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 or Task 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 or Task Status window.

For more information, see Expenditure Type Classes, and Function Security in the *Oracle Projects Implementation Guide*.

To drill down to the Oracle Purchasing View Receiving Transactions window:

1. Navigate to the Project Status window.

2. Find the project or projects that you want in the 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. Select the PO Receipt button to view the related receipt in the Oracle Purchasing

View Receiving Transactions form.

Note: The PO Receipt button is only enabled for expenditure items whose expenditure type class is either Supplier Invoice or Expense Report and which correspond to PO receipts in Oracle Purchasing. In addition, function security must be implemented in such a way that the user can see the button.

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)
- Quarter to Date Amounts (QTD)

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 12-21

Commitment Reporting, *Oracle Project Costing User Guide*

Resources and Resource Lists, *Oracle Projects Implementation Guide*

Budget Types, *Oracle Projects Implementation Guide*

Update Project Summary Amounts, *Oracle Projects Fundamentals*

Commitment Changes Extension, *Oracle Projects APIs, Client Extensions and Open Interfaces Reference*

Project Status Inquiry Burdening Commitments 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.

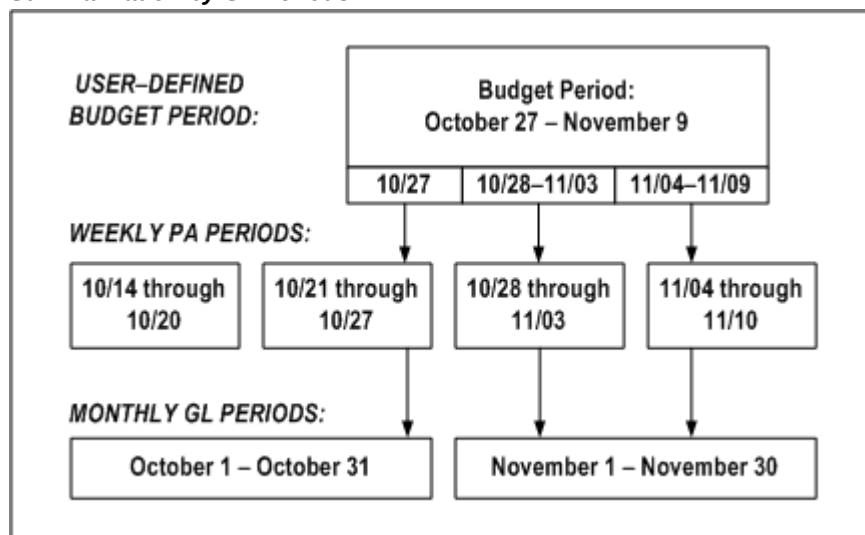
Reconciling Summarization by GL Period

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 make changes to the PA_COMMITMENT_TXNS_V view, you must also modify the PA_COMMITMENTS_V view and 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)
- Quarter to Date Amounts (QTD)

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, quarter-to-date, year-to-date, and inception-to-date amounts are summarized with respect 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 12-30.

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.

Caution: You *must* maintain forecast amounts for a project in *either* a financial plan type or a budget type of forecast cost or forecast revenue to prevent the Update Project Summary Amounts process from adding up forecast summaries in the financial plan and budget.

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.

Note: The Update Project Summary Amounts process *only* uses the resources list. You can migrate a resource list to a planning resource list and Oracle Projects copies changes in the resource list to the migrated planning resource list, but not vice versa. You *must* make changes in the original resource list to ensure that the Update Project Summary Amounts process correctly summarizes amounts for display.

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 12-30.

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 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

Resource Group	Resource	Resource 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

Resource Group	Resource	Resource 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

PA Period	Start Date	End Date
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	Budget 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

Task	Resource	Period	Quantity	Unit of Measure	Raw Cost	Burdened Cost
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* with expenditure ending date 10-Dec-2005.

Type	Amount	Raw Cost	Burdened Cost	PA Period	Resource Mapping By Employee and Job	Resource Mapping By Organization
Professional	30 (hours)	1,050	3,061	P12-02-95	Marlin, Amy	Data Systems
Air Travel	800	800	920	P12-02-95	Air Travel	Data Systems
Professional	30 (hours)	1,050	3,061	P12-03-95	Marlin, Amy	Data Systems
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	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	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, with the expenditure ending date of 14-Jan-95.

Type	Amount	Raw Cost	Burdened Cost	PA Period	Resource Mapping By Employee and Job	Resource Mapping By Organization
Professional	50 (hours)	1,500	4,373	P01-03-96	Robinson, James	Environmental
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 with the expenditure ending date of 10-Dec-95. The following table shows a commitment that 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.. In the last period of the project, the commitment is closed. The effect of opening and closing the commitment is reflected in the exhibits.

Type	Project Number	Task Number	Amount	Raw Cost	Burdened Cost	Resource Mapping by Employee and Job	Resource Mapping by Organization
Consulting	PAR01	1.1	5,200	5,200	5,200	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.

Note: For the purpose of this example, all tables display only period-to-date (PTD) and year-to-date (YTD) budget and actual costs, and commitment amounts.

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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
PAR01	10,000	6,181	15,750	9,376	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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
Labor	10,000	5,831	15,000	8,746	-
Travel	-	-	-	-	-
Outside Services	-	-	-	-	5,200
In-house Recoverables	-	350	350	630	-

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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
Labor	10,000	5,831	15,000	8,746	-
Marlin, Amy	-	-	-	-	-
Robinson, James	-	-	-	-	-
Sr. Consultant	10,000	5,831	15,000	8,746	-
Travel	-	-	-	-	-
Air Travel	-	-	-	-	-
Outside Services	-	-	-	-	5,200
Consulting	-	-	-	-	5,200
In-house Recoverables	-	350	750	630	-
Computer Services	-	350	-	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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
Labor	-	5,831	-	8,746	-
Data Systems	-	5,831	-	8,746	-
Travel	-	-	-	-	-
Air Travel	-	-	-	-	-
Outside Services	-	-	-	-	5,200
Consulting	-	-	-	-	5,200
In-house Recoverables	-	350	-	630	-
Computer Services	-	350	-	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'.

The period-to-date and year-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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
PAR01	15,300	6,040	31,050	15,416	-

Exhibit 6: Initial Resource Status View After Current Reporting Period Change

Resource	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
Labor	12,500	4,373	27,500	13,119	-
Travel	1,800	1,668	1,800	1,668	-
Outside Services	-	-	-	-	-
In-house Recoverables	1,000	-	1,750	630	-

Exhibit 7: Drilldown to Resources After Current Reporting Period Change

Resource	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
Labor	12,500	4,373	27,500	13,119	-
Marlin, Amy	-	-	-	-	-
Robinson, James	12,500	4,373	12,500	4,373	-
Sr. Consultant	-	-	15,000	8,746	-
Travel	1,800	1,668	1,800	1,668	-
Air Travel	-	1,668	-	1,668	-
Outside Services	-	-	-	-	-
Consulting	-	-	-	-	-
In-house Recoverables	1,000	-	1,750	630	-
Computer Services	-	-	-	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. He now increases 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 period-to-date and , year-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	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	Commitment Amount
PAR01	16,830	6,040	34,155	15,416	-

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 program to generate exceptions and calculate key performance area scores to derive key

performance area status indicators. You can run this concurrent program 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 concurrent program 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*

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 program. To ensure agreement and relevance between the key performance area statuses, exceptions, and e-mail notifications generated by the concurrent program, Oracle Projects recommends that you set up the concurrent program 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 program 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 concurrent program. 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 program.

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 program 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*

Project Manager Reporting Pack

A reporting pack consists of a set of report templates and named recipients by project role. The reporting pack concurrent program uses the report templates to generate reports and distribute these reports to the recipients by e-mail.

The report template controls the content and layout of the report output. In addition, each report is subject to the parameters that your system administrator defines when scheduling the reporting pack concurrent program. For more information on parameters, see: Generate and Distribute Reporting Pack, *Oracle Projects Fundamentals*.

Oracle Projects provides the following predefined data definition file and predefined report templates:

- **Reporting Pack Data Definition File.** This file contains XML tags for performance measures and for the layout of these measures on reports. You use these tags to create your own report templates.

- **Project Change Document Report.** This report displays all change orders in a project that are not in cancelled or closed status. The report groups change orders by type such as customer-initiated or internal, and displays the impact of these change orders on to-date budget amounts.
- **Project Committed Cost Report.** This report displays purchase orders, purchase requisitions, and supplier invoices by vendors since inception of the project. Commitments are grouped by vendor and commitment status.
- **Project Cost Detail Report.** This report displays cost transactions by expenditure type, expenditure type class, and tasks for a specified range of dates.
- **Project Cost Labor Report.** This report displays for labor (employee and contingent worker) the planned and actual hours, cost and cost per hour information for a range of periods such as a week or month. The report groups cost by task and person type, or by task and project roles or employees. You can also use this report to view information by job and expenditure type.
- **Project Cost Summary Report.** This report displays information on budgets, actual costs, cost to complete, and forecasted cost at completion, as well as variances between budget and actual cost amounts. Cost is grouped by period, top tasks, expenditure categories, or by top tasks and expenditure categories. The report displays period-to-date and inception-to-date information, which can be used to analyze cost trends.
- **Project Earned Value Report.** This report displays data and trends for key earned value metrics for the project and by tasks. The application uses metrics that are based on ANSI 748 standards and calculates earned value for data that is available since the inception of the project.
- **Project Financial Summary Report.** This report displays budgets, receivables, open commitments, collections, and earned value data.
- **Project Forecast Summary Report.** This report displays time-phased actual and forecast amounts by tasks for revenue and cost forecasts. You can use this report to analyze forecast, budget, and actual cost, revenue and margin trends.
- **Project Revenue At Risk Report.** This report displays revenue that is at risk because of insufficient funding. Insufficient funding may occur as a result of delay in securing contracts, or due to continuation of work beyond expiration of the contract or beyond billing limits. The report displays revenue amounts summarized at the project level and then listed by task.

Alternatively, you can have your system administrator modify existing report templates or create new ones using the predefined data definition that Oracle Projects provides. Your system administrator can incorporate these additional report templates in existing reporting packs or use them to create new reporting packs. For more information, see

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 Planning and Control 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 Planning and Control 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.

$$\text{Earned Value} = \text{Current Budget} \times \text{Physical \% Complete}$$

- **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 Planning and Control 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 Planning and Control 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 Metrics	Calculation	Description
Earned Value Cost Variance	$\text{Earned Value} - \text{Actual Cost} = 75 - 125 = -50$	The negative value indicates that actual cost exceeds the planned cost of work performed.
Earned Value Schedule Variance	$\text{Earned Value} - \text{Planned Value} = 75 - 100 = -25$	The negative value indicates that the project is behind schedule.
Cost Performance Index	$\text{Earned Value} / \text{Actual Cost} = 75 / 125 = .60$	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	$\text{Earned Value} / \text{Planned Value} = 75 / 100 = .75$	The value indicates that for every planned dollar, only 75 cents work is complete.
To Complete Performance Index	$\text{Current Budget} - \text{Earned Value} / \text{Current Budget} - \text{Actual Cost} = 200 - 75 / 200 - 125 = 1.67$	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 3-1

Project Performance Reporting, page 12-2

Earned Value as a Forecast Generation Method, page 8-51

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.

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 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 13-4

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 e-mail access to individuals that may not be project team members, on a person by person basis. You can use this field to provide report access to anyone in your human resources 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 13-4.

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 13-4.

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.

Report Status	Description
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 13-1.
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 13-1.

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 11-1

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 13-4

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.

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 13-4.

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.

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 Performance Reporting provides predefined measures for cost and profitability. All of these measures appear in the performance overview of the project. In addition, you can use these measures to create your own custom measures.

The following table describes all predefined project performance reporting measures and indicates the pages on which they are displayed. The table has the following columns:

- **Measure:** Indicates the name of the measure
 - Note:** Measures based on people effort, or equipment effort, are not computed if the planning resource list associated to the financial plan has disabled resource classes.
- **Description and Formula:** Describes the value for the measure and includes, where applicable, the calculation used to determine values for the measure
- **Project Overview:** Indicates whether the measure is available on a project performance overview page
- **Task or Resource:** Indicates whether the measure is available when you view project performance amounts for tasks or resources

- **To-Date:** Indicates whether the measure is available when you view project performance amounts in a to-date view page and if available, for which specific to-date page

For example, the Planned Value measure is available on the period-to-date and inception-to-date pages. Possible values for this column are:

- **PTD:** indicates that you can view the measure on the period-to-date page
 - **QTD:** indicates that you can view the measure on the quarter-to-date page
 - **YTD:** indicates that you can view the measure on the year-to-date page
 - **ITD:** indicates that you can view the measure on the inception-to-date page
 - **All:** indicates that you can view the measure on all the to-date pages of PTD, QTD, YTD, and ITD
 - **None:** indicates that you cannot view the measure on any of the to-date pages
- **Periodic:** Indicates whether the measure is available when you view project performance amounts in a periodic view page

Values for *Project Overview*, *Task or Resource*, and *Periodic* columns in the tables can either be *Yes* or *No*.

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
% Complete	Actual Cost to Date / (Actual Cost to Date + ETC)	Yes	Yes	All	Yes
% Spent	Burdened Cost / Current Budget Cost	Yes	Yes	All	Yes
% Spent Effort	People Effort / Current Budget Effort	Yes	No	All	No
% Spent Equipment Effort	Equipment Effort / Current Budget Equipment Effort	Yes	Yes	All	Yes
% Spent People Effort	People Effort / Current Budget People Effort	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Accrued Revenue	Revenue recognized in GL	Yes	Yes	All	Yes
Actual Cost	ACWP or cost-distributed burdened cost	Yes	Yes	All	No
Additional Funding	Sum of funding amounts in all the funding lines with the funding classification of Additional	Yes	Yes	All	No
Average Daily Rate	Revenue / Days [Total Actual Hours + FTE (Full Time Equivalent)]	Yes	Yes	All	No
Backlog	Total net funding since inception to date - total revenue accrued since inception to date	Yes	No	All	No
Backlog % of Total Funding	Backlog / Total Net Funding	Yes	No	All	No
Backlog Days Remaining	(Backlog / ITD Revenue) * Days since Inception-to-Date	Yes	Yes	ITD	No
Billable Cost	Total cost for all billable expenditure items in a contract project	Yes	Yes	All	Yes
Billable Cost % of Total Cost	(Billable Cost / Burdened Cost) * 100	Yes	No	All	No
Billable Equipment Effort	Total hours from distributed actual cost entered with Billable flag checked	Yes	Yes	All	Yes
Billable People Effort	Total hours from distributed timecards with Billable flag checked	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Billable Equipment Effort %	(Billable Equipment Effort / Equipment Effort) * 100	Yes	No	All	No
Billable People Effort %	(Billable People Effort / People Effort) * 100	Yes	No	All	No
Billed Amount	Total invoiced amount interfaced to AR	Yes	No	All	No
Burden Cost	Distributed burden cost	Yes	Yes	All	No
Burdened Cost	Total distributed cost	Yes	Yes	All	Yes
Burdened Cost + Committed Cost	Burdened Cost + Total Committed Cost	Yes	Yes	All	Yes
Capital Cost % of Total Cost	Capitalizable Cost / Burdened Cost	Yes	Yes	All	Yes
Capitalizable Cost	Total cost for all expenditure items in a capital project that can be capitalized	Yes	Yes	All	Yes
Cash Paid	Value of cash receipts for the project derived from AR	Yes	No	All	No
Cost Performance Index	CPI or Earned Value / Actual Cost	Yes	Yes	ITD	No
Cost Variance	Burdened Cost - Current Budgeted Cost	Yes	Yes	All	Yes
Cost Variance %	(Burdened Cost - Current Budget) / Current Budget	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Cost Variance from Original Budget	Burdened Cost - Original Budget	Yes	Yes	All	Yes
Credit Memos	Total value of the credit memos issued	Yes	No	All	No
Current Budget 2 Burdened Cost	Current baseline budget cost from secondary budget	Yes	Yes	All	Yes
Current Budget 2 Equipment Effort	Equipment hours entered in secondary cost budget	Yes	Yes	All	Yes
Current Budget 2 Margin	Current Budget 2 Revenue - Current Budget 2 Cost	Yes	Yes	All	Yes
Current Budget 2 Margin %	Current Budget 2 Margin / Current Budget 2 Revenue	Yes	Yes	All	Yes
Current Budget 2 People Effort	Labor hours entered in the secondary cost budget	Yes	Yes	All	Yes
Current Budget 2 Raw Cost	Current baseline budget raw cost from secondary budget	Yes	Yes	All	Yes
Current Budget 2 Revenue	Current baseline budget 2 revenue	Yes	Yes	All	Yes
Current Budget Burdened Cost	Current baseline budget cost	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Current Budget Cost Variance from Original Budget	Current Budget Cost - Original Budget Cost	Yes	Yes	All	Yes
Current Budget Cost Variance % from Original Budget	Current Budget - Original Budget	Yes	Yes	All	Yes
Current Budget Equipment Effort	Equipment hours entered in current baseline cost budget	Yes	Yes	All	Yes
Current Budget Margin	Current Budget Revenue - Current Budget Cost	Yes	Yes	All	Yes
Current Budget Margin %	Current Budget Margin / Current Budget Revenue %	Yes	Yes	All	Yes
Current Budget Margin % Variance from Original Budget	Current Budget Margin % - Original Budget Margin %	Yes	Yes	All	Yes
Current Budget Margin Variance from Original Budget	(Current Budget Margin - Original Budget Margin) / Original Budget Margin	Yes	Yes	All	Yes
Current Budget People Effort	Labor hours entered in current baseline cost budget	Yes	Yes	All	Yes
Current Budget Raw Cost	Current baseline budget raw cost	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Current Budget Revenue	Current baseline budget revenue	Yes	Yes	All	Yes
Current Budget Revenue Variance from Original Budget	Current Budget Revenue - Original Budget Revenue	Yes	Yes	All	Yes
Current Budget Revenue Variance % from Original Budget	(Current Budget Revenue - Original Budget Revenue) / Original Budget Revenue	Yes	Yes	All	Yes
Current Forecast Cost Variance from Prior Forecast	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)]	Yes	Yes	All	No
Current Forecast Effort Variance from Prior	Current Forecast Effort - Prior Forecast Effort	Yes	No	All	No
Current Forecast Margin Variance from Prior Forecast	Variance between current forecast margin and margin based on prior published revenue and cost forecasts	Yes	Yes	All	No
Current Forecast Revenue Variance from Prior Forecast	Variance in current forecast and the prior published forecast revenue	Yes	Yes	All	No

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Current Forecast to Prior Forecast Effort Variance	Current Forecast Effort - Prior Forecast Effort	Yes	No	All	No
Days Sales Outstanding	Total billed receivables / (invoiced amount / number of days in the period)	Yes	No	ITD	No
Earned Value	BCWP (Budget Cost x Physical % Complete for a task)	Yes	Yes	ITD	No
Earned Value Cost Variance	CV or Earned Value - Actual Cost	Yes	Yes	ITD	No
Earned Value Schedule Variance	SV or Earned Value - Planned Value	Yes	Yes	ITD	No
Effective Labor Multiplier	Earned Revenue / Direct Labor Cost	Yes	Yes	All	Yes
Equipment Burdened Cost	Burdened cost for equipment	Yes	Yes	All	Yes
Equipment Effort	Billable Equipment Hours + Non-billable Equipment Hours	Yes	Yes	All	Yes
Equipment Effort Variance %	(Forecast Equipment Effort - Current Equipment Effort) / Current Equipment Effort	Yes	Yes	All	Yes
ETC	Forecast Burdened Cost - Burdened Cost	Yes	Yes	ITD	Yes
ETC Equipment Effort	Estimate Equipment Hours At Complete - Total Equipment Hours	Yes	Yes	ITD	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
ETC People Effort	Estimate Hours At Complete - Total Labor Hours	Yes	Yes	ITD	Yes
ETC Raw Cost	ETC based on raw cost	Yes	Yes	ITD	Yes
ETC Revenue	Revenue based on ETC figure	Yes	Yes	ITD	Yes
Forecast Burdened Cost	Forecast Burdened Cost	Yes	Yes	All	Yes
Forecast Cost Variance	Forecast Burdened Cost - Current Budget Cost) / Current Budget Cost	Yes	Yes	All	Yes
Forecast Cost Variance %	(Forecast Burdened Cost - Current Budget Cost) / Current Budget Cost) * 100	Yes	Yes	All	Yes
Forecast Cost Variance from Original Budget	(Forecast Burdened Cost - Original Budget Cost) / Original Budget Cost	Yes	Yes	All	Yes
Forecast Cost Variance to Prior Forecast	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)]	Yes	Yes	All	No
Forecast Equipment Effort	Total Equipment Hours + Forecast Equipment Hours	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Forecast Equipment Effort Variance %	$(\text{Equipment Effort} - \text{Current Budget Equipment Effort}) / \text{Current Budget Equipment Effort}$	Yes	Yes	All	Yes
Forecast Margin	$\text{Forecast Revenue} - \text{Forecast Cost}$	Yes	Yes	All	Yes
Forecast Margin %	$\text{Forecast Margin} / \text{Forecast Revenue}$	Yes	Yes	All	Yes
Forecast Margin % Variance	$\text{Forecast Margin \%} - \text{Current Budget Margin\%}$	Yes	Yes	All	Yes
Forecast Margin % Variance from Original Budget	$\text{Forecast Margin \%} - \text{Original Budget Margin \%}$	Yes	Yes	All	Yes
Forecast Margin % Variance from Prior Forecast	$\text{Current Forecast Margin \%} - \text{Margin \% (based on prior published forecast revenue and cost)}$	Yes	Yes	All	No
Forecast Margin Variance	$(\text{Forecast Margin} - \text{Current Budget Margin}) / \text{Current Budget Margin}$	Yes	Yes	All	Yes
Forecast Margin Variance %	$(\text{Forecast Margin} - \text{Current Budget Margin}) / \text{Current Budget Margin}$	Yes	Yes	All	Yes
Forecast Margin Variance from Original Budget	$(\text{Forecast Margin} - \text{Original Budget Margin}) / \text{Original Budget Margin}$	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Forecast People Effort	Total Labor Hours + Forecast Labor Hours	Yes	Yes	All	Yes
Forecast People Effort Variance %	(Forecast People Effort - Current People Effort) / Current People Effort	Yes	Yes	All	Yes
Forecast Revenue	Baseline forecast revenue for the entire project	Yes	Yes	All	Yes
Forecast Revenue at Risk	Forecast revenue - Total Net Funding = 0 or > 0	Yes	No	ITD	No
Forecast Revenue Variance	Forecast Revenue - Current Budget Revenue	Yes	Yes	All	Yes
Forecast Revenue Variance %	(Forecast Revenue - Current Budget Revenue) / Current Budget Revenue	Yes	Yes	All	Yes
Forecast Revenue Variance from Original Budget	(Forecast Revenue - Original Budget Revenue) / Original Budget Revenue	Yes	No	All	No
Funding Adjustments	Sum of funding amounts in all the funding lines with the funding classification of Correction or Transfer	Yes	No	All	No
Funding Cancellations	Sum of funding amounts in all the funding lines with the funding classification of Cancellation	Yes	No	All	No
Invoice Write-offs	Total value of the project invoice write-offs issued	Yes	No	All	No

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Margin	Revenue - Cost	Yes	Yes	All	Yes
Margin %	Margin / Revenue	Yes	Yes	All	Yes
Margin % Variance	Actual Margin % - Current Budget Margin %	Yes	Yes	All	Yes
Margin Variance	Actual Margin - Current Budget Margin	Yes	Yes	All	Yes
Margin Variance %	(Actual Margin - Current Budget Margin) / Current Budget Margin	Yes	Yes	All	Yes
Next Invoice Date	Next invoice date derived from the billing setup	Yes	No	No	No
Nonbillable Cost	Total cost for all expenditure items in a contract project that are nonbillable	Yes	Yes	All	Yes
Nonbillable Cost % of Total Cost	(Nonbillable Cost / Burdened Cost) * 100	Yes	Yes	All	Yes
Nonbillable Equipment Effort	Total hours from distributed actual costs with Billable flag checked	Yes	Yes	All	Yes
Nonbillable People Effort	Total hours from distributed timecards with Billable flag unchecked	Yes	Yes	All	Yes
Noncapitalizable Cost	Total cost for all expenditure items in a capital project that cannot be capitalized	Yes	Yes	All	Yes
Number of Cash Applications	Number of times cash has been allocated to the project	Yes	No	All	No

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Number of Invoices Issued	Number of customer invoices generated by the project. This figure can be used to calculate the average invoice value	Yes	Yes	All	No
Original Budget 2 Burdened Cost	Original baseline budget cost from secondary budget	Yes	Yes	All	Yes
Original Budget 2 Equipment Effort	Budget equipment hours based on secondary original budget	Yes	Yes	All	Yes
Original Budget 2 Margin	Original Budget 2 Revenue - Original Budget 2 Cost	Yes	Yes	All	Yes
Original Budget 2 Margin %	Original Budget 2 Margin / Original Budget 2 Revenue	Yes	Yes	All	Yes
Original Budget 2 People Effort	Budget labor hours based on secondary original budget	Yes	Yes	All	Yes
Original Budget 2 Raw Cost	Original baseline budget cost from secondary budget	Yes	No	All	No
Original Budget 2 Revenue	Original baseline budget 2 revenue	Yes	Yes	All	Yes
Original Budget 2 Burdened Cost	Original baseline budget cost	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Original Budget Equipment Effort	Budget equipment hours based on original baseline budget	Yes	Yes	All	Yes
Original Budget Margin	Original Budget Revenue - Original Budget Cost	Yes	Yes	All	Yes
Original Budget Margin %	Original Budget Margin / Original Budget Revenue %	Yes	Yes	All	Yes
Original Budget People Effort	Budget labor hours based on original baseline budget	Yes	Yes	All	Yes
Original Budget Raw Cost	Original baseline budget cost	Yes	No	All	No
Original Budget Revenue	Original baseline budget revenue	Yes	Yes	All	Yes
Original Funding	Sum of funding amounts in all the funding lines with the funding classification of Original	Yes	Yes	All	No
Other Committed Cost	Cost from commitments other than supplier invoices, purchase orders, or purchase requisitions	Yes	Yes	ITD	Yes
Outstanding Receivables	Total invoiced amount without receipts	Yes	No	All	No
Past Due Receivables	Receivables amount due for more than the threshold number of days	Yes	No	ITD	No

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
People Burdened Cost	Total cost from cost-distributed timecards	Yes	Yes	All	Yes
People Effort	Billable Labor Hours + Non-billable Labor Hours	Yes	Yes	All	Yes
People Effort Variance %	(People Effort - Current Budget People Effort) / Current Budget People Effort	Yes	Yes	All	Yes
People Raw Cost	Raw cost of labor	Yes	Yes	All	Yes
Physical % Complete	Equals work done on a task (from percent complete value entered against financial plan or calculated from the workplan)	Yes	Yes	ITD	No
Planned Value	Current baseline budget cost from secondary budget (earned value or BCWS)	Yes	Yes	ITD	No
Planned Value 2	Current baseline budget cost from secondary budget (earned value or BCWS)	Yes	Yes	ITD	No
Purchase Orders Committed Cost	Total cost from purchase order commitments	Yes	Yes	All	Yes
Purchase Requisitions Committed Cost	Total cost from purchase requisition commitments	Yes	Yes	All	Yes
Raw Cost	Distributed raw cost	Yes	Yes	All	Yes

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Revenue at Risk	ITD revenue - Total Net Funding = 0 or > 0	Yes	No	ITD	No
Revenue Variance	Actual Revenue - Current Budget Revenue	Yes	Yes	All	Yes
Revenue Variance %	(Actual Revenue - Current Budget Revenue) / Current Budget Revenue	Yes	Yes	All	Yes
Revenue Write-offs	Total value of the revenue write-offs issued	Yes	Yes	ITD	No
Schedule Performance Index	SPI or Earned Value / Planned Value	Yes	Yes	ITD	No
Supplier Invoices Committed Cost	Total cost from supplier invoice commitments	Yes	Yes	ITD	Yes
To Complete Performance Index	(Current Budget - Earned Value) / (Current Budget - Actual Cost)	Yes	Yes	ITD	No
Total Committed Cost	Cost from supplier invoices, purchase orders, purchase requisitions, and other commitments	Yes	Yes	ITD	Yes
Total Net Funding	Original funding + additional funding + adjustments + cancellations	Yes	No	All	No
Total Receivables Days Outstanding	(Total Billed Receivables / Invoiced Amount / Number of Days in the period)	Yes	No	ITD	No

Measure	Description and Formula	Project Overview	Task or Resource	To-Date	Periodic
Unbilled Cost	Total cost of billable expenditure items not billed	No	No	No	No
Unbilled Receivables	Revenue recognized in GL for which invoice has yet to be generated and Billed flag set	Yes	No	All	No
Unearned Revenue	Billed Amount - ITD Revenue	Yes	No	All	No

Graphs in Performance Reports

Project Performance Reporting provides a set of predefined graphs that analyze cost, profit, and earned value information on a project.

You can use page personalization to add or remove graphs from any project performance report. Oracle Projects uses the following predefined graph types on project performance reporting pages:

- **Line Graphs:** to display cumulative amounts over time or trends
- **Horizontal Bar Graphs:** to display amounts and their components in a hierarchical structure
- **Vertical Bar Graphs:** to compare amounts and percentage

Cost Graphs

The following table describes the graphs available on analysis reports for cost and the performance measures for each graph.

Graphs	Measures Included
Actual Cost by Period	Budget cost Total cost Forecast cost

Graphs	Measures Included
Actual Cost by Task, Resource	Budget cost Total cost Forecast cost
Actual Effort by Period	Budget people effort Total people effort Forecast people effort
Actual Effort by Task, Resource	Budget people effort Total people effort Forecast people effort
Cost Billability by Period	Billable cost Non-billable cost
Cost Billability by Task, Resource	Billable cost Non-billable cost
Cumulative Actual Cost	Budget cost Total cost Forecast cost
Cumulative Billability Cost	Billable cost Non-billable cost
Cumulative Cost at Completion	Budget cost Total cost Forecast cost
Cumulative Effort	Budget people effort Total people effort Forecast people effort

Graphs	Measures Included
Cumulative Effort at Completion	Budget people effort Total people effort Forecast people effort
Cumulative Effort Billability	Billable people effort Non-billable people effort
Effort Billability by Period	Billable people effort Non-billable people effort
Effort Billability by Task, Resource	Billable people effort Non-billable people effort
To-Date Actual Cost	Budget cost Total cost Forecast cost
To-Date Actual Effort	Budget people effort Total people effort Forecast people effort
To-Date Billable Cost	Billable cost Non-billable cost
To-Date Billable Effort	Billable people effort Non-billable people effort

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 Margin	Budget margin Margin Forecast margin
Cumulative Margin %	Budget margin % Margin % Forecast margin %
Cumulative Margin % at Completion	Budget margin % Margin % Forecast margin %
Cumulative Margin at Completion	Budget margin Margin Forecast margin
Cumulative Revenue	Budget revenue Revenue Forecast revenue
Cumulative Revenue at Completion	Budget revenue Revenue Forecast revenue
Margin % by Period	Budget margin % Margin % Forecast margin %
Margin % by Task, Resource	Budget margin % Margin % Forecast margin %

Graphs	Measures Included
Margin by Period	Budget margin Margin Forecast margin
Margin by Task, Resource	Budget margin Margin Forecast margin
Revenue by Period	Budget revenue Revenue Forecast revenue
Revenue by Task, Resource	Budget revenue Revenue Forecast revenue
To-Date Margin	Budget margin Margin Forecast margin
To-Date Margin %	Budget margin % Margin % Forecast margin %
To-Date Revenue	Budget revenue Revenue Forecast revenue

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
% Spent and % Complete	% Spent % Complete
Cumulative Earned Value Variances	Schedule variance Cost variance Total cost (actual cost of work performed)
Cumulative Planned Value, 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)
Schedule and Cost Performance by Task	Earned value schedule variance Earned value cost variance

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