Oracle® Project Manufacturing

Implementation Guide

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Oracle Project Manufacturing Implementation Guide, Release 12.2

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Preface

Intended Audience

Welcome to Release 12.2 of the *Oracle Project Manufacturing Implementation Guide.*

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

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Related Information Sources

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 E-Business Suite: Administering Enterprise Command Centers

This book describes various tools and features of Oracle Enterprise Command Center Framework that can be used to manage and monitor Enterprise Command Centers.

Oracle E-Business Suite: Extending Enterprise Command Centers

This book provides an overview of the Oracle Enterprise Command Center Framework architecture and the anatomy of an Enterprise Command Center dashboard. It also describes how to extend Enterprise Command Center dashboards to meet requirements specific to your implementation.

Oracle Project Manufacturing User's Guide

This guide provides information on key concepts, features, process flows, and how to use the Project Manufacturing user interface.

Oracle Inventory User's Guide

This guide describes how to define items and item information, perform receiving and inventory transactions, maintain cost control, plan items, perform cycle counting and physical inventories, and set up Oracle Inventory.

Oracle Work in Process User's Guide

This guide describes how Oracle Work in Process provides a complete production management system. Specifically this guide describes how discrete, repetitive, assemble-to-order, project, flow, and mixed manufacturing environments are supported.

Oracle Warehouse Management User's Guide

This guide provides information about warehouse resource management, warehouse configuration, and advanced pick methodologies for material handling for warehouses, manufacturing facilities, and distribution centers. This product is one of the components of Oracle Mobile Supply Chain Applications.

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.

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.

1

Project Manufacturing

This chapter covers the following topics:

- Overview of Project Manufacturing
- Oracle Project Manufacturing Integration
- Project Manufacturing Flow
- Project Manufacturing Features
- Project Definition
- Project Budgeting
- Project Manufacturing Execution
- Project Inventory
- Project Manufacturing Costing
- Project Billing
- Project Quality Management
- Special Features

Overview of Project Manufacturing

Oracle Project Manufacturing supports companies in the engineer-to-order, make-to-order, Seiban, and aerospace and defense industries. These industries plan, track, procure, and cost based on project, contract, or Seiban numbers.

Oracle Project Manufacturing supports the following key areas:

- Contract or sales management and fulfillment, including drop shipments
- Advanced supply chain planning
- Costing

- Procurement

- Shop floor execution, including flow manufacturing

- Project Inventory tracking including warehouse management

- Project Manufacturing quality management

- Assemble-to-order and pick-to-order environments

- Task auto-assignment workbench

- Workflow-based schedule exception messages

- Workflow-based project MRP exception messages, with project reschedule-in, reschedule-out, and cancellation messages

- Common supply netting for hard pegged material

- Workflow-based manufacturing project definition flow

- Seiban wizard and Seiban job costing

- Project data in EDI purchase order and purchase order change transactions

- Workflow-based inventory move orders for project material

- Project manufacturing organization parameters

- Project Manufacturing Inquiry support for querying information of PSI (project status inquiry including project actuals and commitments), project expenditures, project budgets and budget revisions, WIP job drill down to operations and material, cost group history drill down, and flow schedules

In addition, Oracle Projects provides the following features:

- Work breakdown structure definition

- Project management system integration

- Budgeting and funding

- Cost tracking and control

- Cash forecasting

- Billing

- Revenue recognition

- Archive and purge

- Model/unit effectivity (serial effectivity)

- Borrow payback

- Invoice cost transfer (for actual costing)

- Common project

- Inter-org project manufacturing costing

- Project return material authorizations

- Pick Release by project and task

- Integration with Oracle Advanced Supply Chain Planning

- Project cash forecasting (integration with Oracle Cash Management)

- Multinational projects (currency and tax)

- Cost allocations

- Graphical T-Accounts

- Archive and purge

- Intercompany and inter-project billing

The following key features are supported specifically for the Aerospace and Defense industry:

- Model or unit effectivity (serial effectivity)

- Borrow payback

- Hard and soft full pegging across the supply chain

- Group netting

- Actual costing (moving weighted average method)

- Complete integration with Oracle Advanced Planning and Scheduling

- Complete integration with Oracle Flow Manufacturing

See Also:

Oracle Project Manufacturing Integration

Oracle Project Manufacturing integrates with the Oracle Projects, Oracle Financials, Oracle Human Resources, Oracle Customer Relationship Management, and Oracle Advanced Supply Chain Management product suites. The following figure depicts the integration points.
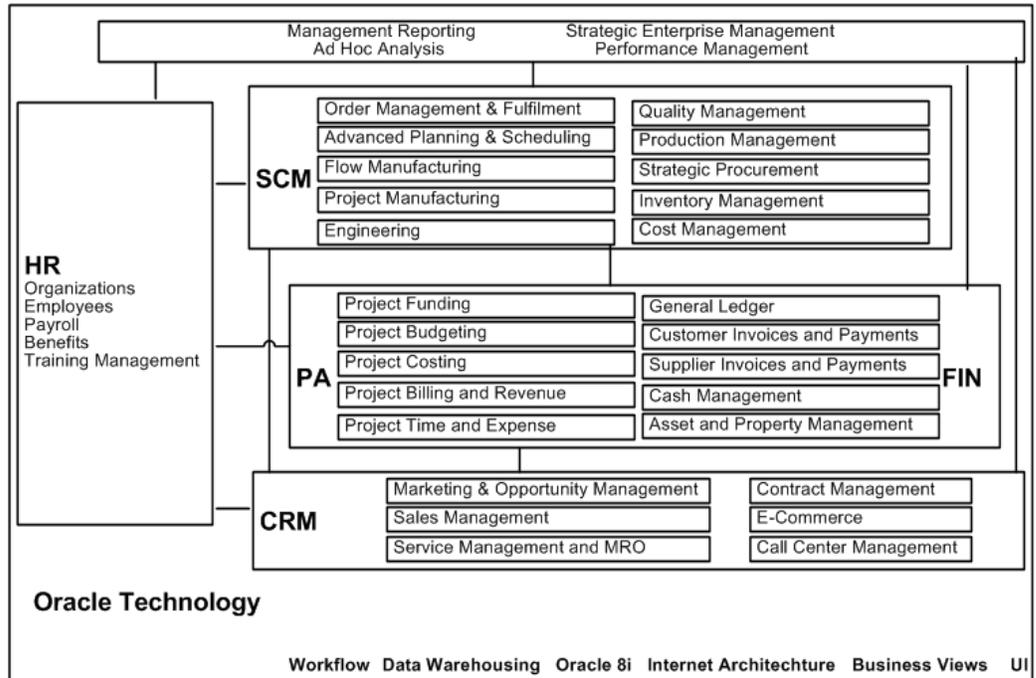
See Also:

Overview of Cost Management, *Oracle Cost Management User's Guide*

Overview of Flow Manufacturing, *Oracle Flow Manufacturing User's Guide*

Serial Number Control, *Oracle Inventory User's Guide*

Overview of Oracle Quality, *Oracle Quality User's Guide*

Overview of Budgeting, *Oracle General Ledger User Guide*

Bills Receivable Overview, *Oracle Receivables User Guide*

Oracle Project Costing, *Oracle Projects User's Guide*

Oracle Project Billing, *Oracle Projects User's Guide*

Project Manufacturing Flow

A contract cycle begins with a bid and proposal process by sales and engineering. This process includes review of profit margins and actual status on similar projects, calculation of a high-level project schedule to determine a rough-cut project duration, engineering reviews with optional new product introduction, infinite or constraint-based capacity simulation, procurement analysis for contract specific out-sourcing and requests for supplier quotes. The final result is a bid.

After the customer awards the contract, you define the project work breakdown structure and the budgeting and reporting requirements then submit for approval. The

work breakdown structure represents all project activities including tasks, sub-tasks, work packages, activities, and milestones.

Project demand enters into the execution and planning system. The planning system runs a single or multiple plans across the supply chain and optimizes as needed based on constraints. Simulation of alternates provides the information required to determine the optimal scenario. The system analyzes specific project exception messages at the outcome of each planning run. It forwards the planning results to procurement and the shop floor for execution. You can route drop shipped material directly to procurement from order management, bypassing planning.

Shop floor execution uses discrete work orders, flow schedules, or a combination to manufacture (sub)assemblies. Procurement uses either blanket releases or standard purchase orders, based on the project specific supplier quotes, for procured material. The system tracks all project specific material (hard pegged) separately in the system, and permits borrowing or permanent transfers from one project to another. Also, you can track project specific quality data and analyze defects and non-conformances.

During execution, the system collects direct and indirect actual costs by project. You can analyze costs for a specific project or across multiple projects. Based on actual costs, you can perform earned value analysis, progress billing, and revenue recognition. During the execution phase the system collects quality data and analyzes it by project.

After the project is shipped and installed at the customer site, final billing, reconciliation, and close-out execute.

See Also:

Creating Projects, *Oracle Projects User's Guide*

Overview of Shipping, *Oracle Shipping Execution User's Guide*

Project Manufacturing Features

The following figure illustrates project manufacturing features. It also depicts the dependencies between the various products used to provide a full project manufacturing solution.
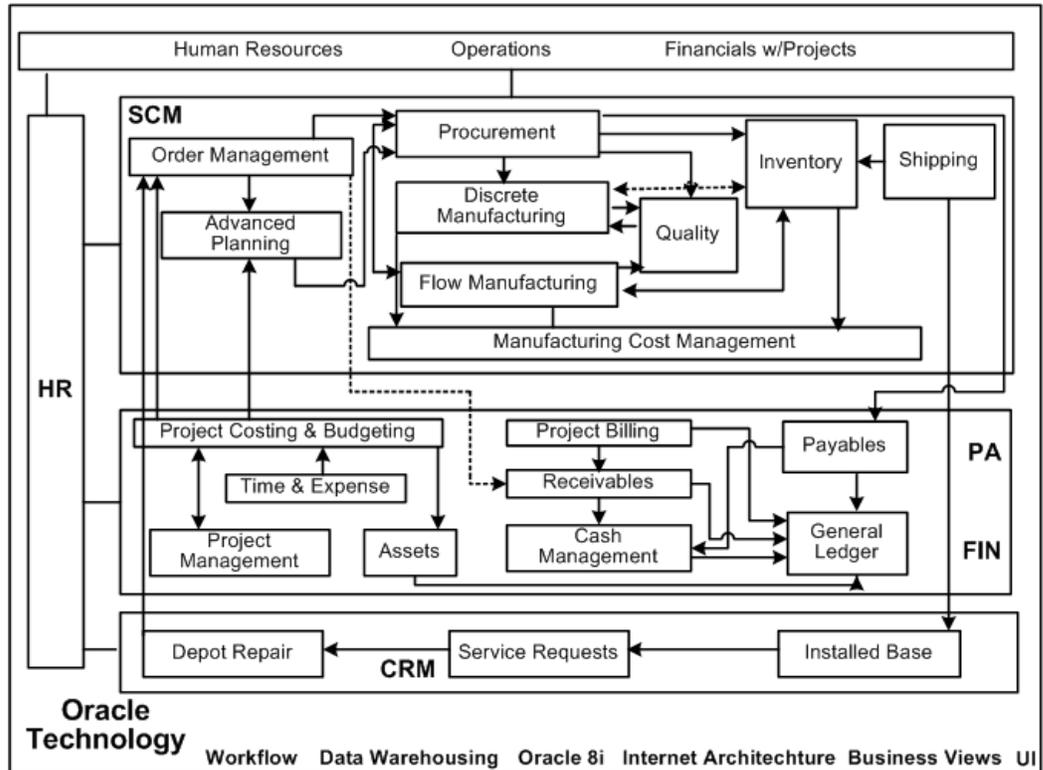
Project Definition

In order to define a project work breakdown structure, you can use one of the following methods:

- Define the project structure in a third party project management system and transfer the structure into Oracle Projects. Use basic setup data from Oracle Projects, such as project resources, project calendars, and project templates, directly in your third party project management system. Depending on the project management system that you need, use the Oracle Projects Connect or Oracle Projects Activity Management Gateway product.

- Define the project structure directly in Oracle Projects.

- Define the project structure using the Seiban Number Wizard.

Before you release the project to collect manufacturing costs, define the project-related manufacturing parameters for costing and planning purposes. For example, you need to decide whether to allow netting of materials within a project group across multiple projects or to track manufacturing costs separately by project or for a group of projects. You can also use project attachments to enter project or contract specific documentation.

See Also:

Seiban Number Wizard, *Oracle Project Manufacturing User's Guide*

Creating Projects, *Oracle Projects User's Guide*

Overview of Projects and Tasks, *Oracle Projects User's Guide*

Project Budgeting

To track costs against budgets, you can define your budgets in Oracle Projects. You define budgets directly in Oracle Projects or import budgets from external systems. Oracle Projects' main budgeting features are:

- **Multiple Budget Versions**. You can use Oracle Projects to create multiple budget versions that include all of the costs for your project, such as engineering costs, item costs, manufacturing costs, and overheads. Having multiple budget versions enables you to revise your estimate-to-complete many times during a project. Each project can compare the current or baseline budget with earlier versions for analytical reporting.

- **Unlimited Budget Types**. You can create different types of budgets. You can create cost budgets, revenue budgets, forecasted revenue budget, approved cost budget, and more.

- **Time Phased Budgeting**. You can create time periods or use existing calendars in Oracle General Ledger or Oracle Projects to establish multiple budgeting periods.

- **Budget Extensions**. You can use budget extensions to accommodate your company's budgeting needs.

- **Budget Baselining and Approval**. You can baseline a budget and use a workflow-supported approval process for approving your budget.

Budgeting related documents such as spreadsheets can be included as budget attachments.

See Also:

Overview of Project Budgeting and Forecasting, *Oracle Project Management User Guide*

Project Setup for Manufacturing

After your project structure and budgeting have been defined in Oracle Projects, you need to define the Project Manufacturing parameters for your project. These include:

- Default WIP Accounting Class

- Cost Group, if you are using weighted average costing

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- Borrow payback variance accounts (optional)

- Planning group (optional)

- Task auto-assignment parameters (optional)

- Expenditure types for IPV, ERV, Freight, Tax, and Miscellaneous; if the parameter Transfer to PA is selected in the Project Manufacturing organization parameters

- Project manufacturing costing information:
  - Link new project expenditure types to new manufacturing cost elements and cost sub-elements (only when using new cost elements).

  - Link new manufacturing departments to new projects expenditure organizations (only when using new departments).

  - Optionally, define expenditure types for Invoice Price Variance, Exchange Rate Variance, Freight, Tax, and Miscellaneous Invoice costs.

  - Optionally, define borrow payback accounts.

Project Sales Management

Project sales management activities include recording customer quotation documents, project specifications, quotation and sales order information, and fulfillment.

Oracle Project Manufacturing supports:

- **Project Quotations and Sales Orders**. Oracle Order Management allows you to specify quotation and sales orders. A quotation can be copied easily to a sales order. Quotation, and sales order lines can be linked to projects and project tasks.

- Project RMA Oracle Order Management allows you to process Project RMAs using the line type category 'Return'. Examples of the line types available are return for credit without receipt of goods, return for credit with receipt of goods, and return for replacement.

- **Project Assemble-To-Order (ATO)** and **Pick-To-Order (PTO)**. Oracle Project Manufacturing allows you to use the Oracle Configurator with Oracle Order Management with propagation of project and task on the configured model, options, and included items. For ATO, the Final Assembly Schedule process will create a WIP Job with the configuration's project and task.

- **Project Drop Shipments**. You can specify a project and task on a sales order line and automatically create a project purchase requisition using drop shipment functionality. Drop-shipped materials are shipped directly from supplier to customer.

- **Project Fulfillment**. Oracle Order Management and Oracle Shipping Execution support delivery-based shipping with user-definable picking rules for order fulfillment. After manufacturing is complete, finished goods are picked automatically from the project inventory upon pick release. You can also pick all items for a project and task.

- **Project Order Import**. If you use external systems to capture order information you can use Order Import to import external sales orders or quotations, including project and task references.

Project Manufacturing Planning

In order to drive project manufacturing planning, you need to enter demand in the system. The system supports three ways of entering demand:

- **Forecasts**. You can enter a forecast and link a forecast entry to a project and task.

- **Sales Orders**. You can enter a sales order and link a sales order line to a project and task. This can also be accomplished using Order Import functionality.

- **Master Demand/Master Production Schedule** . You can enter a master schedule and link a master schedule entry to a project and task. Forecasts and sales orders can be sources for a master schedule.

After demand is created in the system, you can start your planning cycle. The planning cycle can be executed for a plan that spans one organization or an entire supply chain.

To successfully plan material for project execution, you must be able to separate all sources of supply and demand by project, identify components as shared or project specific, track existing inventories by project, and provide visibility to all supply and demand associated with a project.

Oracle Project Manufacturing provides:

- **Hard Pegging**. You can plan material requirements while respecting hard pegs on all supply orders and generate planned orders with project/task references. Each item can be hard or soft pegged, thereby allowing various pegging methods within a bill of material. Hard pegging is also supported in a supply chain planning scenario.

- **Soft Pegging**. You can plan materials and soft peg them to the demand. Soft pegging is also supported in a supply chain planning scenario.

- **Group Netting**. You can net within a planning group (multiple projects) and you can soft peg items to the projects within the project group.

- **Common Supply Netting**. You can net excess common (non-project) supply to hard pegged demand.

- **Graphical Pegging to Project**. You can use the object navigator to view your pegging information, such as project, task and sales order, graphically.

- **Planner Workbench**. You can use the Planner Workbench to view project exceptions, a project horizontal plan, supply and demand per project, and unit number to simulate new or existing project demand, and to release planned orders by project.

- **Forecast by Project/Task**. You can link a project WBS to a forecast entry and run the forecast demand through the planning system. This enables you to plan long term capacity and procurement for your projects.

- **Master Schedule by Project/Task**. You can load the MDS/MPS from a project forecast with project sales orders or manually link a project WBS to a schedule entry. You can have project and non-project demand in one schedule.

- **Project Exception Messages**. The planning system will generate project related exception messages including: items allocated across projects and tasks, items with excess inventory in a project or task, items with shortage in a project or task, reschedule-in, reschedule-out, and cancellation. You can use the workflow-based exception messages to define collaborative scenarios between internal and external organizations (suppliers and customers).

- **Single Planning Run for all Projects**. You can run a single plan for multiple projects at once, thereby eliminating the need to run planning project by project. Oracle Application's fast memory-based planner allows you to execute planning much faster than traditional planning systems.

- **Project Planning Simulation**. You can enter new supply and demand entries for new project and tasks or change existing supply and demand due dates directly in the Planner Workbench. On-line net-change simulation lets you view the results of your changes in minutes. This allows you to respond easily to scenarios of fluctuating and unexpected demand or to project management system rescheduling results.

- **Multi-Organization/Multi-Plant and Supply Chain Projects**. Using Oracle Project Manufacturing, you can consolidate all costs for the products you manufacture for the same project in multiple plants in Oracle Projects. You can use Oracle Advanced Supply Chain Planning to plan projects across a supply chain with appropriate propagation of project and tasks on internal orders and demand and supply entities.

- **Constraint-Based Optimization**. You can use Oracle Advanced Supply Chain Planning to optimize your project material and capacity plans using a variety of constraints and objective functions.

- **Borrow Payback Supply and Demand**. The planning engine recognizes borrow

payback supply and demand.

Project Manufacturing Execution

The planning cycle results in planned orders that are fed into the execution system:

• Internal orders driven by intercompany supply

• WIP discrete jobs for make items (Project Work In Process)

• Flow schedules for make items (Project Work In Process)

• Purchase requisitions or blanket releases for buy items (Project Procurement)

The execution system addresses the inventory, shop floor, and procurement activities. Project manufacturing costs are collected during execution.

Project Work In Process

Oracle Project Manufacturing supports the following features for Project Work In Process:

• **Project WIP Jobs**. You can create WIP Jobs with project/task references. Project Manufacturing supports standard and non-standard WIP Jobs. You can create Standard Project WIP Jobs automatically and release them from the Planner Workbench.

> **Note:** For release 12.2.13 and later, the serial tagging functionality is applicable to Project Manufacturing enabled organizations. If the organization is enabled for Project Manufacturing, then during supported WIP transactions, you are prompted to provide the serial tagging assignment that you defined at the item level.

> See:

> • Serial Number Tagging in the Material Control chapter, *Oracle Work in Process User's Guide*

> • Overview of Serial Tagging Assignments, *Oracle Inventory User's Guide*

> • Setting Up Serial Tagging Assignments, *Oracle Inventory User's Guide*

• **Project Outside Processing** . You can use existing outside processing functionality to support Project Outside Processing. The system transfers the project/task on the

work order once the outside processed purchase requisition generates.

- **Project Repair Orders**. You can link nonstandard WIP Jobs to a project / task to capture project repair.

- **Project Flow Schedules**. You can use flow schedules in a work orderless production environment. Flow schedules can be created and released from the Planner Workbench or the Line Scheduling Workbench.

Project Procurement

Oracle Project Manufacturing supports the following features for Project Procurement:

- **Project Requisitions**. You can create requisitions with project/task references. Project requisitions can be defined for inventory and expense destination types. Project requisitions can be implemented automatically from the Planner Workbench.

- **Project Purchase Orders**. You can create purchase orders with project or task references. Project purchase orders can be defined for inventory and expense destination types.

- **Project Blanket Releases**. You can create purchase blanket releases with project/task references. Project blanket releases can be automatically implemented from the Planner Workbench.

- **Project RFQs**. You can create purchase request for quotations (RFQ) manually or autocreate an RFQ from a requisition. You can request multiple quotes within one vendor RFQ.

- **Project Supplier Quotes**. You can create purchase vendor quotes manually or create a quote from an RFQ.

- **Project Outside Processing**. You can create purchase orders for outside processing directly from Oracle Work In Process.

See Also:

Overview of Creating Discrete Jobs, *Oracle Work in Process User's Guide*

Overview of Non-Standard Discrete Jobs, *Oracle Work in Process User's Guide*

Overview of Outside Processing, *Oracle Work in Process User's Guide*

Overview of Requisitions, *Oracle Purchasing User's Guide*

Overview of Purchase Orders, *Oracle Purchasing User's Guide*

Purchase Order Types, *Oracle Purchasing User's Guide*

Project Inventory

Tracking inventory by project and dealing with permanent and temporary transfers from one project to another or from common inventory to project inventory is essential for a project-based environment. Oracle Project Manufacturing supports:

- **Project Inventory**. You can use project locators to segregate inventory by project. Purchase order receipt locators validate automatically for project purchase orders. You can reference existing project locators or dynamically create project locators upon receipt. The issue, back-flush, and completion locators validate automatically for project WIP jobs and associated material. Similar logic applies in processing flow schedules using work orderless completions.

- **Project Material Transactions**. You can use existing material transactions such as Miscellaneous Issue/Receipt, Move Orders, PO Receipt, WIP Issue, WIP Return, and WIP Completion.

- **Permanent Project to Project Transfers**. You can use project transfer transactions to transfer material from one project to another with appropriate transfer of inventory value.

- **Temporary Project to Project Transfers**. You can use borrow payback transactions to borrow material from one project to another, and ensure payback against the original value.

- **Common-to-Project and Project-to-Common Transfers**. You can use project transfer transactions to transfer material from common inventory to project inventory and vice versa, with the appropriate transfer of inventory value.

- **Project Mass Transfers**. You can use the mass transfer wizard to initiate the mass transfer of material from one project to another based on criteria you define, with the appropriate transfer of inventory value. The system generates notifications of approval for the from and to project managers, if the project managers are different.

- **Consigned Material from Supplier**. You can perform implicit and explicit consumption of consigned items to demand/supply documents with project references, with appropriate transfer of inventory value into a project.

- **Project Warehouse Management**. You can enable Warehouse Management and Project Manufacturing in the same organization. You can receive, move, manufacture, pick and ship material owned by a project. You can leverage warehouse resource management, warehouse configuration productivity performance analysis, task scheduling, advanced pick methodologies, and value added services.

After completion of the assembly on the project sales order lines, the goods can be shipped to the customer for installation.

See Also:

Project Mass Transfer, *Oracle Project Manufacturing User's Guide*

Defining Stock Locators, *Oracle Inventory User's Guide*

Overview of Inventory Transactions, *Oracle Inventory User's Guide*

Defining Pick Methodologies, *Oracle Warehouse Management User's Guide*

Project Manufacturing Costing

During the execution phase, project-related costs can be collected in four ways:

- Import of costs from external systems directly into Oracle Projects' Transaction Import.

- Entry of direct labor and expenses directly into Oracle Projects using time and expense entry.

- Collection of manufacturing labor, material, and manufacturing overhead in Oracle Cost Management as a result of Work In Process and Inventory transactions.

- Import of manufacturing costs from external systems using Oracle Manufacturing Transaction Import.

For expense purchases, the invoice costs flow to a project through Oracle Payables. For inventory purchases, the purchase costs flow to a project through Oracle Cost Management upon receiving into destination. As soon as invoices are matched, approved, and posted to the General Ledger, you can transfer the appropriate invoice charges (IPV, ERV, Freight, Tax, and Miscellaneous) to Oracle Projects, using the Invoice Charge Transfer Request (not applicable for landed cost enabled PO shipments).

For inter-company costs, the system transfers costs at cost group value (determined by FOB point), either collapsed into the material element or with elemental details.

Oracle Project Manufacturing supports project costing with the following features:

- **Cost Groups**. You can create cost groups and link cost groups to projects to identify and separate costs by item and by project. Costs are tracked using perpetual weighted average, FIFO, LIFO, or standard costing methods. Using average costing, you can use one cost group for multiple projects if you want to establish a weighted average cost by item for a group of projects. In standard costing organizations, Cost groups hold the Inventory valuation accounts and links to WIP Accounting classes, but Standard Cost Rates are maintained at the organization level, which means a project cannot maintain a standard rate different from any other project for the

same item.

- **Linking Project Expense Organizations to Manufacturing Departments**. You can link project expense organizations to manufacturing departments to allow for departmental cost visibility and analysis for a project.

- **Common Project**. You can define a common project to collect cost for all common material transactions into Oracle Projects. You can use standard tools such as Expenditure Inquiry and Project Status Inquiry to analyze your common project, view commitments and actuals, and compare common and project-specific costs.

- **Linking Project Cost Elements To Manufacturing Cost Elements** You can create user-defined project cost elements (Oracle Projects expenditure types), and manufacturing cost (sub)elements. Project cost elements can be mapped into user definable categories for analysis and reporting. You can specify which project cost elements you will use on an individual project. Oracle Project Manufacturing allows you to link manufacturing cost elements (labor, material, overhead, outside processing), resources, and departments to project cost elements. This allows you to track all costs within a project, whether a given cost's source is purchasing, project direct labor and expenses, shop floor activity, or external systems.
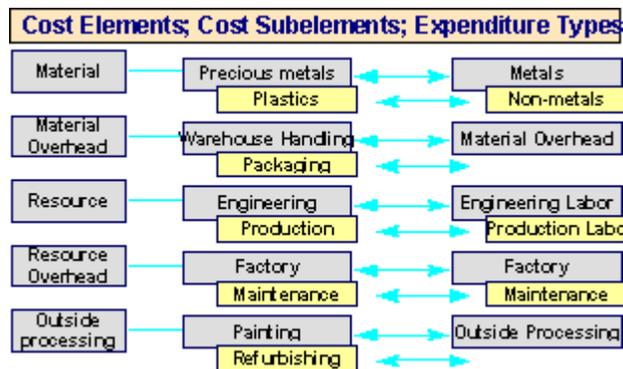
- **Manufacturing Cost Collector** Oracle's Manufacturing Cost Collector allows you to transfer manufacturing costs to Oracle Projects. The engine intelligently derives all required information such as expenditure organization, expenditure date, and project cost element, automatically. All manufacturing costs are transferred to Oracle Project's Transaction Import for project cost distribution. The Cost Collector also calls the Task Auto Assignment Rules to assign tasks to costed transactions when running a project-only manufacturing scenario.

- **Project Inventory Valuation** You can use the full functionality of Weighted Average Actual Costing in a Project Manufacturing environment. Project inventory material costs will be maintained by project on a perpetual weighted average basis. Common inventory material costs will be maintained by item. All costs are maintained per organization on elemental detail.

Oracle Projects supports costing with the following additional features to keep track of project progress, actual-versus-planned budget, control of project purchase commitments, and reporting:

- **Project Status Inquiry (PSI)**. Use this feature to research facts about your project. You can go up and down on your project WBS and obtain project summary information, and drill down to detail transaction information. You can also obtain project commitments, revenue, invoices, unbilled costs, backlog and receivable information. The PSI Extension allows you to pull project information from any part of the database. You can export data in online queries to your desktop spreadsheet and reporting tools, to meet the requirements of your company.

- **Project Comparison**. Oracle Projects and most project management systems allow you to compare multiple project versions. You can use Oracle Projects to compare baseline and current project budgets.

- **Project Status Reporting**. Both Oracle Projects and most third-party project management systems support a large number of project status reports to analyze your project financial status.

- **Project Expenditure Types**. You can create user defined project cost elements (expenditure types) and group these elements into categories.

Project Billing

Oracle Projects is the repository for all project costs. These costs can be used for earned value analysis, which is handled in the third-party project management system. The result of the earned value analysis can trigger project billing.

Within the Project Manufacturing solution, there are three ways to accomplish billing:

- Drive billing from Oracle Order Management using order types (workflows) that interface to Oracle Receivables.

- Drive billing from Oracle Project Billing using billing schedules that interface to Oracle Receivables.

- Use a combination of the first two methods. For example, you might drive project billing from Oracle Project Billing and spare-part billing from Oracle Order Management. If you use Oracle Shipping Execution to ship your project-related assemblies, but not to bill for them, use order types (workflows) that do not interface to Oracle Receivables to avoid double billing.

Project Quality Management

Optionally, you can implement Oracle Quality for managing project quality. Oracle Quality in combination with Oracle Project Manufacturing supports:

- **Project Quality Collection Elements**. You can use project and task as quality collection elements.

- **Specify Project on Quality Collection Plan**. You can specify a project on a quality collection plan.

- **Project Quality Data Collection**. You can collect project and task related quality information using manual entry or Oracle Quality's Data Collection Open Interface.

- **Project Quality Analysis**. You can use project and task as selection criteria for quality analysis.

Figure 1-3 includes Oracle financial products that have not been discussed. If you implement an Oracle Projects functionality called Capital Projects, you will generate asset lines for Oracle Assets. All journals from all subsystems will be posted to Oracle General Ledger. Oracle General Ledger is also the placeholder for the chart of accounts used throughout the entire system.

Special Features

Oracle Project Manufacturing provides additional special features:

- **Model/Unit Effectivity (Serial Effectivity)**. You can define unit effective items and bills of materials, allowing you to implement product structure variations driven by unit number effectivity as opposed to date effectivity. You can engineer, sell, plan, produce, procure, ship, and track against a unit number. Model and unit effectivity can be used in a non-project based environment.

- **Task Auto Assignment Workbench**. You can use the Task Auto Assignment Workbench to define material and resource rules for task allocation. This feature supports scenarios where you intend to run the manufacturing side under project control only. Task Auto Assignment supports a myriad of rules to assign tasks dynamically to project-only manufacturing transactions for more flexible costing scenarios. For example, rather than allocating all costs for a work order to one task, you could implement rules that allow certain resource cost to be allocated to one task, other resource costs to another task, and material costs to be allocated to another.

- **Project Manufacturing Inquiry**. PJM Inquiry, accessed in a separate browser window, allows continuous monitoring of one or more projects. PJM Inquiry shows project related data such as project sales orders, project procurement documents, project discrete jobs with material and operation details, project flow schedules, project cost group with history, project budgeting, project expenditures, and project commitments.

- **Manufacturing Project Definition**. This workflow-based process guides you through the setup steps required to define a project manufacturing project. The

process keeps track of completion and can notify you on steps to be done or completed.

- **Project Schedule Exceptions**. This workflow-based process assists you in identifying project schedule inconsistencies. Inconsistencies can be sent to project and task managers using workflow notifications or standard exception reports. The process monitors overdue work orders, procurement documents, and sales orders, as well as out of sync work orders, procurement documents, planning entries, and sales orders.

- **Seiban Number Wizard**. The Seiban Number Wizard guides you in the definition of Seiban number, which is visible in the system as a project number. Seiban numbers can be represented as unique numbers using Project Manufacturing without Oracle Projects. For ETO-type Seiban or lot-type Seiban, you can define a multilevel project structure in Oracle Projects, or a top-level project structure that can be generated through the wizard.

2

Setting Up

This chapter covers the following topics:

- Overview of Setting Up
- Setup for Project Manufacturing without Cost Collection
- Set up for Project Manufacturing with Cost Collection
- Setup Steps for Oracle Project Manufacturing with Cost Collection and Posting of Manufacturing Transactions to GL from Oracle Projects
- Organization Classification
- Organization Hierarchy
- Set up Project Manufacturing Organization Parameters
- Set Up Multi-Organization Access Control (MOAC)
- Project Information Region
- Set up Inventory Organization Costing Parameters
- Set up Locator Flexfields and Stock Locators
- Project Manufacturing Validation
- PJM: Allow Cross Project Issues
- Set up Departments in Manufacturing
- Manufacturing Transactions to Project Transaction Source Mapping
- Organization Costing Information
- Set up Expenditure Types and Expenditure Type Classes
- Associating Expenditure Types to Multiple Expenditure Type Classes
- Linking Expenditure Types to Cost Elements
- Set up Cost Sub–elements and Link to Expenditure Types
- Assign Material Overhead Rates to Items

- Set Up Burden Structures

- Set Up WIP Person Resources as Straight Time

- Set up Projects

- Set up Standard Cost Rates

- Set up Cost Groups

- Set up WIP Accounting Classes

- Common Project Assignment

- Set up Planning Groups

Overview of Setting Up

Oracle Project Manufacturing can be set up with and without Cost Collection. This chapter provides information on how to set up the application in both modes.

Related Product Setup Steps

Oracle Project Manufacturing setup includes various setup steps within Oracle Applications products. These steps are discussed in detail in the Overview of Setting Up sections of the respective Oracle product user's guides.

Setup Underlying Oracle Applications Technology

You need to complete several system administration setup steps that include:

- Performing system-wide setup tasks such as configuring concurrent managers and printers.

- Managing data security, which includes setting up responsibilities to allow access to a specific set of business data and complete a specific set of transactions, and assigning individual users to one or more of these responsibilities.

- Setting up Oracle Workflow.

See Also:

Oracle E-Business Suite System Administrator's Guide Documentation Set:

- *Oracle E-Business Suite Setup Guide*

- *Oracle E-Business Suite Maintenance Guide*

- *Oracle E-Business Suite Security Guide*

Oracle Workflow Guide

Human Resources/ Projects Setup

Refer to the Overview of Setting Up section in the *Human Resources User's Guide* for details of the following setup steps

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Step	AW References
Set up Organization	Common Applications
Set up Organization Hierarchy	Common Applications

Inventory Setup Steps

Refer to the Overview of Setting Up section in the *Inventory User's Guide* for details of the following setup steps

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Step	AIW Reference
Set up Inventory Organization Parameters for Costing	Common Applications
Set up Stock Locators	Common Applications

Bill of Material Setup Step

Refer to the Overview of Setting Up section in the *Bill of Materials User's Guide* for details of the following setup steps:

Step	AW Reference
Set up Department in Manufacturing	Common Applications

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Projects Setup Steps

Refer to the Overview of Setting Up section in the *Projects User's Guide* for details of the following setup steps

Step	AW Reference
Set up Expenditure Types and Type Classes	Common Applications
Set up Expenditure Types for Cost Elements	Common Applications

Cost Management Setup Step

Refer to the Overview of Setting Up section in the *Cost Management User's Guide* for details of the following setup steps

.

Step	AIW Reference
Set up Expenditure Types for Cost Sub-elements	Common Applications

Setup for Project Manufacturing without Cost Collection

This section provides information on how to implement Oracle Project Manufacturing without Oracle Projects Cost Collection.

Some of the steps outlined in this flowchart and setup checklist are required and some are optional. Required Step With Defaults refers to setup functionality that comes with pre-seeded, default values in the database; however, you should review those defaults and decide whether to change them to suit your business needs. If you want or need to change them, you should perform that setup step. You need to perform optional steps only if you plan to use the related feature or complete certain business functions.

Setup Steps for Oracle Project Manufacturing without Cost Collection

For each step, a context section indicates whether you need to repeat the step for each set of books, set of tasks, inventory organization, HR organization, or other operating unit under Multiple Organizations.

1. Step 1 Do You Want to Enable Project Cost Collection?

   This step is required. This decision determines whether manufacturing costs are to be collected and transferred to Oracle Project Accounting.

   If your answer to this question is Yes, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization.

2. Define Organizations

   This step is required. An organization should have the following classifications when it is used in a project manufacturing environment without Oracle Projects:

   • Project Manufacturing Organization

   • Inventory Organization

   • MRP Organization (optional)

   • WIP Organization (optional)

   • ECO Department (optional)

   • HR Organization (optional)

In classifying the Project Manufacturing Organization, you can click the Other button to enable the various PJM Org parameters. These parameters include:

- **Set Project Reference**. You need to enable this check box if you use Project Manufacturing in this organization.

- **Set Control Level**. In a Seiban organization, the control level should be set to Project as there are no tasks defined for a project. When the control level is set to Project, you can use the project number on all supply and demand entries.

- **Common Project**

   Note: If you do not use Oracle Projects, you do not need to perform this setup.

- **Allow Cross Project Issues**. Selecting this checkbox allows you to perform cross project issues for projects belonging to the same planning group. Allow Cross Project Issues requires that the projects belong to the same planning group but can be from the same or different cost groups.

- **Allow Cross Unit Issues**. Selecting this check box allows you to perform cross unit issues within the planning group.

- **Transfer to PA Checkbox**

   Note: If you do not use Oracle Projects, you do not need to perform this setup.

- **Set Expenditure type**

   Note: If you do not use Oracle Projects, you do not need to perform this setup.

- **Set Variance accounts** . This is an optional setup used in Borrow/Payback scenarios. You can define new Borrow/Payback variance accounts at the Inventory Organization level. When you set up a project cost group, the variance accounts defined at the organization level defaults on to the cost group window. You can change the organization defaults if you need different payback variance accounts for your project.

   When you perform a payback transaction in an average costing organization, the difference between the current average cost and the original borrowing cost posts to the new variance accounts for the cost group for the borrowing project cost group. In addition, the variance amount posts to Oracle Projects against the

borrowing project as a material expenditure.

In a standard costing organization, you can perform a borrow/payback transaction if the standard cost of the borrowed item has been updated between the borrow and the payback transactions. The difference between the original standard cost and the updated standard cost is charged to the variance accounts on both the borrowing and lending projects.

3. Define Inventory Organization Parameters

    If you have already enabled the Costing Method, you can skip this step. Otherwise you need to complete this step.

    The fields applicable for Project Manufacturing setup are:

    *   Cost Collection

    *   Costing Method

        If you are in a project manufacturing organization, and if the Project Cost Collection Enabled check box is selected, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization. Otherwise, you can use either average, FIFO, LIFO, or standard costing methods.

        > **Note:** You should not check Cost Collection Enabled in a Standard Costing organization after you have processed transactions. You should set up a new inventory organization for Project Manufacturing Standard Costing with cost collection.

4. Define Project Manufacturing Organization Parameters. This step is required for a Project Manufacturing Organization.

    If you have set these parameters in the step Define Organization, you can skip this step. Otherwise, please set the following parameters for each Inventory Organization:

    General Tab:

    *   **Enable Project Reference**.You need to enable this check box if you use Project Manufacturing in this organization.

    *   **Set Project Control level** . When the control level is set to Project, you can use the project number on all supply and demand entries. Task number is optional. When the control level is set to Task, you must enter the task number if the project number is entered on the supply and demand entities. When the control level is set to either Project or Task, the system automatically sets the value of the hidden Inventory Organization parameter Project Reference to Enabled.

- **Set Common Project**

  > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have defined a common project, then you can assign the common project that is defined in the previous step for each Inventory Organization in the PJM Org Parameters window.

- **Allow Cross Project Issues**. Checking this box allows you to perform cross project issues for projects belonging to the same planning group. Note that Allow Cross Project Issues requires that the projects belong to the same planning group but can be from the same or different cost groups.

  Allow Cross Unit Issues. Checking this box allows you to control cross unit number issues of unit effective components for an end item model unit number. If checked, then unit effective components for one end item model unit number can be issued to a WIP job for an assembly with a different model or unit Number. If unchecked, then unit effective components for one end item model/unit number cannot be issued to a WIP job for an assembly with a different model/unit number.

  Invoice Transfer Tab. This region be displays only if Oracle Projects or Oracle is installed.

- **Transfer to PA Checkbox**

  > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

- **Set Expenditure type**

  > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have checked the Transfer to PA checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

  Borrow/Payback Tab

- **Set Variance accounts**. This is an optional setup used in borrow/payback scenarios. You can define new borrow/payback variance accounts at the Inventory Organization level. When you set up a project cost group, the

variance accounts defined at the organization level default to the cost group window. You can change the organization defaults if you want different payback variance accounts for your project.

When you perform a payback transaction in an average costing organization, the difference between the current average cost and the original borrowing cost be posts to the new variance accounts for the borrowing project's cost group. In addition, the variance amount posts to Oracle Projects against the borrowing project as a material expenditure.

In a standard costing organization, you can perform a borrow/payback transaction if the standard cost of the borrowed item has been updated between the borrow and the payback transactions. The difference between the original standard cost and the updated standard cost is charged to the variance accounts on both the borrowing and lending projects.

5. Define Stock Locators. This step is Required.

Project locators are used to track inventory by project. Oracle Project Manufacturing reserves segment19 and segment20 of the Stock Locator key flexfield to store the project and task numbers. If you are installing Oracle Project Manufacturing for the first time, when you create the first inventory organization and set the Project Control Level to Project or Task, the system automatically enables segment19 and segment20 of the Stock Locator key flexfield.

If you are installing Oracle Project Manufacturing in an existing Oracle Applications installation and are currently using segment19 and segment20 of the Stock Locator key flexfield, you need to change your current flexfield schema and use other segments instead. The system does not support automatic conversion.

In a Project Manufacturing environment, you should ensure that the locator control is set to Dynamic Entry in the Organization Parameters window. You can also access the Master Items window or the Subinventory window to set the locator control at the Item or Subinventory level respectively.

Set up for Project Manufacturing with Cost Collection

This section provides information on how to implement Oracle Project Manufacturing with Oracle Projects Cost Collection.

Some of the steps outlined in this flowchart and setup checklist are Required and some are Optional. Required Step With Defaults refers to setup functionality that comes with pre-seeded, default values in the database; however, you should review those defaults and decide whether to change them to suit your business needs. If you want or need to change them, you should perform that setup step. You need to perform Optional steps only if you plan to use the related feature or complete certain business functions.

Oracle Project Manufacturing with Cost Collection Setup (B)

Setup Steps for Oracle Project Manufacturing with Cost Collection

For each step, a context section indicates whether you need to repeat the step for each set of books, set of tasks, inventory organization, HR organization, or other operating unit under Multiple Organizations.

1. Step 1 Do You Want to Enable Project Cost Collection?

   This step is required. This decision determines whether manufacturing costs are to be collected and transferred to Oracle Project Accounting.

   If your answer to this question is Yes, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization

2. Define Common Project. This step is optional.

   In a Project Manufacturing environment, you may need to track the costs of common items (items where the on-hand quantities are not tied to a specific project or project/task) to a common project so that you can view the budget, actual and

commitment costs of the common project from Oracle Projects.

A common project could be created as a normal project in the Projects window. If you have already created a project which would be designated as a common project, please skip this step.

To designate a project as a common project, continue to the next step, Define PJM Org Parameters.

3. Define Expenditure Types and Type Classes. This step is required.

    When you define an expenditure type, you assign it a unit, an expenditure category, a revenue category, and one or more expenditure type classes.

    You need to link an expenditure type to cost elements and sub-elements so that Inventory and Work in Process transaction costs can be collected in Oracle Projects as expenditures.

4. Step B4 Define Organization. This step is required.

    An organization should have the following classifications when it is used in a project manufacturing environment:

    *   Project Manufacturing Organization

    *   Project/Task Owning Organization

    *   Project Expenditure/Event Organization

    *   Project Invoice Collection Organization

    *   Inventory Organization

    *   MRP Organization (optional)

    *   WIP Organization (optional)

    *   ECO Department (optional)

    *   HR Organization (optional)

        In classifying a Project Manufacturing Organization, you can click the Other button to enable the various PJM Org Parameters. They include:

    *   **Set Project Reference**. You need to enable this check box if you use Project Manufacturing in this organization.

    *   **Set Control Level**. When the control level is set to Project, you can use the project number on all supply and demand entries. Task number is optional. When the control level is set to Task, you must enter the task number if the project number is entered on the supply and demand entities. When the control

level is set to Project, or Task, the system automatically sets the value of the hidden Inventory Organization parameter Project Reference to Enabled.

- **Set Common Project**

    > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have defined a common project, then you can assign the common project that is defined in the previous step for each Inventory Organization in the PJM Org Parameters window.

- **Allow Cross Project Issues**. Selecting this check box allows you to perform cross project issues for projects belonging to the same planning group. Allow Cross Project Issues requires that the projects belong to the same planning group but can be from different cost groups.

- **Allow Cross Unit Issues**. Selecting this check box allows you to control cross unit number issues of unit effective components for an end item model unit number. If checked, then unit effective components for one end item model unit number can be issued to a WIP job for an assembly with a different model/unit number. If unchecked, then unit effective components for one end item model unit number cannot be issued to a WIP job for an assembly with a different model/unit number.

- **Transfer to PA Checkbox**

    > **Note:** If you do not enable Project Cost Collection, you can skip this step. If you select the Transfer to PA Checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

- Set Expenditure Type

    > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have selected the Transfer to PA Checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

- Set Variance accounts

    This is an optional setup used in Borrow/Payback scenarios. You can define a new Borrow/Payback variance account at the Inventory Organization level.

When you perform a payback transaction, the difference between the current average cost and the original borrowing cost posts to this new account for the borrowing project's cost group. In addition, the variance amount be posts to Oracle Projects against the borrowing project as a material expenditure.

5. Define Inventory Organization Parameters

    If you have already enabled the Costing Method, you can skip this step. Otherwise you need to complete this step.

    The fields applicable for Project Manufacturing setup are:

    •   Cost Collection

    •   Costing Method

        If you are in a project manufacturing organization, and Project Cost Collection Enabled checkbox is selected, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization.

        > **Note:** You should not check Cost Collection Enabled in a Standard Costing organization after you have processed transactions. You should set up a new inventory organization for Project Manufacturing Standard Costing with cost collection.

6. Define PJM Org Parameters

    This step is Required for a Project Manufacturing Organization.

    If you have set these parameters in the step Define Organization, you can skip this step. Otherwise, please set the following parameters for each Inventory Organization:

    General Tab

    •   **Enable Project Reference**. You need to enable this check box if you use Project Manufacturing in this organization.

    •   **Set Project Control Level**. When the control level is set to Project, you can use the project number on all supply and demand entries. Task number is optional. When the control level is set to Task, you must enter the task number if the project number is entered on the supply and demand entities. When the control level is set to Project, or Task, the system automatically sets the value of the hidden Inventory Organization parameter Project Reference to Enabled.

    •   **Set Common Project**

> **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have defined a common project, then you can assign the common project that is defined in the previous step for each Inventory Organization in the PJM Org Parameters window.

- **Allow Cross Project Issues**. Selecting this check box allows you to perform cross project issues for projects belonging to the same planning group and to the same or different cost group.

- **Allow Cross Unit Issues**. Selecting this check box allows you to control cross unit number issues of unit effective components for an end item model unit number. If selected, then the unit effective components for one end item model unit number can be issued to a WIP job for an assembly with a different model/unit number. If this check box is cleared, then the unit effective components for one end item model unit number cannot be issued to a WIP job for an assembly with a different model/unit number.

Invoice Transfer Tab

This region does not displayed if either Oracle Projects or Oracle Accounts Payable is not installed:

- **Transfer to PA Checkbox**

  > **Note:** If you do not enable Project Cost Collection, you can skip this step. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

- **Set Expenditure type**

  > **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have checked the Transfer to PA checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

Borrow/Payback Tab

- **Set Variance Accounts** This is an optional setup used in Borrow/Payback scenarios. You can define a new Borrow/Payback variance account at the Inventory Organization level. When you perform a payback transaction, the difference between the current average cost and the original borrowing cost

posts to this new account for the borrowing project's cost group. In addition, the variance amount posts to Oracle Projects against the borrowing project as a material expenditure.

Costing Tab

- **Set Default Expenditure Types (PPV)** In a Standard Costing organization, you can assign an expenditure type for Purchase Price Variance (PPV) as the organization default. When you assign a cost group to a project on the Project Parameters window, the organization PPV expenditure type defaults on to the Other tab. You can change the organization default if you want a different expenditure type for your project.

- Set WIP Resource as Straight Time: Time. Selecting this check box allows you to transfer WIP Resource employee transactions to Oracle Projects as WIP Straight Time. If you select this option, you can include WIP Straight Time hours in Oracle Projects' summarization of hours for billing calculations. You can use Oracle Projects Burden Schedules to apply overhead to WIP Straight Time transactions.

- Set GL Posting Option. This should be set to Projects if you want to use Oracle Projects as the single source for posting all transactions (manufacturing and non manufacturing) to the General Ledger. When you select the option to post the General Ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost.

- Set Account Option. If you set this to Use AutoAccounting, All accounts are derived using the accounting rules engine in Oracle Projects. Inventory transactions are transferred to Projects as Inventory with No Accounts and WIP transactions are transferred as WIP with No Accounts. If you set this option to ¡ Send Accounts to PA – Cost Group and WIP Accounting Class valuation accounts are transferred to Projects. Inventory transactions are transferred to Projects as Inventory with Accounts and WIP transactions are transferred as WIP with Accounts.

- Set PJM Clearing Account: Set PJM Clearing Account. You must set an account as the PJM Clearing account when using the AutoAccounting option in the previous step. The PJM clearing account is used as a balancing debit or credit when the user performs project transfer transactions

- Set Expenditure Type for PPV: Set Expenditure Type for PPV. In a standard costing organization, you can assign an expenditure type for Purchase Price Variance (PPV) as the organization default. When you assign a cost group to a project on the Project Parameters window, the organization PPV expenditure type becomes the default value.

> **Note:** If you do not enable Project Cost Collection, you can skip this step. If you select the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

> **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection, and if you have checked the Transfer to PA Checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

- Set Expenditure Type for Direct Item: Set Expenditure Type for Direct Item If you are in an EAM enabled organization, you can assign an expenditure type for Direct item purchases as the organization default. When you assign a cost group to a project on the Project Parameters window, the organization, Direct Item expenditure type defaults on to the Other tab. You can change the organization default if you want a different expenditure type for your project.

  > **Note:** If you do not enable Project Cost Collection, you can skip this step. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

7. Define Organization Hierarchy. This step is required.

   Several organizations in your organization hierarchy may be your inventory organizations. They may be the organization that owns the projectand can incur project expenditures. For such organizations, you need to:

   - Make sure they exist in the Project/Task Owning Organization Hierarchy branch and have Project/Task Owning Organization classification enabled if it is to own projects and/or tasks in the operating unit.

   - Make sure they exist in the Expenditure/Event Organization Hierarchy branch and have Project/Task Owning Organization classification enabled if it can incur expenditures for projects in the processing operating unit. In Project Manufacturing, this enables the Inventory Organization to own all the inventory costs.

8. Define Stock Locators. This step is required.

   Project locator are used to track inventory by project. Oracle Project Manufacturing reserves segment19 and segment20 of the Stock Locator key flexfield to store the

project and task numbers. If you are installing Oracle Project Manufacturing for the first time, when you create the first inventory organization and set the Project Control Level to Project or Task, the system automatically enables segment19 and segment20 of the Stock Locator key flexfield.

If you are installing Oracle Project Manufacturing in an existing Oracle Applications installation and are currently using segment19 and segment20 of the Stock Locator key flexfield, you need to change your current flexfield schema and use other segments instead. The system does not support automatic conversion.

In Project Manufacturing environment, you should ensure that the locator control is set to Dynamic Entry in the Organization Parameters window. Alternatively, you can go to the Master Items window or the Subinventory window to set the locator control at the Item or Subinventory level respectively.

9. Step B9 Define Department in Manufacturing. This step is required.

   Manufacturing departments in Oracle Manufacturing must be linked to a Project Expenditure Organization. This enables the manufacturing costs (resources, overhead, outside processing) incurred in that department to be collected under the expenditure organization.

   If you have not defined manufacturing departments in Common Manufacturing, you can define them here and link them to the Expenditure Organizations that you have defined.

10. Define Expenditure Types for Cost Elements. This step is required.

    You must associate in and out expenditure types with each of the five cost elements so that costs for the following inventory transfer transactions can be collected and transferred to Oracle Projects.

    • Subinventory transfers between locators with different projects or tasks.

    • Miscellaneous Issue from a project locator.

    • Miscellaneous Receipt into a project locator.

    • Project related miscellaneous transactions which issue inventory to, or receive inventory from, Projects.

    • Issue of common materials to a project WIP job.

11. Define Expenditure Types for Material Sub Elements. This step is required.

    You need to link material sub-element, material overhead sub-element, resource sub-element, overhead sub-element and outside processing sub-element to expenditure type. Since item cost in Oracle Manufacturing is expressed in cost elements and sub-elements, by linking cost elements and sub-elements to project expenditure types, you are effectively mapping the item cost to project

expenditures in Oracle Projects. This allows Oracle Projects to collect Oracle Inventory and Work In Process costs as project expenditures.

12. Define Expenditure Types for Resource Sub Elements. This step is required.

You need to link material sub-element, material overhead sub-element, resource sub-element, overhead sub-element and outside processing sub-element to expenditure type. Since item cost in Oracle Manufacturing is expressed in cost elements and sub-elements, by linking cost elements and sub-elements to project expenditure types, you are effectively mapping the item cost to project expenditures in Oracle Projects. This allows Oracle Projects to collect Oracle Inventory and Work In Process costs as project expenditures.

13. Define Expenditure Types for Overhead Sub Elements

This step is Required.

You need to link material sub-element, material overhead sub-element, resource sub-element, overhead sub-element and outside processing sub-element to expenditure type. Since item cost in Oracle Manufacturing is expressed in cost elements and sub-elements, by linking cost elements and sub-elements to project expenditure types, you are effectively mapping the item cost to project expenditures in Oracle Projects. This allows Oracle Projects to collect Oracle Inventory and Work In Process costs as project expenditures.

Setup Steps for Oracle Project Manufacturing with Cost Collection and Posting of Manufacturing Transactions to GL from Oracle Projects

For each step, a context section indicates whether you need to repeat the step for each set of books, set of tasks, inventory organization, HR organization, or other operating unit under Multiple Organizations.

1. Do You Want to Enable Project Cost Collection? This step is required.

This decision determines whether manufacturing costs are to be collected and transferred to Oracle Project Accounting. If your answer to this question is Yes, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization

2. Define Common Project. This step is required.

In a Project Manufacturing environment where you will be posting the manufacturing transactions to General Ledger from Oracle Projects, you need to track the costs of common items (items where the on-hand quantities are not tied to a specific project or project/task) to a common project, so that you can view the budget, actual and commitment costs of the common project from Oracle Projects and then post the same to General Ledger from Oracle Projects.

A common project could be created as a normal project in the Projects window. If

you have already created a project which would be designated as a common project, please skip this step. To designate a project as a Common Project, continue to the next step, Define PJM Organization Parameters.

Define Common Project Tasks. This step is required since the Common Project has been defined.

You need to assign a default material task, a default resource task and a default WIP Material task in the PJM Organization Parameters window. The window automatically creates a default material task assignment rule in the Material Assignment table using the default material task, a default resource task assignment rule in the Resource Assignment table using the default resource task and a default WIP material task assignment rule in the WIP Material Assignment table using the default material task you specify in this window.

3. Define Expenditure Types and Type Classes. This step is required.

When you define an expenditure type, you assign it a unit, an expenditure category, a revenue category, and one or more expenditure type classes. You need to link an expenditure type to cost elements and sub-elements so that Inventory and Work in Process transaction costs can be collected in Oracle Projects as expenditures.

4. Define Organization. This step is required.

An organization should have the following classifications when it is used in a Project Manufacturing environment:

- Project Manufacturing Organization

- Project/Task Owning Organization

- Project Expenditure/Event Organization

- Project Invoice Collection Organization

- Inventory Organization

- MRP Organization (optional)

- WIP Organization (optional)

- ECO Department (optional)

- HR Organization (optional)

In classifying Project Manufacturing Organization, you can click the Other button to enable the various PJM Organization Parameters. They include:

- Set Project Reference: You need to enable this check box if you use Project Manufacturing in this organization.

- Set Control Level: When the control level is set to Project, you can use the project number on all supply and demand entries. Task number is optional. However, since Cost Collection is enabled, the user must set up Task AutoAssignment Rules to assign tasks to all the transactions before they can be imported successfully to Oracle Projects. Please see Task AutoAssignment Rules setup for details. When the control level is set to Task, you must enter the task number if the project number is entered on the supply and demand entities. When the control level is set to Project, or Task, the system automatically sets the value of the hidden Inventory Organization parameter Project Reference to Enabled.

- Set Common Project.

- Set Common Project Tasks.

- Allow Cross Project Issues: Selecting this check box allows you to perform cross project issues for projects that belong to the same planning group. Allow Cross Project Issues requires that the projects belong to the same planning group but can be from different cost groups.

- Allow Cross Unit Issues: Selecting this check box allows you to control cross unit number issues of unit effective components for an end item Model Unit Number. If selected, then the unit effective components for one end item model unit number can be issued to a WIP job for an assembly with a different model/unit number. If cleared, then the unit effective components for one end item model unit number cannot be issued to a WIP job for an assembly with a different model/unit number.

- Set Cost Group Option: This should be set to Project if you want to use Project cost group based accounting. This should be set to Subinventory if you want to use cost group accounting based on Subinventory. Recommended setting for PJM Orgs using Oracle Projects for Cost Collection is `Project`.

- Set WIP Employee Resource as Straight Time: Selecting this check box allows you to transfer WIP Resource employee transactions to Oracle Projects as WIP Straight Time. If you select this option, you can include WIP Straight Time hours in Oracle Projects' summarization of hours for billing calculations. You can use Oracle Projects Burden Schedules to apply overhead to WIP Straight Time transactions.

- Set GL Posting Option: This should be set to Projects if you want to use Oracle Projects as the single source for posting all transactions (manufacturing and non manufacturing) to the general ledger. When you select the option to post the General Ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in manufacturing, the overhead amount will be

imported into Projects as raw (not burdened) cost.

- Set Account Option: If you set this to Use AutoAccounting, all accounts are derived using the accounting rules engine in Oracle Projects. Inventory transactions are transferred to Projects as Inventory with No Accounts and WIP transactions are transferred as WIP with No Accounts. If you set this option to Send Accounts to PA – Cost Group and WIP Accounting Class valuation accounts are transferred to Projects. Inventory transactions are transferred to Projects as Inventory with Accounts and WIP transactions are transferred as WIP with Accounts.

- Set PJM Clearing Account : You must set an account as the PJM Clearing account when using the AutoAccounting option in the previous step. The PJM clearing account is used as a balancing debit or credit when the user performs project transfer transactions.

- Set Expenditure Type for PPV, Direct Item,and Invoice Charges.

- Set Variance accounts: This is an optional setup used in borrow/payback scenarios. You can define a new borrow/payback variance account at the Inventory Organization level. When you perform a payback transaction, the difference between the current average cost and the original borrowing cost posts to this new account for the cost group associated with the borrowing project. In addition, the variance amount posts to Oracle Projects against the borrowing project as a material expenditure.

5. Define Inventory Organization Parameters: If you have already enabled the Costing Method, you can skip this step. Otherwise you need to complete this step. The fields applicable for the Project Manufacturing setup are:

- Cost collection

- Costing method

If you are in a project manufacturing organization, and the Project Cost Collection Enabled check box is selected, you can choose Average, FIFO, LIFO, or Standard as the costing method for the organization.

> **Note:** If you do not enable Project Cost Collection, you can skip this step. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

> **Note:** If you do not enable Project Cost Collection, you do not need to perform this setup. If you have enabled Project Cost Collection,

and if you have checked the Transfer to PA checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

6. Define PJM Organization Parameters: This step is required for a Project Manufacturing Organization. If you have set these parameters in the step, Define Organization, you can skip this step. Otherwise, please set the following parameters for each Inventory Organization:

- General Tab

   - Set Project Reference: You need to select this check box if you use Project Manufacturing in this organization.

   - Set Control Level: When the control level is set to Project, you can use the project number on all supply and demand entries. The task number is optional. However, since Cost Collection is enabled, the user must setup Task AutoAssignment Rules to assign tasks to all the transactions before they can be imported successfully to Oracle Projects. Please see the Task AutoAssignment Rules setup for details. When the control level is set to Task, you must enter the task number if the project number is entered on the supply and demand entities. When the control level is set to Project or Task, the system automatically sets the value of the hidden Inventory Organization parameter Project Reference to Enabled.

   - Set Common Project.

   - Set Common Project Tasks.

   - Allow Cross Project Issues: Selecting this check box allows you to perform cross project issues for projects belonging to the same planning group and the same or different cost group.

   - Allow Cross Unit Issues: Selecting this check box allows you to control cross unit number issues of unit effective components for an end item model unit number. If checked, then unit effective components for one end item model unit number can be issued to a WIP job for an assembly with a different model/unit number. If unchecked, then unit effective components for one end item model unit number cannot be issued to a WIP job for an assembly with a different model/unit number.

   - Set Cost Group Option: This should be set to Project if you want to use Project cost group based accounting. This should be set to Subinventory if you want to use cost group accounting based on Subinventory.

- Costing Tab

  - Set WIP Resource as Straight Time: Time: Selecting this check box allows you to transfer WIP Resource employee transactions to Oracle Projects as WIP Straight Time. If you select this option, you can include WIP Straight Time hours in Oracle Projects' summarization of hours for billing calculations. You can use Oracle Projects Burden Schedules to apply overhead to WIP Straight Time transactions.

  - Set GL Posting Option: This should be set to Projects if you want to use Oracle Projects as the single source for posting all transactions (manufacturing and non manufacturing) to the General Ledger. When you select the option to post the General Ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost.

  - Set Account Option: If you set this to Use AutoAccounting, all accounts are derived using the accounting rules engine in Oracle Projects. Inventory transactions are transferred to Projects as Inventory with No Accounts and WIP transactions are transferred as WIP with No Accounts. If you set this option to Send Accounts to PA - Cost Group and WIP Accounting Class valuation accounts are transferred to Projects. Inventory transactions are transferred to Projects as Inventory with Accounts and WIP transactions are transferred as WIP with Accounts.

  - Set PJM Clearing Account: Set PJM Clearing Account: You must set an account as the PJM Clearing account when using the AutoAccounting option in the previous step. The PJM clearing account is used as a balancing debit or credit when the user performs project transfer transactions.

  - Set Default Expenditure Type for PPV: In a standard costing organization, you can assign an expenditure type for Purchase Price Variance (PPV) as the organization default. When you assign a cost group to a project on the Project Parameters window, the organization PPV expenditure type appears.

    > **Note:** If you do not enable Project Cost Collection, you can skip this step. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

    > **Note:** If you do not enable Project Cost Collection, you do

not need to perform this setup. If you have enabled Project Cost Collection, and if you have checked the Transfer to PA checkbox, then you must enter the appropriate expenditure types for each of the invoice charge types (IPV/ERV/Freight/Tax/MISC).

- Set Default Expenditure Type for Direct Item: If you are in an EAM enabled organization, you can assign an expenditure type for Direct item purchases as the organization default. When you assign a cost group to a project on the Project Parameters window, the organization Direct Item expenditure type defaults on to the Other tab. You can change the organization default if you want a different expenditure type for your project.

  > **Note:** If you do not enable Project Cost Collection, you can skip this step. If you check the Transfer to PA checkbox, then the transfer program assumes that you want to transfer any invoice charges for that charge type.

7. Define Organization Hierarchy: This step is required. Several organizations in your organization hierarchy may be your inventory organizations. They may be the organization that owns the project, and can incur project expenditures. For such organizations, you need to verify the following:

   - Make sure they exist in the Project/Task Owning Organization Hierarchy branch, and have Project/Task Owning Organization classification enabled if it is to own projects and or tasks in the operating unit.

   - Make sure they exist in the Expenditure/Event Organization Hierarchy branch, and have Project/Task Owning Organization classification enabled if it can incur expenditures for projects in the processing operating unit. In Project Manufacturing, this enables the Inventory Organization to own all the inventory costs.

8. Define Stock Locators: This step is required. Project locators are used to track inventory by project. Oracle Project Manufacturing reserves segment19 and segment20 of the Stock Locator key flexfield to store the project and task numbers. If you are installing Oracle Project Manufacturing for the first time, when you create the first inventory organization and set the Project Control Level to Project or Task, the system automatically enables segment19 and segment20 of the Stock Locator key flexfield. If you are installing Oracle Project Manufacturing in an existing Oracle Applications installation and are currently using segment19 and segment20 of the Stock Locator key flexfield, you need to change your current flexfield schema and use other segments instead. The system does not support automatic conversion.

In Project Manufacturing environment, you should ensure that the locator control is set to Dynamic Entry in the Organization Parameters window. Alternatively, you can go to the Master Items window or the Subinventory window to set the locator control at the Item or Subinventory level respectively.

9. Define in Department in Manufacturing: This step is required. Manufacturing departments in Oracle Manufacturing must be linked to a Project Expenditure Organization. This enables the manufacturing costs (resources, overhead, outside processing) incurred in that department to be collected under the expenditure organization. If you have not defined manufacturing departments in Common Manufacturing, you can define them here and link them to the Expenditure Organizations that you have defined.

10. Define Expenditure Types for Cost Elements: This step is required. You must associate in and out expenditure types with each of the five cost elements so that costs for the following inventory transfer transactions can be collected and transferred to Oracle Projects.

    • Subinventory transfers between locators with different projects or tasks.

    • Miscellaneous Issue from a project locator.

    • Miscellaneous Receipt into a project locator.

    • Project related miscellaneous transactions which issue inventory, to, or receive inventory from, projects.

    • Issue of common materials to a project WIP job.

11. Define Expenditure Types for Material Sub Elements: You need to link the sub-element for material, material overhead, resources, overhead, and outside processing to an expenditure type. Since the item cost in Oracle Manufacturing is expressed in cost elements and sub-elements, by linking cost elements and sub-elements to project expenditure types, you are effectively mapping the item cost to project expenditures in Oracle Projects. This allows Oracle Projects to collect Oracle Inventory and Work In Process costs as project expenditures.

12. Define Expenditure Types for Resource Sub Elements: This step is required. You need to link the sub-element for material, material overhead, resources, overhead, and outside processing to an expenditure type. Since the item cost in Oracle Manufacturing is expressed in cost elements and sub-elements, by linking cost elements and sub-elements to project expenditure types, you are effectively mapping the item cost to project expenditures in Oracle Projects. This allows Oracle Projects to collect Oracle Inventory and Work In Process costs as project expenditures.

13. Define Expenditure Types for Overhead Sub Elements: This step is required if you

setup Overheads in Manufacturing. When you select the option to post the General Ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost.

14. Setup Burden Details: This setup needs to be performed when the PJM Organization parameter, GL Posting Option, is set to Projects. When you select the option to post to the general ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost. With burdening functionality in Oracle Projects, you can:

   • Use an unlimited number of burden cost codes.

   • Manage overhead pools by fiscal period and apply rates uniformly throughout the period. Change overhead rates periodically throughout the fiscal period with a cumulative adjustment retroactive to the beginning of the fiscal period easily revise burden schedules

   • Retroactively adjust multipliers.

   • Define different multipliers for costing, revenue accrual, and billing.

Related Topics

Using Burden Structures, *Oracle Project Costing User Guide*

Organization Classification

The following table describes organization classifications, and their associated purpose and application.

Classification	Purpose	Application
Project Manufacturing Organization	Project Controlled Organization	Project Manufacturing
Project/Task Owning Organization	Organizations that can own projects and/or tasks in the operating unit.	Oracle Projects

Classification	Purpose	Application
Project Expenditure/Event Organization	Organizations that can own project events (labor and non–labor) can incur expenditures for Projects in the processing operating unit, can own resources and/or resource budgets, and have their own billing schedule	Oracle Projects
Inventory Organization	Allows inventory to be assigned to an organization	Oracle Inventory

An organization may have the following classifications when it is used in a project manufacturing environment.

For example, consider the following three manufacturing and distribution organizations which belong to an Operating Unit Vision Manufacturing: Manufacturing East, Distribution Central, Manufacturing West. Manufacturing East and Manufacturing West are manufacturing facilities where planning, purchasing, stocking and manufacturing goods are taking place. Distribution Central is a warehouse where only planning, purchasing and stocking goods are taking place. All these organization can own projects as well as incur project expenditures.

The following table shows classifications that should be assigned to these organizations:

Organization	Classification
Manufacturing East	Project/Task Owning Organization
	Project Expenditure/ Event Organization
	Project Manufacturing Organization
	Inventory Organization
	MRP Organization
	WIP Organization
	ECO Department

Organization	Classification
Distribution Central	Project/Task Owning Organization
	Project Expenditure/ Event Organization
	Project Manufacturing Organization
	Inventory Organization
	MRP Organization
Manufacturing West	Project/Task Owning Organization
	Project Expenditure/ Event Organization
	Project Manufacturing Organization
	Inventory Organization
	MRP Organization
	WIP Organization
	ECO Department

See Also:

Organizations, *Oracle Projects Fundamentals*

Set up Organization, *Oracle Inventory User's Guide*

Organization Hierarchy

Organization Hierarchy Concept

In Oracle HRMS, organization hierarchies show reporting lines and other hierarchical relationships among the organizations in your enterprise. For example, you set up a primary reporting hierarchy reflecting the main reporting lines in your enterprise, as established in the organization chart of your enterprise.

Organization Hierarchy in Oracle Projects

An organization hierarchy illustrates the relationships between your organizations. When you define a hierarchy, you tell Oracle Projects which organizations are subordinate to which other organizations. The topmost organization of an organization hierarchy is generally the business group.

You can create as many organization hierarchies as you need for different reporting and processing needs, and you can create multiple versions of an organization hierarchy.

Oracle Projects uses the hierarchy version to determine which organizations are used for reporting and processing.

> **Note:** For details on how to use organizations and organization hierarchy in Oracle Projects, seeOrganizations, *Oracle Projects Fundamentals*.

Inventory Organization in the Hierarchy

In the previous setup step, organizations were classified as project expenditure organization and/or as project owning and/or project invoice organizations.

You must include your inventory organizations (with classification of project expenditure organization) in the expenditure/event organization hierarchy (defined in the Implementation options in Oracle Projects setup). This allows the projects created in Oracle Projects to be available in the project manufacturing organizations for expenditure charges.

You must include your inventory organizations (with classification of project owning organization) in the Project/Task owning organization hierarchy (defined in the Implementation options in Oracle Projects setup). This allows the projects created in Oracle Projects to use the inventory organizations as project owning organizations in project setup.

In the example discussed in the previous section, you must set up the operating unit Vision Manufacturing as a part of the expenditure/event organization hierarchy and Project/Task owning organization hierarchy in Oracle Projects/Oracle Human Resources and all the inventory organizations Manufacturing East, Distribution Central, and Manufacturing West should be listed as subordinates of Vision Manufacturing.

See Also:

Organization Hierarchy in Oracle Projects, *Oracle Projects User's Guide*

Organization Hierarchy in Oracle Human Resources, *Oracle Human Resources User's Guide*

Set up Project Manufacturing Organization Parameters

This step would require you to set up parameters for the organizations you have defined, like project reference, control level, common project, common project tasks, allowing cross project or cost unit issues, and cost group options. This also enables you to set up parameters for WIP resource as straight time, GL posting option, account option, PJM clearing accounts, and default expenditure types.

Set Up Multi-Organization Access Control (MOAC)

The Multi-Organization Access Control feature allows users to access multiple

operating units within a **single** application responsibility. This feature enables Project Manufacturing users to perform tasks across multiple operating units in products that have MOAC dependencies such as. Purchasing, Order Management, and so on without having to change application responsibilities.

You can set up this feature at the following levels:

- **Responsibility level**: All users with that responsibility will be able to access only those operating units defined for the security profile

- **User level**: The user will only be able to see those operating units that they have access to when they log into the system.

Related Topics

Oracle Applications Multiple Organizations Implementation Guide

Project Information Region

When you install Oracle Project Manufacturing, you can to navigate to the Project Manufacturing Organization Parameter window. The following table explains the fields on this region:

Field	Value	Meaning
Project Reference Enabled	Checked	Project reference is be enabled on-demand and supply entities.
	Unchecked	You are not be able to enter project and task data.
Project Control Level	Project	You can reference a project number on demand and supply entities. Task number is optional.
	Task	You can reference a project number on demand and supply entities. If a project number is entered, a task number must also be entered.

Field	Value	Meaning
Project Reference Enabled	Checked	Project Reference is enabled on demand and supply entities.
	Unchecked	You cannot enter project and task data.
Project Control Level	Project	You can reference a project number on demand and supply entities. Task number is optional.
	Task	You can reference a project number on demand and supply entities. If a project number is entered, a task number must also be entered.

Set up Inventory Organization Costing Parameters

When you install Oracle Project Manufacturing, you can navigate to the Costing region of the Inventory Organization Parameter window. The following table explains the fields on this region:

Field	Value	Meaning
Project Cost Collection Enabled	Checked	When an organization is Project Cost Collection Enabled, project related transactions (Inventory and WIP) can be collected by the Cost Collector in the Cost Management and then imported into Oracle Projects.
Project Cost Collection Enabled	Unchecked	Project manufacturing Inventory and WIP costs cannot be transferred to Oracle Projects.

If you check Project Reference Enabled on the Project Manufacturing Organization

Parameters window, and Cost Collection Enabled on the Inventory Organization Parameters window, you can select any costing method; Average, FIFO, LIFO, Standard.

> **Note:** Standard Costing with Cost Collection is available for new Project Manufacturing organizations only. You cannot convert an existing Project Manufacturing Standard Cost Organization (Cost Collection not enabled) to one which has Cost Collection enabled.

Set up Locator Flexfields and Stock Locators

Locator Flexfield

Oracle Project Manufacturing reserves segment19 and segment20 of the Stock Locator key flexfield to store the project and task numbers. You should not attempt to modify these two segments.

If you are installing Oracle Project Manufacturing the first time, when you create the first inventory organization and select the Project Reference Enabled check box, the system automatically enables segment19 and segment20 of the Stock Locator key flexfield to hold the project and task references. You have to enable at least one additional segment (e.g. segment1, segment2) to reflect your physical stock location layout.

If you are installing Oracle Project Manufacturing in an existing Oracle Applications installation and are currently using segment19 and segment20 of the Stock Locator key flexfield, you need to change your current flexfield schema and use other segments for your physical stock location layout. The system does not support automatic conversion.

Definition

Project Locator

A Project Locator is a locator with a project or project and task reference. It is also a logical partition of a physical location.

Project Inventory needs to be stocked in a Project Locator and needs to be transacted in and out of a Project Locator. Since Locators can be dynamically created, it is not necessary to predefine Project Locators.

Common Locator

A Common Locator is a locator without a project or project and task reference. It is also a real, physical location.

> **Note:** Although a Project Locator is a logical partition, the system still regards it as a physical locator for physical and cycle counting.
>
> Project Locator Example

Project Locators differ from Common Locators by the existence of values in the Project and Task segments in the flexfield definition of the Locator. If the structure of the physical location is Row/Rack/Bin, the structure of the Locator flexfield would be Row/Rack/Bin/Project/Task. For example, the concatenated value for a common item in Row 1, Rack 4, Bin 2 would be 1/4/2// while the concatenated value for a project item in Row 1, Rack 4, Bin 2, Project C4501, Task 2.1 would be 1/4/2/C4501/2.1.

Use of Locator

Project Locator is a mechanism to track inventory by project. If an inventory item needs to be identified by project, you need to turn on *Locator Control* for the item.

Since locators can be dynamically created (Locator Control ='Dynamic Entry Allowed' at item level or subinventory level or organization level), you do not need to predefine all Project Locators.

See Also:

Organization Parameter in Oracle Inventory, *Oracle Inventory User's Guide*

Dynamically Creating Stock Locators

Because Project Manufacturing validates all segments of a stock locator flexfield, you should be careful when dynamically creating stock locators. For example, Subinventory A may contain Locator 1.1.1. You will initially be allowed to create Subinventory B, Locator 1.1.1.Project1.Task1. The addition of the fourth and fifth segments of the Locator flexfield cause it to be different from the Locator in Subinventory A. However, these segments are only logical partitions and the physical location of the items in Subinventory B is still Locator 1.1.1. This violates the required uniqueness of locators within organizations.

Locators must be unique in an organization or across organizations. For example, if you select to enforce locator uniqueness within an organization, the following are valid locators (assuming 5 segments locator structure with the last 2 segments are project and task):

- **SubinventoryLocator**

   Store1.1.1.

   FGI2.2.2.

However, you can create the following unique project locators. They are not valid locators because they refer to the same physical locator 1.1.1. which now exists in two different subinventories within the same organization.

- **SubinventoryLocator**

  Store1.1.1.P1.T1

  FGI1.1.1.P2.T2

You must exercise discipline when dynamically creating Project Locators and verify that the segments of the logical Locator referring to a physical location do not duplicate a Locator in another subinventory. When attempting to create a unique project locator, you should use the available list of values to see existing combinations. As an alternative, the system administrator may not enable dynamically created locators.

Project Manufacturing Validation

Oracle Project Manufacturing provides defaulting and validation logic to keep the use of project locators transparent to you. The following paragraphs describe the defaulting and validation logic.

For locators within various products, the system validates the project and task segments of a locator based on the value of the Project Control Level parameter you set up in Organization Parameter. The following table describes the validation logic:

Project Control Level	Project Segment	Task Segment
Null	Cannot enter any value.	Cannot enter any value.
Project	Optional.	If Project is entered, Task is optional.
		If Project is not entered, Task cannot be entered.
Task	Optional.	If Project is entered, Task is mandatory.
		If Project is not entered, Task cannot be entered.

PJM: Allow Cross Project Issues

A new parameter, Allow Cross Project Issues, has been created to enable cross project issues between projects which have the same planning group association but not necessarily the same cost group.

Cross Project Issue

Cross project issue is only allowed for WIP component issue, WIP component backflush and WIP component return transactions. Cross Project Issue is not allowed if the two projects belong to two different planning groups.

Cross Project Issue allows sales order issues only in a warehouse management system (WMS)-enabled organization.

Set up Departments in Manufacturing

Manufacturing Departments

A manufacturing department is an area within your organization that consists of one or more people, machines, or suppliers, where you want to collect costs, apply overhead, and compare load to capacity. You assign a department to each operation in a routing, and assign resources that are available for that department.

You set up manufacturing departments in Oracle Bills of Material.

Expenditure Organizations

An expenditure organization is an organization that can own project events (labor and non-labor) and can incur expenditures for projects in the processing operating unit.

You set up an expenditure organization by classifying the organization as a Project Expenditure/Event Organization in Oracle Inventory or Oracle Human Resources.

Linking Manufacturing Departments to Expenditure Organizations in Oracle Projects

In a Project Manufacturing environment, you must link manufacturing departments (in Oracle Manufacturing) to a Project Expenditure Organization when you set up a department. This enables the manufacturing costs (resources, overhead, outside processing) incurred in that department to be collected under the expenditure organization.

In the following diagram, the Fabrication department defined in Oracle Bills of Material must be mapped to a Project Expenditure Organization, as indicated by the arrows. This mapping allows manufacturing costs to be collected at the desired level of the project hierarchy. As an example, Fabrication may be mapped to either Assembly or Central, depending on your cost collection preference.
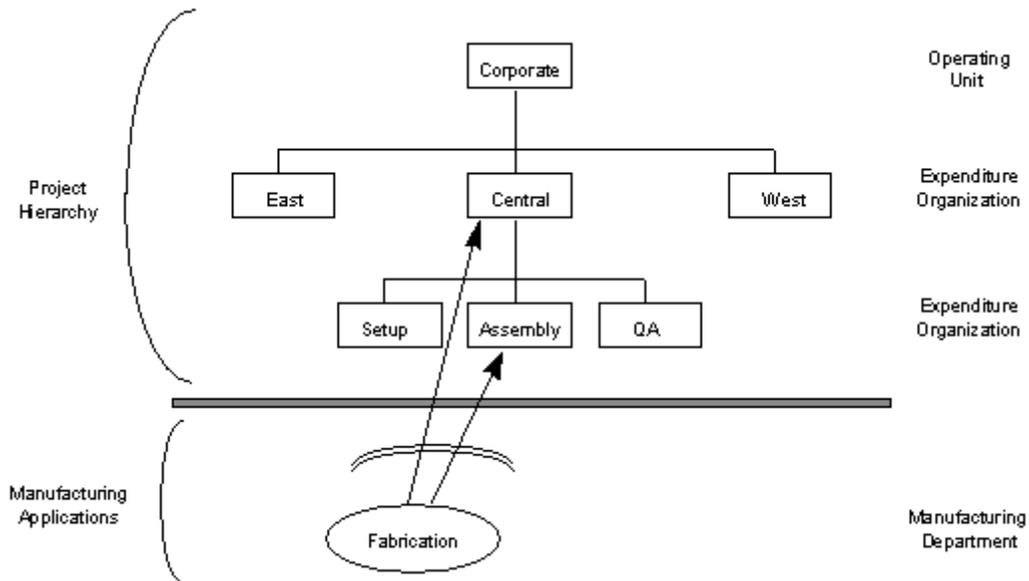
Manufacturing Transactions to Project Transaction Source Mapping

The following table provides a mapping between the transactions in Inventory and Work in Process to the transaction sources in Oracle Projects for these transactions:

Inventory and Work in Process Transaction	GL Posting Option	Account Option	WIP Resource as Straight Time	Transaction Source (Oracle Projects)
Inventory Transactions (for example, PO Receipt, Subinventory Transfer, WIP Issue, Misc. Issue, and so forth)	Manufacturing	None	N/A	Inventory
Project Miscellaneous Transactions	Manufacturing	None	N/A	Inventory Miscellaneous
Work in Process Transactions	Manufacturing	None	Unchecked	Work in Process

Inventory and Work in Process Transaction	GL Posting Option	Account Option	WIP Resource as Straight Time	Transaction Source (Oracle Projects)
Inventory Transactions (for example, PO Receipt, Subinventory Transfer, WIP Issue, Misc. Issue, and so forth)	Projects	Use AutoAccounting	N/A	Inventory with No Accounts
Project Miscellaneous Transactions	Projects	Use AutoAccounting	N/A	Inventory with No Accounts
Work in Process Transactions	Projects	Use AutoAccounting	Unchecked	WIP with No Accounts
Inventory Transactions (for example, PO Receipt, Subinventory Transfer, WIP Issue, Misc. Issue, and so forth)	Projects	Send Accounts to PA	N/A	Inventory with Accounts
Project Miscellaneous Transactions	Projects	Send Accounts to PA	N/A	Inventory with Accounts
Work in Process Transactions	Projects	Send Accounts to PA	N/A	WIP with Accounts
WIP Employee Resource Txn	Projects	Send Accounts to PA	Checked	WIP Straight Time with Accounts
WIP Employee Resource Txn	Projects	Use AutoAccounting	Checked	WIP Straight Time with No Accounts

Organization Costing Information

If you select Project Cost Collection Enabled check box in the Project Information Region, you can select Average, FIFO, LIFO, or Standard as the costing method for the organization in the Costing Information Region of the Inventory Organization Parameter window. Selecting Project Cost Collection enables the transfer of manufacturing costs to Oracle Projects.

If the average, FIFO, or LIFO costing method is selected, you also enter an Average, FIFO, or LIFO rates cost type, which you define on the Cost: Setup Types window. The average rates cost type is a user-defined cost type that holds resource and overhead association, current overhead rates, and any other user-defined sub-element rates. You can define a FIFO or LIFO rates cost type as appropriate for the costing method selected for the organization to hold resource and overhead associations.

When you define a cost group for an organization, the accounts defined in the Organization Parameters window are defaulted but can be overwritten. Locators that reference projects that belong to a cost group use these accounts for inventory valuation. You therefore cannot change an account if there is on-hand inventory in any of these locators.

Set up Expenditure Types and Expenditure Type Classes

An expenditure type is a classification of cost that you assign to an expenditure item you enter in Oracle Projects. You must set up expenditure types to associate with your manufacturing cost elements, material, material overhead, resource, resource overhead, and outside processing and sub-elements. These are a more detailed level of cost elements, such as metals, plastics, assembly labor, welding labor, plant overhead, and material management overhead. Expenditure types have four components:

- An expenditure category

- A revenue category

- A unit of measure

- An expenditure type class

Expenditure categories are used for grouping expenditure types for costing. Revenue Categories are used for grouping expenditure types for revenue and billing. Predefined expenditure type classes tell Oracle Projects how to process an expenditure type.

You need to link an expenditure type to cost elements and sub-elements so that Oracle Inventory and Oracle Work in Process transaction costs can be collected in Oracle Projects as expenditures.

Associating Expenditure Types to Multiple Expenditure Type Classes

You can assign multiple expenditure type classes to an expenditure type. For example, an expenditure with the expenditure type Materials can have the expenditure type class Supplier Invoice if it originated in Oracle Payables, the expenditure type class Inventory if it originated in Oracle Inventory, and the expenditure type class Usages if it originated in Oracle Projects. This example is illustrated below:

Expenditure Type	Expenditure Type Class	Module Where Expenditure Originates
Material	Supplier Invoice	Oracle Payables
Material	Inventory	Oracle Inventory
Material	Usages	Oracle Projects

This feature allows you to use a single expenditure type to classify as many different costs as you require. You can use the same expenditure type for expenditures that have different origins (and therefore different accounting), but which should otherwise be grouped together for costing, budgeting, or summarization purposes.

Linking Expenditure Types to Cost Elements

Material receipts and resource charges to a WIP job are the only transactions that pass costs to Oracle Projects at the cost sub-element level. All other transactions pass costs at the cost element level (material, material overhead, resource, resource overhead, and outside processing). You must associate in and out expenditure types with each of the five cost elements so that costs pass to Oracle Projects for transactions that occur at the cost element level.

See Also:

Oracle Cost Management User's Guide

Set up Cost Sub–elements and Link to Expenditure Types

You can set up multiple sub-elements for material, resources, and overhead. You need to link all material, resource, and overhead sub–elements to expenditure types in order to pass the costs to Oracle Projects.

> **Note:** You should select a Default Material Sub-Element on the Costing Information Region of the Inventory Organization Parameters window.

Setting up a Default Material Sub-Element eliminates the need to associate every material item with a cost sub-element and enables all project material receipt costs to pass to Oracle Projects.

You can associate your resource and overhead sub-elements to your manufacturing departments and assign rates in the Bills of Material Routings Department and Resources forms. Each resource can be set up to charge actual or standard costs. You can define production overheads based on the number of units or lot moved through the operation, or based on the number of resource units or value charged in the operation. You can also set up the GL account that is credited for resource overhead absorption on this window.

Outside processing sub-elements represent service provided by suppliers. Each outside processing resource you define may be set up to charge actual or standard costs.

See Also:

Defining Subelements, *Oracle Cost Management User's Guide*

Assign Material Overhead Rates to Items

If you have not set up default material overhead or you want to override it for particular items, you can associate your material and material overhead sub-elements to your material items and define material overhead rates for your Average, FIFO, or LIFO Rates Cost Types on the Item Cost window.

> **Note:** If possible, set up your default material overhead rates before you set up your items because the default rates only apply to items which are subsequently defined after the default rates have been set up. Therefore, if you assign a default material overhead rate before you create items, the material overhead sub-element and rate defaults into the Average Rates Cost Type (for average costing) or Frozen Cost Type (for standard costing) on the Item Cost window when you define the items. Material overhead is subsequently applied when the item is transacted, which in the case of buy items is at the point of receipt into inventory and for make items is at the point of issue out of the WIP job into finished goods inventory.

You can assign material overhead based on an item, lot or total value basis. When you change the overhead rate for an item, the new rate is applied to any transactions that occur after the time you made the change.

The Average and Frozen Cost Types are predefined. The Average Cost Type holds the current weighted average unit cost of items on-hand, and is used to value transactions such as issues and transfers out. You can update costs in this cost type only by using the average cost update routine process. The Frozen Cost Type holds the standard costs for items in the organization and can only be updated by using the standard cost update

process.

> **Note:** If you are using the PJM Organization parameter "GL Posting Option" with the value set to `Projects`, and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost.

Set Up Burden Structures

This setup needs to be performed when the PJM Organization parameter, GL Posting Option, is set to Projects. When you select the option to post the general ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions. If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost. With the burdening functionality in Oracle Projects, you can:

- Use an unlimited number of burden cost codes.

- Manage overhead pools by fiscal period and apply rates uniformly throughout the period. Change overhead rates periodically throughout the fiscal period with a cumulative adjustment retroactive to the beginning of the fiscal period easily revise burden schedules.

- Retroactively adjust multipliers.

- Define different multipliers for costing, revenue accrual, and billing.

Related Topics

Using Burden Structures, *Oracle Project Costing User Guide*

Set Up WIP Person Resources as Straight Time

You can set this at the Inventory Organization level in the Project Manufacturing Parameters window, the Costing tabbed region. This allows WIP employee resources and Project straight time hours to be summarized as Straight Time Expenditure Type Class. This also allows WIP employee resource time to be included as **hours** in billing calculations for a project in Oracle Projects. You can enable this feature for existing Project Manufacturing organizations as well as new organizations by selecting the parameter check box for **WIP Person Resource as Straight Time.**

Additionally, if the Account Option parameter is set to one of the selections, the transaction source type is one of the following values:

- Use AutoAccounting: WIP Resource transactions with employee name and number

are transferred to Oracle Projects as WIP Straight Time with No Accounts.

- Send Accounts to PA: WIP Resource transactions with employee name and number are transferred to Oracle Projects as WIP Straight Time with Accounts.

Related Topics

Expenditure, Type Class

Set up Projects

You set up a project by copying the data from a template or another project. You can set up several templates for various project types depending on the information you want to flow down from your template to your project. When you copy a project from a template, the work breakdown structure and the following options associated with the project types is copied from the template to the project:

- General information including the class of project as contract and the default service type to use when creating tasks

- Costing information for burdening non-manufacturing costs

- Budget controls for defaults and entry of budgets

- Billing information, including defaults for billing schedules and invoice formats

- Distribution rules for revenue recognition and billing method allowed for the project type

You can optionally copy agreements and funding, budgets, key members, resources lists, and any other project and task options from a project template. If you manufacture similar items with similar work breakdown structures and consequently, similar budgets, you can copy several projects from one template and make minor changes to the work breakdown structure, budget, etc., for each project copied from the template.

You should add a project classification category to your project template if you plan to use Project Allocations to allocate cost from a manufacturing cost pool (GL balance) to designated Project Manufacturing projects. You can also use the classification category to identify Project Manufacturing projects for other reporting purposes.

See Also:

Project and Task Information Entry, *Oracle Projects Fundamentals*

Set up Standard Cost Rates

See: Standard Costing Setup, *Oracle Cost Management User's Guide* for details.

Set up Cost Groups

In an average costing organization, cost groups enable you to calculate average cost for items that belong to the project or projects in the cost group. The same item can have different average costs for each cost group in the same organization.

In a FIFO or LIFO costing organization, cost groups hold the cost layers for the projects to which the cost group is assigned.

In a standard costing organization, cost groups hold the inventory valuation accounts and the link to the WIP Accounting class for the projects to which the cost group is assigned.

When you enter the organization parameters, a default cost group is assigned. The default cost group in average, FIFO, and LIFO organizations holds the cost of non-project or common items. If you want to change the name of the cost group from the default (for example, change CG1234 to a more meaningful name, to Org1-Common), navigate to the Cost Group setup window, select the default cost group assigned on the organization parameters, and change the name. You cannot select Common because that is a seeded value.

You must select **Project** as the cost group type. Inventory cost groups are used in the Warehouse Management module. See: the *Oracle Warehouse Management User's Guide* for more information.

When you click on the first account field, the Inventory valuation accounts that you defined on the Organization Parameters Costing Information Region window populates your cost group accounts. These accounts are used in any transactions that debit or credit Inventory asset accounts, such as material receipts to inventory, miscellaneous transactions and project transfers, component issues to and returns from WIP, and completion of finished assemblies from WIP to finished goods. You may change the accounts for your cost group to any valid accounts.

Weighted average costs are continually calculated for each item within a cost group. If a cost group is valid in several inventory organizations, the averaging is performed within each organization, triggered by transactions which change the cost group cost, such as PO receipts, miscellaneous receipts, or project transfers at costs which differ from the current cost group cost. If the cost group have projects that are defined in multiple inventory organizations, it must be defined as a multi-organization cost group.

You can assign one or more projects to a cost group on the Project Parameters window. The following table illustrates how you would set up the cost group in a Project Manufacturing environment depending on how you want to track item costs:

Objectives	Setup
Track item costs by project	Assign a unique Cost Group for each project

Objectives	Setup
Track item costs by a group of projects	Assign a unique Cost Group to the group of projects
Track item costs by organization	Assign all the projects to the Common Cost Group

In order to simplify inventory reconciliation between Manufacturing and Oracle Projects, it is advisable to associate only one project to a cost group. If you assign multiple projects to a cost group, you can change the average cost of an item owned by one project by receipt of the same item at a different cost to another project in the cost group. The change in the average cost is not visible in Oracle Projects, as illustrated by the following example, in which three projects belong to one cost group - CG-1:

Date	Owning Project	Item	Qty	Acquisition Cost	Average Cost in CG-1	Cost Transferred to Oracle Projects
Apr 1	P1	A	1	$10	$10	$10
Apr 4	P2	A	1	$12	$11	$12
Apr 9	P3	A	1	$14	$12	$14

Month-End Reconciliation

Inventory has $36 cost in one Cost Group under 3 locators:

• CG-1 has Qty 3 Item A @ $12 = $36

Oracle Projects has $36 cost in 3 Projects:

• P1 has Qty 1 Item A @ $10 = $10

• P2 has Qty 1 Item A @ $12 = $12

• P3 has Qty 1 Item A @ $14 = $14

In order to reconcile your inventory costs to project cost held in Oracle Projects in the example above, you must total the item costs in three projects and compare the total to your cost group total. Assigning only one project to a cost group simplifies reconciliation of costs between Manufacturing and Oracle Projects.

See Also:

Defining Project Cost Groups, *Oracle Cost Management User's Guide*

Set up WIP Accounting Classes

Link WIP Accounting Classes to Cost Groups

You can associate one or more WIP accounting classes to a cost group. You may want to use different WIP accounting classes for different types of projects. By assigning a project to a cost group and associating WIP accounting classes to a cost group, you can insure that the desired WIP accounting classes are used for the project.

Default WIP Accounting Classes for Item Categories

You can implement product line accounting by creating product line categories and associating them with product line category sets. You can assign a default WIP accounting class to standard discrete jobs for cost group/item category combinations. The list of values of WIP accounting classes on this window contains only those classes associated with the cost group.

See Also:

WIP Accounting Classes, *Oracle Work in Process User's Guide*

WIP Accounting Class Defaulting and Validation for Project Discrete Jobs

If you use average, FIFO, or LIFO costing methods for your organization, the following WIP accounting class defaulting and validation logic applies when a project job is created through MRP or manually:

1. The system checks the Default WIP accounting class for Categories table first to find the WIP accounting class that is associated with the cost group that the project belongs to, and assigns it to the job.

2. If no valid combination of cost group and item category is found in the default WIP Accounting Class for Categories table, the system uses the default WIP accounting class defined in the project parameters.

3. If no data is found, the WIP accounting class remains blank on the job window. You must enter the WIP accounting class to save the job.

Validation Logic

The list of values for WIP Accounting Class on the Discrete Job window contains only the WIP accounting classes associated with the cost group of the project for this job.

Common Project Assignment

You can optionally set up a common project to hold the cost of manufacturing transactions that have not been associated with a specific project. However in PJM organizations where the Proj Mfg Org parameter (GL Posting Option) is set to Projects, and it is mandatory.

This enables you to budget for common costs and view commitments, actual, and budgeted cost for your common project on the standard Project Status Inquiry. You can set up a different common project for each inventory organization. You specify the common project number on the PJM Organization Parameters window (not the Project Parameters window). If you define a common project, you must also define the default tasks to be used for material, resource and WIP material transactions in the PJM Organization Parameters.

You can add or modify task assignments for the common project on the Task Auto Assignment Rules window. When you run the Cost Collector, the common project value assigned on the PJM Organization Parameters window is assigned to all transactions related to common items. Common project tasks are derived from the Task Auto Assignment Rules.

Set up Planning Groups

You can use planning groups to group one or more projects that share supply. Projects within the same planning group can share supply, depending on the reservation level set in the plan level options.

With planning groups, MRP reserves project specific supply for demand at a planning group level. A supply for one project can be reserved against a demand for another project, if both projects belong to the same planning group.

See Also:

Defining Planning Group Lookups, *Oracle MRP User's Guide.*.

3

Oracle Project Manufacturing Command Center Setup

This chapter covers the following topics:

- Setting Up Project Manufacturing Command Center
- Setup and Configuration Steps
- Setting Profile Options for Project Manufacturing Command Center
- Loading Project Manufacturing Data

Project Manufacturing Command Center Product Configurations

Setting Up Project Manufacturing Command Center

The Project Manufacturing Command Center product configuration setup must be completed after the installation and common configurations are completed as described in My Oracle Support Knowledge Document 2495053.1, *Installing Oracle Enterprise Command Center Framework, 12.2.*

Setup and Configuration Steps

To complete setup of the Oracle Project Manufacturing Command Center:

1. Set profile options, page 3-2

2. Load Project Manufacturing data, page 3-3

Setting Profile Options for Project Manufacturing Command Center

Set a value for the following profile options to specify how the Project Manufacturing Command Center controls and loads project information:

Profile Option Name	Description	Default Value
PJM: Project Start Date for ECC (YYYY/MM/DD)	This profile option determines the project start cut off date for which transactional data is extracted and loaded for viewing in the Project Manufacturing Command Center.	Null
	You can only update this profile option at the site level and provide the start date in the following format: YYYY/MM/DD. For example, if you specify the date as 2019/10/30, all projects whose start date are greater than, and equal to 30 October 2019 are loaded into the Project Manufacturing Command Center.	
	If the value for this profile is null, then the projects with start dates that are within the last year or 365 days from the current date and the transactions posted for those projects are loaded to the Project Manufacturing Command Center.	
MO: Operating Unit	This profile option determines the operating unit based on which projects are loaded to the Project Manufacturing Command Center.	Null

Loading Project Manufacturing Data

To load Oracle E-Business Suite data into the Project Manufacturing Command Center, run the Project Manufacturing Command Center Data Load. Run this concurrent program from the **Schedule Request: Define** page which you can open using the **Project Manufacturing Command Center Data Load** menu option under the Projects application.

> **Note:** To set up profile options before running data loads, see: Setting Profile Options for Project Manufacturing Command Center, page 3-2

To load Project Manufacturing data:

1. From the Project Manufacturing Super User responsibility, navigate to the **Schedule Request: Define** page:

   (N) Projects >**Project Manufacturing Command Center Data Load**

2. On the **Schedule Request: Define** page, select from the following:

   - **New Request** - Select this option to create a new request.

   - **Copy Request** - Select this option to copy a previous request.

3. Select **New Request**, and in the **Program Name** field, enter or select **Project Manufacturing Command Center Data Load**.

4. In **Request Name** field enter a request name. You can use this request name to search for this request or use this request name when you select to use the **Copy Request** option later on to run the Project Manufacturing Command Center Data Load program again.

5. Use the **Parameters** tab to enter the parameters information.

6. In the **Dashboards** field, select the dashboards for which you want to load project manufacturing data. You can select from the following:

   - **ALL** - Use this option to load data for all the project manufacturing dashboards.

   - **PJM** - Use this option to load data for the **Overview**, **Projects**, **Work Orders**, **Procurement**, **Inventory**, and **Sales Orders** dashboards.

   - **PJM-GNT**- Use this option to load data for the **Genealogy & Trace** dashboard only.

7. In the **Load Type** field, select the appropriate load type:

   - **Full Load** - This process loads all Project Manufacturing data and is required to be run for the first data load. The full data load process also includes metadata load. If you select and run full load for subsequent requests, then this program clears all Project Manufacturing data from ECC and loads fresh data.

   - **Incremental Load** - This program loads the data modified and updated from the previous load only. Incremental load should be scheduled to run as often as required to keep the ECC dashboard current.

- **Metadata Load** - This process ensures the application waits for other tasks such as consolidation, data entry, or other load processes to finish before it loads the files. Note that the full data load process includes metadata load.

8. Enter one or more language codes in the **Languages** field for the output. For multiple language codes, use the format AA,BB,NN. For example, enter US,AR,KO. If the field is blank, then the data will be loaded for the base language only (usually US).

9. In the **Enable SQL Trace** field, select **True** to enable SQL trace. Otherwise, select **False**.

10. In the **Log Level** field, select the program that you want to report. The default value is **Error**.

11. Click **Continue**.

12. Use the **Schedule Request: Review** page to review the selection for data load request. You can then select from the following:

- **Manage Schedule** - Use this option to manage how you want the data load request to run.

- **Cancel** - Use this option to cancel your request.

- **Back** - Use this option to go back to the Schedule Request: Define page to edit the parameter information.

- **Submit** - Use this option to submit your request.

13. Click **Submit** to submit the concurrent request.

14. Review your request using the **Requests** page.

15. Monitor data loading using the **Data Load Tracking** page of the ECC Developer responsibility.

To load Project Manufacturing data using the Submit Requests window:

If you add the Project Manufacturing Command Center Data Load program to the relevant request group using the System Administrator responsibility, you can also then find and run this concurrent program from the **Submit Requests** window.

1. From the Project Manufacturing Super User responsibility navigate to the **Submit Requests** window:

   (N) **Projects** >**Other** >**Request**>**Find Requests**>**Submit a New Request**

2. On the **Submit Requests** window, use the **Name** field, to select the **Project Manufacturing Command Center Data Load** program., and submit the request once you enter the same parameters as listed in the steps to load Oracle Project Manufacturing data using the **Schedule Request: Define** page.

3. Use the **Parameters** window to enter the parameters information.

   Select from the same parameter values as listed in steps 5 to 10 in the To load Oracle Project Manufacturing data topic.

4. Click **OK** on the **Parameters** window.

5. Click **Submit**.

6. Review your request using the **Requests** page.

7. Monitor data loading using the **Data Load Tracking** page of the ECC Developer responsibility.

To review request details

8. From the menu, click **Requests**. The **Find Requests** window appears.

9. Select the **All My Requests** radio button and click **Find**. The **Requests** window appears and displays all of your requests.

10. In the **Requests** window, select the row that contains your request and then click **View Details**. The **Request Detail** window appears and displays the ECC- Run Data Load information.

11. Click **OK** to exit and close the window.

4

Project References and Validation Logic

This chapter covers the following topics:

- References to Other Oracle Products
- Project Manufacturing Validations

References to Other Oracle Products

Oracle Project Manufacturing enables you to enter project or project and task on various entities within Oracle Applications. The following table provides a list of these entities and cites the documentation where you find can detailed information.

Product	Form/Window, Region	Documentation Reference
PJM	Project Parameters	Assigning Project Parameters, *Oracle Project Manufacturing User's Guide*
APS	Planner Workbench	Planner Workbench/User Interface, *Oracle ASCP* and *Oracle GATP Server*
INV	Stock Locator	Defining Stock Locators, *Oracle Inventory User's Guide*
INV	Transaction Type	Defining and Updating Transaction Types, *Oracle Inventory User's Guide*
INV	Move Orders (Projects/Tasks tab)	*Oracle Inventory User's Guide*

Product	Form/Window, Region	Documentation Reference
INV	Transaction Move Orders	*Oracle Inventory User's Guide*
INV	Transaction Interface, Other alternative region	Viewing and Updating Transaction Open Interface Activity, *Oracle Inventory User's Guide*
MRP	Forecast Entries	Defining a Forecast, *Oracle MRP User's Guide*
MRP	MDS Entries	Defining Schedule Entries Manually, *Oracle MRP User's Guide*
MRP	MPS Entries	Defining Schedule Entries Manually, *Oracle MRP User's Guide*
MRP	MPS Workbench, Implement	Implementing Planned Orders, *Oracle MRP User's Guide*
ONT	Sales Orders, Project Sales Orders (Line Items tab), Project alternative region	Defining Sales Order Line Project Information, *Oracle Order Management*
ONT	Schedule, Schedule Sales Order), Project tab	Updating Lines to Schedule, *Oracle Order Management*
ONT	Sales Orders, Option Lines (Option) {Tools Menu>Show Line Details}	Choosing Options, Oracle *Order Management*
PO	Requisitions, Distribution (Distribution), Project alternative region	Entering Requisition Distributions, *Oracle Purchasing User's Guide*
PO	Requisitions, Preferences (Preferences), Project Information alternative region	Entering Requisition Preferences, *Oracle Purchasing User's Guide*

Product	Form/Window, Region	Documentation Reference
PO	Purchase Orders, Distribution (Distribution), Project alternative region)	Entering Purchase Order Distributions, *Oracle Purchasing User's Guide*
PO	Purchase Orders, Preferences (Preferences), Project Information alternative region	Entering Purchase Order Preferences, *Oracle Purchasing User's Guide*
PO	Releases, (Distribution), Project alternative region	Entering Release Distributions, *Oracle Purchasing User's Guide*
PO	Releases, Preferences	*Oracle Purchasing User's Guide*
PO	RFQ, More alternative region	Entering RFQ Lines, *Oracle Purchasing User's Guide*
PO	Quotations, More alternative region	Entering Quotation Lines, *Oracle Purchasing User's Guide*
QA	Collection Element, Plan	Collection Elements, *Oracle Quality User's Guide*
WIP	Discrete Job, Project alternative region	Defining Discrete Jobs Manually, *Oracle Work in Process User's Guide*
WIP	Pending Jobs and Schedules, Discrete region	Processing Pending Jobs and Schedules, *Oracle Work in Process User's Guide*
WIP	Work Order-less Completions	Performing Work Order-less Completions, *Oracle Work in Process User's Guide*
WSH	Release Sales Order	*Oracle Shipping Execution User's Guide*
WSH	Shipping Transactions (Lines and Containers tab)	*Oracle Shipping Execution User's Guide*

Project Manufacturing Validations

Common Validation

The system validates the project and task segments of a locator based on the value of the Project Control Level parameter you set up in the Organization Parameters. The following table describes the validation logic:

Project Control Level	Project Segment	Task Segment
Null	Cannot enter any value.	Cannot enter any value.
Project	Optional.	If Project is entered, Task is optional. If Project is not entered, Task cannot be entered.
Task	Optional.	If Project is entered, Task is mandatory. If Project is not entered, Task cannot be entered.

Validations in Procurement

This section describes purchase order return and delivery transactions and their related validations.

Purchase Order Return Transactions

When you perform a purchase order return transaction, the system defaults the project and task from the purchase order distribution line to the from locator.

If you update the project and task segments of the from locator on a purchase order return, they are validated against, and must exactly match, the project and task on the purchase order distribution line.

Purchase Order Delivery Transactions

When you perform a purchase order delivery transaction for a project purchase order, the system defaults the project and task from the distribution line of the purchase order to the receiving locator.

If you define item transaction defaults for receiving locators for specific items in the Inventory setup (if these are physical locators), the system concatenates the default locator with the project and task references from the purchase order distribution line

when it is received into its inventory destination.

If you update the project and task on the receiving locator, they are validated against, and must exactly match, the project and task on the distribution line of the purchase order.

Purchase Order Adjustment Transactions

When you perform a purchase order adjustment transaction, the system defaults the project and task from the purchase order distribution line to the locator.

If you update the project and task segments of the locator on a purchase order adjustment, they are validated against and must exactly match the project and task on the purchase order distribution line.

> **Note:** You can not use a project locator for all the above transactions if the purchase order distribution does not have projects and tasks.

Validations in Inventory

The system applies the Common Validation logic to the following transactions:

- Miscellaneous Issue

- Miscellaneous Receipt

- Subinventory Transfer (used for transferring material from one subinventory to another for a given project task)

- Project Transfer

- Interorganization Transfer (Direct)

- Internal Order Interorganization Transfer (Intransit)

- Cycle Count Adjustment

- Physical Count Adjustment

- Project Move Orders (used for transferring material from one subinventory to another for a given project task with an optional approval cycle)

- Landed cost adjustment accounting events and Average or Layer cost update transactions for landed cost enabled purchase order shipments.

Validations in WIP

This section describes the validations in Work in Process.

Project Discrete Job Completion Locators

When you create a project discrete job (either manually or from the Planner Workbench), the system defaults the project and task from the project discrete job to the project and task segments of the completion locator. If you have assigned a completion locator (common locator) to the routing, the system concatenates the common locator segments with the project and task to create a project locator.

When you update the project and task on the Project Discrete Job, the system re-defaults the project and task segments of the Completion Locator.

If you update the project and task segments of the Completion Locator, they are validated against and must exactly match the project and task on the Project Discrete Job header. They cannot be null.

Project Discrete Job Completion Transactions

When you perform a Completion Transaction, the system defaults the Completion Locator from the Project Discrete Job header.

If you update the project and task segments of the Completion Locator, they are validated against and must exactly match the project and task on the Project Discrete Job header. They cannot be null.

Projects Discrete Job Material Requirements

When you define a project discrete job for an item that has a bill of material, the bill is copied to the project discrete job. If the components are *hard pegged* (their pegging attribute is set to either Hard Pegging or End Assembly/Hard Pegging), then the system defaults the project and task from the project discrete job header to their supply locator. If you have assigned supply locators (common locator) on the bills of material, the system concatenates the supply locators with the project and task to create a project locator.

If you update the project and task on the project discrete job, the system re-defaults the project and task segments of any hard pegged components.

If you update the project and task segments of the supply locator for any components of a project discrete job, they are validated against and must either match the project and task on the project discrete job or be null.

If the components are *soft pegged*, (their pegging attribute is set to either Soft Pegging or End Assembly/Soft Pegging) the system does not default the project and task segments to the supply locators. You can optionally override this and assign the project and task to the supply locator. The system validates the project and task against the project and task from the project discrete job header.

Projects Discrete Job Component Issue Transactions

The system validates the supply locator for a Component Issue Transaction for a project discrete job. The supply locator must satisfy one of the following criteria:

- No project/task reference on the supply locator.

- The project and task on the supply locator must exactly match the project and task on the project discrete job.

- Same project but different task, if the parameter *PJM: Allow Cross Project Issues* is set to Yes.

- A different project with the same cost group and planning group association as the project on the project discrete job. The parameter *PJM: Allow Cross Project Issues* is set to Yes.

Project Discrete Job Return Assembly to WIP Transactions

If you enter or update the project and task segments of the completion locator on a Return Assembly to WIP Transaction, they are validated against and must exactly match, the project and task on the project discrete job.

Project Discrete Job Component Return Transactions

If you enter or update the project and task segments of the supply locator on a Component Return, they are validated and must satisfy one of the following criteria:

- No project/task reference on the supply locator.

- The project and task on the supply locator must exactly match the project and task on the project discrete job.

- Same project but different task, if the profile *PJM: Allow Cross Project Issues* is set to Yes.

- A different project with the same cost group and planning group association as the project on the project discrete job. The profile *PJM: Allow Cross Project Issues* is set to Yes.

Project Work Orderless Completions

When you perform a project work orderless completion, you must specify the assembly, quantity, project or project and task, and other information. If you have set up a default completion locator on the routing, the system defaults it in for the transaction. If you have not set up a default completion locator, you can specify one for the transaction. When the transaction is saved, the system defaults the project and task from the transaction to the completion locator.

Work orderless completions automatically backflush all operation pull, assembly pull, and push components. The system builds the supply locators for the components by concatenating the supply locator from the item and the project or project and task you specify.

> **Note:** You can not use a project locator as a completion locator or supply locator for all the above transactions against a non-project (common) discrete job.

Validations in Shipping

This section describes Pick Release.

Pick Release

When you perform Pick Release for a project sales order, the system ensures that you can only pick release from the project locators that have the same project and task as the sales order line.

Validations in Projects

Oracle Project Manufacturing is not uptaking the Oracle Projects Validations API which necessitates approval for adding a child task. As a result, an unapproved child task may lead to the failure of the transaction during an import from Project manufacturing to Oracle Project. As a Project Manufacturing user, you should ensure that only an user with the appropriate function security creates the task using change document. Tasks created using change documents 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.

See:

Creating Financial Tasks in a Change Document in *Oracle Projects Fundamentals*

Creating Financial Tasks in *Oracle Project Management User Guide*

Landed Cost Adjustment Events and Average / Layer Cost Update for LCM Enabled Purchase Order Shipments

When you perform a landed cost adjustment to a purchase order receipt, the system defaults the project and task from the purchase order distribution line to the Landed cost adjustment accounting events and the average or layer cost update transactions.

5

Task Auto Assignment

This chapter covers the following topics:

- Overview
- Benefits
- Examples
- Implementation Procedure
- Implementation Notes

Overview

This chapter explains the use of Oracle Project Manufacturing's Task Auto Assignment feature. Task Auto Assignment gives you a flexible way to specify how to track material and resource costs by tasks within your project rather than manually specifying tasks on your manufacturing transactions. Task Auto Assignment dynamically assigns tasks to manufacturing transactions based task assignment rules you define.

The Task Auto Assignment allows you to specify a set of rules for assigning tasks to inventory, WIP, and WIP material transactions. Based on these rules tasks are automatically assigned to project material and resource transactions.

Task Auto Assignment - Schematic diagram
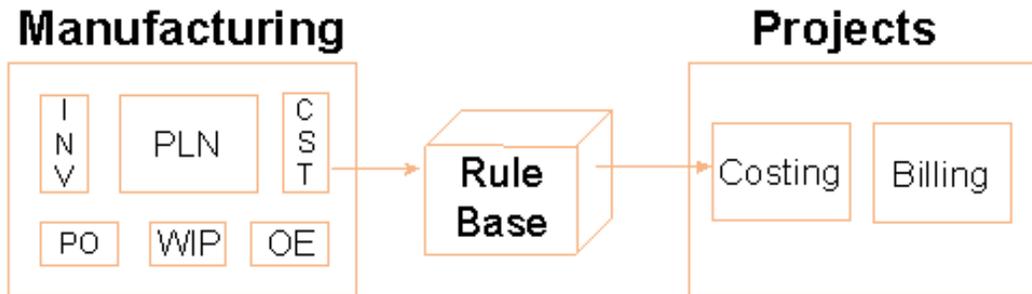
Task Auto Assignment has different criteria for creating rules. These are:

Material task assignment criteria:

- Item Number

- Procure Flag

- Purchase Order Number

- Category Code

- Subinventory

Resource task assignment criteria:

- Operation Code

- Job Number or Job prefix

- Assembly

- Department

WIP Material task assignment criteria:

- Transaction Type

- Assembly

- Component

- Item Category

- Subinventory

- WIP prefix

- Department

- Operation

For a given project, you can use any combination of the above mentioned criteria to define a rule for a particular task.

Whenever a project related material or resource transaction is recorded, Task Auto Assignment compares the conditions for that transaction with the pre-specified rules for the project and automatically assigns the task. For example, if you want to monitor the usage of certain critical raw material for a project, define a rule that links a task to that material. Wherever a transaction for this material occurs, it is charged to that task.

A similar rule on the resource side would assign a critical operation to a separate task in the project work breakdown structure.

A rule on the WIP material side would assign the issue of a common component to multiple parent assemblies.

The following sections explain how to use this feature, the benefits of the Task Auto Assignment feature and illustrate some examples where this feature could be effectively deployed.

Material Task Assignment

The Material tab region of the Task Auto Assignment window lets you associate a task with an item, procure flag, PO number, item category, and subinventory. Task Auto Assignment looks at the item, whether the item is procured, or the PO number, category, and subinventory of a material transaction and finds a rule that matches the transaction. It then assigns a task to the transaction.

If more than one rule matches the values of some of these fields, the Task Auto Assignment feature looks for the rule that corresponds to the highest-priority field, which is the field that appears on the left. For example, suppose you've defined two rules for Project P1:

Project	Task	Item	PO Number	Category	Subinventory	Procure
P1	T1	A	101	-	-	-
P1	T2	A	-	-	Stores	-

When you deliver PO#101 for item A into Stores, Task Auto Assignment matches the transaction with the first rule (and therefore assigns task T1 to the transaction). The reason it picks the first rule rather than the second, even though both contain matching fields, is because the PO number has a higher priority than Subinventory which is displayed on the left of the Subinventory column on the window. You can also define

the priority of these fields. For more information, refer to the section on Defining the hierarchy of Task Assignment Criteria.

Resource Task Assignment

The Resource tab region of the Task Auto Assignment window enables you to associate a task with an operation code, job (or job prefix), assembly, and department. Task Auto Assignment looks at the values entered in these fields and finds a rule that matches a resource transaction. It then assigns the task to the transaction.

If more than one rule matches the values of some of these fields, Task Auto Assignment looks for the rule that corresponds to the highest-priority field, which is the field that appears on the left. For example, suppose you've defined two rules for Project P1:

Project	Task	Operation code	Job Number / Prefix	Assembly	Department Code
P1	T1	Assembly	R%	-	-
P1	T2	Assembly	-	-	AS2

When you perform a resource transaction for job R222 for a resource belonging to AS2 department, Task Auto Assignment matches the transaction with the first rule (and therefore assigns task T1 to the transaction). The reason it picks the first rule rather than the second, even though both contain matching fields, is that Job Number has a higher priority than Department Code which is displayed on the left of the Department Code column on the window.

You can define the priority of these fields to suit their needs. For more information, refer to the section on Defining the hierarchy of Task Assignment Criteria.

WIP Material Task Assignment

The WIP Material tab region of the Task Auto Assignment window enables you to associate a task with a transaction type, assembly, component, item category, subinventory, WIP prefix, department, or operation. Task Auto Assignment looks at the values entered in these fields and finds a rule that matches a WIP material transaction. It then assigns the task to the transaction. If more than one rule matches the values of some of these fields, Task Auto Assignment looks for the rule that corresponds to the highest-priority field, which is the field that appears on the left. For example, suppose you've defined two rules for Project P1:

Project	Task	Transaction Type	Assembly	Component	Subinventory
P1	T1	Issue	SB27	CM20	-
P1	T2	Issue	-	CM20	Stores

When you perform a WIP Material Issue transaction for component CM20 to the Assembly 27 from the Subinventory Stores, Task Auto Assignment matches the transaction with the first rule (and therefore assigns task T1 to the transaction). The reason it picks the first rule rather than the second, even though both contain matching fields, is because Assembly has a higher priority than Component or Subinventory.

You can define the priority of these fields to suit their needs. For more information, refer to the section on Defining the Hierarchy of Task Assignment Criteria.

Defining the Hierarchy of Task Assignment Criteria

You can change the hierarchy of the task assignment criteria if the default hierarchy does not meet their requirements. The task assignment forms regenerate using the hierarchy you specified. The criteria with higher priority appears to the left of the ones with a lower priority.

Task Auto Assignment Program

Task Auto Assignment is intended to provide a flexible way to determine how you want to track the material (inventory) and resource (WIP) costs by different tasks. It enables you to define rules to associate different tasks for inventory, WIP, and WIP Material transactions. When the inventory and WIP transactions are being costed in the Oracle Inventory and WIP, the Task Auto Assignment assigns a task to the transaction based rules you define. When the transaction cost is transferred to Oracle Projects, the cost is collected under the desired task.

The following process diagram shows the Cost Collection flow of a transaction through the Cost Worker and Cost Collector.
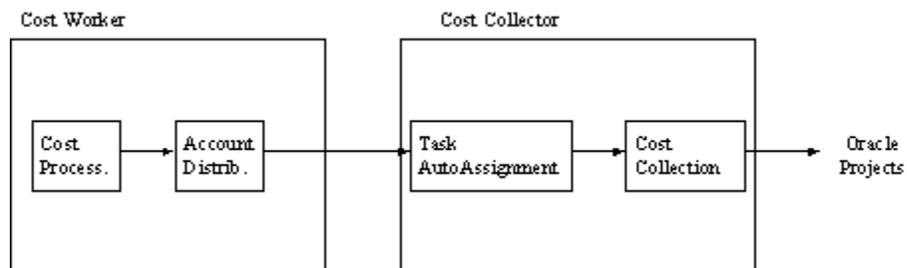
Related Topics

Benefits

The Task Auto Assignment feature provides you with greater control over how project work breakdown structures are linked to manufacturing activities. Some of the key benefits are listed here:

1.   Provides complete flexibility in defining project work breakdown structure.

Consider a simple bill of material that is intended to be manufactured as a project.

Bill of Material for a Project Item
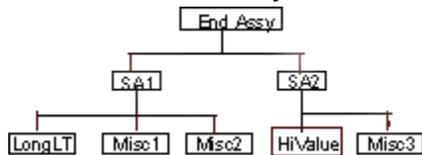
In order to achieve better cost control, it is identified that costs of items LongLT (a long lead time item) and item HiValue (expensive item) need to closely monitored. It is also necessary to track the costs of critical welding and prefabrication resources used in building the end assembly. In order to meet these objectives, a project work breakdown structure is prepared that tracks these costs under separate tasks. The work breakdown structure is shown in the figure above.

Proposed Project Work Breakdown Structure
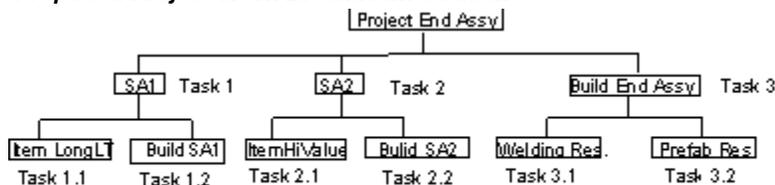
Without the Task Auto Assignment feature, it would not be possible to support such a project work breakdown structure. This is because the task number for manufacturing activities (requisitions/purchase orders and WIP jobs) would have been either:

•   Suggested by the planning system

•   Manually entered

In either case, the procurement and assembly activities of all the component items

would have the same task as their parent. As a consequence, all the material and resource costs would be bundled up under one task and it would not be possible to monitor the costs of critical items and resources used in the project.

Task Assignment Without Task Auto Assignment
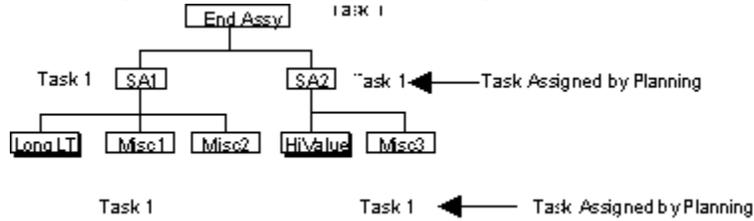
For example, if Task 1 is assigned to the end assembly on a MDS (or MPS or Forecast), the same task would appear on all the transactions for items HiValue and LongLT and also on all the resource transactions required in building the end item.

You have greater flexibility in designing the work breakdown structure. Apart from separating the costs of items LongLT and HiValue under different tasks, the usage of critical welding resources (Task 3.1) and prefabrication resources (Task 3.2) can also be tracked. This is accomplished automatically and hence consistently for a given project.

It is evident from the example that task assignment with the Task Auto Assignment feature is not restricted by (and to) the product structure. You have the option of defining the work breakdown structure the way manufacturing activities are undertaken. This provides you with unlimited flexibility in defining their work breakdown structures.

1. **Allows cost collection on a much finer level.**

Task Auto Assignment enables cost collection at a much finer level. Without Task Auto Assignment, task assignment (and cost collection) can happen only at the work order level. ALL the resource costs are charged to the task specified on the work order. With Task Auto Assignment, cost collection can be pushed down to the department level or even to the individual operation level. A comparison of the standard functionality and the *additional* functionality imparted by Task Auto Assignment is shown below.

Cost Collection Without Task Auto Assignment
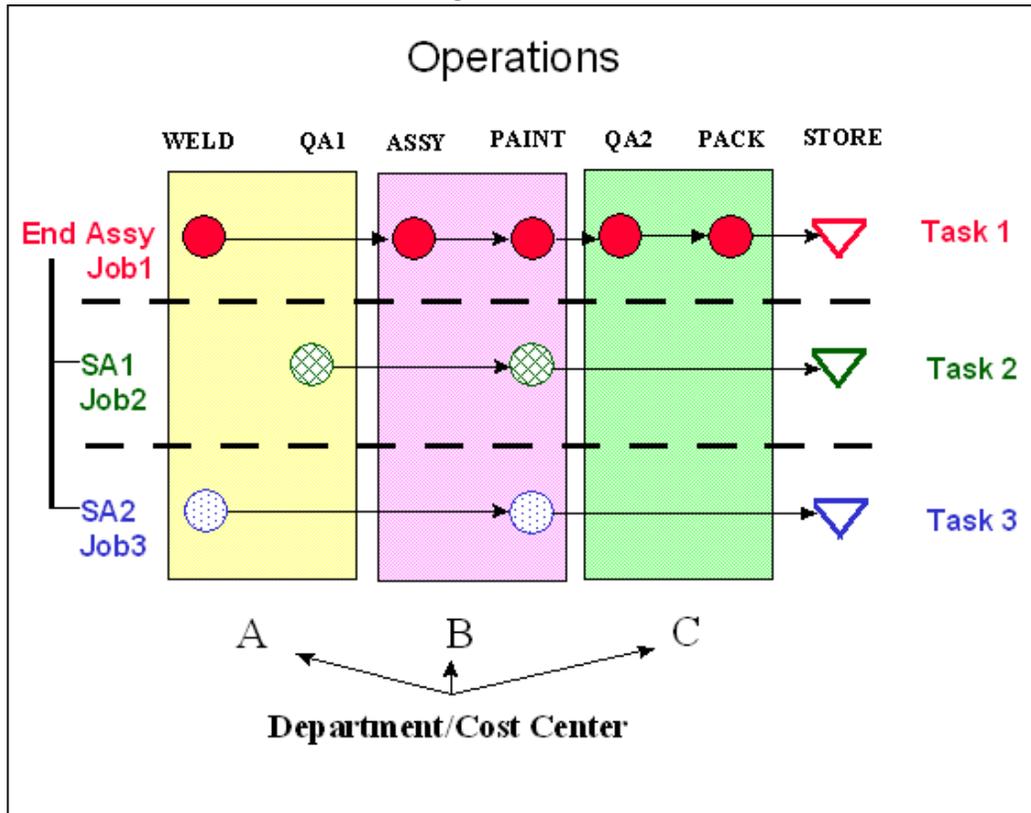
Cost Collection with Task Auto Assignment
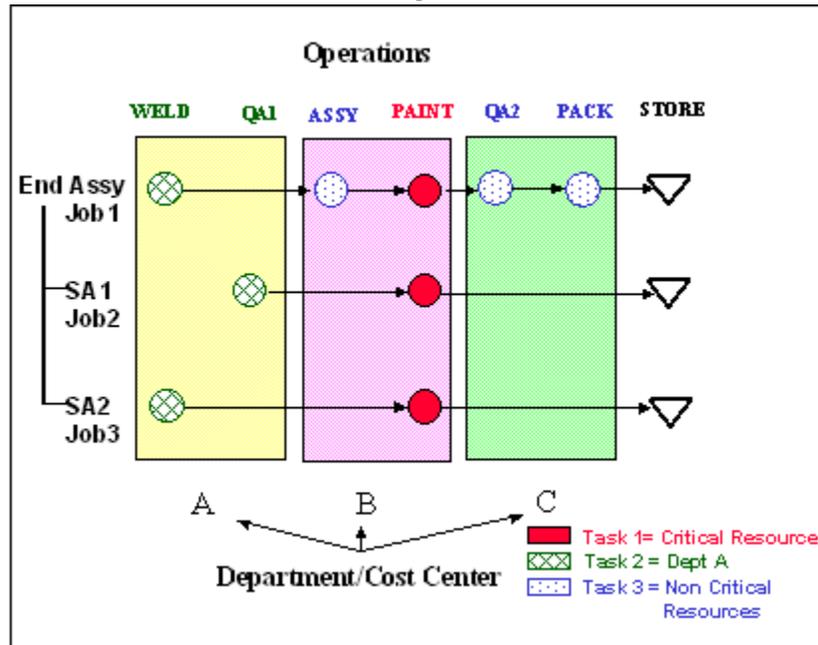
As indicated in the figure above, Task Auto Assignment gives you considerable flexibility in cost collection. You can choose the granularity of cost collection based on the specific requirements.

- **Eliminates manual task entry.**

  You do not worry about entering tasks on any project related transactions. This eliminates all the errors associated with manual task entry.

  Cost accountants control the allocation of manufacturing costs to a project instead of manufacturing personnel assigning tasks to a transaction.

  You can still choose to manually enter a task for any of the transactions. Task Auto Assignment does not override this task.

  You must plan, execute and track manufacturing activities at a project level instead of a more granular task level if Task Auto Assignment is used.

- **Enables standardization of project work breakdown structure and manufacturing costing.**

  The task assignment rules for material and resource transactions guide the process of task assignment. Once the rules have been defined, the process of task assignment takes place with no human intervention. This facilitates creation and maintenance of organization-wide standards for defining Project work breakdown structure and manufacturing cost collection. This is an added advantage over all the other benefits mentioned earlier.

Examples

This section briefly describes some typical examples using the Task Auto Assignment feature. The given list is just an indicator of things that could be accomplished with the Task Auto Assignment feature.

- Budget and Track critical resource consumption for a project

  On many occasions it is necessary to budget and closely monitor the usage of a critical manufacturing resource for a project. This could be a resource using expensive piece of machinery or a resource with unstable process/high rejection rates or a resource that uses highly skilled manual labor. The Task Auto Assignment feature allows you to budget for and monitor these critical resources by project.

  This ensures better visibility of critical or money loosing resource costs and enable better control over such resources.

- Collect costs by department

  Using Task Auto Assignment, costs can also be collected by the manufacturing departments involved. The resource consumption in a particular department for the project is always be charged to a user-specified task. This enables budgeting for projects by the individual departments involved. Simultaneously, it also enables project progress monitoring/performance evaluation by department.

  The following figures show two different approaches in which you could setup Project Work Breakdown Structure in relation to the Organization Breakdown Structure. Without Task Auto Assignment, such a link between Project Work Breakdown Structure and Organization Structure would not be possible for manufacturing departments.

Inventory Organizations as Project Expenditure Organizations
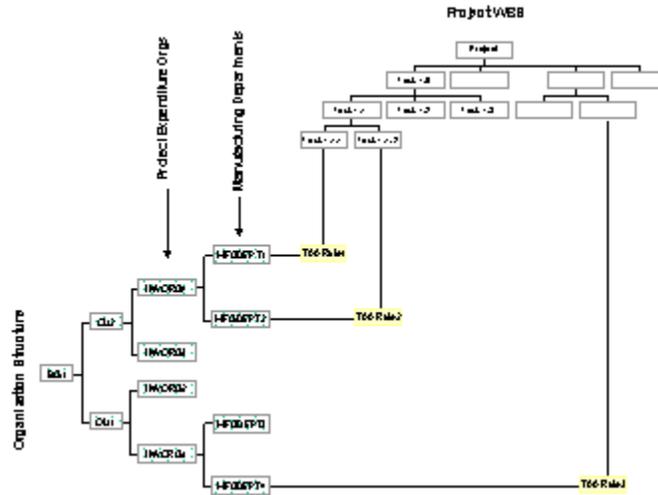
The figure above shows an example where Inventory Organizations (INVORG1, INVORG2, etc.) have been modeled as Project Expenditure Organizations.

These Expenditure Organizations have been referenced on the Manufacturing departments. For example, MFGDEPT1 and MFGDEPT2 have been assigned the same Project Expenditure Organization INVORG1. Task Auto Assignment rules (TAA Rule1, TAA Rule2, etc.) have been setup such that resource costs incurred in each of the manufacturing departments are collected under a separate task. The disadvantage of this approach is you loose visibility of manufacturing department level costs in a Project Expenditure Organization. i.e. Costs in Project Expenditure Organization INVORG1 commingles the resource costs for MFGDEPT1, and MFGDEPT2 along with other expenditures (including material costs) for INVORG1.

Another approach shown in the figure models manufacturing departments as individual Project Expenditure Organizations. Here each Manufacturing Department represents one Project Expenditure Organization and there is no commingling of costs.

Manufacturing departments as Project Expenditure Organizations
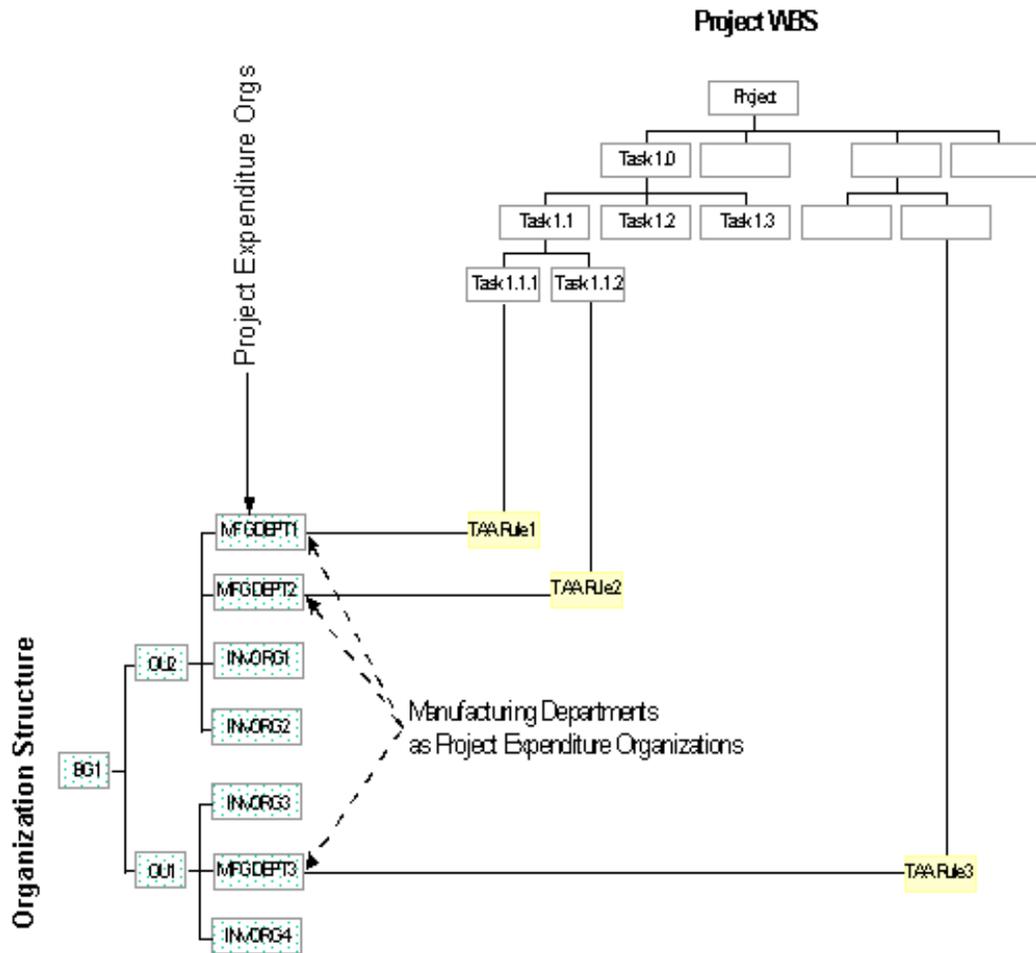
1. Collect resource costs for a particular job or assembly.

   Another application of the Task Auto Assignment feature is seen in a case where you intend to monitor the resource usage for a particular assembly or a particular WIP job. You can assign a task assignment rule for this assembly or WIP job and can monitor the resource usage for that assembly or WIP job. If there is a need to control a specific resource for a job or an assembly, it can also be accomplished using Task Auto Assignment. You can associate only unreleased jobs with a resource task assignment rule.

2. Collect resource costs for a specific group of WIP jobs.

   You can generate jobs in Oracle Work In Process with a particular prefix. Task Auto Assignment allows you to define resource task assignment rules with partial WIP job numbers as one of the criteria. This enables monitoring resource usage for a specific group of jobs that carry a certain prefix. This enables grouping of project

costs for a specific work (e.g. rework, repair, etc.) under separate tasks automatically.

> **Note:** You can choose to enter any number of characters before entering the wildcard character (%). For example, if RW is the chosen prefix for rework type jobs, you can enter R% or RW% or RW100% as the task assignment criteria to refer to a specific group of jobs. The rule applies to a broader or narrower group of WIP jobs.

3. Track procurement activity.

A task assignment rule that uses Procure Flag as one of its conditions facilitates tracking of the procurement activity. When purchased material is received for a project, the value of the receipt (plus any applicable overheads) are charged to the task that corresponds to the rule. This helps to monitor the progress of project procurement activities. This can be used for monitoring procurement of project items that have a very long lead time or are very expensive.

Tracking of procurement against a specific purchase order is accomplished by entering the PO Number as one of the task assignment criteria or by entering the task directly on the PO distribution line.

You cannot enter partially received purchase orders as task assignment criteria.

4. Track cost of critical items for a given project

A task assignment rule that uses an item number as one of the criterion (with the PO field blank and the procure flag unchecked) can be used to track the cost of that item for a given project. This set of rules keeps a track of all the inventory transactions for that item and keeps an account of the value of material consumption for the project.

5. Capture the cost of BOM in the Work Breakdown Structure

The block diagram shows the work breakdown structure and how the costs are captured for various material and resource transactions in the system. The table below lists the rules setup using Task Auto Assignment. In this example, only Resource and WIP material rules have been used to achieve the cost allocation results as displayed in the work breakdown structure.

| Task | Resource | | WIP Material | | |
	Assembly	Department	Transaction Type	Assembly	Component
1.1.3.1	-	-	Issue	Main Controls Build	-
1.1.3.1	Main Controls Build	-	-	-	-
1.1.3.2	-	-	Issue	Sync Unit Build	-
1.1.3.2	Sync Unit Build	-	-	-	-
1.1.3.3	Controls Build	-	-	-	-
1.1.3.3	-	-	Issue	Controls Build	-
1.1.3.3	-	-	Completion	Main Controls Build	-
1.1.3.3	-	-	Completion	Sync Unit	-
1.1.1	-	-	Issue	Fan Build	-
1.1.1	Fan Build	-	-	-	-
1.1.2	Turbine Build	-	-	-	-
1.1.2	-	-	Issue	Turbine Build	-
1.1.4	Transformer Build	-	-	-	-

| Task | Resource | | WIP Material | | |
	Assembly	Department	Transaction Type	Assembly	Component
1.1.4	-	-	Issue	Transformer Build	-
1.1.5	Test Unit Build	-	-	-	-
1.1.5	-	-	Issue	Test Unit Build	-
1.1.5	-	-	Completion	Fan Build	-
1.1.5	-	-	Completion	Turbine Build	-
1.1.5	-	-	Completion	Transformer Build	-
1.2	Gearbox Build	-	-	-	-
1.2	-	-	Completion	Test Unit Build	-
1.2	-	-	Issues	Gearbox Build	-

Implementation Procedure

This section describes the basic steps involved in the implementation procedure of the Task Auto Assignment feature.

Set Project Control Level = Project

Set the Project Control Level organization parameter to Project. This enables you to have project-only identity to supply and demand orders. You can then use Task Auto Assignment to assign task for the transactions. Project Cost Collection should be enabled.

Define the Hierarchy

You need to define the hierarchy of material, resource, and WIP material task assignment criteria. You should ensure adequate security for this window.

Define the WIP job prefix (optional)

Define the profile option in WIP to generate WIP jobs with a certain prefix. This step is optional.

Create Project Work Breakdown Structure

You need to determine how you want to budget and track your project expenditures first. Then you create the work breakdown structure for your project.

Setup Project Parameters

You need to assign your project to a cost group, a default WIP accounting class, optionally a planning group, a default material task and a default resource task in the Project Parameter window. The window automatically creates a default material task assignment rule in the Material Assignment table using the default material task, and a default resource task assignment rule in the Resource Assignment table using the default resource task you specify in this window.

Enter Material Task Assignment Rules

Enter your task assignment rule(s) in the Material tab region of the Task Auto Assignment window. You should make sure that you enter all the rules before you start transactions.

If you desire to use PO numbers as a part of task assignment rules, you must create the corresponding purchase orders.

Enter Resource Task Assignment Rules

Enter your task assignment rule(s) in the Resource tab region of the Task Auto Assignment window. You should make sure that you enter all the rules before you start transactions.

Enter WIP Material Task Assignment Rules

Enter your task assignment rule(s) in the WIP Material alternate region of the Task Auto Assignment window. Make sure that you enter all the rules before you start transactions.

> **Note:** If you desire to use WIP Job number as a part of the task
> assignment rule(s), the corresponding WIP job has to be created before
> it could be entered in this window.

Implementation Notes

The Task Auto Assignment feature brings a lot of flexibility in defining Project work breakdown structure and collection of manufacturing costs. Given below are some key aspects that you should be aware of while using the Task Auto Assignment feature.

- Coverage of the entire spectrum of Material and Resource Transactions is essential

  While defining the task assignment rules for a project, it is necessary that all conceivable material and resource transactions are accounted for. If this condition is not satisfied, some transactions would not be assigned the desired task and the costs for such transactions would be transferred to the project on the default task.

  A default task assignment rule is a rule that has the project and task fields populated and all the other task assignment criteria are null. You define the default tasks when you define Project Parameters.

- Changing the hierarchy of task assignment criteria after cost collection can distort facts

  Exercise extreme caution in modifying the hierarchy of task assignment criteria after some project transactions have been processed by the cost collector. Project expenditures would be distorted when the logic is changed. You must be aware of the consequences of such a change if the changes are decided to be implemented.

- Using partial WIP job numbers as criteria

  Task Auto Assignment allows you to enter only unreleased WIP jobs as task assignment criteria. This ensures that all the WIP resource transactions for the jobs are assigned appropriate tasks and costs are transferred to Oracle Projects.

  This validation does not apply for partial WIP jobs numbers entered with a wildcard. So when partial WIP job numbers with wildcards are entered as task assignment criteria, you should ensure that no previously cost collected project WIP resource transactions that satisfy the task assignment rule exist.

  The tasks assigned by Task Auto Assignment for Inventory and Resource transactions can be viewed in the following windows:

- Viewing Tasks assigned by Task Auto Assignment

Transactions	Window	Zone	Field
All Project Inventory transactions	View Material Transactions	Transaction ID	Task Number
Common Material Issue to Project WIP	View Material Transactions	Transaction ID	Source Task Number
All Project Resource Transactions	View Resource Transactions	Project	Task Number

- Viewing Errors in the task assignment process

  The errors in the task assignment process for material transactions could be viewed in the View Material Transactions window in the Cost Management or Inventory responsibility. The alternate zone Transaction ID has columns Error Code and Error Explanation that show the errors in task assignment process.

- Using Task Auto Assignment Client Extension for WIP Material rules

  You can configure how to assign the task for WIP material issues using a PL/SQL package client extension. By default, Task Auto Assignment uses the Material rule to derive the task for the issued material. The client extension provides the flexibility to override this default logic and derive the task using the WIP Material rule instead.

  Note that Task Auto Assignment always uses the WIP Material rule to derive the source task for the issued material. See the following details for the Task Auto Assignment client extension:

  - Package Specification File - PJMTKAXS.pls

  - Package Body File - PJMTKAXB.pls

6

Project Definition

This chapter covers the following topics:

- Defining Project Parameters
- Seiban Number Wizard

Defining Project Parameters

The following describes the set up of project parameters.

To Set up Project Parameters:

1. Navigate to the Project Parameters window.

2. If you are making the first assignment, enter the project or Seiban number you want to associate with a planning group. If you are updating an existing assignment, query the existing record and make the necessary changes.

   If the number you enter is a Seiban number, the Seiban Number flag is automatically enabled.

3. Select a cost group.

   If the organization has selected Standard as its primary costing method in the Organization Parameters window, the Cost Group field is disabled. Standard costing is available only when you do not use cost collection from manufacturing to Oracle Projects. Standard costing does not require cost groups.

   If the organization has selected Average as its primary costing method in the Organization Parameters window, the Cost Group field is enabled. You must select a cost group from the list for a project in an average costing organization. The list of values includes the Common Cost Group and the cost groups you define. The list of user defined cost groups includes only those cost groups with valid accounts in the Cost Group window. See Defining Cost Groups, *Oracle Cost Management User's Guide*. Weighted average costing for Inventory and WIP is maintained at the Cost

Group level. Therefore, if you want to keep weighted average costing at the project level, you must assign the project to its own cost group.

4. Optionally, enter a WIP accounting class.

If the organization has selected Standard as its primary costing method in the Organization Parameters window, the WIP accounting class is Standard Discrete.

If the organization has selected Average as its primary costing method in the Organization Parameters window, you can choose any WIP accounting class that has been associated with the selected cost group in the WIP Accounting Classes for Cost Groups window in Cost Management.

When you create project jobs or complete work order-less schedules for a project, this accounting class is defaulted if an accounting class, based on the assembly item's category set, cannot be found. It can be overridden, but only with another accounting class that is assigned to the cost group. See WIP Accounting Class Defaults: *Oracle Work in Process User's Guide*.

> **Note:** When you create a project WIP job either manually or through MRP, the system checks whether you've assigned a default WIP accounting class to this WIP job's item category and cost group in the Default WIP Accounting Classes for Categories window. If you have, the program uses this WIP accounting class for the job. If you have not, the program uses the WIP accounting class you entered for the project.

5. Optionally, select the name of the planning group with which you want to associate your project or Seiban number.

If you plan material requirements by a group of projects, rather than by each individual project, you need to define a planning group and to assign all the projects to this planning group. If you plan net material requirements only by a single project, you do not need to associate the project with any planning group.

For more information about planning groups, see Defining Planning Group QuickCodes, *Oracle MRP User's Guide*.

6. Choose the Invoice Transfer tab.

7. Enter an expenditure type for IPV.

This field is mandatory in a Project Manufacturing organization, if the *Transfer to PA IPV* option has been selected on the Organization Parameters window. You can use the IPV expenditure type that has defaulted from the PJM Org Parameter window, or modify it to choose any one of expenditure types that has been associated with expenditure type class Inventory. For outside processing, you must choose an expenditure type that has been associated with the expenditure type class of Work in Process. See: Defining Expenditure types, *Oracle Projects User's Guide*.

If an Invoice Price Variance is generated when approving an inventory or shopfloor (outside processing) related invoice, the Invoice Charge transfer process uses the IPV expenditure type defined in the Project Parameters window along with the IPV amount, IPV account, and Expenditure Organization to transfer the IPV amount for the project to Oracle Projects.

8. Enter an expenditure type for ERV.

This field is mandatory in a Project Manufacturing organization, if the *Transfer to PA ERV* option has been selected on the Organization Parameters window. You can use the ERV expenditure type that has defaulted from the PJM Org Parameter window or modify it to choose any one of expenditure types that has been associated with the expenditure type class Inventory. For outside processing, you must choose an expenditure type that has been associated with the expenditure type class of Work in Process. See: Defining Expenditure types, *Oracle Projects User's Guide*.

If an Exchange Rate Variance is generated when approving an inventory or shop floor (outside processing)-related invoice, the ERV transfer process uses the ERV expenditure type defined in the Project Parameters window along with the ERV amount, ERV account, and Expenditure Organization to transfer the ERV amount for the project to Oracle Projects.

9. Enter an expenditure type for Freight.

This field is mandatory in a Project Manufacturing organization, if the *Transfer to PA Freight* option has been selected on the Organization Parameters window. You can use the Freight expenditure type that has defaulted from the PJM Org Parameter window or modify it to choose any one of expenditure types that has been associated with the expenditure type class Inventory. For outside processing, you must choose an expenditure type that has been associated with the expenditure type class of Work in Process. See: Defining Expenditure types, *Oracle Projects User's Guide*.

If you use receipt based matching for your invoice, and freight is entered on the distribution when approving an inventor or shopfloor (outside processing) related invoice, the invoice charge transfer process uses the freight expenditure type defined in the Project Parameters window It also uses the freight amount and freight account from Oracle Payables, and the expenditure organization from the purchase order to transfer the freight amount for the project to Oracle Projects.

10. Enter an expenditure type for Tax.

This field is mandatory in a Project Manufacturing organization, if the *Transfer to PA Tax* option has been selected on the Organization Parameters window. You can use the tax expenditure type that has defaulted from the PJM Org Parameter window or modify it to choose any one of expenditure types that has been associated with the expenditure type class Inventory. For outside processing, you must choose an expenditure type that has been associated with the expenditure

type class of Work in Process. See: Defining Expenditure types, *Oracle Projects User's Guide*.

The method you choose to match tax to your invoiced items determines which expenditure type is assigned to the tax you enter on the Payables invoice. You can allocate tax at the line match level or you can enter tax as an invoice distribution line and manually allocate it to item distributions.

If you allocate tax at the match to line level as described below, tax entered on the invoice is charged to the IPV expenditure type:

-- You can select the option of matching the supplier invoice to the purchase order or purchase order receipt on the shipments window of the purchase order. When you enter the Payables invoice, you select the same matching method that you chose on the purchase order.

-- On the Match to Purchase Order window of Invoice Entry, you can check the Allocate check box next to each matching line to allocate tax, freight, and miscellaneous charges to the matched lines.

-- Tax matched to a purchase order or receipt line on this window is designated as an invoice price variance - the difference between the tax amount allocated on the invoice and the tax entered on the purchase order line. In Oracle Projects you see the Invoice Price Variance expenditure type on the transaction for tax allocated on the invoice.

If you allocate tax at the invoice distribution line level as described below, tax entered on the invoice is charged to the tax expenditure type:

-- You can select the same matching method on the invoice as you selected on the purchase order as described above and perform matching to lines, but do not check the Allocate check box.

-- You can enter a new distribution line for tax on the Invoice Distributions window and hit the Allocate button.

-- You can manually allocate the tax to any of the item distribution lines.

-- Tax matched on this window is designated as a tax (not invoice price variance) and is charged to the tax expenditure type which you set up on the Project Parameters window.

11. Enter an expenditure type for Miscellaneous charge.

This field is mandatory in a Project Manufacturing organization, if the *Transfer to PA Miscellaneous* option has been selected on the Organization Parameters window. You can use the Miscellaneous expenditure type that has defaulted from the PJM Org Parameter window or modify it to choose any one of expenditure types that has been associated with the expenditure type class Inventory. For outside processing, you must choose an expenditure type that has been associated with the expenditure type class of Work in Process. See: Defining Expenditure types, *Oracle Projects User's Guide*.

If a distribution is generated for Tax when performing receipt based matching for an inventory or shopfloor (outside processing) related invoice, the Invoice Charge transfer process uses the ERV expenditure type defined in the Project Parameters window along with the miscellaneous amount and account from invoice distributions and expenditure organization from the purchase order to transfer the miscellaneous charge for the project to Oracle Projects.

> **Note:** For bulk create, update, or automation, you can also use the Project Parameters API to create and update project parameters.
>
> For more details about the Project Parameters API, refer to the Project Manufacturing public APIs listed in the Discrete Manufacturing section in the Integration Repository. From the Navigator menu, select the Integrated SOA Gateway responsibility and then click the Integration Repository link to open the Oracle Integration Repository.

Seiban Number Wizard

The Seiban Number Wizard allows you to define Seiban numbers and to create and modify projects using with top-level task structures only. For example, this is used for project creation in Lot Type Seiban environments.

Defining Seiban Numbers:

1. Navigate to the Seiban Number Wizard.

2. Select Using Seiban Number.

3. Choose the Next button. The Seiban Numbers window displays, and you are no longer be in the Seiban Number Wizard.

4. Enter a Seiban number and name that is unique within an Operating Unit. Alternatively, query any existing Seiban numbers, choose New, and then enter a Seiban number and name.

5. Save your work or optionally, choose Parameters to navigate to the Project Parameters window. This automatically saves your new Seiban number and name.

6. In the Project Parameters window, select the Organization. The LOV shows only organizations that have project level control.

7. Optionally, select values for the following fields:

   • Cost Group - Select when using Average as your costing method.

- • WIP Accounting Class

- • Planning Group

8. Save your work.

You can use the new project and tasks in Oracle Projects and Oracle Project Manufacturing. You can use the Seiban Number Wizard to generate a project structure with only top-level tasks. This is typically used in a lot-type Seiban environment but is also usable in a non-Seiban environment.

All conditions related to Oracle Projects integration apply.

Prerequisites:

1. Define a project template. See: Creating a Project Template, *Oracle Projects User's Guide*

Defining a Project with Lot Type Seiban Numbers:

1. Navigate to the Seiban Number Wizard.

2. Select Using Project Number.

3. Choose the Next button. The Seiban Number Wizard Step 2 of 5: Project Option window displays.

4. Choose the Create a New Project option.

5. Choose the Next button. The Seiban Number Wizard Step 3 of 5: Project Option window displays.

6. Select the template.

7. Enter the following information:

- • Project Number

- • Project Name

- • Start Date (for project)

- • Completion Date (for project)

8. Optionally, select the Submit Approval Window. Click the Next button. The Seiban Number Wizard Step 4 of 5: Task Information window displays.

9. Enter the following information:

Parameter	Meaning	Example
Prefix (optional)	All tasks generated by the Wizard begin with this value.	T
Suffix (optional)	All tasks generated by the Wizard end with this value.	-X
Starting Number	This is the first task generated.	1
Ending Number	This is the last task generated. The actual ending task number depends on the increment parameter you select.	1000
Increment by	The task numbers generated increment by this value.	If this value is 5 then the tasks would be 1,6,11 and so on.
Numeric Width (optional)	This value causes leading zeros to appear before the task number, ensuring a fixed length for the task numbers. If you do not specify a value, there are no leading zeros.	If this value is 4 then the tasks listed above would be 0001, 0006, 0011, and so on.

The lists of tasks generated in this example would be T0001-X, T0006-X, T0011-X and so on.

10. Choose the Next button. The Seiban Number Wizard Step 4 of 5: Task Information window displays.

11. Enter the following information:

Parameter	Meaning	Example
Prefix (optional)	All tasks generated by the Wizard begin with this value.	T

Parameter	Meaning	Example
Suffix (optional)	All tasks generated by the Wizard end with this value	-X
Starting Number	This is the first task generated.	1
Ending Number	This is the last task that could be generated. The actual ending task number depends on the increment parameter you select.	1000
Increment by	The task numbers generated increments by this value.	If this value is 5 then the tasks would be 1,6,11 and so on.
Numeric Width (optional)	This value causes leading zeros to appear before the task number, ensuring a fixed length for the task numbers. If you do not specify a value, there are no leading zeros.	If this value is 4 then the tasks listed above would be 0001, 0006, 0011, and so on.

The lists of tasks generated in this example would be T0001-X, T0006-X, T0011-X and so on.

Modifying a Project with Lot Type Numbers:

1. Navigate to the Seiban Number Wizard.

2. Select Using Project Number.

3. Click the Next button. The Seiban Number Wizard Step 2 of 5: Project Option window displays.

4. Click the Add button to add an existing project option.

5. Click the Next button. The Seiban Number Wizard Step 3 of 5: Project Selection window displays.

6. Select the project number.

7. Click the Next button. The Seiban Number Wizard Step 4 of 5: Task Information window displays.

8. Enter the following information:

Parameter	Meaning	Example
Prefix (optional)	All tasks generated by the Wizard begin with this value.	T
Suffix (optional)	All tasks generated by the Wizard end with this value.	-X
Starting Number	This is the first task generated.	1
Ending Number	This is the last task that could be generated. The actual ending task number depends on the increment parameter you select.	1000
Increment by	The task numbers generated increment by this value.	If this value is 5 then the tasks would be 1,6,11 and so on.
Numeric Width (optional)	This value causes leading zeros to appear before the task number, ensuring a fixed length for the task numbers. If you do not specify a value, there are be no leading zeros.	If this value is 4 then the tasks listed above would be 0001, 0006, 0011, and so on.

The lists of tasks generated in this example would be T0001-X, T0006-X, T0011-X and so on.

9. Click the Next button. The Seiban Number Wizard Step 5 of 5: Confirmation displays.

10. Click the Finish button.

7

Project Manufacturing Costing and Billing

This chapter covers the following topics:

- Overview of Project Manufacturing Costing and Billing
- Costing of Project Inventory Transactions
- Procurement Transactions
- Project Cost Transfers
- Borrow/Payback Transactions
- Other Average Cost Transactions
- Costing of Project WIP Transactions
- Project Scrap Transactions
- Overhead Application in Manufacturing
- Process Flow
- Programs
- Transfer Invoice Charges to Projects
- PA Transaction Import
- View/Correct Transactions
- Expenditure Type Classes for Project Manufacturing
- Project Billing and Revenue Recognition
- Project Cost of Goods Sold (COGS)
- General Ledger Posting

Overview of Project Manufacturing Costing and Billing

This chapter does not cover Project Manufacturing costing functionality. See Project Manufacturing Costing, *Oracle Cost Management User's Guide* for information.

One of the primary capabilities of Oracle Project Manufacturing is the ability to accumulate manufacturing costs within manufacturing applications and transfer those costs to Oracle Projects.

This chapter discusses various topics related to project costing and billing in a manufacturing environment. The purpose of this chapter is to describe costing and billing issues as they relate to the combination of Oracle Project Manufacturing and Oracle Projects functionality.

Costing of Project Inventory Transactions

Procurement Transactions

When you receive a purchased item into inventory in an average costing organization, the purchase order quantity and cost, including any sales tax added to the purchase order, are averaged with the current quantity and cost of the item in the project or common cost group. In FIFO and LIFO costing organizations, each purchase order receipt creates a new layer within the project cost group. Purchase order costs for inventory receipts are picked up by the Cost Collector and transferred to Oracle Projects. The expenditure type associated with the purchased item's material sub-element is charged on a receiving transaction.

In a standard costing organization, items are received into project or non-project inventory at standard cost. Any difference between the purchase order cost and the standard cost is a purchase price variance. If the purchase order distribution lines contain projects or tasks, Standard costs for the items as well as any purchase price variances are picked up by the Cost Collector for transfer to Oracle Projects. You can set up separate material sub-element or expenditure type relationships to identify the transactions in Oracle Projects as standard cost or purchase price variance.

If no project or task appears on the purchase order distribution lines, the material is received into non-project inventory at average or standard cost. If you have defined a common project for your organization on the Project Manufacturing Organization Parameters window, the common project is assigned to transactions without projects when the Cost Collector transfers costs to Oracle Projects.

Sales tax entered on the purchase order is combined with the total purchase order amount and is therefore charged to the expenditure type associated with the purchased item's material sub-element. If you identify a specific expenditure type for tax on the Invoice Transfer Tab of the Project Parameters window, the tax expenditure type you define is only be assigned to tax matched to item distribution lines on the Payables invoice. The Transfer Invoice Charges to Projects section in this chapter discusses tax and other invoice charges in greater detail.

The invoice amount for a purchased inventory item may not match the purchase order cost because of a difference in item price, a change in the exchange rate for items purchased in a currency other than the functional currency of the set of books, or

additional charges such as freight, tax, and other miscellaneous charges.

You can recognize actual paid invoice cost for your purchased inventory items in Oracle Projects. You can transfer any difference between the AP invoice amount and the PO amount for project and common project inventory items to Oracle Projects.

Please see the Transfer Invoice Charges to Projects section of this chapter for more information.

> **Note:** If the purchase order shipment is LCM enabled then the Invoice charges will not be transferred from PJM, since the Purchase Order Receipts and their accompanying Landed cost adjustment accounting events will together capture the purchasing value of the material at actual Landed Cost instead of PO Price.
>
> See : *Oracle Landed Cost Management Process Guide*, and *Oracle Cost Management User's Guide*.

However, if you are using LCM and the purchase order shipment is landed cost enabled, then the transactions in inventory will be at the actual landed cost (total cost to land goods including actual item price, freight, taxes and other miscellaneous charges), therefore making it unnecessary to transfer invoice price variance, exchange rate variance and other charges through the Transfer Invoice Charges to Projects program. The costs transferred to projects will be as follows:

PO Receipt and Landed Cost Adjustment Accounting event for LCM enabled PO shipments

Description	Quantity	Each ($)	Total ($)
PO Receipt at Estimated Landed Cost ($6 = Item: $3, Frieght: $2, Tax: $1)			
Debit Inventory Valuation	10	$6	$60
Credit Receiving Inspection	10	$6	-$60
Generate Invoices:			
Item Invoice			$40
Freight Invoice			$25

Tax			$15
Calculate & Adjust Landed Cost:			
Adjust Receiving Inspection:			
Credit Receiving Inspection at (New Landed cost – Prior Landed cost) *	-10	$2	- $20
Debit Landed Cost Absorption	10	$2	$20
Adjust Inventory Valuation:			
Credit Landed Cost Absorption	-10	$2	- $20
Debit Inventory Valuation	10	$2	$20
Total Inventory Valuation			$80

*Landed Cost absorption account here is used to offset receiving inspection and inventory valuation and the value in it effectively gets cancelled out. See: *Oracle Landed Cost Management Process Guide*.

Project Cost Transfers

Project Inter-Organization Transfers

You can transfer project inventory from one organization to another by using one of the following methods:

- Direct transfer performed on the Inventory Inter-organization Transfer window.

- Intransit performed on Internal Requisition/Internal Sales Order/Receiving windows.

> **Note:** Project intransit transfers cannot be performed from the
> Inventory Inter-organization Transfer window.

You can define Inter-organization Transfer relationships on the Shipping Network window. On this window you can set up FOB point, transfer credit rules, and interorganization receivable, payable, and intransit accounts. You can also select the Elemental Visibility check box if you want all the cost elements (material, material overhead, resource, overhead, and outside processing) to be visible in the receiving organization.

If you select the Elemental Visibility check box and define a transfer credit percentage or amount, the transfer credit is grouped into the material overhead cost element in the receiving organization.

If you do not select the Elemental Visibility check box, all cost elements plus any transfer credit are grouped into the material element in the receiving organization.

Examples of this functionality using a Direct Transfer appear below:

Organization A ships a manufactured item X to Organization B. Organization B has a material overhead rate of 20% associated with Item X.Shipping Network Setups:

*   Elemental Visibility Check box: Selected

    Transfer Credit Percentage: 10%

	Cost in Organization A	Cost in Organization B
Material	500	500
Material Overhead	50	1,090*
Resource	1,000	1,000
Overhead	1,500	1,500
Outside Processing	200	200
Total	3,250	4,290

* Transfer Credit = 10% x 3,250 = 325. Material Overhead in Organization B = [20% x (3,250 + 325)] + 50 + 325 = 1,090

Assume the same data as above except that the Elemental Visibility Checkbox is cleared:

	Cost in Organization A	Cost in Organization B
Material	500	3,575*
Material Overhead	50	715**
Resource	1,000	
Overhead	1,500	
Outside Processing	200	
Total	3,250	4,290

*3,250 (Total Org A) + 325 (Transfer Credit) = 3,575**20% (Overhead Rate) x 3,575 (Material Org B) = 715

Project Multi-currency Transactions

You can transfer an item from one set of books to another set of books having a different currency.

Permanent Cost Transfers

You can perform a permanent project cost transfer on the Project Transfer window. Depending on the organization's costing method, either the weighted average cost, or the FIFO or LIFO layer cost of the item in the From Project cost group is transferred to the To Project cost group when you perform a project transfer.

Borrow/Payback Transactions

Borrow/Payback transfers are typically performed by government contractors to comply with government standards and regulations, but could be used by non-government contractors to address cost variances related to temporary project transfer. You can use borrow/payback transfers to borrow material for a project which has a shortage for an item. You can borrow from any other project which has the item on-hand and payback the replacement item at the original borrow cost. The borrowing project incurs any variance between borrow and replacement cost.

You can charge cost elemental payback variances to accounts that you set up on the cost group window. Default variance accounts can be set up at the organization level in the PJM Organization Parameters window. Payback variances are picked up by the Cost Collector and transferred to Oracle Projects.

You can borrow items from any project which is valid in the transaction organization, but you cannot borrow from a common project. The lending project cannot borrow the same item from the borrowing project until the outstanding borrow has been paid back. You can perform multiple paybacks of partial quantities of the original borrow, but you cannot payback more than you borrowed.

For the borrowing project, MRP uses the scheduled payback date that you enter on the transaction entry window to schedule supply for the payback. You can see the Payback Demand and Supply on the Planner Workbench.

You can define aging buckets to view the status of the Borrow/Payback transactions. You can drill down to the original transaction detail.

An example of a Borrow/Payback transaction in an average costing organization appears below. Project B is the borrowing project and Project L is the lending project.

Description	Quantity	Each ($)	Total ($)
Beginning Balance in Cost Groups for Item A			
Cost Group for Project B	0	0	0
Cost Group for Project L	5	10	50
Project B borrows Quantity 1 Item A			
Transaction Detail for Borrow Transaction			
Debit Project B Cost Group Inventory Account	1	10	10
Credit Project L Cost Group Inventory Account	(1)	(10)	(10)
Project B issues Item A to WIP			

Transaction Detail for WIP Issue			
Debit Project B WIP Job Accounting Class	1	10	10
Credit Project B Cost Group Inventory Account	(1)	(10)	(10)
Project B Receives Quantity 20 Item A @ $12			
Debit Project B Cost Group Inventory Account	20	12	240
Credit PO Receipt Accrual Account	(20)	(12)	(240)
Balance in Cost Groups for Item A			
Cost Group for Project B	20	12	240
Cost Group for Project L	4	10	40
Project B does Payback Transaction to Project L			
Transaction Detail for Payback Transaction			
Debit Project L Cost Group Inventory Account	1	10	10
Credit Project B Cost Group Inventory Account	(1)	(12)	(12)

Debit Project B Cost Group Payback Variance Account	2

In a standard costing organization, you can perform a Borrow/Payback transaction if the standard cost of the borrowed item has been updated between the borrow and the payback transactions. The difference between the original standard cost and the updated standard cost is charged to the variance accounts on both the borrowing and lending projects.

Miscellaneous Transactions

You can perform Miscellaneous Receipts into and Miscellaneous Issues out of project inventory. When you perform a Miscellaneous Receipt into Project Inventory, the cost group inventory valuation accounts are debited and the account that you enter on the Miscellaneous Transaction window is credited. The amount of the receipt is picked up by the Cost Collector and transferred to Oracle Projects in the Inventory Transaction Source.

A Miscellaneous Issue credits the cost group inventory valuation accounts and debits the account entered on the Miscellaneous Transaction window. The issue amount is picked up by the Cost Collector and transferred to Oracle Projects in the Inventory Transaction Source.

In a standard costing organization, Miscellaneous Receipts and Issues into and out of project locators debit or credit the project as standard cost.

See the Overhead Section of this chapter for a discussion of overhead treatment on Miscellaneous Transactions.

Other Average Cost Transactions

This section discusses other average cost transactions:

Average Cost Updates/Layer Cost Updates

If you perform an Average Cost Update or a Layer Cost Update (in FIFO/LIFO organizations) on an item in a cost group, the change in cost is charged to the Adjustment Account entered on the Cost Update window. The cost adjustment is NOT picked up by the Cost Collector for transfer to Oracle Projects. However, if the average or layer cost update is created by the landed cost processor for adjusting the landed cost of landed cost enabled PO receipts, then if the PO receipt was against a projects and task, then the adjustment will also be against the same project and task. Such an adjustment will qualify for being cost collected and transferred to projects.

Standard Cost Updates

When you perform a Standard Cost Update at the organization level (standard costs are not maintained by cost group), adjustments to project inventory are NOT picked up by the Cost Collector for transfer to Oracle Projects.

Average Cost Variances / Layer Cost Variances / Onhand Quantity Variance

In average costing organizations, average cost variances are generated when you issue additional material even though the inventory balance for that material is negative. Inventory balances can be driven negative if the Allow Negative Balances parameter is set in the Inventory Organization Parameters window.

In a FIFO or LIFO costing organization, layer cost variances are generated when you replenish a negative layer balance.

In both average and layer cost organizations, if an LCM enabled PO receipt is being adjusted for its landed cost, the corresponding average cost update transaction may generate an onhand quantity variance if the quantity being adjusted (the received quantity) is less than current onhand in the cost group or layer.

Costs which are charged to the Cost Variance Account defined on the project cost group window are NOT picked up by the Cost Collector for transfer to Oracle Projects. The example below describes the out-of-balance condition between the project cost group and the cost held in Oracle Projects for the item:

Transaction	Quantity	Each ($)	Total ($)
PO Receipt #1 Item A into Project P, Cost Group CG	3	10	30
Project P1 WIP Job backflushes Item A	(4)	10	(40)
Balance Item A in Cost Group CG	(1)	10	N/A
PO Receipt #2 Item A into Project P, Cost Group CG	10	12	120
Transaction Detail for PO Receipt			

Debit Cost Group Inventory Valuation Account	9	12	108
Debit Cost Group Inventory Valuation Account	1	10	10
Debit Average Cost Variance Account for Difference			2
Credit Receipt Accrual Account			(120)
Total Item A in Project P in Manufacturing			
WIP	4	10	40
Inventory	9	12	108
Total	13		148
Total Item A in Project P in **Oracle Projects**			
PO Receipt #1	3	10	30
PO Receipt #2	10	12	120
Total	13		150

As you can see from this example, allowing issues which cause negative balances may result in a difference between manufacturing costs and costs held in Oracle Projects for your project.

Error Corrections

You can view errors and resubmit transactions with the following steps:

1. In Cost Module View Transactions window, view your Material Transactions.

2. Select the [Reason, Reference] tab to determine whether any transactions have errors.

3. View the error message and correct the problem.

4. Using the Tools Menu Option on the View Material Transactions window, select and submit the items to process.

Re-query the transactions and verify that costing has occurred.

Costing of Project WIP Transactions

WIP Accounting Classes

You set up WIP accounting classes to define the sets of valuation and variance accounts that you use to charge the production cost of assembly items. You may want to set up separate WIP and inventory accounts for various project types or groups. You must associate a WIP accounting class to a project cost group if you want to be able to select that class for your project WIP job. The Set up chapter describes WIP accounting class setup and defaulting logic

WIP accounting class valuation accounts are charged when you issue components, charge resources, move assemblies, and complete assemblies. Movement of project material cost between inventory and WIP is not reflected in Oracle Projects because the material cost has been picked up by the Cost Collector at the time of initial acquisition (i.e., PO or miscellaneous receipt) into the project locator.

Resource Charging

In an average costing organization, you can charge resources, including outside processing, to a project WIP job at actual or standard rates. If you set up a resource to charge at a standard rate and then charge that resource to a project job at actual hours and rates, any variances calculated at job close are NOT be picked up by the Cost Collector for transfer to Oracle Projects.

In a standard costing organization, you should set up resources to charge at actual hours and rates, which are transferred to Oracle Projects. When the job is completed, the items are transferred to inventory at Standard Cost. Any variances are expensed to the accounts defined on the WIP accounting class. WIP variances are not transferred to Oracle Projects.

Set up WIP Completion Costing Options: Average Costing

On the WIP Accounting Class window in an average costing organization, you can define the method by which your completed assemblies are costed by defining the Completion Cost Source as System Calculated or User-Defined. You can set defaults for

system completion in the WIP Parameters window and override them if necessary when defining the WIP accounting class.

If you select System Calculated, you can select the parameters which determine how resource costs are calculated as assemblies are completed from jobs into inventory. You can choose one of the following methods:

- Use Actual Resources: Resources costs are determined based on the actual costs that have been charged to the job.

- Use Predefined Resources: Resources costs are determined using the predefined (standard) resource cost.

> **Note:** If you select Use Predefined Resources and enter actual labor hours and dollars to your WIP job, any variance from standard rates are charged to the variance accounts you define for your WIP accounting class. The variances are not picked up by the Cost Collector for transfer to Oracle Projects.

If you select the User-Defined system option, you can choose Average or other user-defined cost type using the Cost Type Parameter. This cost type is then used to determine the cost for the assemblies being completed.

In FIFO or LIFO costing organizations, the Completion Cost Source is always System Calculated and always uses the actual resource cost charged to the job.

If there are uncleared costs left in the job, they are posted to the job variance accounts when the job is closed. Variances are not picked up by the Cost Collector for transfer to Oracle Projects. Residual costs could be left in the job if:

- The Auto Compute Final Completion option in the WIP Parameters Average Costing Region is checked Yes, but not all assemblies are completed or scrapped.

- The job incurs costs between the last final completion and the close transaction.

When completing assemblies from a nonstandard job with no routing, the resource rate associated with the Average, FIFO, or LIFO Rates cost type is used.

Common Items Issued to Project WIP Jobs

In an average costing organization, the following occurs when you issue common items to a project WIP job:

- Cost of the common item is transferred into the project cost group.

- Weighted average cost for the project cost group cost is calculated.

- Common item issues to the project WIP job at the re-averaged project cost group cost.

As a result of the above transactions, you can see separate accounting distributions for the steps listed above in the following example:

#	Account	Amount	Debit	Credit
1	Common Cost Group Inventory Valuation Accounts	Current Average Cost of Material (and Material Overhead, if applicable) in Common Cost Group		XX
2	Project Cost Group Inventory Valuation Accounts	Amount of Credit Transaction #1	XX	
3	Project Cost Group Inventory Valuation Accounts	Current Average Cost of Item in Project Cost Group		XX
4	WIP Accounting Class Valuation Accounts	Amount of Credit Transaction #3	XX	

In a standard costing organization, common (non-project) items are issued to a project WIP job at standard cost. Unlike average costing, the items are not issued first to the project cost group and then reissued to the project WIP job.

Outside Processing

You can charge outside processing cost to your WIP job at standard or actual (purchase order) rates. You can assign a rate to your outside processing resource and check the standard rate checkbox on the routing operation for that resource if you want to charge at standard. Do not check the box if you want to charge the WIP job at PO cost.

If you charge standard outside processing rates to your WIP job, any variance between the PO cost and the standard rate is charged to the Purchase Price Variance account assigned in the Other Accounts section of the Inventory Organization Parameters window. The Purchase Price Variance amount is not picked up by the Cost Collector to be transferred to Oracle Projects.

If you charge outside processing to your WIP job at PO cost, you can charge any invoice price variance to your project by running the Transfer Invoice Charge Process. Please refer to the Transfer Invoice Charges to Projects section of this chapter for more

information.

Overhead Rate Application for PJM Transactions in Oracle Projects

You have the option at the Inventory organization level to post Project Manufacturing transactions to the Oracle General Ledger from Manufacturing or from Oracle Projects. When you select the option to post to the general ledger in Oracle Projects, you can use Projects Burden Schedules to apply overhead to Project Manufacturing transactions.

If you select this option and continue to apply overhead in Manufacturing, the overhead amount will be imported into Projects as raw (not burdened) cost. If you select the option to post to the general ledger from Projects, only the transactions that get Cost Collected will be posted to the general ledger. Transactions that are not Cost Collected are not posted to the general ledger.

Transactions that are not Cost Collected include:

- Sales Order Issues

- WIP component issues from the same project/task on the WIP job

- Assembly completions

- Average and Standard cost updates

- Job-close and average cost variances

- Scrap transactions

WIP Straight Time

You have the option at the Inventory organization level to transfer WIP resource employee transactions to Oracle Projects as WIP straight time. If you select this option, you can include WIP straight time hours in Oracle Projects' summarization of hours for billing calculations. You can use Oracle Projects Burden Schedules to apply overhead to WIP straight time transactions.

Project Scrap Transactions

If you want to charge scrap transactions to a specific GL account, you can select the Require Scrap Account check box on the WIP Parameters window. When you move an item to Scrap Step on the WIP Move Transactions window, you enter the GL account to charge for the scrapped item. Scrap transactions are NOT picked up by the Cost Collector for transfer to Oracle Projects whether or not you choose to charge the GL scrap account.

Overhead Application in Manufacturing

The Set up chapter describes how to associate material overhead rates with items and how to set up a default overhead rate prior to setting up your items. If rates are defined, material overhead on purchased components is applied at the time of receipt of the asset item into the asset subinventory. Material overhead is not applied on receipts of asset items to expense subinventories, or on receipt of expense items into either expense or asset subinventories.

Material overhead on completed assemblies is applied when the assembly is moved from WIP to inventory.

In an average costing organization, if you perform a miscellaneous receipt for an item which has a material and overhead cost for your cost group (even if you have zero on-hand quantity), the amount of the miscellaneous receipt is split between material and material overhead based on the ratio of the two cost elements in your cost group.

For example, Cost Group A has the following cost for Item A:

Total Unit Cost	$110
Material Cost	100
Material Overhead	10
Ratio of Material Overhead to Material	.1
Quantity On-Hand	0

Perform Miscellaneous Receipt of Quantity One Item A for $132

Total Unit Cost	$132
Material Cost	120
Material Overhead	12
Ratio of Material Overhead to Material	1
Quantity On-Hand	1

In a standard costing organization, miscellaneous receipts and issues charge or credit the project cost at the standard rate of the material and material overhead (if applicable)

cost elements for buy items and at the standard rate of all cost elements for make items.

The Set up chapter describes how to set up a user-defined Average, FIFO, or LIFO Rates cost type to hold resource-to-overhead associations and current overhead rates, Resource overhead costs are charged to the WIP job as you charge resources. Overhead amounts are automatically reversed if you reverse the underlying resource charges.

Project Manufacturing transactions pass to Oracle Projects as burdened cost. You cannot apply any additional overhead to Manufacturing transactions for costing purposes by using Oracle Projects Burden Schedules. You can, however, use the Projects Burden Schedules to apply additional rates to Project Manufacturing cost for revenue recognition and billing.

You can assign burden schedules to project types or to individual projects in Oracle Projects. Burden schedules associated with burden structures hold burden multipliers and designate which expenditure types are burdened.

If you assign a burden schedule to a manufacturing project, the multipliers you define in the burden schedule are applied to costs imported from Project Manufacturing for revenue accrual and billing only. If you have associated a burden rate to your project manufacturing expenditure types on a burden schedule, the burden costs from the schedule are calculated when you generate the draft revenue and invoice process.

When you set up your burden structure, you must indicate if it is additive or precedence based. If you have multiple burden cost codes, an additive burden structure applies each burden cost code to the raw costs in the appropriate cost base and sums the total of all. A precedence burden structure is cumulative and applies each cost code to the running total of the raw costs burdened with all previous cost codes. The example below illustrates the use of the precedence formula.

Example of Overhead (Burden) Cost Calculation

Manufacturing Cost	Transaction Amount	Burdened Cost in Projects	Apply Burden Schedule (10% G&A, 20% Fee) Using Precedence Formula	Revenue and Billed Amount
Purchase Material

4 items @ $25 | 100.00 | $100.00 | 100 x 1.1 x 1.2 | $132.00 |

Apply Material Overhead Rate =.2 Basis = Total Value	20.00	20.00	20 x 1.1 x 1.2	26.40
Charge Assembly Resource 100 hours @ $10/hour	1,000.00	1,000.00	1,000 x 1.1 x 1.2	1,320.00
Apply Resource Overhead Rate = $2.00 Basis = Resource Units (hours)	200.00	200.00	200 x 1.1 x 1.2	264.00

You can use the Oracle Projects Project Allocations feature to allocate any under or over-absorbed overhead balance from the General Ledger to Project Manufacturing projects. The Set up chapter discusses the setup of a project classification code to identify Project Manufacturing projects as targets for the allocation process.

Process Flow

Inventory, WIP, and invoice charges are processed by several programs before they are visible in Oracle Projects. Figure 6-1 shows the flow of transaction costing and cost collection. Each program is explained in detail in the next section.

Transaction Costing and Cost Collection Flow
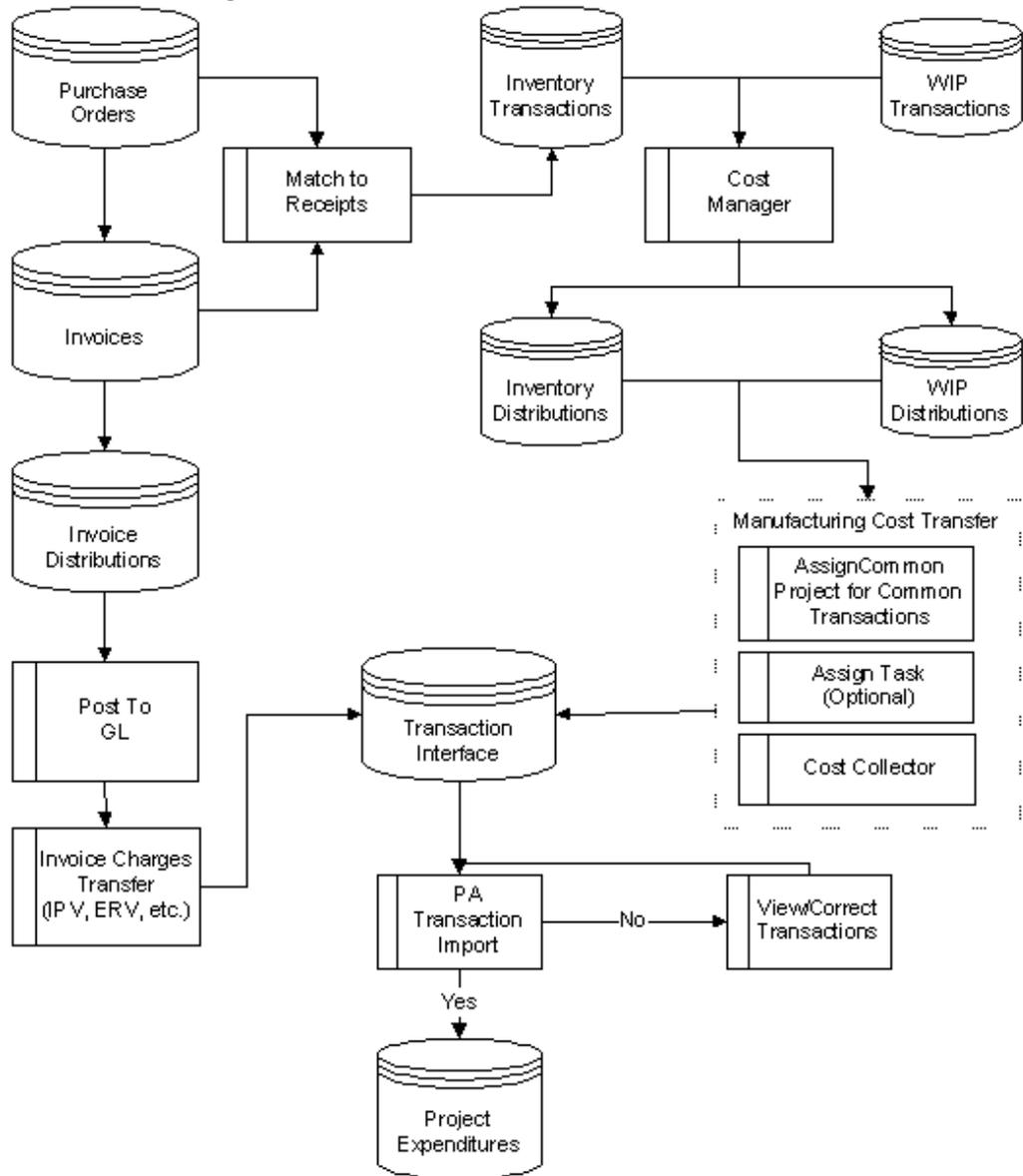
Programs

This section discusses concurrent program like the cost manager and the cost collector.

Cost Manager

The Cost Manager is a concurrent program you launch from the Inventory transaction Interface Manager window. It in turn launches the Cost Worker to cost inventory and

WIP transactions.

The task for the Cost Worker is to create accounting distributions for the transactions.

Project Cost Transfer (Cost Collector)

You can transfer costs for project and common (no specific project) transactions to Oracle Projects. See the Set up chapter for a discussion on setting up a common project. A process picks up the Common Project value defined on the PJM Parameters window and assigns it to all transactions that have not been assigned a specific project number (common material related).

Oracle Project Manufacturing transfers inventory and WIP costs to Oracle Projects by using the Project Cost Transfers program. You specify the number of days to leave costs uncollected. When the batch job is submitted, both the inventory and WIP costs are transferred to Oracle Projects.

The Cost Collector collects the costs of project and common project transactions and passes these costs by project, task, expenditure type, expenditure organization, and expenditure date to the Transaction Import Interface table in Oracle Projects. These transactions can then be imported into Oracle Projects. The Cost Collector does not pick up transactions having the same project and task on both sides of the transaction, such as:

- Issue of components from project inventory to a WIP job which has the same project and task as the inventory locator

- WIP scrap transactions

- WIP assembly completions

- Shipment of items through Order Management

The Cost Collector processes (collects) transactions using Cost Collection Workers. Transactions that need to be collected and costed are grouped and a separate worker is assigned the job of collecting and costing transactions within a single group. A log file of all the validation and any SQL errors encountered while processing the transactions is maintained for each worker request. All program validation errors are updated in the transactions table.

> **Note:** For more information on Cost Collector, see *Oracle Cost Management User's Guide*.

Transfer Invoice Charges to Projects

Invoice charges described in this section are defined below:

- Invoice Price Variance (IPV) = Invoice Qty x (Invoice Price - PO Price) x Invoice Rate

- Exchange Rate Variance (ERV) = Invoice Qty x PO Price x (Invoice Rate - PO or PO Receipt Rate)

- Special Charges - tax, freight, handling, or any other miscellaneous costs

You can select a check box on the PJM Organization Parameters window to capture the IPV, ERV, or special charges to be transferred to Oracle Projects. You can also set up default expenditure types for each which populate the PJM Project Parameters window when you setup a new project.

The method you choose to match tax to your invoiced items determines which expenditure type is assigned to the tax you enter on the Payables invoice. You can allocate tax at the line match level or you can enter tax as an invoice distribution line and manually allocate it to item distributions.

If you allocate tax at the match to line level as described below, tax entered on the invoice is charged to the IPV expenditure type:

- You can select the option of matching the supplier invoice to the purchase order or purchase order receipt on the shipments window of the purchase order. When you enter the Payables invoice, you select the same matching method that you chose on the purchase order.

- On the Match to Purchase Order window of Invoice Entry, you can select the Allocate check box next to each matching line to allocate tax, freight, and miscellaneous charges to the matched lines.

- Tax matched to a purchase order or receipt line on this window is designated as an invoice price variance - the difference between the tax amount allocated on the invoice and the tax entered on the purchase order line. In Oracle Projects, you will see the Invoice Price Variance expenditure type on the transaction for tax allocated on the invoice.

If you allocate tax at the invoice distribution line level as described below, tax entered on the invoice is charged to the tax expenditure type:

- You can select the same matching method on the invoice as you selected on the purchase order as described above and perform matching to lines, but do not select the Allocate check box.

- You can enter a new distribution line for tax on the Invoice Distributions window and click the Allocate button.

- You can manually allocate the tax to any of the item distribution lines.

- Tax matched on this window is designated as a tax (not invoice price variance) and is charged to the tax expenditure type which you set up on the Project Parameters

window.

Accounting distributions for project inventory IPV, ERV, and special charges are created and posted to the general ledger in the Payables module. You must approve the invoice and create accounting (invoice action) prior to initiating the Transfer Invoice Charges Process. See the *Oracle Payables User's Guide* for more details.

The Transfer Invoice Charges Process generates a report which details the Purchasing and Payables activity which created the IPV, ERV, or special charge.

In an average costing organization, you can balance your inventory cost to the cost held in Oracle Projects by running a process called Transfer Invoice Variance that adds the IPV and ERV costs to the on-hand balance of items in the project cost group. See *Oracle Cost Management User's Guide* for more details.

> **Note:** If the purchase order shipment is LCM enabled then the Invoice charges will not be transferred from PJM, since Purchase Order Receipts will be performed at Landed Cost instead of PO Price. See: *Oracle Landed Cost Management Process Guide*, and *Oracle Cost Management User's Guide*.

PA Transaction Import

When you import transaction information from Oracle Manufacturing, Oracle Projects records the transaction details and the source of the imported transactions during transaction import. Transaction Import automatically validates the transaction information and reports any exceptions. Oracle Projects does not import transactions more than once.

Transaction Sources

When you submit Transaction Import, Oracle Projects requires you to identify the source of the transaction you want to import. Project Manufacturing transactions sources are:

- Inventory

- Work in Process

- Inventory Misc

The following figure illustrates the types of transactions included in each transaction source. Note that the Inventory Misc transaction source is used for Inventory Integration with Projects (in a non-manufacturing installation). Miscellaneous Receipts and Miscellaneous Issues into or out of project inventory in Project Manufacturing are included in the Inventory transaction source.

Transaction Types Included with Each Transaction Source
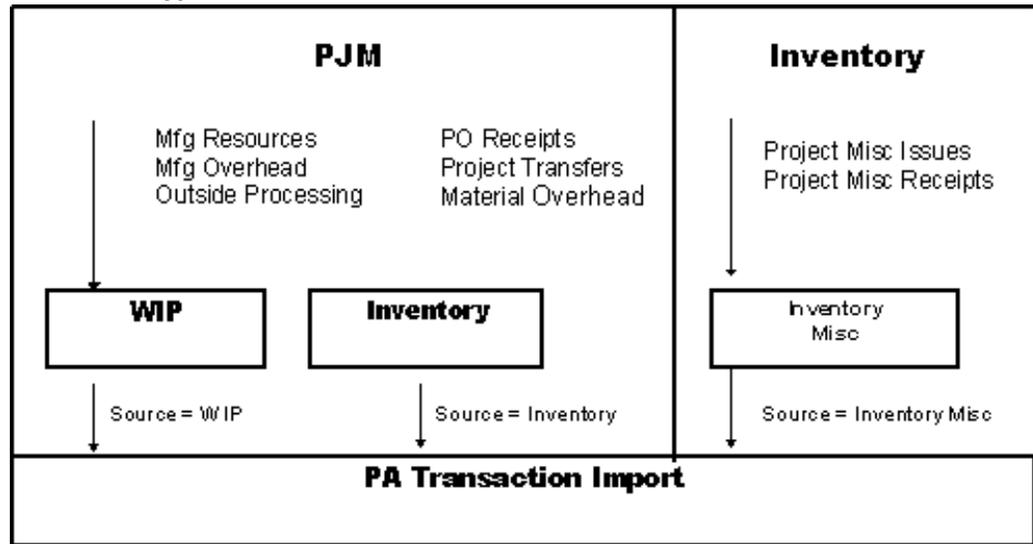
Submitting Transaction Import

Use the Run Requests window or choose Expenditures, Import from the Navigator window to submit the PRC: Transaction Import process. You must specify a transaction source when you submit this process.

Output Reports

Transaction Import has two output reports. The first allows you to review the number of successfully imported transactions, the second enables you to review transactions that were rejected by Transaction Import.

> **Note:** For more information on Transaction Import, see *Oracle Projects User's Guide*.

View/Correct Transactions

Viewing Rejected Transactions

Transaction records that fail the validation process remain in the interface table. If any one expenditure item in an expenditure batch fails validation, Oracle Projects rejects the entire expenditure batch. You can review pending and rejected transactions in the Review Transactions window. Only transactions with invalid data have a rejection reason specified.

Correcting Rejected Transactions

If you need to make changes to the source information because of invalid data, you can correct the problem and import the batch again. For example, if the transaction is rejected because of an invalid task end date, you can either change the task ending date on the Project setup window or you can charge the transaction to a different task number on the Review Transaction window.

If you change the task on the rejected transaction window, save the change, and click the Import button. Re-query the window and verify that all the transactions in the rejected batch have been imported.

If you correct the problem by extending the task ending date on the Project window, re-query the rejected transaction, reenter the same task on the window, save, and click the Import button. Re-query to insure that the batch has been imported.

You must change a field on the rejection window (even if you re-enter the same data) and save the change in order for the transaction to be successfully imported. Saving the change causes the status to change from R (Rejected) to P (Pending).

Expenditure Type Classes for Project Manufacturing

For Project Manufacturing, Oracle Projects predefines the following three expenditure type classes for expenditures coming from Inventory and WIP:

- Burden Expenditure Type Class

- Work in Process Expenditure Type Class

- Inventory Expenditure Type Class

Burden Expenditure Type Class

Burden transactions track overhead costs that are calculated in Manufacturing. These costs are created as separate expenditure items that have a burdened cost amount, but quantity and raw cost value of zero. Inventory material overhead and WIP overhead are imported to Oracle Projects as Burden Transaction expenditure type class and cannot be adjusted in Oracle Projects.

Work in Process Expenditure Type Class

This expenditure type class is used for WIP resource and outside processing costs. You can also use this expenditure type class when you import other manufacturing costs via Transaction Import or when you enter transactions via pre-approved batch entry. WIP transactions that are interfaced from WIP to Projects cannot be adjusted in Projects. You should make any required adjustments in WIP and pass them to Oracle Projects.

Inventory Expenditure Type Class

This expenditure type class is used for the following transactions:

- Inventory transactions that are interfaced from Inventory to Oracle Projects. Inventory is the default expenditure type class associated with the material cost.

- Project Misc. Issues and Project Misc. Receipts transactions in a non–manufacturing installation (Project Manufacturing is not installed).

You can also use this expenditure type class when you import other manufacturing costs via Transaction Import or when you enter transactions via pre–approved batch entry. Adjustments for the inventory transactions interfaced from Inventory are not allowed, but are allowed for Project Misc. Issues and Receipts in a non–manufacturing installation.

The following table shows the Transaction Sources and Expenditure Type Classes are used for Inventory and WIP transaction:

DUPLICATE_ITEM	Self–explanatory
INVALID_END_DATE	Not valid week ending date
INVALID_PROJECT	Not valid project number
ITEM_NOT_IN_WEEK	Timecard item not in expenditure week
PA_EXP_TASK_TC	Violates task transaction control
PA_EX_PROJECT_CLOSED	Project is closed

Related Topics

See Also:

Oracle Projects Fundamentals

Oracle Project Costing User Guide

Project Billing and Revenue Recognition

You have the option of initiating project revenue recognition and customer invoicing through Order Management or Oracle Projects. You can make the choice on a project by project basis, but a better practice would be to consistently use one method.

One of the primary reasons to recognize revenue and initiate invoicing in Oracle

Projects is to have visibility of project revenue and comparison to your revenue budget on the Project Status Inquiry. Another reason to use Oracle Projects is that Projects enables you to select different methods for recognizing revenue and invoicing by the association of distribution rules with your project. For example, you can recognize revenue on a percent complete basis and invoice the customer when the item ships.

Using Oracle Projects, for example, you can invoice the shipment of an item at the sales order price by performing the following steps:

• Verify that your project is setup with a distribution rule of Event/Event.

• Enter Event details for type, date, bill amount, revenue amount, etc. under Billing -> Events.

• Run the process to generate the draft revenue and invoice.

• Review the revenue and invoice.

• Run the processes to interface revenue to General Ledger and interface invoices to Receivables.

• Run the Auto Invoice process in Receivables.

If you want to recognize revenue and invoice your Project Manufacturing and non-Project Manufacturing cost as work occurs, you can perform these steps:

• Verify that your project is setup with a distribution rule of Work/Work.

• Verify that the burden schedule which defaults from the project type is the one you want to use for this project.

• Select billing schedules - Bill Rate or Burden - for your non-Project Manufacturing labor (for example, engineering labor from Projects timecards) and non-labor.

• Run the process to generate the draft revenue and invoice.

• Review the revenue and invoice.

• Run the processes to interface revenue to General Ledger and interface invoices to Receivables.

• Run the Auto invoice process in Receivables.

Oracle Projects allows you to generate draft invoices and draft revenue using separate processes, which you can run at different times. To allow for different billing cycles and revenue accrual, the distribution lines for General Ledger are created during invoice and revenue generation.

During the Generate Draft Invoices process, the account that is credited with the invoice amount is either the unbilled receivables account or the unearned revenue account,

depending on whether you accrue revenue before or after you generate invoices.

If you do not require the Oracle Projects billing functionality described above, you can initiate billing through Order Management. Please see the *Oracle Order Management User's Guide* for more information.

Project Cost of Goods Sold (COGS)

When you ship an item out of project inventory using Order Shipping Execution, you credit the project cost group inventory valuation accounts for the current average, FIFO, or LIFO cost of the item in the cost group (or at Standard Cost in a Standard Cost organization) and debit the COGS account defined on the Organization Parameters Other Accounts window. You may not be able to use this method in a project environment because of the following reasons:

• Current cost of the item in inventory probably does not equal the correct amount of COGS if you have charged other non-manufacturing costs to your project through Oracle Projects timecard entry, supplier invoices, and so on.

• Cost Collector does not pick up the COGS entry to transfer to Oracle Projects and as a result, you cannot see the COGS amount on the Project Status Inquiry.

You can recognize a user-defined amount of COGS and display the amount on the Project Status Inquiry by using the Oracle Projects Cost Accrual Billing Extension to recognize Cost of Goods Sold. Listed below is an example of how you can setup your accounts to accomplish this:

Project P1 is set up as follows:

• Charges cost of finished assemblies to FG Inventory Account

• Charges cost of non-manufacturing activities to PIP (Project-in-Process) Account

• Recognizes revenue and associated expenses (COGS) at time of assembly shipments.

Transaction	Account and Cost	Debit	Credit
Ship Item	FG Inventory Account for current average, FIFO, or LIFO cost of assembly in P1 cost group or Standard Cost		XX

	PIP Account (enter this account as the COGS Account defined on Organization Parameters window) for amount of credit to FG Inventory Account	XX	
Recognize Revenue & Draft Billing in Oracle Projects	Unbilled Receivable Account for Revenue Amount	XX	
	Revenue Account for Revenue Amount		XX
	COGS Account for amount calculated in Cost Accrual Billing Extension	XX	
	PIP Account		XX
Bill Customer in Receivables	Accounts Receivable for Sales Price of Item (in this case, same as revenue amount)	XX	
	Unbilled Receivable for Revenue Amount		XX

General Ledger Posting

All inventory and WIP transactions are posted to the general ledger from Manufacturing. The distributions are transferred to Oracle Projects for information only - no posting of Manufacturing cost occurs in Projects.

Invoice Price and Exchange Rate Variances, Tax, Freight, and Miscellaneous Charge transactions are posted to the general ledger through Oracle Payables.

If you process Project Manufacturing revenue and billing in Oracle Projects, the revenue

and accounts receivable distributions are created and posted to the general ledger through Oracle Projects and Receivables.

If you process Project Manufacturing revenue and billing in Oracle Receivables (through Order Management, the revenue and accounts receivables distributions are created and posted to the general ledger through Oracle Receivables.

8

Project Order Management and Fulfillment

This chapter covers the following topics:

- Project Order Management and Fulfillment
- Overview
- Project Quotations and Sales Orders
- Project Fulfillment
- Project RMA
- Project Order Import
- Project Drop Shipments
- Other Implementation NotesImplementation Notes
- ATP by Project

Project Order Management and Fulfillment

Overview

Project Manufacturing uses Oracle Order Management for Project Order Management and Oracle Shipping Execution for Project Order Fulfillment. The system supports

- Project Quotations and Sales Orders

- Project Drop Shipments

- Project Fulfillment

- Project Return Material Authorization (RMA)

- Project Assemble-to-order (ATO) and Pick-to-order (PTO)

- Project Order Import

Project Quotations and Sales Orders

Quotations and Sales Order line, Shipment or Option can be linked to projects and project tasks. The project and task references specified on an order line default to the child shipment lines. If the order line is a model, the project and task defaults to all options specified for the model. If the project and task information is updated at any point in time, this information is cascaded to all child shipment lines from an order line and to all options from the model line. Please refer to the ATO/PTO chapter for details.

You can use the Order Organizer in Order Management to search for orders that have one or more lines with the project and task specified in the search criteria. You can also search for all order lines that have project and task specified in the search criteria.

You can update the project/task until the order has been picked. In business scenarios that do not include shipping, the project task update is allowed until the order is invoiced. In order to allow these updates of project task references, the business has to delete the project-task related system seeded constraint as part of the implementation.

Related Topics

Maintaining Seeded Constraints, *Oracle Order Management User's Guide*

Project Fulfillment

Oracle Shipping Execution supports delivery based shipping for order fulfillment. After manufacturing is complete, finished goods are automatically picked from project inventory upon pick release. You can also pick release by project or project task if multiple sales order lines for a warehouse belong to the same project or project task.

Project RMA

You can use Oracle Order Management to process Project RMAs. RMA line types have line type category Return. Some examples of the line types that are available in Oracle Order Management are return for credit without receipt of goods, return for credit with receipt of goods, and return for replacement. An RMA line is indicated by its Line Type, negative and highlighted item quantity and line total price. An order can have a mix of outbound (Regular) and inbound (RMA) order lines.

When a project sales order line is referenced in the RMA line, project/task reference from the sales order default into the RMA line. This project and task information can be updated if you need to account for the return under a different project and task. Project task references cannot be updated on the RMA line after the RMA has been received.

You can receive RMAs in the same way as any other planned receipt. Receiving against

an Project RMA has the same controls as for a Project Purchase Order receipt - for a receipt referring to a Project RMA, the project task locator segments default from the RMA line's project task references. Project task references defaulted into the receiving locator cannot be overridden. Returns can be inspected in the same way as any other receipt.

When project task references are associated with the RMA line, its receipt/issue transactions are costed according to the corresponding project cost group. All RMA related transactions such as RMA receipt or returns are not sent to Oracle Projects.

Project Order Import

You can import project and task information into Sales Order Lines, Shipments and Options while importing a Sales Order.

Project Drop Shipments

Overview of Project Drop Shipment

Oracle Project Manufacturing enables you to use the following drop shipment capabilities in a project manufacturing environment:

- Define a line type that is linked to a workflow and includes a drop ship cycle.

- On the same sales order, combine items to be drop shopped from a vendor with standard items that are to be shipped from internal inventory by using the source type as External for drop shopped items and Internal for internally sourced items.

- Link customer ship-to addresses defined in Order Management with the ship to location defined in Purchasing.

- Enter project and task references on each sales order line (different projects and tasks may be entered on each line of multi-line orders).

- Import approved purchase requisitions (and subsequently autocreate purchase orders) which reflect the project and task references from the sales orders.

- Capture drop shipment receipts into a subinventory and project locator.

- See no change in on-hand quantities for the subinventory and project locator at the completion of the receipt transactions.

- Query the status of purchase orders and subsequent vendor shipping actions for orders which are being drop-shipped.

- Collect procurement costs in Oracle Projects Process Flow

The following process flow illustrates how drop shipments work in a project manufacturing environment.
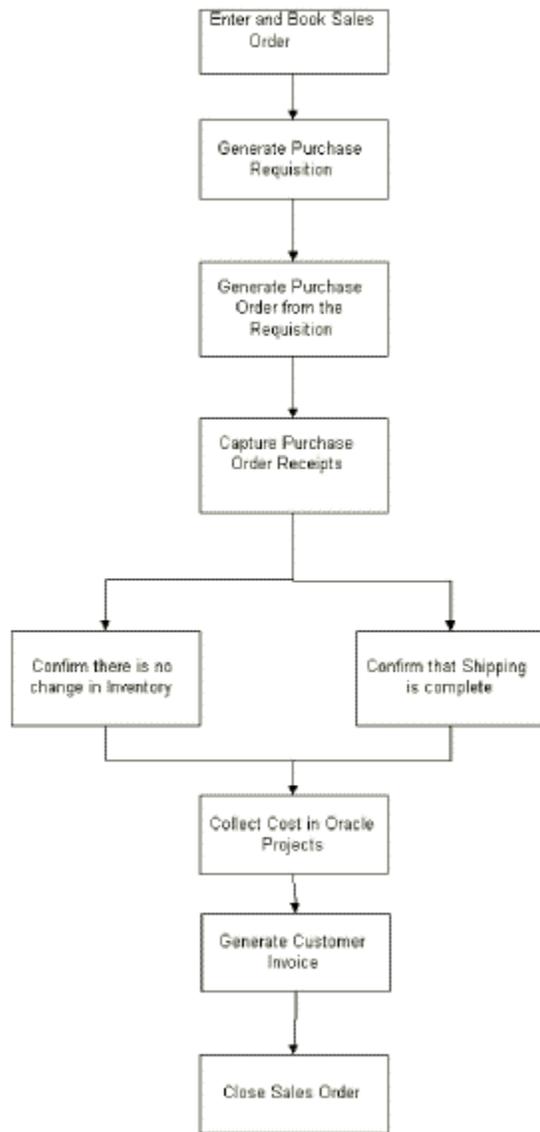
Process Steps

The following table describes the steps in processing a drop shipment order in a project manufacturing environment.

Process Steps

#	Step	Implementation Notes
1	Enter and book sales order.	On the sales order line, select External as the source type for the drop-ship items and Internal for an item you plan to fulfill from inventory. Verify that the Customer Address has been updated in the Customer Address Business Purpose Detail window - Internal section. The address of the drop-ship customer must also be updated in Setup Location window in Purchasing with Ship-To Site and Receiving Site checkboxes checked.
		You may enter a project and task for each line of the sales order.
2	Generate Purchase Requisition.	Order Management creates requisitions for lines designated as drop shipment lines, using the ship-to address defined at the line level or order level of the sales order as the address to which a vendor must ship the items. One requisition line is created for each sales order line. The project/task references should flow through from the sales order to the purchase requisition. You can use the right mouse button to determine the requisition number generated by your order on the Special - Purchasing Information menu option.

#	Step	Implementation Notes
3	Generate Purchase Order from the Requisition.	Requisitions are converted to standard purchase orders. Changes a buyer makes to a standard purchase order have to be manually communicated to the order entry personnel.
4	Capture Purchase Order Receipts.	See *Oracle Purchasing User's Guide, Oracle Order Management,* and *Oracle Shipping User's Guide* for detailed information on how Oracle Purchasing captures vendor drop-shipment confirmations and Oracle Order Management's subsequent retrieval of this information. When the vendor sends only an invoice for drop shipments, you can manually perform a *logical* receipt of the quantity invoiced into a subinventory and locator with project/task reference. The project and task on the receipt is validated against the purchase order and subsequent changes are not allowed.
5	Confirm there is no change in Inventory.	The update of the shipping information on the sales order and the inventory relief from the project location should occur simultaneously. You should not see a change in the on-hand quantities for the subinventory and project location at the completion of the receipt transaction.

#	Step	Implementation Notes
6	Confirm that shipping is complete.	Check for partial shipments or over-shipments to determine if additional vendor/customer communication is necessary.
7	Collect cost in Oracle Projects.	You should be able to see Commitments on the Project Status Inquiry from the time of creation of approved Purchase Requisitions through conversion of the Commitments into *actual* costs upon capture of the Purchase Order Receipts.
8	Generate customer invoice.	You use standard Order Management or Oracle Projects invoicing functionality to invoice an order. You may need to manually apply to the customer invoice any landing or special charges the vendor may have imposed on a drop shipment.
9	Close sales order.	After fulfilling an order and generating an invoice, you close an order.

Dropship across different Set-of-Books is also supported in Project Manufacturing organizations. An example of the global dropship scenario is given below:
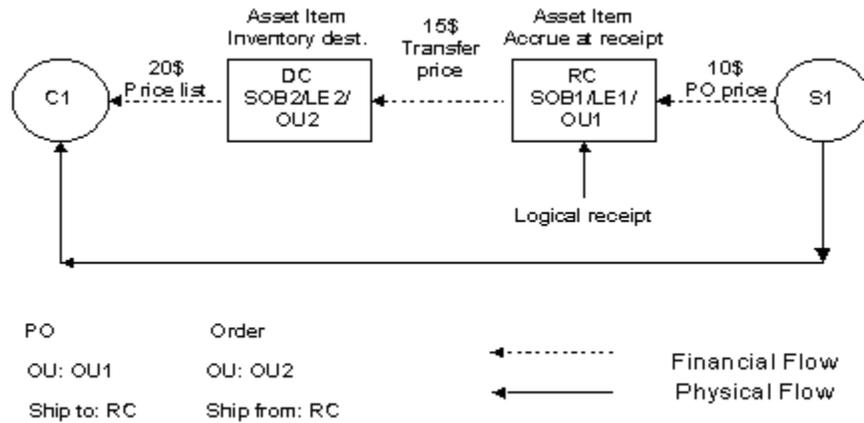
C1 is the customer who has placed the sales order with the Distribution Center (DC) in Operating Unit 2(OU2) –Legal Entity 2(LE2)-Set-of-Books2 (SOB2). The Purchase Order is created in Regional Center (RC) in Operating Unit 1(OU1) –Legal Entity 1(LE1)-Set-of-Books1 (SOB1) and will be supplied by suppler S1. The logical receipt is done in Regional Center and the related financial transactions will be generated in DC. For more information about the generated financial transactions see: Intercompany Invoicing Accounting Details, *Oracle Inventory User's Guide*

Related Topics

Drop Shipment, *Oracle Shipping Execution User's Guide*

Purchase Order, *Oracle Purchasing User's Guide*

Other Implementation Notes

ATP by Project

ATP by project is not supported currently. Use demand classes to represent a project instead.

Related Topics

Project Manufacturing Costing, *Oracle Cost Management User's Guide*

Project Definition and Information, *Oracle Projects Fundamentals*

9

Project Execution

This chapter covers the following topics:

- Overview of Project Manufacturing and Procurement Integration
- Overview of Project Procurement
- Project Procurement FlowProcurement Flow
- Project Commitments
- Implementation Notes
- Multiple Projects On One Document
- Auto-Create RFQAuto-Create RFQ
- ReceivingReceiving
- Validation in Purchasing
- Project Manufacturing and Work in Process Integration
- Project Manufacturing and Flow Manufacturing Integration
- Project Manufacturing and Enterprise Asset Management Integration
- Project Manufacturing and Inventory
- Project Manufacturing and Shipping Execution
- Project Manufacturing and Consigned Inventory from Supplier Integration
- Project Transfer Transactions
- WIP Component Issue

Overview of Project Manufacturing and Procurement Integration

This chapter describes the key features related to project execution.

Overview of Project Procurement

Project Manufacturing uses Oracle Purchasing and iProcurement for project procurement. The system provides:

- Project and task references on purchase requisitions

- Project and task references on purchase orders

- Project and task references on blanket releases

- Project and task references on Request for Quotations (RFQs)

- Project and task references on purchase quotations

- Purchasing for project expense and project inventory items

- Commitments for project expense and project inventory items

- Project drop shipments

- Project outside processing

- Project internal requisitions

- Receipts into project inventory

Related Topics

Oracle Project Manufacturing without Oracle Projects, page 14-1

Project Procurement Flow

The following figure describes a generic high level Project Procurement flow.

Project Procurement Flow
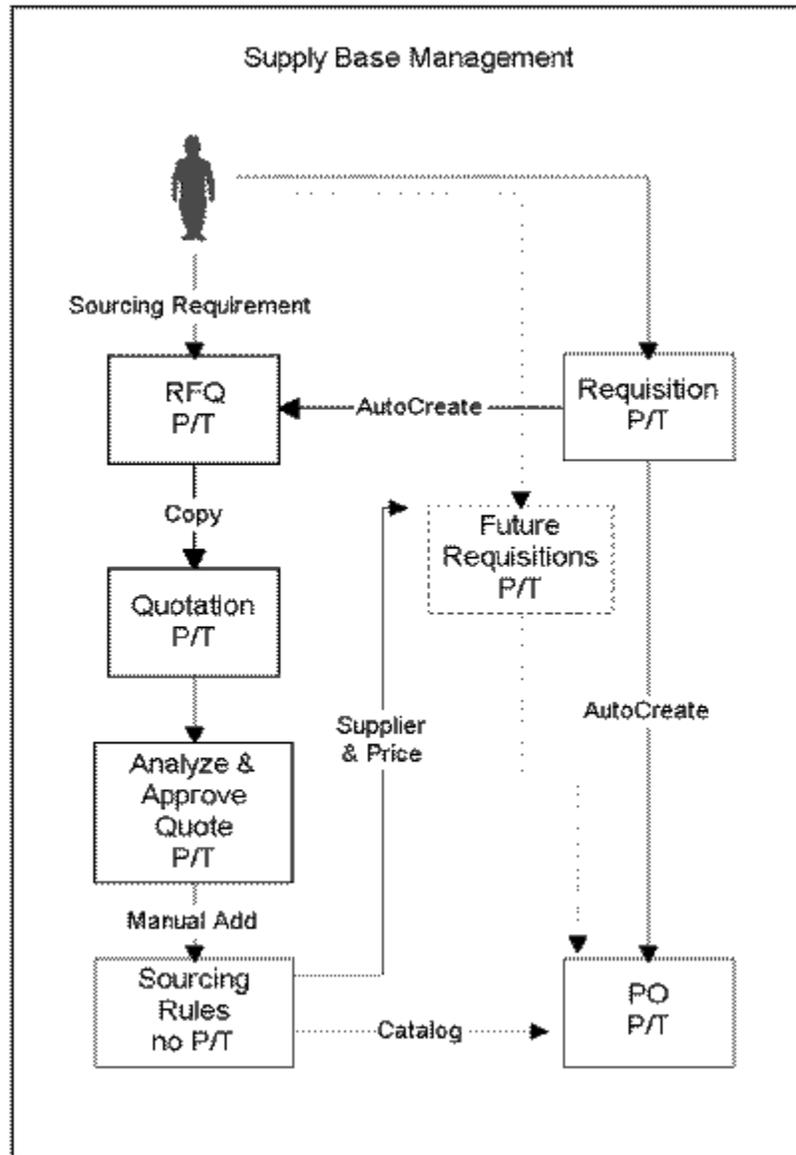
A complete project procurement cycle starts with the generation of a purchase requisition. The sources for creating a requisition are:

- Planned orders

- Drop shipments

- Outside processing operations

- Manual entry via Oracle Purchasing or Self Service Applications (iProcurement)

- Import from external systems (using ReqImport)

Depending on certain company regulations (or compliance with FAR/DFAR requirements) it might be necessary to generate a Request For Quotation (RFQ) for a requisition. You can use the Auto-Create RFQ function to automatically convert the requisition into a RFQ.

The RFQ is typically sent out to one or more suppliers, who respond by sending in their quotes. The quote can be generated from a RFQ using the Copy functionality. You can analyze and approve a quote and use the quote in Auto-Source Rules.

The last step is to create a project purchase order. The project purchase order can be automatically generated from a project requisition using the Auto-Create Purchase Order functionality, entered manually, or created from a project quotation using the Auto-Create Purchase Quotation functionality.

Project Commitments

Project committed costs represent the outstanding requisitions and purchase orders charged to a project, and include recorded but unposted supplier invoices, or recorded but unposted deliveries to inventory or shop floor destination. You can report the total costs of a project by reporting the committed costs along with the actual costs. Both quantity-based and amount-based commitments are included in the calculation of committed costs.

- Total Project Costs = Committed Costs + Actual Costs

You can report the flow of committed costs through Oracle Purchasing, Oracle Payables, and Oracle Inventory. These can include the following committed cost buckets (asset or expense items):

- Open Requisitions (unapproved or approved, unpurchased requisitions). These do not include internal requisitions.

- Open Purchase Orders (unapproved or approved, uninvoiced purchase orders).

- Pending Invoices (supplier invoices not yet interfaced to Oracle Projects).

- Manufacturing (PO delivery to Inventory destination: project subinventory/locator; or Shop Floor (outside processing) destination: project discrete job); all not yet interfaced to Oracle Projects).

Once either the supplier invoice, for expense items, or the PO delivery to inventory or shop floor, for inventory/shop floor destination items, is interfaced and posted to Projects, the related commitment is settled to zero and an *actual cost* recorded in the Project Cost Subledger.

You can report summary committed cost amounts for your projects and tasks and can review detailed requisitions and purchase orders that backup the summary amounts.

> **Note:** Essentially, all of the commitment tracking occurs within Oracle Projects, specifically the Project Status Inquiry (PSI) function. Run the Update Project Summary Amounts process to update the project summary amounts, including new commitments, in PSI. Oracle Purchasing reports PO Commitment *Initiations* in the *Purchase Order Commitment By Period Report*, but does not report downstream PO Commitment status changes or commitment settlements. PSI amounts may be exported to a spreadsheet for subsequent reporting.
>
> See:
>
> • Project Status Inquiry, *Oracle Project Planning and Control User Guide*
>
> • Updating Project Summary Amounts, *Oracle Project Planning and Control User Guide*
>
> • Update Project Summary Amounts Process, *Oracle Projects Fundamentals Guide*

Implementation Notes

During the implementation the following notes need to be considered.

Multiple Projects On One Document

MRP, outside processing, internal sales orders, and drop shipments generate one requisition for each planned order with one requisition line and one requisition distribution line.

You can *manually* enter a requisition with multiple requisition lines. Each line can have a distribution line that can be associated with a project and task. For a Project Manufacturing environment we support the following scenarios for requisitions with *inventorydestination*:

• For each requisition line you can enter one distribution line with project and task. (See Note below.)

• For each requisition line you can enter multiple distribution lines with the same project and task. (See Note below.)

• For each requisition line you can enter multiple distribution lines with different projects and tasks. (See Note below.)

• For each requisition line you can enter one or multiple distribution lines without project and task (common inventory).

> **Note:** Manual project requisitions entered via Self Service Applications (iProcurement) have one minor difference when compared to those entered via Oracle Purchasing. For efficiency and ease-of-use, requisitions entered via Self Service Applications allow entry of the Project/Task data at the LINE level (NOT the distribution level).

In the scenario of multiple distribution lines with different projects and tasks, choose the *multiple lines* option during receiving, and the locator defaulting and validation logic make sure that the correct project and task are propagated on the locator.

For purchases with *expense destination* you can enter requisition lines with multiple distribution lines that each have a different project and task.

Expense Purchases

Expense and Inventory Purchases are costed differently in the system. Expense purchases result in invoices, are entered in Payables, and are imported into Oracle Projects using Transaction Import. Oracle Projects incurs the invoice costs.

Inventory Purchases

Inventory Purchases are received into Inventory using receiving functionality. Upon receipt into the destination location the purchase costs are posted to Oracle Cost Management and interfaced to Oracle Projects. For Inventory Purchases you also book invoices and invoice costs in Payables. Oracle Projects ignores these transactions during Transaction Import in order to avoid double counting.

Invoice Price Variances (IPV) can be automatically calculated and transferred to Projects.

For Inventory Purchases the system checks the Project Control Level for the destination inventory organization upon entry of the distribution line project and task. If the control level in the destination (receiving) organization is set to *Project*, you can optionally enter a project and task. If the control level is set to *Project-Task*, you can enter a project. If you enter a project, you must also enter a task.

Auto-Create RFQ

In creating a RFQ from a requisition the following restrictions apply:

- A RFQ line with project and task is created for each requisition line during Auto-Create RFQ. The system populates the project and task on the RFQ line from the first requisition distribution line for that requisition line.

- Grouping rules should not be used. You should create one RFQ line for each

requisition line with one distribution line.

Receiving

For more information on project locators validation and defaulting during receiving transactions, see the chapter *Setting Up*.

> **Note:** Oracle Project Manufacturing supports copying of project quote to project purchase orders.

Validation in Purchasing

Purchase Order Delivery Transaction

When you perform a Purchase Order Delivery Transaction for a project purchase order, the system defaults the project and task from the distribution line of the PO to the receiving locator.

If you define Item Transaction Defaults for receiving locators for specific items in Inventory Setup (assuming these are physical locators), the system concatenates the default locator with the project and task references from the PO distribution line at the time of receiving into Inventory destination.

If you update the project and task on the receiving locator, they are validated against and must exactly match the project and task on the distribution line of the PO.

Purchase Order Return Transaction

When you perform a Purchase Order Return Transaction, the system defaults the project and task from the PO distribution line to the from locator.

If you update the project and task segments of the from locator on a PO return, they are validated against and must exactly match the project and task on the PO distribution line.

Purchase Order Adjustment Transaction

When you perform a Purchase Order Adjustment Transaction, the system defaults the project and task from the PO distribution line to the locator.

If you update the project and task segments of the locator on a PO Adjustment, they are validated against and must exactly match the project and task on the PO distribution line.

> **Note:** You can not use a project locator for the above transactions if the PO distribution does not have project and task.

Related Topics

Oracle Purchasing User's Guide

Project Manufacturing and Work in Process Integration

You can add project references to standard and nonstandard discrete jobs. Projects that have been setup on the PJM Project Parameters in the organization performing the job can be entered on the Work Order window. Project jobs make it possible to track the material and manufacturing costs that are specific to a project. You can issue project or common inventory to project jobs. You can also charge resources and overhead to project jobs.

Like other discrete jobs, project jobs can created in several ways:

- manually defined in the Discrete Jobs window

- planned in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning then implemented using the Planner Workbench

- automatically created through FAS program in the case of Configure-to-Order scenarios

Oracle Project Manufacturing uses the progress percentage value for project tasks, which can then be rolled up to the project level for earned value. Work order completion percent information is available through a Project Manufacturing API. Use the WIP_OPERATIONS_GRP API specifically to display the WIP Operations progress percentage rollup value for project tasks.

The following sections describe the behavior of WIP material requirements and transactions when a Discrete Job is created with Project and task references.

Project Discrete Job Material Requirements

When you define a project discrete job for an item that has a bill of material, the bill is copied to the project discrete job. If the components are hard pegged (their pegging attribute is set to either Hard Pegging or End Assembly/Hard Pegging in the MRP Planning tabbed region of the Item Master), then the system defaults the project and task from the project discrete job header to their supply locator. If you assigned supply locators (common locator) on the bills of material, the system concatenates the supply locators with the project and task to create a project locator.

If the components are soft pegged, (their pegging attribute is set to either Soft Pegging or End Assembly/Soft Pegging in the MRP Planning tabbed region of the Item Master)

the system does not default the project and task segments to the supply locators.

Project Discrete Job: Component Pick Release

Component picking, obtaining requirements for specific jobs and schedules, is the process of moving items from source locations and issuing them to work orders. In previous versions of Oracle Work in Process, items were issued from locations specified for each component on the bill of material. Now you can also use a rules based system to determine a recommended source location for each component. The features for component picking include:

- The Component Pick Release window is used to select requirements and create move orders for discrete jobs, lot based jobs, repetitive schedules, and flow schedules.

- Move orders are created for picked items. Move orders are requests for the movement of material within an organization. They enable the replenishment of material within a warehouse or manufacturing shop floor.

- The source for material picked is based on Oracle Inventory allocation rules entered on the Picking Rules window. If Oracle Warehouse Management is installed, rules based picking recommendations are used. Please see PJM and Warehouse Management Integration Chapter for more details.

- The destination for picked material depends on the supply type. It can be a staging area, or directly to a job or schedule.

Implementation Notes: In a Project Manufacturing organization, the source for material is matched against the project information on the supply requirements (destination). For a soft-pegged item, the supply information does not have a project/task reference. Hence, during the component pick release process, the system only allocates material with no project/task reference. For a hard-pegged item, the supply information has a project/task reference. Hence, during the component pick release process, the system only allocates material with the matching project/task reference. Component pick release will pick across projects, and common locators if cross project issues is allowed. If cross project issue is not allowed, then pick release can pick components for project locators only. However, for soft pegged assemblies, components will be picked from common locators even if cross project issues are not allowed.

Project Discrete Job Component Issue Transaction

The system validates the supply locator for a Component Issue Transaction for a project discrete job. The supply locator must satisfy one of the following criteria:

- No project/task reference on the supply locator.

- The project and task on the supply locator must match the project and task exactly

on the project discrete job.

- Same project but different task, if the Organization parameter PJM: Allow Cross Project Issues is set to Yes.

- Different project than on the project discrete job within the same Organization: The Organization parameter Allow Cross Project Issues is selected.

- Common locators, if the component is soft pegged or if the component is hard pegged, and across project issue is allowed.

Project Discrete Job Component Return Transaction

If you enter or update the project and task segments of the supply locator on a Component Return, they are validated and must satisfy one of the following criteria:

- No project/task reference on the supply locator.

- The project and task on the supply locator must exactly match the project and task on the project discrete job.

- Same project but different task, The Organization parameter Allow Cross Project Issues is checked.

- Different project than on the project discrete job within the same Organization: The Organization parameter Allow Cross Project Issues is checked.

- Common projects, if the component is soft pegged or if the component is hard pegged, and across project issue is allowed.

Project Discrete Job Completion

When you create a project discrete job, the system defaults the project and task from the project discrete job to the project and task segments of the completion locator. If you assigned a completion locator (common locator) to the routing, the system concatenates the common locator segments with the project and task to create a project locator. However, the project discrete job can be completed into the project locator having the project and/or task same as defined on the project job irrespective of the Organization parameter: Allow Cross project issues enabled.

Project Discrete Job Return Assembly to WIP Transaction

When you enter or update the project and task segments of the completion locator on a Return Assembly to WIP Transaction, they must match the project and task exactly on the project discrete job.

Project Work Order-less Completions

When you perform a project work order-less completion, you must specify the assembly, quantity, project, or project and task, and other information. When the transaction is saved, the system defaults the project and task from the transaction to the completion locator. (The dynamic creation of locator should be allowable). Work order-less completions automatically backflush all operation pull, assembly pull, and push components.

> **Note:** You cannot use a project locator as a completion locator, or a supply locator for all of the above transactions against a non-project (common) discrete job.

Implementation Notes

You cannot use / install Oracle Shop Floor Management in a Project Manufacturing Organization.

Project Manufacturing and Flow Manufacturing Integration

Flow Manufacturing is a set of manufacturing processes and techniques designed to reduce product cycle time through line design and line balancing, reduce product costs by minimizing inventories and increase inventory turns, and to enhance product quality through total quality control. It is significantly different from other manufacturing processes in that it is a just in time (JIT) or demand based pull system that manufactures to customer order.

 You can reference project task information on a flow schedule. When you perform the work orderless completion transaction, the system copies project task information from the flow schedule to the project task fields in the transaction. When the transaction is saved, the system defaults the project and task to the completion locator segments. The system also references the project task information on the supply locator for hard-pegged components during the completion transaction. When the transaction is saved, the material for hard-pegged components is pulled from the project task inventory.

Related Topics

Creating Flow Schedules, *Oracle Flow Manufacturing User's Guide*

Work Order-Less Completions, *Oracle Work in Process User's Guide*

Project Manufacturing and Enterprise Asset Management Integration

Oracle Enterprise Asset Management (eAM) enables you to schedule and plan maintenance activities, and track all work activity and costs related to assets throughout

an organization. eAM provides you with a set of tools that address asset maintenance requirements for environments that are asset intensive. You can perform the tasks of asset management in the most cost effective, efficient way.

You can associate a maintenance work order with project task information. The WIP accounting class linked to the project is referenced on the work order. If you have setup WIP accounting class at the task level, the system defaults the appropriate value to the work order. If a requisition or purchase order is created for that work order, commitments for the work order is associated project or task are created. When the material is received against the work order, and the appropriate cost transfers have happened, the commitment is converted to cost in Oracle Projects.

As you apply resources or material to the work order, the system appropriately captures the project task information on the resource or material transactions. The Project Cost Collector process passes appropriate costs to Oracle Projects.

> **Note:** You must define at least one standard WIP accounting class in your organization and reference it as a default in the WIP parameters at the organization level. If this information is not present, the system does not allow project task references on enterprise asset management work orders.

Related Topics

eAM Work Orders, *Oracle Enterprise Asset Management User's Guide*

Project Manufacturing and Inventory

The system applies the Common Validation logic to the following transactions:

- Miscellaneous Issue

- Miscellaneous Receipt

- Subinventory Transfer

- Locator Transfer

- Inter organization Transfer (Direct)

- Inter organization Transfer (Intransit)

- Cycle Count Adjustment

- Physical Count Adjustment

Project Manufacturing and Shipping Execution

Pick Release

When you perform Pick Release for a project sales order, the system ensures that you can only pick release from the project locators that have the same project and task as the sales order line.

Project Manufacturing and Consigned Inventory from Supplier Integration

Consigned Inventory from Supplier refers to the type of consigned inventory practice in which you receive and maintain goods belonging to one or more of your suppliers. Buyers or plant managers define the items and suppliers for which they have a consignment relationship. Buyers then create purchase orders for consignments in response to requisition demand. Goods are received against the order and held in consignment stock until they are actually consumed for usage. Ownership of the material is transferred from the supplier to the owning organization upon consumption. A consumption advice document informs the supplier that consigned stock is consumed by the buying organization. Once consigned stock is consumed, suppliers are then able to invoice the buying organization. Optionally, if pay on use is used, the buying organization can create invoices on behalf of the supplier and fully automate the payment process.

You can issue consigned items to project inventory/orders. Sourcing rules are used to identify the appropriate purchasing agreement at the time of consumption to obtain the item price for cost transactions. Please note that the consumption advice serves as a financial instrument for supplier invoice creation and does not reference any project/task to which the item has been issued.

Listed below are examples of transactions that you can perform in a Project Manufacturing organization:

Project Transfer Transactions

You can perform a Project Transfer transaction to transfer ownership of the item from consigned to project inventory. You can enter the locator of the consigned item in the "[from] locator" field and enter a locator with a project in the "to locator" field on the Project Transfer window. The following transactions/accounting distributions are performed (ignoring overhead application):

- Item ownership is transferred from Consigned to Common Cost Group

  - Debit Common Cost Group Material Valuation Account

  - Credit AP Accrual

- Item cost is transferred from Common Cost Group to Project Cost Group

  - Debit Project Cost Group Material Valuation Account

  - Credit Common Cost Group Material Valuation Account

WIP Component Issue

You can perform a WIP Component Issue to transfer ownership of a consigned item to a project WIP job (backflush or manual issue). The following transactions/accounting distributions are performed (ignoring overhead distribution):

- Item ownership is transferred from Consigned to Common Cost Group

  - Debit Common Cost Group Material Valuation Account

  - Credit AP Accrual

- Item Cost is transferred from Common Cost Group to Project Cost Group

  - Debit Project Cost Group Material Valuation Account

  - Credit Common Cost Group Material Valuation Account

- Item Cost is transferred from Project Cost Group to WIP

  - Debit WIP Accounting Class Material Valuation Account

  - Credit Project Cost Group Material Valuation Account

10

Warehouse Management and Project Manufacturing Integration

This chapter covers the following topics:

- Overview
- Implementation Setup
- Organization Setup
- Physical Locators vs. Logical Stock Locators
- Defining Stock Locators with Project Manufacturing
- Functional/Business Flow Description
- Inbound Logistics
- Outbound Logistics
- Direct ShippingDirect Shipping
- Manufacturing
- Transactions
- Kanban Replenishment
- Cost Groups Overview
- LPN transactions: Co-mingling

Overview

Oracle Warehouse Management System provides integration with Oracle Project Manufacturing. This integration enables you to use the warehouse management functions such as, warehouse resource management, license plate numbers (LPN), warehouse configuration, task scheduling, advanced pick methodologies, value added services and the rules engine for put away, picking, task assignment and label printing. However you cannot use the cost group rules assignment available in warehouse

management because of the unique costing and accounting requirements for Cost Groups in a project manufacturing organization. You can now receive, move, manufacture, pick and ship project owned material.

Implementation Setup

The following section contains the warehouse management- project manufacturing implementation setup information

Organization Setup

To enable project manufacturing and warehouse management integration, you must set the following organization parameters:

- The Project manufacturing organization must be warehouse management enabled.

- Set Locator control to Dynamic Entry Allowed at the organization, subinventory, or item level.

- The requisite parameters as applicable for the warehouse and the task management should be defined and set as required by business. See: Warehouse Setup, *Oracle Warehouse Management User's Guide.*

You must also set up the project manufacturing parameters. The following parameters govern the way transactions work and details out the implications it has in the project manufacturing-warehouse management enabled Organization.

- Allow Cross Project Issues - This field governs the way allocation works in a project manufacturing organization. If the box is not checked, the system only allocates material from the same project and task as that on the sales order or WIP job/schedule. If the sales order or WIP job is common, only common material is allocated. This restriction exists regardless of the picking rules used. If the box is checked, material can be sourced from any project and task regardless of the project on the sales order or WIP job/schedule. However, this can be further restricted by warehouse management picking rules.

- Allow Cross Unit Issues - This parameter is used when allocating serial numbers for an item that is under unit effectivity control. If the box is unchecked, the system only allocates serials with the same end item unit number as that specified on the sales order or WIP job/schedule. This restriction exists regardless of the picking rules that are used. Also, if the box is checked, the system allocates any serial number for the order based on the rules provided regardless of the end item unit number on the sales order.

- Allow Cross Project Pickwave Allocation - This field governs the way Sales Order Pickwave Allocation works in a project manufacturing organization. If the box is

not checked, the system only allocates material from the same project and task as that on the sales order. If the sales order is common, only common material is allocated. This restriction exists regardless of the picking rules used. If the box is checked, material can be sourced from any project and task regardless of the project on the sales order. However, this can be further restricted by warehouse management picking rules. The WMS Rule Engine will take precedence but the Allow Cross Project Pickwave Allocation check box has to be enabled for this kind of cross- project allocation.

Project Manufacturing Parameters
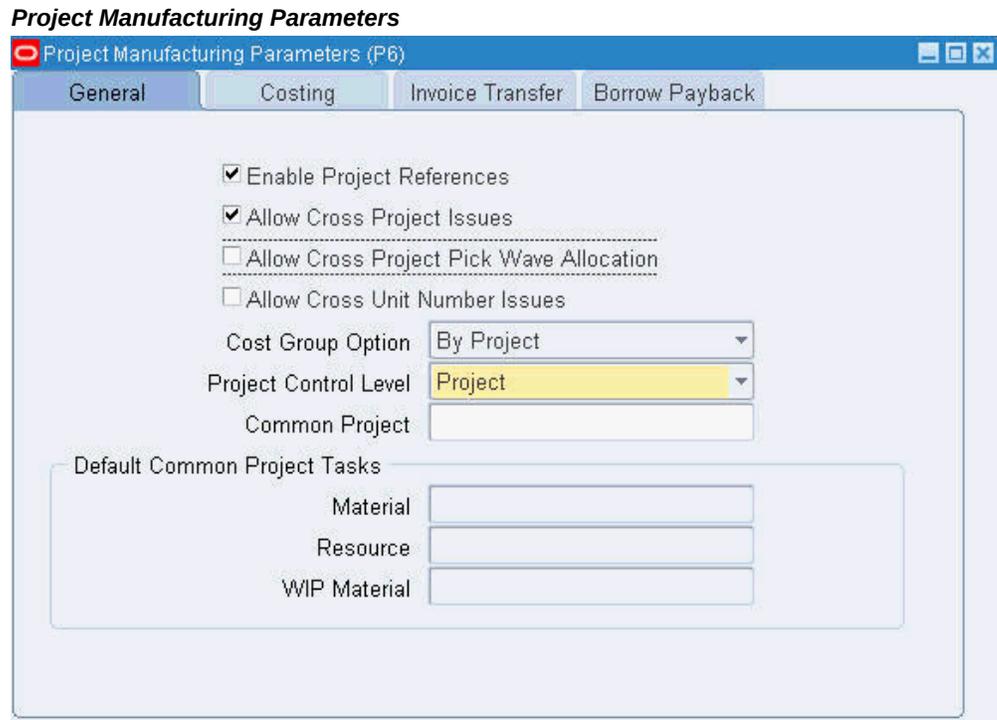
Project Manufacturing Parameters, *Oracle Project Manufacturing User's Guide*

Physical Locators vs. Logical Stock Locators

The same definition of stock locators used in Oracle Inventory is used in Oracle Warehouse Management, but it may not be feasible for you to affix multiple location labels to the same physical warehouse shelf. If the material in the location is not labeled with the project and task, you may inadvertently scan the wrong location label and pick material from an incorrect project. Oracle warehouse management removes the project and task segments from the locator field in all mobile user interfaces. You must enter or scan the project and task in separate fields on each mobile page. The system converts the physical locator scanned to the logical project and task locator in the background. The transactions in Oracle Inventory are posted with the appropriate project and task locator.

Oracle Warehouse Management differentiates the actual locator in Oracle Inventory from the locator you scan by using Logical Locators. Logical Locators indicate the stock locator, including project and task. Physical Locators indicate the stock locator without the project and task. One physical locator may have multiple corresponding logical locators if you store material for more than one project and task combination in a location.

Related Topics

Setting Up the Oracle Warehouse Management System, *Oracle Warehouse Management User's Guide*

Defining Stock Locators with Project Manufacturing

You can define Physical Stock Locators to receive project material. When the system performs a receipt for a project into inventory, it generates a corresponding Logical Locator with project and task information in the background. You can view Logical Locators in the Stock Locators window.

All capacity (weight, volume and Units) and occupancy of the locators are calculated at the Physical locator level.

Related Topics

Locators in Project Manufacturing, *Oracle Project Manufacturing User's Guide*

Defining Stock Locators, *Oracle Inventory User's Guide*

Inventory Attribute Group, *Oracle Inventory User's Guide*

Functional/Business Flow Description

The following section contains information on the Functional / Business Flow Description.

Inbound Logistics

You can setup rules to suggest putaway locations for purchase order receipts. You can use the rules engine to optionally setup put away rules based on the source project and task. For example you can setup rules to put away items into the particular subinventories and / or locators based on the projects and tasks on the purchase order distribution lines. See, WMS Rules Engine Setup,*Oracle Warehouse Management User's Guide.*

You enter purchase orders and returns on the desktop. Projects setup on the project manufacturing parameters in the receiving organization can be entered on the PO distribution lines. Distribution lines for project and non-project (common) material can

be entered on the same PO.

Purchase Order Transaction: Receiving

When you perform the purchase order delivery transaction for a project purchase order, the system defaults the project and task from the distribution line of the purchase order to the receiving transaction. The project and task are displayed as separate fields in the mobile user interface.

Receiving into Common Locators

If you combine shipment lines with Project and task references in the Purchase Order distributions with other Distributions without Project and task references for the various shipments, in the single purchase Order. In this case, if you want to receive material in a common locator, then you must select "**No Project**" in the project list of values on the mobile receiving page. In this way you can do an explicit receipt of material in a common locator and not in a project locator.

If the project/task is entered, then, receiving happens against the shipment/distribution with that specific project/task only.

During receiving the capacity utilization is always recognized against the physical Locator.

Purchase Order Return Transaction

When you perform a Purchase Order Return/Correction transaction, the system defaults the project and task from the purchase order distribution line to from locator. If the you update the project and task segments of from locator on a purchase order return, they must match the project and task exactly on the purchase order Distribution line.

> **Note:** You cannot use a project locator for all the above transactions if the purchase order distribution does not have project and task. If the Project and task references are not entered on the Purchase Order then you receive the material in a common locator.

Outbound Logistics

This section discusses the set up, functional overview and seeded picking rules to model common requirements of a project manufacturing-warehouse management enabled organization

Setup

Sales Orders, RMAs, and Pick Release are entered on the Desktop. You can enable sales orders and RMAs for project and task by referencing the project and task information in the Sales Order Lines Others tabbed regions.
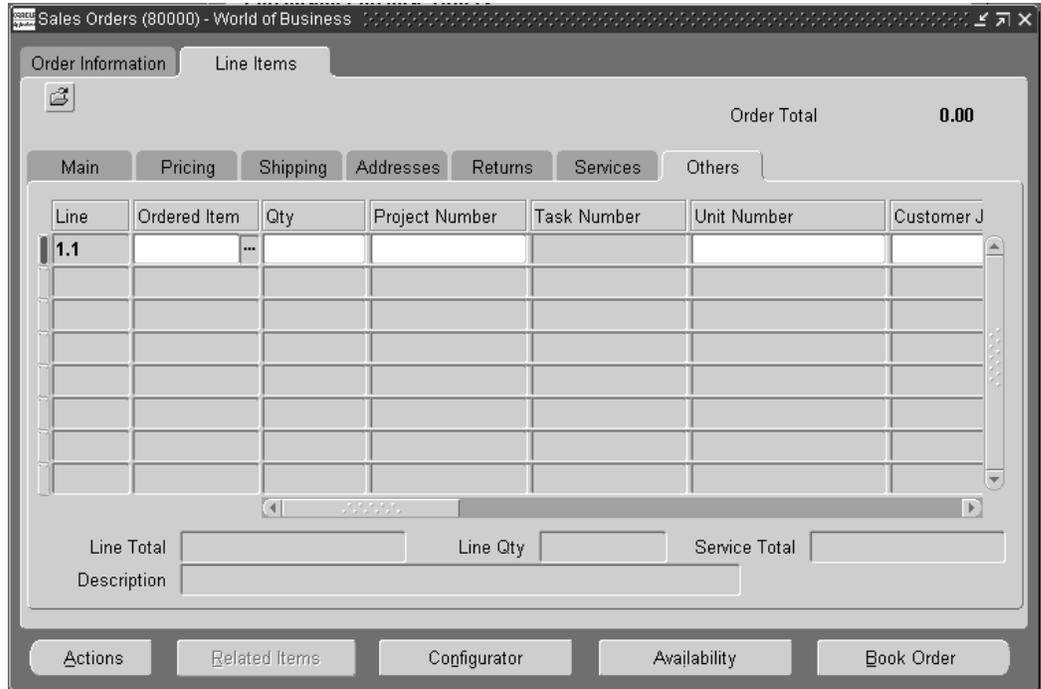
Functional Overview

In a project manufacturing warehouse management enabled organization, there is a pre-seeded pick strategy defined/enabled for picking. You can define pick rules or modify and use the changed pre-seeded rules to suit their business needs Enable this pre-seeded strategy or setup their own business strategy in the Rules Workbench as part of the implementation. In the absence of a strategy, the system allocates any material for project and non-project sales orders. When you perform pick release for a project sales order, and the pre-seeded pick strategy is enabled, the system ensures that the user can only pick release from the project locators that have the same project and task as the sales order line. The project and /or task are non-editable fields on the pick load page.

> **Note:** If you select the project manufacturing organization parameter
> Allow Cross Project Issue, and enable the pre-seeded strategy, the
> system allocates material based on the rules within the strategy

Pre-Seeded Pick Strategy: Allocation Preferences in Project Manufacturing-Warehouse Management Enabled Organizations

This strategy uses five seeded picking rules to model common requirements of a project manufacturing-warehouse management enabled organization. The strategy is automatically assigned to the organization when an organization is enabled for both warehouse management and project manufacturing. The strategy attempts to allocate

first the most specific material for a particular project and task, gradually loosening the restrictions, finally allocating any material if necessary. It behaves as follows:

1. Allocate material from the same project and task

2. Allocate material from the same project

3. Allocate material that is not stocked for any particular project (Pick from the "Common" stock)

4. Allocate material from the same planning group

5. Allocate any material.
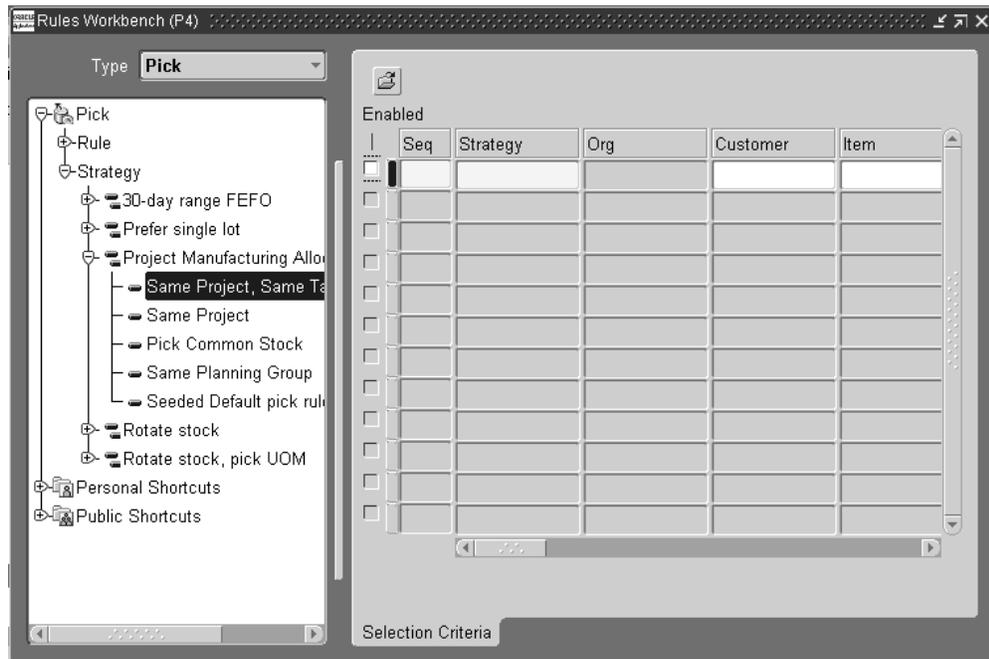
The last rules may be too generic for some organizations, but a copy of the strategy can be made, and then that copy modified by removing or modifying the last rule. The rules are defined as follows.

• **Strategy Project Manufacturing Allocation Preferences**- Prefer same task, then project, then common, then planning group, and then anything.

Rule 1: Same Project, Same Task: Always

This ensures that material that is for the same project and /or task as entered in the Sales Order are allocated.
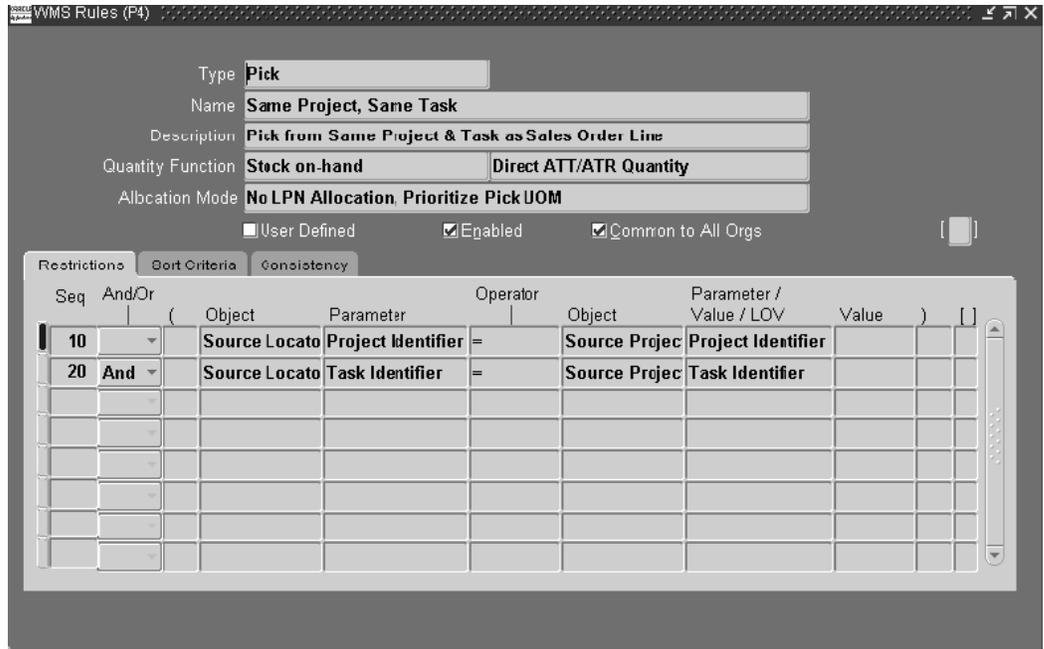
Same Project, Same Task

Object 1	Parameter 1	Operator	Object 2	Parameter Value / LOV
Source Locator	Project Identifier	=	Source Project	Project Identifier
Source Locator	Task Identifier	=	Source Project	Task Identifier

Rule 2: Same Project: Always

This ensures that material that is for the same project as entered in the Sales Order are allocated.
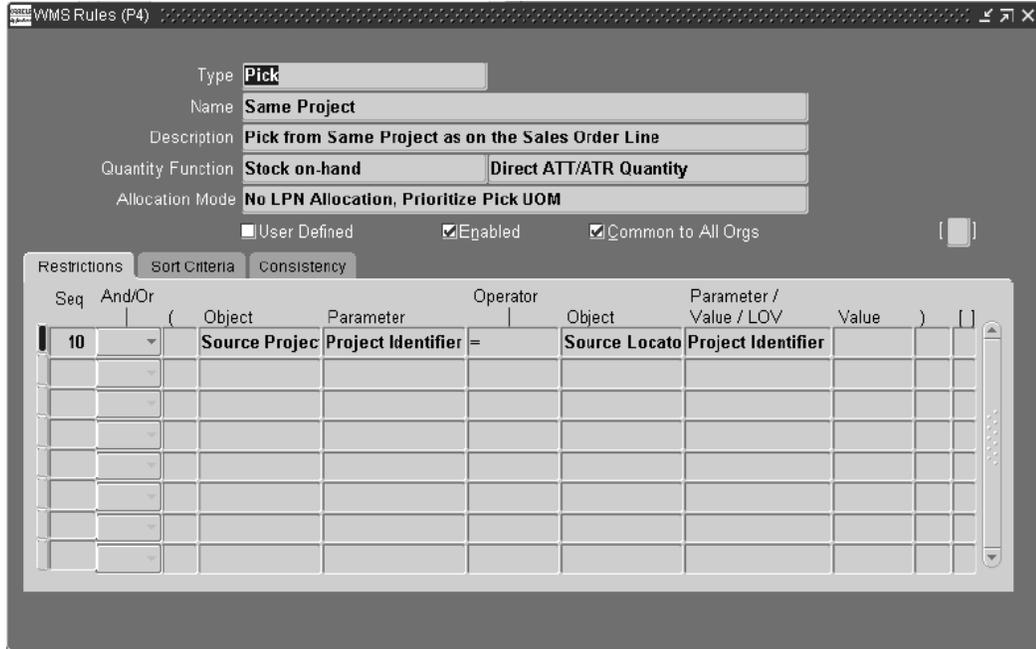
Same Project

Object 1	Parameter 1	Operator	Object 2	Parameter Value / LOV
Source Locator	Project Identifier	=	Source Project	Project Identifier

Rule 3: Pick Common Stock: Always

This ensures that the materials from the Common Locator are allocated. This is regardless of the project and task references on the Sales Order.
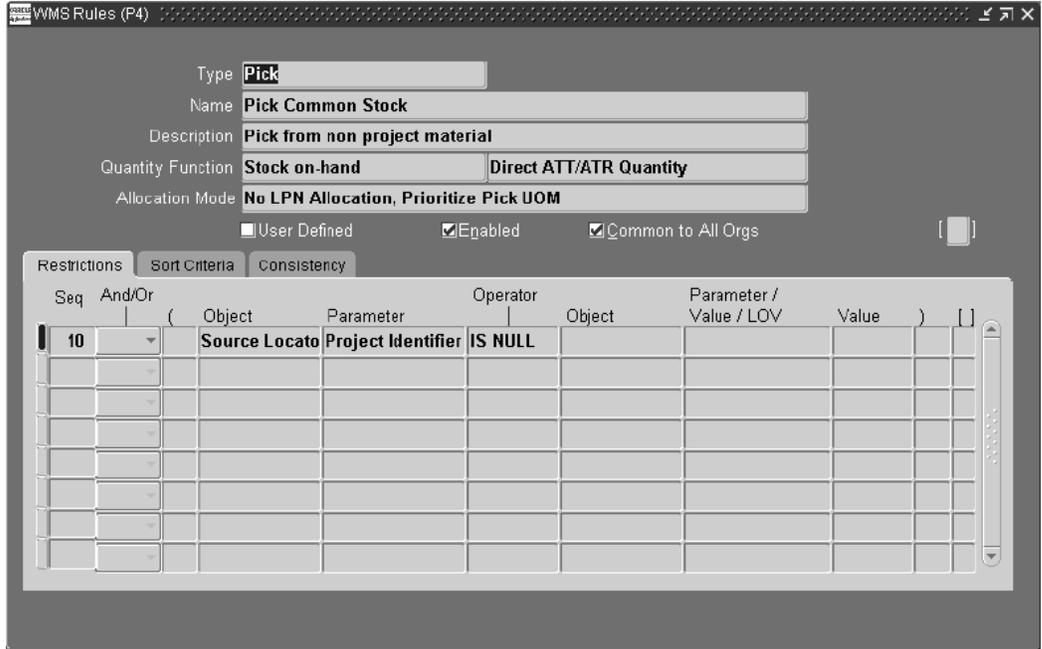
Pick Common Stock

Object 1	Parameter 1	Operator	Object 2	Parameter Value / LOV
Source Locator	Project Identifier	IS NULL	-	-

Rule 4: Same Planning Group: Always

This rule allocates material to the same planning group.
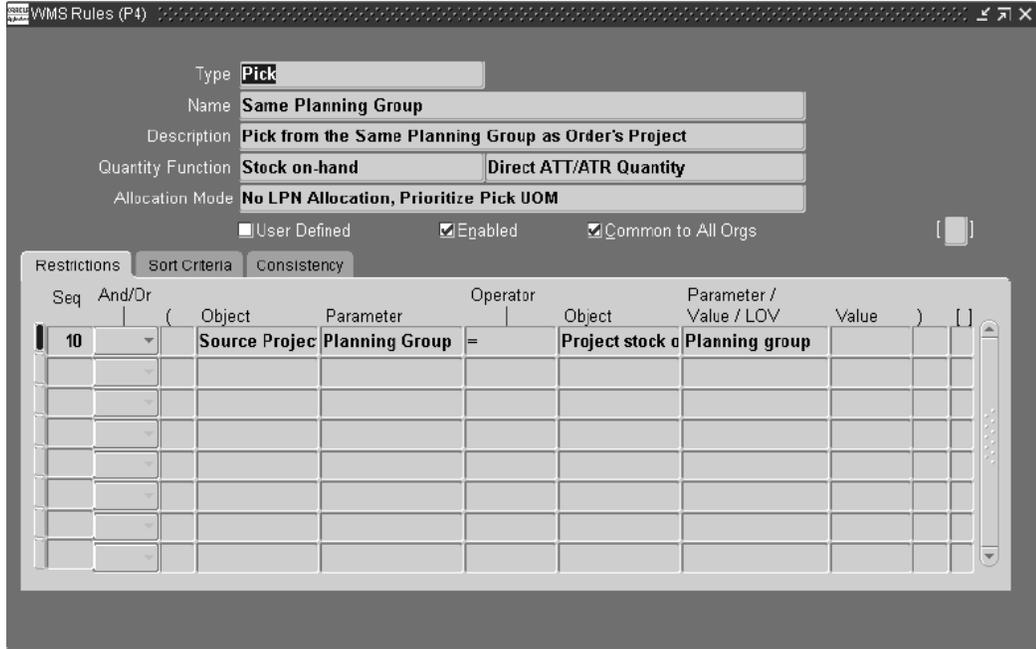
Same Planning Group Always

Object 1	Parameter 1	Operator	Object 2	Parameter Value / LOV
Source Project	Planning Group	=	Project Stock on-hand	Planning Group

Rule 5: Seeded Default Pick Rule: Always

This rule allocates any material.
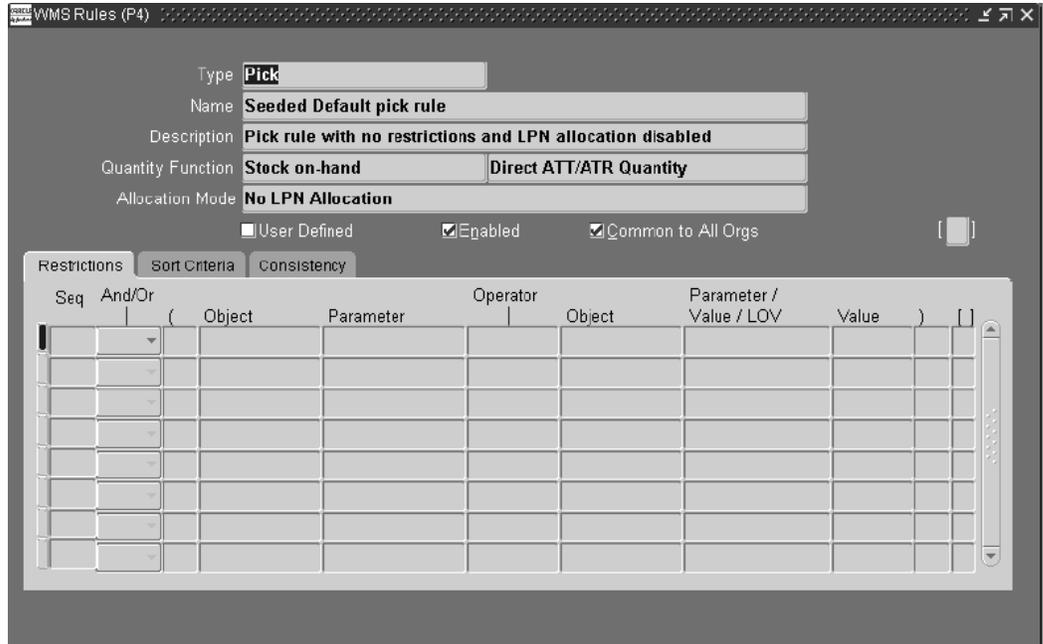
Moreover, you can setup pick rules using the rules engine containing source project, source project task and project stock on hand as objects to enforce business restrictions, for picking of material based upon of the project and task components and also onhand stock. If you set up rules disable the pre-seeded rules from the rules workbench.

Related Topics

Describing the WMS Rules Window, *Oracle Warehouse Management User's Guide*

Direct Shipping

You can direct ship project and task material against a booked project and task sales order. During direct shipment the shipped LPN should contain material that belongs to the same project and task defined in the sales order. However, if the Organization parameter Allow Cross-Project issue is enabled – then any project and task material can be direct shipped against a project Sales Order. In case of serial numbers having unit numbers, the same check is performed depending upon the setting of the Organization parameter Allow Cross Unit numbers issue. If the project sales order contains unit numbers then the serial having that unit number can only be shipped. However if the Organization parameter Allow Cross-Unit numbers is enabled, then serial with any unit number can be shipped.

Manufacturing

Discrete Jobs and Component Pick Release are entered on the Desktop. Projects that have been setup on the PJM Project Parameters window in the organization performing

the job can be entered on the Work Order window. When a Discrete Job is created with Project and task references, the subsequent transactions like Work in Process Issues, Return and Work in process Assembly Completion and Return seek project and task references. However, the behavior of these transactions varies with the setting of the Organization parameter: Allow Cross Project Issues Enabled check box

The following transactions are supported in a warehouse management enabled organization for a Project Discrete Job or Flow Schedules.

- Component Issue Transaction

- Component Return Transaction

- Completion

- Return Assembly to WIP Transaction

- Work Order-less Completion

Project and task are available as separate fields in the various Mobile pages for WIP related transactions.

WIP Component Pick Release

The Component Pick Release in a project manufacturing / warehouse management organization uses the same picking logic as Outbound functionality. In outbound scenarios, the sales order with its project / task reference is considered as the source of demand. In WIP Picking the component's pegging attribute and supply information is considered instead of the job and its project / task reference. For backflush scenarios, the material supply information present on the WIP component is considered as demand for the picking process. This logic is also used for Push scenarios where the material supply information is populated.

For example, consider a job is for assembly ABC with project reference P1/T1. Assembly ABC has the2 components -Item X, item Y with the following attributes and supply information after the job is created.

WIP Component Pick Release

Item	Supply Type	Supply Info-Sub, Loc	Pegging Attribute
X	Push	Machining, 11.P!.T1	Hard Pegged
Y	Assembly Pull	Machining, 11...sOFT pEGGED	

When Component Pick Release is run, and the pre-seeded strategy is enabled, and PJM Organization Parameter: *Cross Project Issue* is "unchecked", the system allocates only material from locators with P1/T1 reference on it for item X. For item Y, it only allocates material from non-project /common locators.

When you select the project manufacturing organization parameter: *Cross Project Issue*, the system derives the allocation preference from the pre-seeded/user defined enabled pick strategy in the project manufacturing-warehouse management organization. If no supply information is present on the WIP components, the material is issued to the job directly based on the enabled strategy.

Transactions

This section discusses transactions in warehouse management enabled Project Manufacturing organization.

Miscellaneous Transactions

In the Mobile Pages, you can optionally enter a project and task when doing a miscellaneous transaction. If you enter a project and task on a miscellaneous transaction, the material is received into the physical locator with the Project and task appended to the last two segments, forming the project locator.

If you do a miscellaneous receipt of an LPN into a project locator, the LPN resides within the project locator. If you do a miscellaneous issue from an LPN, the entire contents of the LPN belonging to the project and task are issued out.

Cycle Counting

Counting in a project manufacturing-warehouse management enabled Organization are supported as follows:

Project and Task details serve as part of the unique identification of a Storable Unit of inventory, in a similar manner to Lot, Revision, Serial Number, or LPN. This unique identification is carried through the entire counting process. A separate Cycle Count request or Physical Inventory Tag is generated for each unique combination of Item, Lot, Revision, Serial Number, LPN, Locator, Project, and Task.
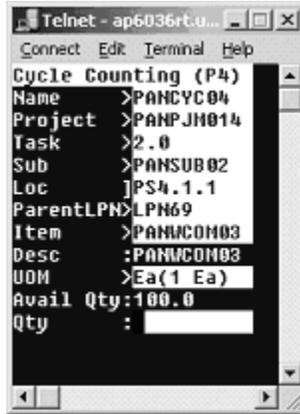
You can identify the Locator by scanning the physical (3-segment) bar code, followed by the Project/Task label that was prepared when the inventory was introduced

Count reporting is performed for each Storable Unit, which carries a unique Project / Task.

For a project manufacturing-warehouse management enabled organization, on navigating through the regular cycle count page, the List of Values field for project and task is displayed.

For unscheduled count entries not allowed cycle count, project/task is restricted to only those locators that have been defined in the schedule request. (Example: Suppose a Sub inventory has Projects P1 P2 P3 defined. The material for which the counting is to be performed is in project P1 and P3 only. Then the Project LOV shows only Projects P1 and P3)

For unscheduled count entries Allowed cycle count, all projects/tasks defined in that Organization are available (Example: Suppose a Organization has Projects P1 P2 P3. the material for which the counting is to be performed is in project P1, then the Project LOV shows all the Projects i.e. P1, P2 and P3)

Physical Counting

Before you perform physical inventory through mobile device, you must define physical inventory and generated tags using desktop windows.

Log into the mobile device and navigate to the Physical counting window.
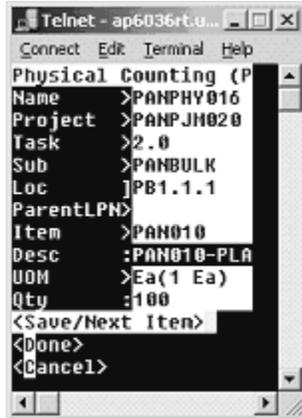
When the Allow dynamic flag is unchecked in the Physical Inventory, project/task is restricted to only those locators that have been defined in the Physical Count header. (Example: Suppose a Sub inventory has Projects P1, P2, P3 defined. The material for which the counting is to be performed is in project P1 and P3 only. Then the Project LOV shows only Projects P1 and P3)

When the Allow Dynamic tags is checked, all projects/tasks defined for the organization are available for selection (Example: Suppose a Organization has Projects P1 P2 P3. the material for which the counting is to be performed is in project P1, then the Project LOV shows all the Projects i.e. P1, P2 and P3).

Lot Split and Merge transactions

Lot Split functionality allows you to split a lot using a Mobile Device. For a project manufacturing organization, Project and Task fields are displayed on the start Lot and resultant lot windows. The resultant lot from lot split have same project and task as original lot and are not editable. project and task are editable for the first start lot only.

- In the result page, the Project, Task, Sub-inventory and Locator fields are defaulted from the start lot page. The defaulted values can be changed for all except for the Project and Task fields.

- In the start lot page, if LPN is entered, the project, task, sub-inventory, locator, on hand and available quantity be defaults from the LPN, but project and task fields are non-editable

- If Start Project and Task fields are not entered, Result Project and Result Task fields do not display.

- If there are any lot attributes for the item, Lot Attribute page is displayed after entering the Result Lot.
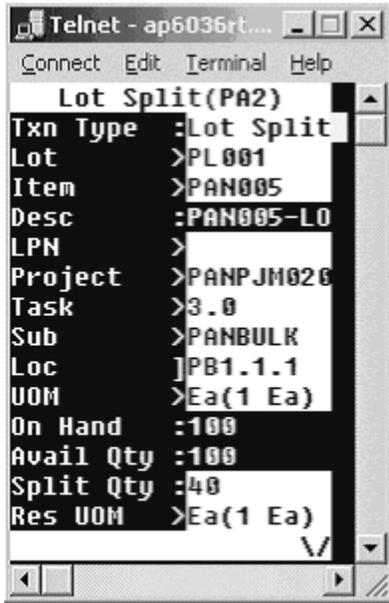
Lot Split: Project and Task enterable for First Lot.
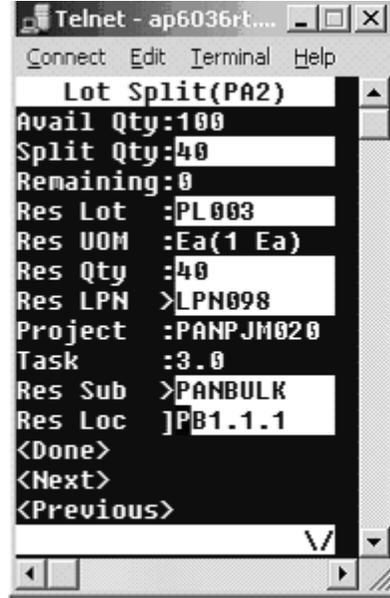
Lot Split: Project and task non-editable for Result Lot

Lot Merge functionality allows you to merge lots using a mobile device. The Resultant Lot from Lot Merge have same project and task as Merged Lots and are not editable. Project and task are editable for the first start Lot only. With the project manufacturing integration, Project and Task field are displayed on the start and result windows. At least two or more lots can be merged into one resultant lot.
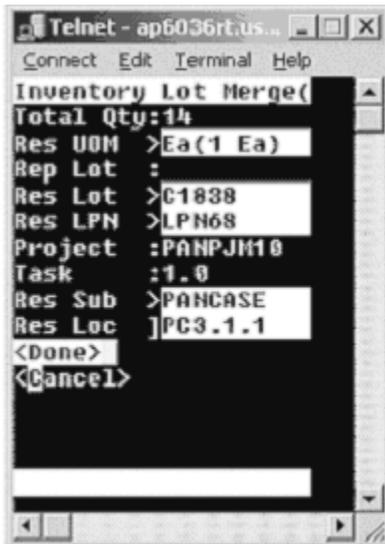
Lot Merge - Project and Task non-editable for Result Lot

• Lots can be merged only from the same project and task.

- If for Start lot, Project and Task fields are not entered, Result Project and Result Task fields do not be display (Non-Project Lot Material)

- If LPN is entered, the project, task, sub-inventory, locator, on hand and available quantity are defaulted from the LPN but, the result project and task are non-editable.

- Project and Task fields are only editable for the start lot. The following lots defaults the values of Project and Task fields, from the start lot and Project and Task are non-editable.

- If there are any lot attributes for the item, the Lot Attribute page displays after entering the Result Lot.

Related Topics

Performing Cycle and Physical Counting with warehouse management, *Oracle Warehouse Management User's Guide*

Describing Lot Split, Merge, and Genealogy, *Oracle Warehouse Management User's Guide*

Kanban Replenishment

The Kanban Replenish pages and Kanban Move Order show Project and Task information for project manufacturing organizations. Kanban Pull Sequence can be created for source and destination locators, which are associated with same Project and task. However, once the Project and task is defined, it is non-editable on the mobile page.
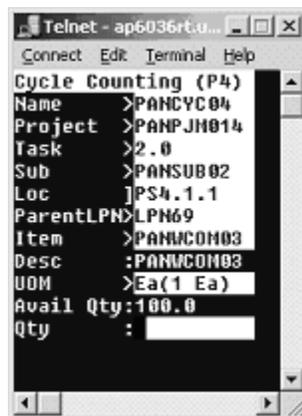
> **Note:** Project transfer transactions are not supported in the mobile pages.

Related Topics

Cost Groups Overview

Within any Project Organization, each Cost Group is defined as either a Project or inventory Cost Group, and each Project is associated with a specific Cost Group. More than one Project may be associated with a single Cost Group.

Warehouse management Cost Group Rules excludes all Project Cost Groups. That is, only Inventory Cost Groups are available for assignment by a Cost Group Rule.

If warehouse management is enabled in a project manufacturing organization, any material received that has a project associated with it, is placed into the cost group of the project. Cost Group Assignment rules are not used or called.

The transaction Cost Group Update enables the costs associated with one item to be transferred to another, without physically moving the item. In organizations with both project manufacturing and warehouse management enabled, the Cost Group Update transaction prevents inventory belonging to a Project from being selected for Cost Group Update. The Cost Group Update is used only to change ownership between one non-Project Cost Group and another non-Project Cost Group. A Project Transfer window is used to change ownership between two Projects, or in either direction between a Project and a non-Project Cost Group.

> **Note:** Cost group transfers are not allowed for Locators, LPNs or items belonging to a Project.

LPN transactions: Co-mingling

The Project co-mingling check ensures that no more than one Project/Task is carried at any level of nesting within any LPN.

If Project inventory resides in an LPN, additional Storable Units belonging to the same Project/Task may be added. These Storable Units could be the same Item/Rev/Lot, or could differ in any identifying characteristic, except Project/Task. Other LPNs containing inventory of the same Project/Task could be nested within the LPN.

If any non-Project inventory resides anywhere within an LPN, the addition of any Project inventory is restricted/prevented.

> **Note:** If Project inventory resides in an LPN, additional Storable Units belonging to the same Project/Task may only be added

11

Project MRP

This chapter covers the following topics:

- Overview
- Project MRP Setup
- Project MRP Planning Logic
- Planner Workbench in Project MRP
- Implementation Notes

Overview

Project MRP is one of a series of features in Oracle Applications designed to support companies that manufacture products for projects or contracts.

Project MRP allows you to plan in a project environment by separating all sources of supply and demand by project. This allows the planning process to identify components as common or project specific, track existing inventories by project, and provide visibility to all supply and demand associated with a project.

With Project MRP, you can:

- Include project numbers and task references in forecast, MPS, and MDS entries

- Load, copy, or merge forecast, MPS, and MDS entries with project numbers and task references

- Recognize and allocate supply according to project numbers and task references

- Combine project and related supply and demand with non-project related supply and demand in the same plan or schedule

- Perform netting by planning groups, project, and tasks

- Generate planned orders with project number and task references

- Implement planning suggestions by planning group, project, or task

- Link sales order lines, production orders, and purchase orders to projects and tasks, allocate onhand inventory to projects, and issue inventory to projects

- Perform on-line net change simulation in a project environment

Project MRP Setup

Selection of Project MRP plan options and choice of pegging attributes of an item together determine the output of a Project MRP plan. This section describes the Project MRP plan options and the item attributes that impact Project MRP planning logic.

See Also:

Establishing a Project MRP Environment, *Oracle MRP User's Guide*

Project MRP Plan Options

Project MRP provides the following plan options to you in the Oracle Project Manufacturing environment. There are multiple options available for Reservation Level and Hard Pegging Level in the Pegging region of the Plan Options window. The Pegging check box must be checked in order to access these plan options.

Reservation Level

The Reservation Level determines the method of pre-allocation of project supply to project demand. There are four options for reservation level.

Planning Group

Choosing this option for a Project MRP plan reserves project specific supply at the planning group level. Excess supply in one project can be reserved against demand for another project belonging to the same planning group. Excess common supply is also be allocated to project demand.

Project

A project level reservation, allows project specific supply to be used for demand specific to that project only. This option allows cross allocation across tasks within the same project.

Task

A task level reservation reserves supply for a project-task against demand for the same project-task only. No cross allocation of material belonging to the same project but different tasks is allowed.

None

Reservations for this option takes place like any non-project MRP planning process.

Hard Pegging Level

The Hard Pegging Level option determines if project and/or task references are added to planned orders of hard pegged items only. (The Pegging item attribute must be either Hard Pegging or End Assembly/Hard Pegging) No project references are associated with planned orders of soft pegged items. Project MRP suggested planned orders are assigned one of the following levels:

Project

The planned orders generated for hard pegged items carry project references only.

Project-Task

This option attaches project and task references to the planned orders of hard pegged items.

None

This option does not add any project/task reference to the Project MRP suggested planned orders.

> **Note:** Hard Pegging Level options work independent of the Reservation Level options.

See Also:

Project MRP Planning Logic, *Oracle MRP User's Guide*

Item Pegging Attributes

Item pegging attributes defined in Oracle Inventory determine the allocation of excess available supply for a project-task to the demand and the generation of Project MRP planned orders. Table 1 compares the available item pegging attributes.

Comparison of Item Pegging Attributes

Item Pegging Attribute	Allocation of Excess Supply	Generation of Planned Orders
Soft Pegging, or End Assembly/Soft Pegging	Excess project or common supply is available to satisfy project demand of any project irrespective of plan options chosen.	Planned orders do not carry project and task references

Item Pegging Attribute	Allocation of Excess Supply	Generation of Planned Orders
Hard Pegging, or End Assembly/Hard Pegging	Excess supply in one project can be used for demand of a different project in the same planning group if reservation level is Planning Group. Excess common supply is also available for project demand only if the reservation level is Planning Group.	Planned orders carry project and task references as defined by the Hard Pegging Level plan option.
None	Disables project material allocation.	Planned orders do not carry any project or task references irrespective of the hard pegging level plan option.

Project MRP Planning Logic

Project MRP planning logic differs from the regular MRP planning logic primarily in the way it determines what supply is available to satisfy demand. It also differs in the way it assigns any suggested planned orders that result from the planning process.

Instead of simply considering existing inventories and scheduled receipts when netting supply against demand, the project MRP planning logic goes through a process of *pre-allocation*. Before netting supply against demand, the planning process analyses the project/task references (along with the item attributes, project parameters, and plan level options you have set), to determine what supply is available for meeting project demand. Supply and demand that is not specific to any project is defined as *common supply*. The project MRP planning logic treats common supply or demand as a Null project.

During the pre-allocation phase, the planning process first nets a project demand with its supply. It then checks the reservation level to determine if excess can be shared. This only works for items that have their attributes set to Soft Pegging, End Assembly/Soft Pegging, Hard Pegging or End Assembly/Hard Pegging.

Comparison of Regular and Project MRP

Regular MRP	Project MRP
Explode bill of materials	Explode bill of materials
Snapshot of inventory and supply/demand	Snapshot of inventory and supply/demand
-	Pre-allocate supply to projects
Net supply against demand	Net supply against demand; assign suggested planned orders to projects

Netting Logic

By combining the item pegging attribute with the plan options reservation and hard pegging levels, you can exercise a high degree of control over how the planning process pre-allocates supply for an item. Table 3 summarizes the possible combinations and types of behavior you can enforce:

Enforceable Behavior Types and Combinations

Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Planning Group	Project	Hard Pegging	Reserve supply at planning group level. Excess common supply is used for project demand; Create planned orders at project level
Planning Group	Project-Task	Hard Pegging	Reserve supply at planning group level. Excess common supply is used for project demand; Create planned orders at project-task level

Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Planning Group	None	Hard Pegging	Reserve supply at planning group level. Excess common supply is used for project demand; Create planned orders without project references
Project	Project	Hard Pegging	Reserve supply at project level; Create planned orders at project level
Project	Project-Task	Hard Pegging	Reserve supply at project level; Create Planned orders at project-task level
Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Project	None	Hard Pegging	Reserve supply at project level; Create planned orders without project references
Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Project Task	Project	Hard Pegging	Reserve supply at project-task level; Create planned orders at project level

Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Project Task	Project-Task	Hard Pegging	Reserve supply at project-task level; Create planned orders at project-task level
Project Task	None	Hard Pegging	Reserve supply at project-task level; Create planned orders without project references
Planning Group	Any Value	Soft Pegging	Reserve supply at planning group level. Excess supply belonging to other projects and common is used for project demand; Create planned orders without project references
Project	Any Value	Soft Pegging	Reserve supply at project level. Excess supply belonging to other projects and common is used for project demand; Create planned orders without project references

Reservation Level	Hard Pegging Level	Item Pegging Attribute	Netting Behavior
Project Task	Any Value	Soft Pegging	Reserve supply at project-task level. Excess supply belonging to other projects and common is used for project demand; Create planned orders without project references
None	None	Hard Pegging	No reservations, full pegging

Project Netting Examples

A7004 MRP Planned	Period 1	Period 2	Period 3
Demand	100 (P2)	500 (P2)	300 (P2)
	200 (P1)	150 (P1)	120 (P4)
	65 (P3)	50 (P3)	
	400 (common)		
Scheduled Receipt	265 (P1)	800 (P2)	50 (P4)
	5 (P4)		500 (common)
Planned Orders		62	145
Projected Available	725 (P2)	225 (P2)	
	75 (P1)		
	63 (common)		

Item Pegging: soft pegging, Reservation Level: Project, Hard Pegging Level: Project

On Hand=5 (common), Onhand= 10 (P1), On Hand = 25 (P2), On Hand = 18, (P3)

MRP Planned Component with Soft Pegging

A7004 MRP Planned	Period 1	Period 2	Period 3
Demand	100 (P2)	500 (P2)	300 (P2)
	200 (P1)	150 (P1)	120 (P4)
	65 (P3)	50 (P3)	
	400 (common)		
Scheduled Receipts	265 (P1)	800 (P2)	50 (P4)
	5 (P4)		500 (common)
Planned Orders		62	145
Projected Available	725 (P2)	225 (P2)	
	75 (P1)		
	63 (common)		

Item Pegging: soft pegging, Reservation Level: Project, Hard Pegging Level: Project

On Hand=5 (common), Onhand= 10 (P1), On Hand = 25 (P2), On Hand = 18, (P3)

Soft Pegging

Table 4 shows an item that is an MRP-planned component used in four projects and as common.

During the pre–allocation phase of netting, the planning engine divides the supply for the item by project. In Period 1, the demand from project P2 is 100. Since there is an on–hand quantity of 25 for P2 and no schedules receipts, there is still demand for P2 of 75. To meet this demand, the planning engine looks for more P2 supply, which it finds in Period 2. The supply is pegged to the demand in Period 1. Project P1 has an excess of 75 in Period 1 (scheduled receipts plus the on–hand quantity minus P1 demand), which is then used to partially satisfy the P1 demand in Period 2. Period 1 also has common demand. To meet this demand, the planning engine allocates the receipts in Period 3, leaving an excess of 105. This excess has no further common demand to meet. Period 3 has a demand from P4 of 120, which is reduced to 70 by P4 scheduled receipts. After satisfying all the project specific demand in the three periods we are left with an excess of 105 (common) in Period 1, and un-met demands of 42 P3 in Period 1, 75 P1 in Period 2, 75 P2 and 70 P4 in Period 3.

The planning process can use other excess common supply in Period 1to meet the

remaining demand for P3 in the same period. So 42 common are used to meet the P3 demand in Period 1. The remaining 63 common partially satisfy the P1 and P3 demand in Period 2, leaving an un-met demand of 62 in Period 2. The demand for 145 units in Period 3 remains unsatisfied.

This results in the planned orders for 62 in Period 2 and 145 in Period 3 without project and task references. Since the item is soft pegged, the planned orders does not carry any project reference irrespective of the Hard Pegging Level for the plan.

Hard Pegging

During the pre–allocation phase of netting, the planning engine divides the supply for the item by project. In Period 1, the demand from project P2 is 100. Since there is an on–hand quantity of 15 for P2 and no scheduled receipts, there is still demand for P2 of 85. The planning engine cannot apply excess from any other source to meet this demand: The planning engine looks for the available supply for P2 and finds it in Period 2. This supply is rescheduled to the demand in Period 1. The remaining demand from Period 1 (85) plus the demand in Period 2 (500) equals 585. The scheduled receipts leaves an excess of 15, which is carried forward (see the Projected Available).

Once again, the planning engine can only apply the excess P2 supply to P2 demand. The last P2 demand is in Period 3 (for 300), consuming the excess of 15 from Period 2 and leaving a net requirement of 285, which the planning engine converts into planned orders.

Because the item is hard pegged, and the hard pegging level (from the plan options) is set to *project*, the P2 project reference is added to the suggested planned order.

Similar logic applies to the supply and demand for projects P1, P3, P4, and common.

MRP Planned Component with Hard Pegging

A7004 MRP Planned	Period 1	Period 2	Period 3
Demand	100 (P2)	500 (P2)	300 (P2)
	200 (P1)	150 (P1)	120 (P4)
	65 (P3)	50 (P3)	
	400 (common)		
Scheduled Receipts	265 (P1)	600 (P2)	
	20 (P4)		
	600 (common)		

A7004 MRP Planned	Period 1	Period 2	Period 3
Planned Orders		75 (P1)	285 (P2)
			100 (P4)
Projected Available	515 (P2)	15 (P2)	0 (P2)
	75 (P1)	0 (P1)	0 (P1)
	53 (P3)	3 (P3)	3 (P3)
	205 (common)	205 (common)	205 (common)
	20 (P4)		0 (P4)

item pegging:hard pegging, Reservation level: Project, Hard pegging level: Project

On Hand = 5 (common), On Hand = 10 (P1), On Hand = 15 (P2), On Hand = 18 (P3)

Hard Pegging (Common supply netting)

The new netting logic for Project MRP now also takes into account excess common supply for project demand for hard pegged items. This netting logic is available only if the reservation level option for the plan is set to Planning Group.

In a given period, the planning engine looks for supply that belongs to the same project. If there is a shortage, excess supply within the same planning group is allocated. If unsatisfied demand still exists for the project, excess common supply is used to satisfy project requirements. Excess common supply available in a period takes precedence over future scheduled receipts for the same project or planning group.

The difference in netting logic is explained below with the help of the same numerical example as above. In this case, projects P1 and P2 belong to the same planning group.

Netting of common supply and demand in leaves us with an excess of 205 in common. Similarly, for project P1 there is an excess supply of 75 in period 1.

In Period 1, the demand from project P2 is 100. Since there is an on–hand quantity of 15 for P2 and no scheduled receipts, there is still demand for P2 of 85. The planning engine can now apply excess from any other project belonging to the same planning group as well as excess common supply to meet this demand. In Period 1, the excess 75 in P1is allocated to this demand. There is still an unsatisfied demand of 10 for project P2. As per the new netting logic, the excess in common is available for this project demand, thus satisfying all the requirements for project P2 in Period 1.

In Period 1, project P3 has an un-met demand of 47 (demand 65 - On hand 18). There is no other supply for P3. But there is excess common supply, which is used to meet this requirement Notice that project P3 does not belong to any planning group. Just by

virtue of the reservation level for the plan, excess common supply has been allocated to project demand for P3.

This excess in common is also applied to unsatisfied demand for projects P1 and P3 in Period 2, and project P2 in Period 3. The unsatisfied demand for 252 (P2) and 100 (P4) in Period 3 results in planned orders.

Because the item is hard pegged, and the hard pegging level (from the plan options) is set to *project*, project reference is added to the suggested planned orders.

Common Supply Netting

A7004 MRP Planned	Period 1	Period 2	Period 3
Demand	100 (P2)	500 (P2)	300 (P2)
	200 (P1)	150 (P1)	120 (P4)
	65 (P3)	50 (P3)	
	400 (common)		
Scheduled Receipts	265 (P1)	600 (P2)	
	20 (P4)		
	600 (common)		
Planned Orders			252 (P2)
			100 (P4)
Projected Available	0 (P2)	0 (P2)	0 (P2)
	0 (P1)	0 (P1)	0 (P1)
	0 (P3)	0 (P3)	0 (P3)
	148 (common)	48 (common)	0 (common)
	20 (P4)	20 (P4)	0 (P4)

Item pegging: hard pegging, Reservation level: Planning Group, Hard pegging level: Project

On Hand = 5 (common), On Hand = 10 (P1), On Hand = 15 (P2), On Hand = 18 (P3)

Project MRP Pegging Logic

Generation of project and task references on planned orders is a function of the Hard Pegging Level plan option and the item attributes. Even though Project MRP does not

display the project and task references on planned orders for soft pegged items, these references are maintained within the system. These are used if the children of this soft pegged item happen to be hard pegged items.

In Figure 10-1, A2003 is a soft pegged item which has A3002 as its child item. A3002 is a hard pegged item. The Project MRP plan for A1001 has the Hard Pegging Level set to Project.

Being a soft pegged item, planned orders for A2003 does not carry any project reference. However, A3002 carries a project reference on its planned orders even though the planned orders for its parent do not contain project references.

Order Modifiers in Project MRP

Project MRP uses the same Order Modifiers logic as standard MRP. The assignment of project references for hard pegged items (and Hard Pegging Level Project or Task) to planned orders occurs as per the logic shown in the following figure.

Any excess order quantity is assigned a project reference that belongs to a nearest future unsatisfied demand. In no demand exists, then the planned order carries a null project and task reference (for example, common supply).
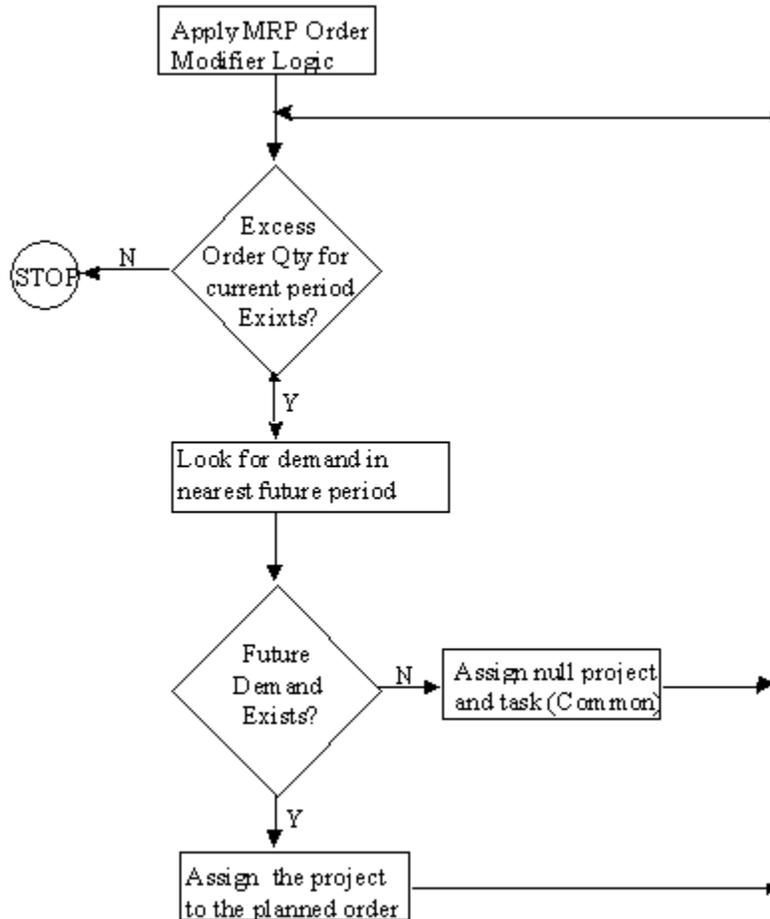
Planner Workbench in Project MRP

This section discusses the Planner Workbench in Project MRP.

Viewing Project Material Plans

The MPS Workbench and MRP Planner Workbench in Project MRP have significant enhancements to enable the planner in a Project Manufacturing environment to conveniently view planning information by project and implement manufacturing plans in the workbench by project.

The planner can enter Planning Group, Project Number and/or Task Number as the search criteria in the Find Supply, Find Demand, or Find Supply/Demand window of the Planner Workbench. This enables the planner to find Supply, Demand, or Supply/Demand information by planning group, project, or project-task.

The planner could also use customizable folders in the Supply, Demand, or

Supply/Demand screens to query planning information for a particular project or project-task.

The Horizontal Plan and Enterprise View windows enable the planner to view supply and demand information by Planning Group, Project, and Project-Task. The planner can also choose to see the planning status of all the material or only common material in these windows.

See Also:

Overview of the Supply Chain Planning planner Workbench, *Oracle MRP User's Guide*

Workflow Enabled Project Related Exception Messages in Project MRP

Along with the other MRP Exception Messages, Project MRP provides the following project related exception messages that can help monitor project material plans. Like other exception messages, these exception messages are also workflow enabled for better supply chain coordination. The Project Manager or Task Manager (if defined) is also notified of these plan exceptions.

- **Items with Excess inventory in a project** This exception message enlists all the items that have a excess inventory in a project or project-task.

- **Items with Shortage in a project** This exception message highlights the items whose demand exceeds supply for that project or project-task.

- **Items allocated across projects** This exception message indicates items where supply for one project/task is used to satisfy demand for another project/task.

The Planner Workbench generates the following action messages for project supply. It follows the current Planning Time Fence and Acceptable Days Early logic to generate these messages.

- Reschedule In

- Reschedule Out

- Cancel

See Also:

Workflow Enabled Exception Messages, *Oracle MRP User's Guide*

Implementing Project MRP plans

Using the features of the Project MRP Planner workbench, the planner can view and implement the planned orders by planning group, project or project-task. The planner can choose to override the suggested project and task references on planned orders. The Implement Property Sheet window allows the planner to view and change the Project or Project-Task of such planned orders. You can also simulate changes to dates,

quantities, or project references in the Planner Workbench and generate net change simulation plans.

Implementation Notes

This section points out some implementation notes in Project MRP.

Forecast Consumption for Projects

Project MRP does not support forecast consumption by project and task. An alternative would be to use demand classes to represent projects. Forecast consumption by demand classes is supported.

Issue of material to WIP across projects within the same planning group

Although Project MRP considers excess supply of material for one project as available to another project within the same planning group (if the reservation level is Planning Group), the material cannot be used directly across projects if the projects belong to different cost groups. A subinventory transfer is required if those items must be issued to a WIP job belonging to another project.

However, material belonging to one project can be issued to a WIP job of a different project if:

- Both the projects belong to the same planning group, and

- Both the projects share the same cost group, and

- PJM Org Parameter: Allow Cross Projects Issues is set to Yes.

Sales Orders Shipment (from inventory of a different project within the same planning group)

Sales order shipment from inventory belonging to a different project but in the same planning group is not supported. Project inventory should be moved to the correct project locator before sales order shipments have to be done for that project.

12

Supply Chain Projects

This chapter covers the following topics:

- Overview of Supply Chain Projects
- Major Features
- Process Flow
- Simple Example

Overview of Supply Chain Projects

This chapter explains how to use Supply Chain Planning for multi-org projects in an Oracle Project Manufacturing environment.

> **Note:** This chapter discusses the planning features of Advanced Supply Chain Planning. Oracle Supply Chain Planning is also supported.

With Oracle Advanced Supply Chain Planning (ASCP), you can generate plans that include the entire supply chain. In a single step you can schedule and plan material and distribution requirements for multiple organizations, or centrally plan the entire enterprise. You can also include customer and supplier inventories in the ASCP process. Common material requirements can be included if desired.

Oracle ASCP lets you plan finished products, as well as intermediate assemblies and purchased items, for all facilities in your supply chain. Material plans for feeder plants and distribution centers automatically consider requirements originating from any number of other facilities. You can load planned order demand from multiple using-organizations into the master schedule of supplying organizations.

Release to Oracle's Purchasing and Work in Process applications permits multi-organizational execution of procurement and manufacturing plans for the project. Oracle's Purchasing and Order Management applications provide the vehicle for moving supply between multiple organizations. Procurement, manufacturing, and distribution activity is always visible to ASCP. Cost transactions incurred across

multiple organizations can be accumulated to a single project.

Major Features

Along with the other features found in the Oracle Applications, Supply Chain Projects allows you to accomplish the following project-oriented activities:

• Determine a sourcing strategy for your project supply chain and apply it to all your items.

• Simultaneously plan project and common material requirements of multiple organizations in your supply chain.

• Use the Advanced Supply Chain Planner Workbench to analyze project-specific supply and demand records across multiple organizations.

• Consider project-specific supply and demand from customer and supplier inventories in your material plans.

• View project-oriented exception messages for a consolidated supply chain material plan.

• Initiate project-specific inter-organization supply via internal requisitions and internal sales orders.

• Collect all project related material, resource and overhead costs via Oracle Projects.

> **Note:** Use of Supply Chain Projects assumes a thorough knowledge of Oracle Advanced Supply Chain Planning, Order Management, Purchasing, Inventory, Costing, and other Project Manufacturing features. It also assumes a complete setup of all necessary inter-organization relationships within these applications. For more information on these applications, see their respective user's guides.

Process Flow

The following are the major steps necessary for successful execution of Supply Chain Projects:

> **Note:** The steps below reflect the basic flow, however, individuals steps may be executed in a different sequence than those listed. Depending upon the individual scenario, some steps may be executed several times before executing another or some steps may be omitted completely.

.

#	Step	Description	Implementation Notes
1	GENERAL	Supply Chain Projects is only supported within a given Set of Books.	Supply Chain Projects is only supported for those organizations that reside within a given Set of Books.
2	Set up Project-specific data	Set up Project Control Level within Organization Parameters.	It is advised that the Project Control Level be the same within each of the organizations to be used in the supply chain. Otherwise, unpredictable and/or confusing results may be experienced in the plan as supply and demand for different control levels cross organizational boundaries.
3		Define Project and any related budgets and agreements.	
4		Define project specific cost groups to maintain item cost by project.	Ensure that a cost group is completely defined for each organization to be used in the supply chain. **Note:** Although the Cost Group can be set as *multi-org*, the set up of account numbers and default WIP Accounting Class must be accomplished for each organization.

#	Step	Description	Implementation Notes
5		Link Cost Group, WIP Accounting Class and Project.	Ensure that these links are set for each organization to be used in the supply chain.
6	Set up supply chain	Create all necessary DRP, MDS, MPS and/or MRP names and related data.	
7		Create all necessary Sourcing Rules and related Assignment Sets for inter-organization demand and/or specific vendors.	
8	Execute Supply Chain Planning	Ensure that all appropriate Sales Orders are entered.	If desired, a Sales Order demand class can be established to represent a project or group of projects and then added to the Sales Order. Load/Copy/Merge of Sales Orders to MDS/MPS can be restricted to a specific demand class (for example, project).
9		Load/Copy/Merge data to appropriate MDS and/or MPS plan(s).	
10		Launch the appropriate plan(s).	
11	Review and Manage Plan(s).	Manage exception messages.	

#	Step	Description	Implementation Notes
12		Release appropriate WIP Jobs.	
13		Release appropriate Purchase Requisitions.	
14		Release appropriate Internal Requisitions.	
15	Initiate internal supply orders	Import internal requisitions for the Destination Organization.	Internal requisitions are NOT included in Project Commitments.
16		Create internal sales orders for the Source Organization.	In order for Internal Sales Orders to be visible to the Supply Chain plan, they must be included in the MDS or MPS via Load/Copy/Merge.
17	Procure materials	Create purchase orders to vendors.	
18		Receive purchase orders from vendors to component inventory.	
19	Manufacture sub-assemblies	Issue project and common materials to WIP.	
20		Apply resources and appropriate overheads.	
21		Execute any outside processing.	

#	Step	Description	Implementation Notes
22		Complete to sub-assembly inventory.	
23	Execute interorganization transfers	Ship internal sales orders from the Source Organization.	Direct transfers between organizations (for example, NOT utilizing In-Transit) are not available for Project Manufacturing materials.
24		Receive internal requisitions to appropriate inventory of the Destination Organization.	Upon receipt by the Destination Organization, all elemental costs are either combined into a single MATERIAL cost or handled as individual elements, depending on the setup option.
25	MANUFACTURE final assemblies	Essentially the same steps as 19-22 above. Complete to appropriate inventory.	
26	Ship assemblies	Ship the completed assemblies to customer(s) and/or appropriate distribution points.	
27	Collect and analyze project costs	Collect costs from each organization.	
28		Analyze costs via Oracle Projects.	

#	Step	Description	Implementation Notes
29	INVOICE customer	If appropriate, interface Project costs and invoice customer.	

Simple Example

The following graphic illustrates assembly components and their sources.
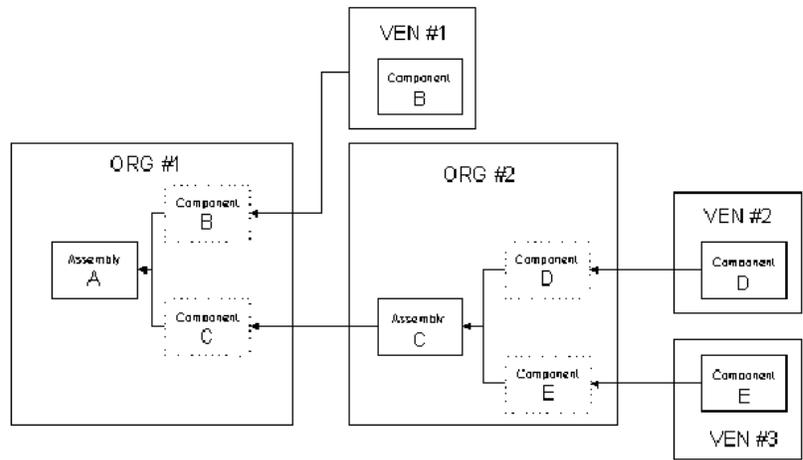
Assembly/Component	Sourcing
A	Produced in Organization #1
B	Purchased from Vendor #1
C	Internally acquired from Organization #2
	Produced in Organization #2
D	Purchased from Vendor #2
E	Purchased from Vendor #3

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Workflows

This chapter covers the following topics:

- Overview Of Project Manufacturing Workflows
- Project Manufacturing Contract Type Project Definition Process
- The Project Manufacturing Project Definitions [Contract] Item Type
- Summary of the Project Manufacturing Contract Type Project Definition Process
- Project Manufacturing Contract Type Project Definition Process Activities
- Project Manufacturing Indirect Type Project Definition Process
- Summary of the Project Manufacturing Indirect Type Project Definition Process
- Project Manufacturing Indirect Type Project Definition Process Activities
- Project Manufacturing Integration Exception Process
- Customizing the Project Manufacturing Integration Exception Process
- The Project Manufacturing Project Schedule Exceptions Notifications Item Type
- Summary of the Project Manufacturing Integration Exception Process
- Project Manufacturing Integration Exception Process Activities

Overview Of Project Manufacturing Workflows

Oracle Project Manufacturing uses Oracle Workflow technology to provide guided walk-throughs of all steps required to define project manufacturing contract and indirect projects and to generate notifications for scheduling exceptions.

Oracle Workflow is a complete workflow management system that supports business process definition and automation. Its technology enables automation and continuous improvement to business processes, routing information of any type according to user-defined business rules. Oracle Workflow contains a graphical user interface that enables you to modify workflow processes to suit your business needs.

Oracle Project Manufacturing comes with the following workflows:

- Project Manufacturing Project Definition [Contract] workflow guides you through the setup steps required to define a project manufacturing contract project. This workflow is seeded with one processes, the project manufacturing Contract Type Project Definition process.

- Project Manufacturing Project Definition [Indirect/Capital] workflow guides you through the setup steps required to define a project manufacturing indirect or capital project. This workflow is seeded with one processes, the project manufacturing Indirect Type Project Definition process.

- Project Manufacturing Project Schedule Exception Notification workflow allows you to define the notifications sent for schedule exceptions. This workflow is seeded with one process, the Project Manufacturing Integration Exception Process.

Project Manufacturing Contract Type Project Definition Process

The project manufacturing Contract Type Project Definition process provides a workflow-based approach to organize and launch the application forms needed to setup a project manufacturing contract project. The process provides sequential access to the needed forms from Oracle Projects, Oracle Master Scheduling, Oracle Work in Process, Oracle Cost Management, and Oracle Project Manufacturing.

The project manufacturing Contract Type Project Definition process can be accessed through Oracle applications and through Workflow Builder. Use the Workflow Builder to customize the process.

To access the Project Manufacturing Contract Type Project Definition Process:

1. Choose the Process tab on the navigator. The processes you can access are displayed on the upper left.

2. Select the project manufacturing Contract Type Project Definition Process.

Customizing Project Manufacturing Contract Type Project Definition Process

Processes can be customized using the Oracle Workflow Builder. When you customize the project manufacturing Contract Type Project Definition process, only process flows defined after you customize it are affected.

To display the process in the Oracle Workflow Builder:

1. Choose Open from the File menu, and connect to the database.

2. Select Project Manufacturing Project Definition [Contract] to open it.

3. Expand the data source, then expand the item type Project Manufacturing Project Definition [Contract].

4. Expand the Processes branch within the item type.

5. Double-click on the project manufacturing Contract Type Project Definition Process to the display the diagram in a process window.

Double-click on the project manufacturing Contract Type Project Definition Process to the display the diagram in a process window.

Project Manufacturing Contract Type Project Definition Process

Required Modifications

There are no required modifications for this workflow process.

Customization Example

You can customize the project manufacturing Contract Type Project Definition process by adding or deleting steps to the process, by changing process names and descriptions, and by changing step icons. For example, you might choose to remove Task Auto-Assignment from this process if your organization is at a project control level of task.

Each type of customization is supported for the project manufacturing Contract Type Project Definition. However, the order of steps must take prerequisites for each form opened into account for the process to operate smoothly.

Creating a New Custom Process

You can use the project manufacturing Contract Type Project Definition process as a basis for developing your own project definition processes.

The Project Manufacturing Project Definitions [Contract] Item Type

The project manufacturing Contract Type Project Definition process is associated with an item type called Project Manufacturing Project Definition [Contract]. All the available processes associated with an item type are listed under that item type in the Workflow Builder. Currently, the only available process for this item type is the project manufacturing Contract Type Project Definition process.

The Project Manufacturing Project Definition [Contract] item type has two attributes associated with it. These attributes reference information in the demonstration application tables. The attributes are used and maintained by function activities throughout the process.

Display Name	Description	Type	Length/Format/ Lookup Type
User Name	Name of user defining project	Text	
Project Number	Number of project being defined	Text	

Summary of the Project Manufacturing Contract Type Project Definition Process

To view the properties of the project manufacturing Contract Type Project Definition process, select the process in the navigation tree and choose Properties from the Edit menu. This process has a result type of None, indicating that when the process completes, it does not end with any particular result, such as End (Approved) or End (Rejected). Instead, its subprocesses end with specific results.

This process indicates that it can be initiated as a top level process to run by making calls to the Workflow Engine *CreateProcess* and *StartProcess* APIs.

The project manufacturing Contract Type Project Definition process is designed to provide maximum flexibility. Hence, no step in the process is required in order to complete additional steps. You can select a project for which prerequisite steps have been completed to go on to further steps.

In order to provide this flexibility, the project manufacturing Contract Type Project Definition process does not send message attributes from one step to the next.

The process contains 17 activities, each represented by a node on Figure B-1. The workflow begins at node 1.

Project Manufacturing Contract Type Project Definition Process Activities

The following is a description of each activity listed by the activity's display name.

Start (Node 1)

This is a Standard function activity that marks the start of the process.

- Function - WF_STANDARD.NOOP

- Result Type - None

- Prerequisite activities - None

- Item Attributes Set by Function - None

Define Project (Node 2)

This step opens the Oracle Project forms required to define a project.

- Message - Define Project

- Respond Message Attributes - Form PA_PAXPREPR_PROJECT

Define Project Agreement (Node 3)

This step opens the Oracle Project forms required to define a project agreement.

- Prerequisite Activities - Previous step

- Message - Define Project Agreement

- Respond Message Attributes -Form PA_PAXINEAG_AGREEMENT

Define Revenue Budget (Node 4)

This step opens the Oracle Project forms required to define a revenue budget.

- Message - Define Project Revenue Budget

- Respond Message Attributes - Form PA_PAXBUEBU

Review Budget Approval (Nodes 5 and 7)

This step opens the Oracle Project forms required to review budget status for a project.

- Message - Review Budget Status

- Respond Message Attributes- Form PA_PAXBUEBU

Define Cost Budget (Node 6)

This step opens the Oracle Project forms required to define cost budget for a project.

- Message - Define Project Cost Budget

- Respond Message Attributes -Form PA_PAXBUEBU

Review Project Approval (Node 9)

This step opens the Oracle Project forms required to review project approval.

- Message - Review Project Status

- Respond Message Attributes -Form PA_PAXPREPR_PROJECT

Define Planning Group (Node 10)

This step opens the Oracle Master Scheduling/MRP forms required to define a planning group.

- Message - Define Planning Group

- Respond Message Attributes -Form MRP_FNDLVMUL_PLANNING_GROUP

Change Inventory Organization (Node 11)

This step opens the Oracle Master Scheduling/MRP forms required to change the Inventory organization.

- Message - Change Organization

- Respond Message Attributes - Form MRPCHORG

Define WIP Accounting Class (Node 12)

This step opens the Oracle Work in Process forms required to define the WIP accounting class.

- Message - Define WIP Accounting Class

- Respond Message Attributes -Form WIP_WIPSUMCL

Define Cost Group (Node 13)

This step opens the Oracle Cost Management forms required to define the cost group.

- Message - Define Cost Group

- Respond Message Attributes - Form CST_CSTFDCGA

Define Project Parameters (Node 14)

This step opens the Oracle Project Manufacturing form required to define the project parameters.

- Message - Define Project Parameters

- Respond Message Attributes -Form PJMFDPJP

Setup in Another Organization (Node 15)

This step refers you back to Node 11 if additional organizations are desired for the project.

- Message - Continue Setup in Another Inventory Org?

Define Task Auto-Assignment Rules (Node 16)

This step opens the Oracle Project Manufacturing form required to define the task Auto-Assignment rules.

- Message - Define Task Auto-Assignment Rules

- Respond Message Attributes -Form PJMFTAAR

Project Manufacturing Indirect Type Project Definition Process

The project manufacturing Indirect Type Project Definition process provides a workflow-based approach to organize and launch the application forms needed to setup a project manufacturing indirect project. The process provides sequential access to the needed forms from Oracle Projects, Oracle Master Scheduling/MRP, Oracle Work in Process, Oracle Cost Management, and Oracle Project Manufacturing.

The project manufacturing Indirect Type Project Definition process can be accessed through Oracle applications and through Workflow Builder. Use the Workflow Builder to customize the process.

To Access the Project Manufacturing Indirect Type Project Definition Process:

1. Choose the Process tab on the navigator. The processes you can access are displayed on the upper left.

2. Select the project manufacturing Indirect Type Project Definition Process.

Customizing the Project Manufacturing Indirect Type Project Definition Process

Processes can be customized using the Oracle Workflow Builder. When you customize the project manufacturing Contract Type Project Definition process, only projects defined after you customize it are affected.

To display the process in Oracle Workbuilder

1. Choose Open from the File menu, and connect to the database.

2. Select Project Manufacturing Project Definition [Indirect/Capital] to open it.

3. Expand the data source, then expand the item type Project Manufacturing Project Definition [Indirect/Capital].

4. Expand the Processes branch within the item type.

5. Double-click on the project manufacturing Indirect Type Project Definition Process to the display the diagram in a process window.

Project Manufacturing Indirect Type Project Definition Process

Required Modifications

There are no required modifications for this workflow process.

Customization Example

You can customize the project manufacturing Indirect Type Project Definition process by adding or deleting steps to the process, by changing process names and descriptions, and by changing step icons. For example, you might choose to remove Task Auto-Assignment from this process if your organization is at a project control level of task.

Customizations Not Supported

Each type of customization is supported for the project manufacturing Indirect Type Project Definition. However, the order of steps must take prerequisites for each form opened into account for the process to operate smoothly.

Creating a New Custom Process

You can use the project manufacturing Indirect Type Project Definition process as a basis for developing your own project definition processes.

Project Manufacturing Project Definitions [Indirect/Capital] Item Type

The project manufacturing Indirect Type Project Definition process is associated with an item type called Project Manufacturing Project Definition [Indirect/Capital]. All the available processes associated with an item type are listed under that item type in the Workflow Builder. Currently, the only available process for this item type is the project manufacturing Indirect Type Project Definition process.

The Project Manufacturing Project Definition [Indirect/Capital] item type has two attributes associated with it. These attributes reference information in the demonstration application tables. The attributes are used and maintained by function activities throughout the process.

Display Name	Description	Type
User Name	Name of user defining project	Text
Project Number	Number of project being defined	Text

Summary of the Project Manufacturing Indirect Type Project Definition Process

To view the properties of the project manufacturing Indirect Type Project Definition Process, select the process in the navigation tree and choose Properties from the Edit menu. This process has a result type of None, indicating that when the process completes, it does not end with any particular result, such as End (Approved) or End (Rejected). Instead, its subprocesses end with specific results.

This process indicates that it can be initiated as a top level process to run by making calls to the Workflow Engine *CreateProcess* and *StartProcess* APIs.

The project manufacturing Indirect Type Project Definition process is designed to provide maximum flexibility. Hence, no step in the process is required in order to complete additional steps. You can select a project for which prerequisite steps have been completed to go on to further steps.

In order to provide this flexibility, the project manufacturing Indirect Type Project Definition process does not send message attributes from one step to the next.

The process contains 13 activities, each represented by a node on Figure B-2. The workflow begins at node 1.

Project Manufacturing Indirect Type Project Definition Process Activities

The following is a description of each activity listed by the activity's display name.

Start (Node 1)

This is a Standard function activity that marks the start of the process.

• Function - WF_STANDARD.NOOP

- Result Type - None

- Required - Yes

- Prerequisite activities - None

- Item Attributes Set by Function - None

- Item Attributes Retrieved by Function - None

Define Project (Node 2)

This step opens the Oracle Project forms required to define a project.

- Message - Define Project

- Respond Message Attributes - Form PA_PAXPREPR_PROJECT

- Send Message Attributes

Define Cost Budget (Node 3)

This step opens the Oracle Project forms required to define the cost budget.

- Message - Define Cost Budget

- Respond Message Attributes -Form PA_PAXIBUEBU

Review Budget Approval (Node 4)

This step opens the Oracle Project forms required to review budget status for a project.

- Message - Review Budget Status

- Respond Message Attributes - Form PA_PAXBUEBU

Review Project Approval (Node 5)

This step opens the Oracle Project forms required to review project approval.

- Message - Review Project Status

- Respond Message Attributes -Form PA_PAXPREPR_PROJECT

Define Planning Group (Node 6)

This step opens the Oracle Master Scheduling/MRP forms required to define a planning

group.

- Message - Define Planning Group

- Respond Message Attributes -Form MRP_FNDLVMUL_PLANNING_GROUP

Change Inventory Organization (Node 7)

This step opens the Oracle Master Scheduling/MRP forms required to change the Inventory organization.

- Message - Change Organization

- Respond Message Attributes - Form MRPCHORG

Define WIP Accounting Class (Node 8)

This step opens the Oracle Work in Process forms required to define the WIP accounting class.

- Message - Define WIP Accounting Class

- Respond Message Attributes - Form WIP_WIPSUMCL

Define Cost Group (Node 9)

This step opens the Oracle Cost Management forms required to define the cost group.

- Message - Define Cost Group

- Respond Message Attributes - Form CST_CSTFDCGA

Define Project Parameters (Node 10)

This step opens the Oracle Project Manufacturing form required to define the project parameters.

- Message - Define Project Parameters

- Respond Message Attributes - Form PJMFDPJP

Setup in Another Organization (Node 11)

This step refers you back to Node 11 if additional organizations are desired for the project.

- Message - Continue Setup in Another Inventory Org?

Define Task Auto-Assignment Rules (Node 12)

This step opens the Oracle Project Manufacturing form required to define the task Auto-Assignment rules.

- Message - Define Task Auto-Assignment Rules

- Respond Message Attributes -Form PJMFTAAR

Project Manufacturing Integration Exception Process

When you submit a Project Schedule Exception Notification request, Oracle Project Manufacturing uses Oracle Workflow technology in the background to handle the notification process. Oracle Workflow defines the approval notification options hierarchy available in the request parameters. You can use the Workflow Builder interface to modify your notification process.

The project manufacturing project schedule exception notification workflow consists of a single process, which is viewable in the Workflow Builder as a diagram. You can modify the objects and properties.

Customizing the Project Manufacturing Integration Exception Process

Processes can be customized using the Oracle Workflow Builder. When you customize the Project Manufacturing Project Schedule Exception Notification workflow, only those schedule exception notification requests that are submitted after you have customized it are affected. You can add or remove document types or alter the responsibilities to be notified for a given document type.

To display the workflow in the Oracle Workflow Builder

1. Choose Open from the File menu, and connect to the database.

2. Select Project Manufacturing Project Schedule Exception Notification to open it.

3. Expand the data source, then expand the item type project manufacturing Project Schedule Exception Notification.

4. Expand the Processes branch within the item type.

5. Double-click on the project manufacturing Integration Exception Process to the display the diagram in a process window.

Project Manufacturing Integration Exception Process Diagram
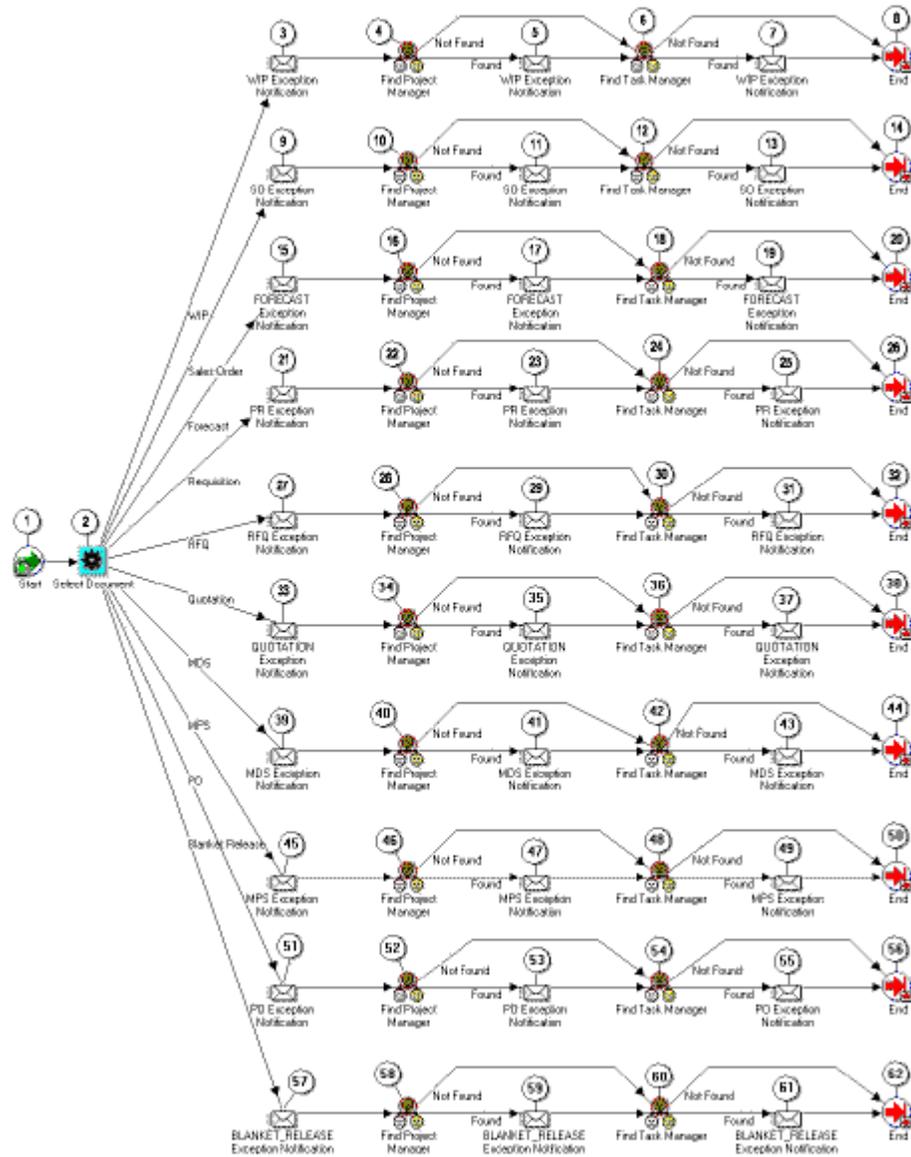
Required Modifications

There are no required modifications for this workflow process.

You can customize the project manufacturing Integration Exception process by adding or deleting steps to the process, by changing process names and descriptions, and by changing step icons.

Customization Example

You might choose to customize this process by adding planners or buyers to the notification cycle.

Customizations Not Supported

Each type of customization is supported for the project manufacturing Integration Exception Process. However, the order of steps must take prerequisites for each form opened into account for the process to operate smoothly.

Creating a New Custom Process

You can use the project manufacturing Integration Exception Process as a basis for developing your own project definition processes.

The Project Manufacturing Project Schedule Exceptions Notifications Item Type

The Project Manufacturing Integration Exception process is associated with an item type called Project Manufacturing Project Schedule Notifications. All the available processes associated with the item type are listed under that item type in the Workflow Builder. Currently, the only available process for this item type is the Project Manufacturing Integration Exception process.

The Project Manufacturing Project Schedule Notifications item type also has numerous attributes associated with it. These attributes reference information in the demonstration application tables. The attributes are used and maintained by function activities as well as notification activities throughout the process.

Display Name	Type
Organization Name	Text
Document Type	Text
Date Type	Text
Tolerance Days	Number
Project Start Date	Date
Project End Date	Date

Display Name	Type
Task Start Date	Date
Task End Date	Date
Project Name	Text
Task Name	Text
Wip Job Name	Text
Job Start Date	Date
Job End Date	Date
Item Number	Text
Requestor	Text
Exception Subject	Text
Exception Body	Text
SO Number	Text
SO Requested Date	Date
SO Promised Date	Date
Forecast Name	Text
Forecast Start Date	Date
Forecast End Date	Date
Requisition Number	Text
Need by Date	Date
RFQ Number	Text

Display Name	Type
Due Date	Date
Quotation Number	Text
Effectivity Start Date	Date
Effectivity End Date	Date
MDS Name	Text
PO Number	Text
Requested Date	Date
Promised Date	Date
Release Date	Date
Project Number	Text
Task Number	Text
Status	Text
Quantity	Number
Job Type	Text
Start Quantity	Number
Quantity Completed	Number
Warehouse	Text
Ship to Location	Text
Ordered Quantity	Number
Delivered Quantity	Number

Display Name	Type
Forecast Set	Text
Project Manager	Role
Task Manager	Role
Open Form	Form
Item Description	Text
Line Number	Text

Summary of the Project Manufacturing Integration Exception Process

To view the properties of the Project Manufacturing Integration Exception Process, select the process in the navigation tree and choose Properties from the Edit menu. This process has a result type of None, indicating that when the process completes, it does not end with any particular result, such as End (Approved) or End (Rejected). Instead, its subprocesses end with specific results.

This process can be initiated as a top level process to run by making calls to the Workflow Engine *CreateProcess* and *StartProcess* APIs.

The process contains 62 activities, each represented by a node on Figure B-3. The workflow begins at node 1.

At node 2, this workflow branches depending on whether the document is a WIP, SO, Forecast, PR, RFQ, quotation, MDS, MPS, purchase order, or blanket release exception notification. If a choice is not made, the process is initiated for all options.

At nodes 3, 9, 15, 21, 27, 33, 39, 45, 51, and 57 the workflow notifies the requestor. locates the appropriate project manager for notification.

At nodes 4, 10, 16, 22, 28, 34, 40, 46, 52, and 58 the workflow locates the appropriate project manager for notification.

At nodes 5, 11, 17, 23, 29, 35, 41, 47, 53, and 59 the workflow sends notification to the appropriate project manager.

At nodes 6, 12, 17, 24, 30, 36, 42, 48, 54, and 60 the workflow locates the appropriate task manager for notification.

At nodes 7, 13, 18, 25, 31, 37, 43, 49, 55, and 61 the workflow sends notification to the appropriate task manager.

Project Manufacturing Integration Exception Process Activities

The following is a description of each activity listed by the activity's display name. You can create all the components for an activity in the graphical Workflow Builder except for the PL/SQL stored procedures that the function activities call. All function activities execute PL/SQL stored procedures which you must create and store in the Oracle RDBMS. The naming convention for the PL/SQL stored procedures is:

<PACKAGE>.<PROCEDURE>

<PACKAGE> is the name of the package that groups all of the procedures. <PROCEDURE> represents the name of the procedure.

To view the package and procedure names used by the Project Manufacturing Integration Exception process, view the Properties page for each function activity. For example, the function activity Find Project Manager uses the <PACKAGE>. <PROCEDURE> name pjm_integration_proj_mfg.PJM_WF_SEEK_PROJECT_MGR.

Start (Node 1)

This is a Standard function activity that simply marks the start of the process.

Select Document (Node 2)

This function activity determines the document type: WIP, SO, Forecast, PR, RFQ, quotation, MDS, MPS, purchase order, or blanket release exception notification.

Exception Notification to Requestor (Nodes 3, 9, 15, 21, 27, 33, 39, 45, 51, and 57)

This activity sends schedule exception notification to the requestor.

Find Project Manager (Node 4, 10, 16, 22, 28, 34, 40, 46, 52, and 58)

This activity locates the appropriate project manager(s) for notification.

Exception Notification to Project Manager (Node 5, 11, 17, 23, 29, 35, 41, 47, 53, and 59)

This activity sends schedule exception notification to the project manager(s).

Find Task Manager (Node 6, 12, 17, 24, 30, 36, 42, 48, 54, and 60)

This activity locates the appropriate task manager(s) for notification.

Exception Notification to Task Manager (Node 7, 13, 18, 25, 31, 37, 43, 49, 55, and 61)

This activity sends schedule exception notification to the task manager(s).

14

Oracle Project Manufacturing without Oracle Projects

This chapter covers the following topics:

- Overview
- Setup
- Flow in the Project environment
- Summary

Overview

Oracle Project Manufacturing supports seiban manufacturing. *Sei ban* means production number and is widely used by manufacturers in Asian countries. However, also manufacturers in non-Asian use the various modes of the seiban manufacturing solution for their implementation, since seiban manufacturing is implemented using projects and (optionally) tasks.

Oracle Project Manufacturing can run in several modes:

1. You can use the Seiban Number Wizard to define project numbers in Oracle Project Manufacturing if you do not work with Oracle Projects. Task-level control is then not supported and neither is cost collection to Oracle Projects. You can run either standard or weighted average costing. If you use the last costing method we keep track of cost by item by cost group for all manufacturing cost associated with a project (= seiban) number.

2. You can use project management systems or direct entry in Oracle Projects to define project and task numbers. Oracle Project Manufacturing uses these projects and tasks to drive supply chain management. The end result is that cost are collected into Oracle Projects using the cost collection process. The cost method supported is weighted average costing by item by project. This mode is generally used to support ETO Seiban for Asian manufacturers.

3. You can use the Seiban Number Wizard to generate a project with top-level task structure in Oracle Projects. This wizard also allows you to add one or more top level tasks to a project after you initially generated the project. This always you to collect cost for multiple lots that are manufactured in Work In Process into Oracle Projects using the cost collection process. A manufactured lot typically is represented by one WIP Job that is associated with one project-task combination. In this case the project-task combination represents the seiban number, and this technique is commonly referred to as lot-type seiban by Asian manufacturers. The cost method supported for this mode is weighted average costing by item by project.

> **Note:** The difference between using the reference number and project number is that you can not collect cost by reference number as you can by project.

Setup

The Oracle Project Manufacturing setup process includes various steps within Oracle Applications. However, in a Project environment, you do not execute the set up steps related to transferring of costs to Oracle Projects. Instead, implement the following steps to set up Project Manufacturing.

Application	Step	Window Name
Human Resources	Set up Organization	Organization
Human Resources	Set up Organization Hierarchy	Organization Hierarchy
Inventory	Set up Inventory Organization Parameters	Organization Parameters
Bill of Materials	Set up Department in Manufacturing	Departments
Project Manufacturing	Set up Project Parameters	Project Parameters

Refer to each product's User's Guide for additional information.

Additionally, verify the following

- The Project Control level in Organization Parameters is set to Project. In a Project environment, you track material and resource, and hence cost, at the project level

- Project Cost Collection in Organization Parameters is disabled, since Oracle Projects is not being used in a Project environment

- Project Numbers are defined in the Define Seiban Number window in Oracle Project Manufacturing

Since Oracle Projects is not being used in a Project environment, Project Cost Collection is not enabled. You can select either Standard Costing or Weighted Average Costing as the costing method.

Flow in the Project environment

The Project Number is defined in Oracle Project Manufacturing. Reference this number on all demand and supply entities to track material and resource activities and cost by Project Number.

Project Definition

Project Numbers are defined in Oracle Project Manufacturing, not in Oracle Projects. Tasks cannot be associated with the Project Numbers since there is no WBS. The Project Number and Name are unique within an Operating Unit. The Project Number needs to be associated with a Cost Group (if costing method = Weighted Average Costing) and WIP Accounting Class in the Project Parameters window.

Project Demand

Oracle Project Manufacturing enables the demand (sales order, forecast or Master Demand/Master Production Schedule entry) to be entered with a Project Number to drive manufacturing planning, execution and costing. For example, you can create a project sales order by linking a sales order line to a project number. Similarly, you can create a Project Forecast by linking a forecast entry to a Project Number. You can also perform other Project Sales Management activities such as Project Quotations, Project ATO/PTO, Project Fulfillment, and Project Drop shipments with Project references.

Project Planning

In Oracle Project Manufacturing, the planning cycle can be executed for one organization or across an entire supply chain while planning project items in combination with common items. Oracle Project Manufacturing Planning features include:

- Graphical hard and soft pegging

- Group netting

- On-line simulation of project supply and demand changes

- Project exception message

In the Planner Workbench, you can view project exceptions, the project horizontal plan, supply and demand per Project, simulate new or existing project demand, and release planned orders by Project. Planning Group and/or Project can be used as MRP planning criteria and as search criteria in the Planner Workbench. You can plan material requirements while respecting hard pegs on all supply orders and generate planned orders with Project references appropriately. Items can be soft or hard pegged, allowing for various pegging methods within a bill of material.

Project Supply/Execution

Project Planned Orders resulting from the planning cycle can include Purchase Requisitions/Blanket Releases for Buy Items (Project Procurement), WIP jobs/flow schedules for make items (Project Work in Process/Flow Manufacturing), and internal orders driven by inter-company supply.

Project Procurement

Project references are supported through all procurement entities such as RFQ, Quotations, Requisitions, Purchase Order, and Blanket Release for Inventory destinations. Expense destinations for Project Procurement are not currently supported. You cannot view commitments for a given Project since this functionality comes with Oracle Projects.
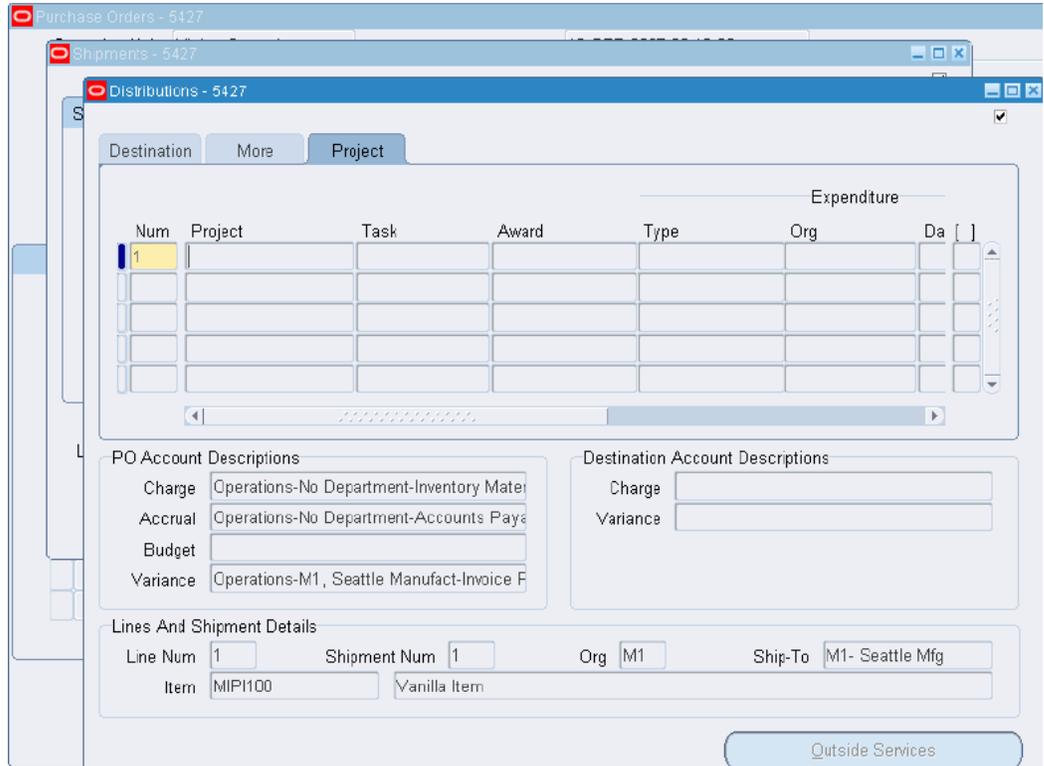
Project Work in Process

WIP jobs/work orders, both standard and non-standard are supported in a Project environment. Outside Processing functionality can be used with the Project reference on the Work order, which is then transferred to the generated outside processed purchase requisition. You can link Project Number to a flow schedule in a workorder-less production environment. Material issue, back-flush and completions can be executed for a Project with appropriate automatic defaults and validations for Project WIP jobs.

Project Inventory

In a Project environment, you can track inventory by Project, while dealing with transfers from one Project to another, or from common inventory to project inventory or vice-versa. Existing material transactions such as Miscellaneous Issue or Receipt, Subinventory Transfers, PO Receipt, WIP Issue, WIP Returns, or WIP Completions can be used to handle Project material transaction needs.

Project Quality

Using Oracle Quality, you can track Project related quality data. You can collect Project Number as a part of the quality data collection in a Project environment. Using the collected data, you can analyze the Quality information by Project. Project specific quality specifications can be set up and then referenced during quality data collection.

Project Costing Methods

Manufacturing labor, material, and overhead distributions are created in Oracle Cost Management as a result of WIP or Inventory transactions. If Oracle Project Manufacturing has been set up to use Weighted Average Costing, then Cost Groups are associated with each Project. Costs are tracked by Cost Group by item in each Project Organization. If Oracle Project Manufacturing is set up to use Standard Costing, then costs are tracked at the item level in each organization.

Project Analysis and Control

In a Project environment, use Project Manufacturing Inquiry to analyze manufacturing information. PJM Inquiry provides the drilldowns from a Project to the Purchasing, WIP, Cost, Planning, and Inventory details. Other existing reports (concurrent requests) which can be used to analyze seiban activity, include Inventory Valuation and WIP Valuation. Project Expenditure Inquiry or Project Status Inquiry (features of Oracle Projects) are not available to view cost details or summarization by Project since Oracle Projects is not installed in this environment.

Project Billing

In Project Manufacturing, you have the option of driving billing activity into Oracle Receivables through Oracle Order Management or Oracle Projects. In a Project environment, you drive the billing activity through Oracle Order Management into Oracle Receivables, since Oracle Projects is not installed.

On completion of the shipment activity, you execute the Oracle Order Management cycle step Receivables Interface to pass the sales order line information into Oracle Receivables. In Oracle Order Management, order cycles are composed of distinct cycle actions. A cycle action indicates a processing step such as entering the order, reviewing the order for legal approval, or pick releasing the order. Cycle actions produce specific results for example, the action of entering the order can result in the order being partially entered or being booked.

Follow the standard procedure in Oracle Receivables to complete the billing process.

Project Revenue Recognition

In a Project environment, you recognize revenue using Oracle Receivables. The AutoInvoice Import or Master program is used to transfer transactions from Oracle Order Management into Oracle Receivables. You can also pass invoices, credit memos, on-account credits, and debit memos using AutoInvoice. Run the Revenue Recognition program in Oracle Receivables to generate the revenue distribution records for invoices and credit memos that are created in Receivables and imported using AutoInvoice. Then assign invoicing and accounting rules to recognize revenue over several accounting periods.

Summary

Table 1 summarizes the differences in the Project Manufacturing with Oracle Projects solution and Project solution (Project Manufacturing without Projects).

Business Function	Step Description	Project Manufacturing with Oracle Projects	Project Manufacturing
Setup (Organization Parameters)	Project Reference	Enabled	Enabled
-	Project Cost Collection	Enabled	Not Enabled
-	Control Level	Project and Task	Project
-	Costing Method	Weighted Average Cost	Weighted Average Cost or Standard Cost
Project Definition	Work Breakdown Structure	The project with its WBS, can be defined in Oracle Projects or Project Management System	The seiban number is defined in the Define Seiban Number window in Oracle Project Manufacturing; A work breakdown structure is not defined
Project Demand	Project Demand (Order Management / Planning)	Demand entities include project and/or task references	Demand entities carry Project references
Project Supply / Execution	Project Procurement	You can enter project and/or task references on all procurement entities for inventory and expense destinations	You can enter Project references on procurement entities for inventory destinations only. Project procurement for expense destinations are not currently supported

Business Function	Step Description	Project Manufacturing with Oracle Projects	Project Manufacturing
-	Project Commitments	You can view commitments by project due to project related procurement in Oracle Projects	You cannot view commitments by Project since Oracle Projects is not installed
-	Project Work In Process	You can enter project and/or task references on Standard, Non-Standard Jobs and Flow schedules	You can enter Project references on Standard, Non-Standard Jobs and Flow Schedules
-	Project Inventory	You can support miscellaneous transactions and Inventory transfers with project and/or task references. Project Miscellaneous Transactions to issue/receive common inventory	You can support miscellaneous transactions and Inventory transfers with Project references; since Oracle Projects is not installed, you cannot perform Project Miscellaneous Transactions
-	Project Quality	Project and/or task references are supported in quality data collection, analysis and reporting	Project references are supported in quality data collection, analysis and reporting
Project Control and Analysis	Project Status Inquiry (PSI), Project Expenditure Inquiry	You can compare budget to actual at the project and task level using PSI. You can perform analysis by project, task, expenditure type, expenditure category and so on using the Expenditure Inquiry	Since Oracle Projects is not installed in a Project environment these inquiries are not available

Business Function	Step Description	Project Manufacturing with Oracle Projects	Project Manufacturing
-	Project Manufacturing Inquiry	You can view detailed or summarized manufacturing information for a given project and/or task	Project Manufacturing Inquiry allows you to view summarized and detailed manufacturing and cost information for a given Project Number
-	Other Reports	You can perform analysis at the project and/or task level using the Project Analysis Collection Pack and other Oracle Project reports	You can run standard reports such as Inventory Valuation, or WIP Valuation to track Project cost
Project Billing	Billing driven through Order Management to Oracle Receivables or through Oracle Projects to Oracle Receivables	You drive billing through Oracle Projects to allow the use of the multiple billing methods available in Oracle Projects such as event driven billing, progress billing, and so on	You drive billing through Order Management to Oracle Receivables. On completion of customer shipment in Oracle Order Management, run the Receivables Update program which passes the relevant sales order data to Oracle Receivables. You complete the billing activity using standard procedure in Oracle Receivables

Business Function	Step Description	Project Manufacturing with Oracle Projects	Project Manufacturing
Project Revenue Recognition	Revenue recognition in Oracle Projects or Oracle Receivables	Generate revenue in Oracle Projects using various methods including time and materials, percent complete, and cost plus	You perform revenue recognition in Oracle Receivables. By executing the Revenue Recognition program you generate the revenue distribution records for invoices and credit memos that are created in Receivables and imported using AutoInvoice

Related Topics

Oracle Project Manufacturing User's Guide

15

Assemble to Order / Pick to Order in Project Manufacturing

This chapter covers the following topics:

- Overview of ATO/PTO in Project Manufacturing
- Process Flow
- Project/Task Defaulting Logic for ATO/PTO Options

Overview of ATO/PTO in Project Manufacturing

Oracle Project Manufacturing enables you to process project Assemble-to-Order and project Pick-to-Order orders. You can:

- Define optional class and model bills of material

- Setup projects and project parameters

- Forecast model or option demand by project and/or task

- Master schedule model and option by project and/or task

- Enter sales order line for a model by project and/or task

- AutoCreate configuration item

- AutoCreate final assembly orders with project and/or task

- Complete a final assembly into project inventory

- Pick release and ship confirm from project inventory

- Cost configuration item by cost group

- Collect costs to Oracle Projects

Process Flow

Figure 11-1 illustrates the steps for an ATO/PTO process.
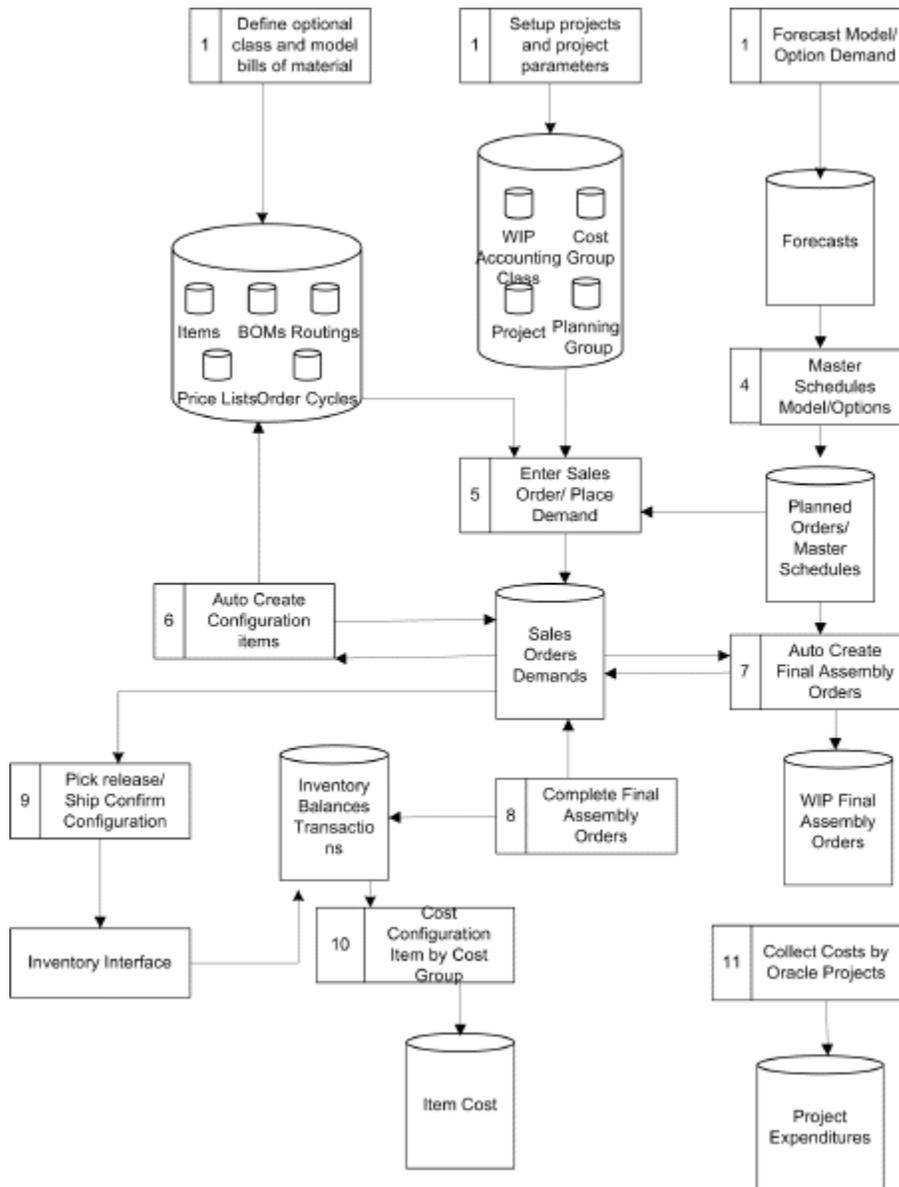
The following table describes the steps in processing a Assemble-to-Order (ATO) and Pick-to-Order (PTO) orders in a Project Manufacturing environment. It also provides you with the information you need to consider during implementation.

#	ATO	PTO	Step	Description	Implementation Notes
1	3	3	Define optional class and model bills of material.	Define multilevel model and option class bills to control order entry, master scheduling/MRP, work in process, and costing.	Since the configuration item inherits the item attributes from the ATO model item, the ATO Model item must be under Locator Control in order for the configuration item to be received into project locator. You cannot define project specific bills of material.
2	3	3	Setup a project and its project parameters.	Setup a project. Assign the project to a planning group (optional), a cost group and a default WIP accounting class.	For more information, see *Setup Project Parameters*: page.

#	ATO	PTO	Step	Description	Implementation Notes
3	3	3	Forecast model or option demand by project and/or task.	Forecast demand for model, options, or both by project and/or task. Explode forecasts through planning bills to models and/or options.	Forecast consumption by project/task is currently not supported. Use demand class instead.
4	3	3	Master schedule model and option by project and/or task.	Master schedule models, options, or both. (Cannot master schedule Pick-to-Order models however).	

#	ATO	PTO	Step	Description	Implementation Notes
5	3	3	Enter sales order line for a model by project and/or task.	Enter sales orders for models with options. You can enter project and/or task on a sales order line. The project and task information is cascaded down to the option lines. You can update the project and task for an option line only if it belongs to a PTO model. For further detail, see *Project/Task Defaulting Logic for ATO/PTO Options:*.	You can enter project/task on a sales order line if Project Enabled parameter is checked for the Warehouse (organization). Oracle Order Management provides two means by which to select configuration options: the Line Option window and Configurator window. Some fields are only available in the Line Option window, such as warehouse. Project/task information is only available in the Line Option window. If you need to update/view project/task information of the option lines, you can

#	ATO	PTO	Step	Description	Implementation Notes
					do so in the Line Option window.
6	3		AutoCreate configuration item.	Automatically generate new item number, bill, and routing for each new sales order and link new item to sales order.	
7	3		AutoCreate final assembly orders by project and/or task.	Automatically open project discrete job for each new ATO configuration order. Reserve work in process job to sales order. The project and task numbers on the project discrete job match the project and task on the sales order line for the ATO model.	

#	ATO	PTO	Step	Description	Implementation Notes
8	3		Complete the final assembly into project inventory.	Complete the configuration item to project inventory, automatically converting work in process reservation into inventory reservation. The project and task segments of the project locator must match the project and task on the sales order line for the ATO model.	

#	ATO	PTO	Step	Description	Implementation Notes
9	3	3	Pick release and ship confirm from project inventory.	Pick Release all configuration sales orders for which on hand quantities for the project is available.	For ATO configuration item, Pick Release picks from the project locator that has the same project and task as those on the ATO model sales order line. For PTO options, since you can have different project/task from the project/task on the PTO Model line, Pick Release picks from the project locator that has the same project and task as those on the option line. Pick Release does not pick from common locator.

#	ATO	PTO	Step	Description	Implementation Notes
10	3	3	Cost configuration item by Cost Group	Automatically maintain item cost by Cost Group in Weighted Average Costing environment.	
11	3	3	Collect costs in Oracle Projects	Material costs (material, material overhead) and WIP costs (resource, overhead, outside processing) incurred for the project are collected in Oracle Projects.	

Project/Task Defaulting Logic for ATO/PTO Options

The following table provides the detail logic of defaulting project/task information from a model line to its option lines in the Enter Sales Order form.

Action	ATO	PTO
Project/Task cascading from model line to option lines?	Yes	Yes
Project/Task updateable on options lines?	No	Yes

Action	ATO	PTO
Project/Task validation on option lines?	N/A	Validation of project/task against warehouse on option line
Project/Task changes on model line	Re-cascade change to option lines	Re-cascade change to option lines, discarding user inputs
		Note: The following table lists the re-cascading rules for the hybrid case of an option itself being a model. The rules apply to project/task changes for the option line.

Hybrid Case	Re-cascading Rule
ATO model within PTO model	Re-cascade the project/task from the ATO model option line to the whole ATO sub-configuration.
PTO model within PTO model	No re-cascading.You can manually update the project/task on the option lines of the sub-model.

16

Project Quality Collection

This chapter covers the following topics:

- Overview of Project Quality Collection
- Quality Process Flow

Overview of Project Quality Collection

Oracle Quality is an integrated quality management application designed to support the diverse data collection needs of discrete, repetitive, assemble-to-order, and batch process manufacturers. Oracle Quality helps you manage and distribute critical quality information throughout your organization.

Oracle Project Manufacturing enables you to use these capabilities in a Project Manufacturing environment:

- Define collection plans that include project and task as collection elements.

- Define project and task as collection triggers in the collection plan.

- Define actions and notifications specifically for project and task collection elements.

- Define project specific skip lot and sampling criteria

- Define nonconformance collection plans

- Define item, customer or supplier type specifications specific to a project.

- Collect quality data including project and task collection elements.

- Analyze and report quality data based on a project and task.

Quality Process Flow

The following diagram illustrates the quality process flow.
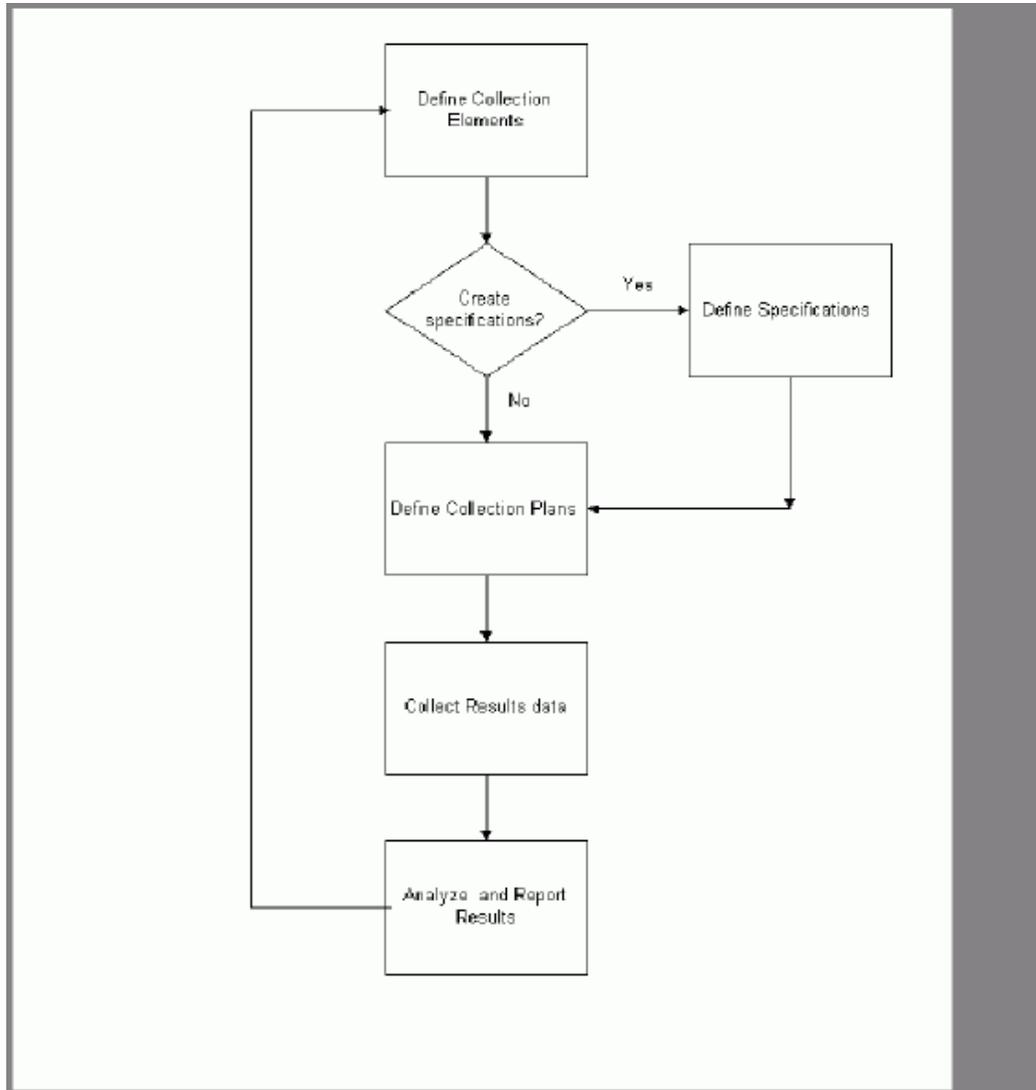
The following paragraphs describe each of the above steps in using Oracle Quality. The following example illustrates each step in the process.

Collection Elements

Collection elements in Oracle Quality determine what data to collect and report. You can define an unlimited number of collection elements for attributes such as defect, disposition, severity, cause, pass/fail results, or for variables such as voltage, resistance, temperature, or acidity. A third group, reference information collection elements, reference database objects defined in other Oracle Applications - examples are Item, PO

Number, Job, or Quantity. Project and task are among the reference collection elements now supported in Oracle Quality.

In our example, collection elements are Project Number, Task, Item, PO Number, PO Line Number, Quantity, Supplier, Thickness, Defect Code, Disposition Code, and Project Manager. Collection Element Project Manager are populated based on the value you enter for Project Number. This can be done by using the Assign a Value Action for the collection element Project Number.

Specifications

Specifications describe the requirements of a product and can be created for items, suppliers, and customers. You can define specification limits for key characteristics of the products you produce or material you receive from suppliers. You can create item specifications by assigning a group of collection elements and their specification limits to items or categories of items. You can also create supplier specifications for items you receive from specific suppliers. Finally, you can create customer specifications specific to the product standards expected by customers. These three types of specifications help ensure that the goods you produce conform to your quality engineering standards and to your customers' quality standards. To provide more detail and flexibility, specification subtypes and specification elements are also provided.

In our example, item specification type is used. For each specification of this collection plan, Item =A.

Specification Subtypes are used to create more granular specifications. For example, if a different but similar supplier specification is required when a supplier ships from one location versus another, you can use specification subtypes to ensure that the correct specification is applied.

In Project Manufacturing, specification subtypes can be used to effectively create project specific requirements. While defining a specification you should use Project Number as the collection element in the specification subtype field. This allows you to create multiple specifications for the same item/supplier/customer specification with the Project Number as additional criteria.

In our example, while defining specifications for item A for the collection element thickness, you could have 2 different projects that have slightly different acceptance criteria. Project #1 allows you to accept items which have a thickness range of .050 -.100 inches (specification range). Project #2 has a tighter range and allows only.055 -.080 inches (specification range). You can now create Specification 1 for Item A, and specification subtype = Project #1 and Specification 2 for Item A, specification subtype = Project #2 with the corresponding specification limits. While using these specifications in data collection, you can find the correct specification using the Project Number as a search criteria.

Specification elements are the building blocks of specifications. Specification elements can be any data type but would most typically be numeric. You create specification elements by adding collection elements to your specifications. As you create

specification elements, the specification limits, if any, are defaulted from the source (collection element). Specification limits include an acceptable target value as well as user-defined, reasonable, and specification range limits. The specification limits of a specification element can be updated as required.

In our example, the specification element is thickness, with the lower and upper spec limits for Specification 1 being .050 and .100. Lower and Upper Spec limits for Specification 2 would be .055 and .080.

Skip Lot Inspection Criteria

Oracle Quality supports skip lot inspection functionality for purchase order receiving inspections. You can perform skip lot process setup, skip lot engine execution, and inspection result inquiry. Skip lot inspection is only relevant to receipts that are destined to be inspected. If selected by the skip process, a purchase order shipments Receipts Routing will be changed from inspection Required to standard Receipt. Selection criteria are defined to allow skip lot inspections for specific combinations of supplier, supplier site, item, item revision, item category, item manufacturer, project and task.

Sampling Inspections

Oracle Quality provides support for ANSI/ASQC single sampling plan for normal / reduced / tightened inspection, standard c=0 sampling plan and user defined c=0 plans. After you setup the sampling plan, you can choose to include Project and Task as part of the sampling criteria to associate a sampling plan with the run time contexts/criteria.

> **Note:** Project and Task Number support is not provided for mobile supply chain applications inbound receiving inspection with sampling.

Collection Plans

Collection plans determine what data to collect, where to collect it, when to collect it, and what action to take based on the data. Collection plans are similar to test or inspection plans. You can define an unlimited number of collection plans. Within each collection plan, you specify collection elements such as defect types, symptoms, causes, actions, critical measurements, as well as reference information like project and task number, item, lot number, supplier and customer. You should specify Project Number and task as mandatory collection elements - this enables you to analyze and report your collected quality data by project and task.

Collection plans can be invoked manually for direct results entry. You can do this in the Quality Responsibility by using the Enter Quality Results forms and using the appropriate collection plan. They can also be automatically invoked as you enter transactions in other Oracle Applications. You can do this by setting up collection triggers based on the transactions such as Move Transactions, Completion Transactions,

Work Order-less Completion Transactions (Oracle Work in Process), Receiving Transactions (Oracle Internet Procurement), Inspection Transactions (Oracle Internet Procurement) and Service Requests (Oracle Service) supported by Oracle Quality. Collection triggers are events or conditions that a transaction must satisfy before quality data collection is invoked. Collection elements that can be used to trigger these transactions are referred to as context elements and available in the list of values for each transaction type. Project and task are available as context elements and can be used to trigger Quality data collection.

Attachments

You can attach illustrative or explanatory files -- in the form of text, images, word processing documents, spreadsheets and video to collection plans. In a Project Manufacturing environment, attachments can be used to document instructions specific to a project or groups of projects. They can be viewed by operations personnel during quality data collection.

Actions

You can invoke actions as you collect quality data. You can assign actions and action rules to collection elements. As quality data is collected, results values are used in the evaluation of action rules associated with collection plan elements. When an action rule is found to be true, the action associated with that action rule is invoked. Actions are either specific to an Oracle Applications product, and act upon database objects associated with that product, or they are non-product specific. Example of Application specific actions could be putting a job on hold, a supplier on hold. Examples of non-product specific actions could be a message to the operator, an alert action. Alert actions supported by Oracle Quality include sending an electronic mail notification, executing a SQL script, executing an operating system script and launching a concurrent request. You can dynamically distribute mail messages by including output variables in the recipient fields.

In our example, the collection plan uses the receiving inspection transaction type. The data collection is setup as Mandatory and Enabled to allow for data collection online. The collection plan uses Item Specification type. Collection elements includes Project Number, Task, Item, PO Number, PO Line Number, Quantity, Supplier, Thickness, Defect Code, Disposition Code, and Project Manager. Project Number and task are used as mandatory collection elements to allow for data collection and analysis/reporting by project. Project Manager collection element be populates based on the Project Number collection element. Collection element thickness is associated with a specification limit and an mail notification is sent to the specific Project Manager (listed in the collection element Project Manager) when the value for thickness is not to specification limits on a PO line item. The collection plan is triggered as part of a Receiving Inspection transaction, when Item =A (trigger element). This example can be modified to use Project Number as an additional trigger element if multiple collection plans are available for the same item.

Data Collection

You can enter quality results into the quality data repository directly, as you transact in other Oracle Manufacturing Applications, or using Collection Import. While entering data, you can find specifications associated with a collection plan. If a specification type has been associated with the collection plan selected, you are prompted to find and select a specification of that type as you enter quality results. You can select a specification from the list of values or by entering search criteria - this could include Project Number, Serial Number and so forth.

In our example, when you perform a Receiving Inspection transaction for Item=A, you are required to complete the quality data before you can commit your receiving transaction. The collection plan can be invoked from the Special Menu or from the Quality Button. Since multiple specifications are associated with this collection plan, you have to select the appropriate specification to be used. This selection can be done by entering the Project Number in the spec subtype as your search criteria. Based on the Project Number, the appropriate specification limits is listed in the collection plan for the collection element thickness. When the values for thickness are exceeded - email notification is sent to the specific Project Manager as setup in the collection plan.

Analyze and Report Results

Oracle Quality provides you with powerful inquiries that enable you to quickly find quality results. You can define your own selection criteria based on collection elements used in the collection plan. You can view quality results using online, ad hoc queries and through printed reports.

In our example, if you have a data collection plan for receiving inspection for Item A you can view failure results that are specific to a project. Since the collection plan was setup for Item=A, the specific Project Number can be used as selection criteria in the results analysis and reporting.

Related Topics

Oracle Quality User's Guide

17

Period Close in Project Manufacturing

This chapter covers the following topics:

- Overview
- Preliminary Checklist for Period Close

Overview

Closing an Accounting Period can be a very time consuming task. This section provides the steps necessary to perform a period close in a Project Manufacturing environment. It is a high level overview and references numerous other documents. The referenced documents contain necessary and more detailed information on the steps required to close each Oracle Application. By referencing these documents you can be assured that you are getting the most detailed information possible.

The following table provides the closing order for period close.

Close Order	Application	Oracle Document Reference/Note
1	Oracle Payables (AP)	See: Closing an Accounting Period, *Oracle Payables User's Guide*.
2	Oracle Internet Procurement	See: Controlling Purchasing Periods, *Oracle Internet Procurement User's Guide.*
3	Oracle Order Management (OM)*	See: *Oracle Order Management User's Guide.*

Close Order	Application	Oracle Document Reference/Note
4	Oracle Work in Process (WIP) *	See: *Oracle Work in Process User's Guide.*
5	Oracle Inventory (INV)	See: Cost Control and Accounting, *Oracle Inventory User's Guide.*
6	Oracle Projects (PA)	See: *Oracle Projects User's Guide* and *Oracle Projects Student Guide*.
7	Oracle Accounts Receivable (AR)	See: Opening and Closing Accounting Periods, *Oracle Receivable User's Guide.*
8	Other Non-Oracle Data feeds	(If applicable - payroll, fixed assets, and so forth.)
9	Oracle General Ledger (GL)	See: Setting up Periods and Calendars, Opening and Closing Periods, *Oracle General Ledger User's Guide.*

* Oracle Order Management and Oracle Work in Process do not have periods to close, but certain actions should be performed within these applications to foster a smoother period close.

Preliminary Checklist for Period Close

Oracle Applications should be closed in the order indicated above. Keep in mind that multiple steps are required to perform period close on each application. The following table lists some of the important steps but it is not meant to be exhaustive. Do not follow only these steps or you may encounter problems. Remember to open the next period after closing the current period unless otherwise indicated. See the Oracle Documents referenced above for further information.

Close Order	Application	Activity
1	Oracle Payables (AP)	Interface supplier invoice adjustments and expense reports from Project Accounting.
		Approve all invoices (run Auto Approval).
		Print, review and resolve posting holds report.
		Confirm payment batches.
		Run unposted invoice sweep and correct entries - (DON'T Sweep).
		Review amounts to transfer to GL.
		Transfer invoices and payments.
		Run Sweep and do Sweep.
		Run and reconcile AP Trial Balance.
		Move unresolved postings.
		Close AP period.

Close Order	Application	Activity
2	Oracle Internet Procurement	Ensure all receiving transactions have been entered.
		Run un-invoiced receipts report and review (after AP transactions have successfully posted to GL).
		Run PPV and IPV reports and review.
		Run receipt accruals - period end process.
		Import Accrual Batches from Purchasing into GL.
		Run accrual rebuild reconciliation report and review.
		Correct all errors.
		Close PO period.

Close Order	Application	Activity
1	Oracle Payables (AP)	Interface supplier invoice adjustments and expense reports from Project Accounting.
		Approve all invoices (run Auto Approval).
		Print, review and resolve posting holds report.
		Confirm payment batches.
		Run unposted invoice sweep and correct entries - (DON'T Sweep).
		Review amounts to transfer to GL.
		Transfer invoices and payments.
		Run Sweep and do Sweep.
		Run and reconcile AP Trial Balance.
		Move unresolved postings.
		Close AP period.

Close Order	Application	Activity
2	Oracle Internet Procurement	Ensure all receiving transactions have been entered.
		Run un-invoiced receipts report and review (after AP transactions have successfully posted to GL).
		Run PPV and IPV reports and review.
		Run receipt accruals - period end process.
		Import Accrual Batches from Purchasing into GL.
		Run accrual rebuild reconciliation report and review.
		Correct all errors.
		Close PO period.
3	Order Management (ONT) * Not an actual close	Ensure all sales order transactions have been entered and interfaced to Oracle Inventory.
		Ensure all sales order transactions have been entered and interface to AR for sales account reporting.
		(Sales order transactions include ship confirm and drop shipments.)

Close Order	Application	Activity
4	Oracle Work in Process (WIP) * Not an actual close	Ensure WIP/Move, Pending Move, WIP/Resource, Pending Resource, and other transactions have all been processed successfully. Ensure all WIP Jobs have been closed that should be closed. Ensure all appropriate material has been issued, received, adjusted, and so forth.

Close Order	Application	Activity
5	Oracle Inventory (INV) *Closing INV closes WIP	Ensure all appropriate material has been issued, received, adjusted, and so forth. Execute Cost Collector (Project Cost Transfer). Execute PA Transaction Import (resolve errors). Update PA Project Summary amounts. Ensure Open Interface Table is empty (resolve errors). Ensure Cost Management interfaces do not have pending transactions (Material and Resource). Transfer all Inventory transactions to the GL by organization. Ensure all Inventory and WIP accounts have been reconciled on the GL. Open next Inventory Period. Close the Inventory Period (this automatically submits a transfer to GL process). Reconcile Inventory and WIP accounts to ledger. **Note/Hint**: The GL transfer can be run before period close as many times as desired.

Close Order	Application	Activity
6	Oracle Projects (PA)	Transfer vendor invoices from Oracle Payables (after AP transactions have successfully posted to GL).
		Transfer invoices to Oracle Receivables.
		Generate Draft Revenue for all projects.
		Run journal import and ensure all costs & revenue are properly accounted for between PA and GL.
		Correct all errors (rerun import if necessary).
		Change PA period statuses.
		Note: Do not post adjustments to the GL for cost and revenue distribution lines. Post them in PA and transfer them to the GL.
7	Oracle Accounts Receivable (AR)	Verify final transfer from PA was successful.
		Correct any errors on invoices, journals, and so forth.
		Run GL interface.
		Post in GL.
		Close AR period.
		Run aging report and reconcile.
8	Other Non-Oracle Data feeds	(If applicable - payroll, fixed assets, and so forth.)

Close Order	Application	Activity
9 (last)	Oracle General Ledger (GL)	This is closed last.
		Verify all journals have been imported.
		Verify all journals have been posted.
		Run Trial Balance Summary report.
		Run Posted Journals report.
		Close GL period.

18

Project Manufacturing Inquiry

This chapter covers the following topics:

- Overview of the Project Manufacturing Inquiry
- Viewing Project Details
- Details for Project Manufacturing Inquiry
- Project Details in Project Manufacturing Inquiry
- Details for Seiban Inquiry
- Project Manufacturing Column Details
- Expenditures and Commitments
- Purchase Orders, Requisitions, Quotations, RFQs, and Blanket Releases
- WIP Jobs
- Sales Orders and Onhand Availability
- Line Schedules
- Cost Activity
- Viewing Project Cost Activities

Overview of the Project Manufacturing Inquiry

You can use the project manufacturing inquiry to analyze Oracle Projects and Oracle Project Manufacturing data. You can access the project and project and task details from the two options respectively. You can also access the selected transactional details. This inquiry provides you with access to all project information.

In the Project Manufacturing Inquiry, you can search for a project using project number, project name, or project description. You can then access details for a project from the list of projects that matched your search criteria. The following information is provided for each project: project number, project name, project description, project type, start date, project status, end date, category, and organization name.

In the Project details page, you can view the project information and review additional details for the project including budgets, expenditures, commitments, RFQs, quotations, requisitions, purchase orders, blanket releases, sales orders, onhand balances, onhand values, WIP jobs, line schedules, and cost activities. All inquiries in the Project details page display the project header information and include project number, project name, project description, project type, start date, project status, end date, category, and organization name.

In the Task details page, you can view the task information. Available details include RFQs, quotations, requisitions, purchase orders, blanket releases, sales orders, onhand balances, WIP jobs, and line schedules. All inquiries in the Task details page display the task header information and include project number, project name, project description, task number, task name, manager, task start date, and task end date.

Viewing Project Details

Profile Options

Before you can use the Project Manufacturing Inquiry, the following profile names must be defined in the System Administrator responsibility at the Site level:

- PA: Reporting Budget 1 (Cost) *(Default: Approved Cost Budget)*

- PA: Reporting Budget 2 (Cost) *(Default: Forecasted Cost Budget)*

- PA: Reporting Budget 3 (Revenue) *(Default: Approved Revenue Budget)*

- PA: Reporting Budget 4 (Revenue) *(Default: Forecasted Revenue Budget)*

- MO: Operating Unit *(Default: Vision Project Manufacturing)*

To launch the project manufacturing inquiry:

1. Select one of the following methods:

    - Navigate to the Project Manufacturing Inquiry from the Navigator menu in Oracle Applications,

        or

    - Use the web browser through the self service applications.

        If you enter through the web browser you need to provide a user name and password to log into the system. Then select the Project Manufacturing Inquiry option.

2. Select the desired inquiry type.

- Project Manufacturing Inquiry

  You can access all Oracle Projects and Oracle Project Manufacturing information for a particular project.

  - Seiban Inquiry

    With this inquiry type, you can access all Oracle Project Manufacturing information for a particular Seiban number.

3. Select the search criteria. The following search criteria are available by default for each inquiry type.

   - **Project Manufacturing Inquiry**
     - Project Number
     - Project Name
     - Project Description
     - Manager Name
     - Project Status
     - Project Organization Name

   - **Seiban Inquiry**
     - Project Number
     - Project Name
     - Operating Unit

   Once you select a project from the list of projects that matched your search criteria, you can access the details.

Related Topics

Profile Options, *Oracle Projects Implementation Guide*

Details for Project Manufacturing Inquiry

Use the Projects details page to view inquiry details for project manufacturing information. Select a project using the Project Number, Project Name, Manager, Project Status, Project Organization or Project Type.

When you select a project, you can access the following information for each project: project number, project name, start date, completion date, manager name, project status, project organization name, project type.

You can select the Details tab to view: PTD revenue, PTD cost, PTD margin, YTD revenue, cost, YTD margin, YTD margin percentage, YTD revenue, YTD cost, YTD margin, YTD margin percentage, total revenue budget, backlog, backlog percentage, commitments, and total cost.

The calculations for the displayed views are as follows:

PTD Margin = PTD Revenue - PTD Burdened Cost

PTD Margin% = PTD Margin/ PTD Revenue

ITD Margin = ITD Revenue - ITD Burdened Cost

ITD Margin% = ITD Margin / ITD Revenue

YTD Margin = YTD Revenue - YTD Burdened Cost

YTD Margin% = YTD Margin/ YTD Revenue

Backlog = Primary Budgeted Revenue Amount - ITD Revenue (if ITD revenue is > Primary Budgeted revenue amount then backlog = 0)

Backlog% = Backlog / Primary Budgeted Revenue Amount

Total Cost = Total Cost ITD + Committed Burden Amount

Project Details in Project Manufacturing Inquiry

In the Project details page, you can view the project information and review additional details for the project including expenditures, commitments, RFQs, quotations, requisitions, purchase orders, blanket releases, sales orders, onhand balances, onhand values, WIP jobs, line schedules, and cost activities.

You can also access the task details by selecting a task number in the task summary, which includes a list of valid tasks for a project. The task summary contains details on the task number, task name, description, manager, start date, and end date. All inquiries in the Project details page display the project header information and includes project number, project name, project description, project type, start date, project status, end date, category, and organization name.

Task Details in Project Manufacturing Inquiry

You can also select Task details from the view list and access the following task information and project/task details related to: RFQs, quotations, requisitions, purchase orders, blanket releases, sales orders, onhand balances, WIP jobs, and line schedules. All inquiries in the Task details page display the task header information including project number, project name, project description, task number, task name, manager, task start date, and task end date.

Details for Seiban Inquiry

The following information is provided for each project in the Seiban Inquiry page and you can search for a project on the basis of: project number, project name, and operating unit.

Details in Seiban Numbers Inquiry

In the Seiban Numbers details page, you can view the project information and you can then choose to review additional details for the project including RFQs, quotations, requisitions, purchase orders, blanket releases, sales orders, onhand balances, onhand values, WIP jobs, line schedules and cost activities. All inquiries in the Seiban Numbers details page displays the project header information and includes project number, project name, project description, project type, start date, project status, end date, category, and organization name.
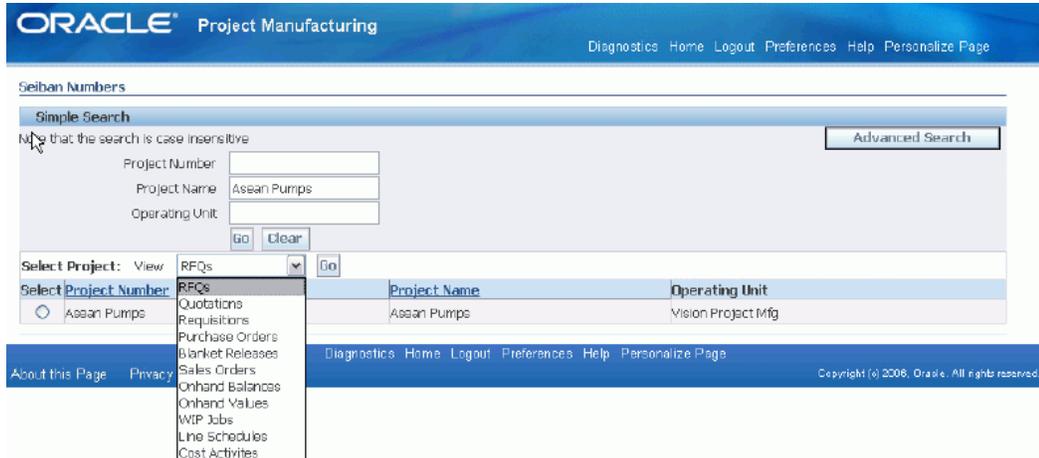
Related Topics

Project Manufacturing Column Details, page 18-8

Project Manufacturing Column Details

You can view the column details for each specific project or task in the Project Manufacturing Inquiry. The following is a list of the column details:

• Expenditures and Commitments, page 18-8

• Purchase Orders and Requisitions, page 18-9

• WIP Jobs, page 18-12

• Sales Orders and Onhand Values , page 18-15

• Line Schedules, page 18-18

• Cost Activity , page 18-19

Expenditures and Commitments

To view expenditures for a project

• Select Expenditures from the view list in the Project Details page and click Go.

The following information is displayed: task number, expenditure type, expenditure category, revenue category code, expenditure organization, and expenditure item date. When you select a task number, you can view the following

details: project functional currency code, burdened cost, accrued revenue, bill amount, quantity, UOM, project currency code, project burdened cost, project raw revenue, project bill amount, non labor resource, non labor resource organization, bill transaction currency code, bill transaction, bill amount, supplier name, employee name employee number, and job name.

To view project commitments

- Select Commitments in the view list in the Project Details page for the selected project.

  The following information is displayed: task number, task name, commitment number, expenditure type, expenditure organization, commitment date, commitment type, and supplier. When you select a specific task number you can view, task name, commitment line number, quantity, UOM, project currency code, commitment amount, burdened cost, requester, buyer, need by date, promised date, approved, approved date, denom currency code, denom raw cost, denom burdened cost, account currency code, account raw cost, account burdened cost, account rate date, account rate type, account exchange rate, receipt currency code, receipt currency amount, receipt exchange rate, project rate date, project rate type, project exchange rate, transaction source, commitment rejection code, and description.

Purchase Orders, Requisitions, Quotations, RFQs, and Blanket Releases

The following steps describe how to view purchase orders, project requisitions, quotations, and blanket release details in the Project Manufacturing/Seiban Inquiry.

To view purchase orders:

1. Select Purchase Orders in the view list in the Project/Task/Seiban Numbers details page.

   Purchase order summary includes the following information for each project purchase order: PO number, item number, document type, order date, amount, and currency. The purchase order summary lines also display the amounts at the PO Line number, Shipment number, and the Distribution number. When you select a PO number, you can view details relating to currency, status, revision number, revised date, supplier, supplier site, ship-to location, ship via, freight term, FOB, buyer, bill to location, payment term, item description, and unit number.

To view project requisitions:

1. Select Requisitions from the view list in the Project/Task/Seiban Numbers details page.

   The following information is displayed: requisition number, item number, creation date, type, approval status, total, and currency. Select a requisition number to view the following details: description, approver, closed, cancelled, preparer, item description, and unit number.

To view project quotations:

1. Select Quotations from the view list in the Project/Task/Seiban Numbers details page.

   The following information is displayed: quotation number, quotation type, quotation class, quotation status, and RFQ number. Select a quotation number to view details on effective date, expiration date, supplier, and buyer.

To view project RFQs:

1. Select RFQs from the view list in the Project/Task/Seiban Numbers details page.

   The following information is displayed: RFQ number, status, buyer, reply date, and close date.

To view project blanket releases:

1. Select Blanket Releases in the Project/Task/Seiban Numbers details page.

The following information is displayed: PO number, release number, item number, document type, order date, amount, and currency. The summary lines also display the amounts at the PO Line/Shipment/Distribution level. Select a PO number to view details on status, closure status, revision number, revised date, printed date, supplier, supplier contact, supplier site, ship-to-location, ship via, freight terms, FOB, buyer, bill-to-location, payment terms, item description, and unit number.

WIP Jobs

To view project WIP jobs:

1. Select WIP Jobs in the Project/Task/Seiban Numbers details page.

The following information is displayed for each WIP job: Job Name, Job Class, Job Status, Organization Name, Assembly, Start date, Job description, , Assembly Description, Unit Number, Completion Date, Start Quantity, UOM, Quantity Completed, Quantity Remaining, Quantity Scrapped, and BOM Revision.

2. You can view the desired details for each WIP job by selecting the operations and the components view in the page.

To view project components:

1. Click View Components in the project WIP Jobs page and select an item.

The following information is displayed: item, primary UOM, operation sequence number, WIP supply type, supply subinventory, supply locator, item description, department code, component serial, comments, quantity per assembly, required quantity, quantity issued, and quantity open.

To view operations for a project:

1. Click View Operations in the project WIP Jobs page and select an operation sequence number.

The following information is displayed: operation sequence number, operation code, department code, description, scheduled quantity, quantity rejected, quantity scrapped, quantity completed, description, quantity in queue, quantity running, quantity waiting to move, first unit start date, first unit completion date, last unit start date, last unit completion date, previous operation sequence number, next operation sequence number, count point type, count point, autocharge, backflush, minimum transfer quantity, and date last moved.

2. Select View Operation Components to view the list of components at the selected operation.

The following information is displayed: item, primary UOM, operation sequence number, WIP supply type, supply subinventory, supply locator, item description, department code, component serial, comments, quantity per assembly, required quantity, quantity issued, and quantity open

Sales Orders and Onhand Availability

The following procedures describe how to view sales orders and onhand availability.

To view onhand balances for your project:

1. Select Onhand Balances for your project in the Project/Task/Seiban Number details page.

Onhand balances are displayed by organization, by item, by subinventory and by locator for each project. The following information is displayed: organization name, item, item description, subinventory, locator, primary UOM, and total onhand quantity.

To view project sales orders:

1. Go to Sales Orders in the Project/Task/Seiban Numbers details page for the selected project and choose an order number.

The following information is displayed: order number, item number, order category, order type, order amount, order currency, order date, request date, PO number, freight terms, payment terms, customer number, customer name, cancelled flag, ship to location, ship method, ship priority, allow partial ship, bill to location, tax exempt, item description, and unit number.

To view project onhand values:

1. Select Onhand Values for a project in the Project/Task/Seiban Numbers details page and select an item.

Onhand values are displayed based on item, organization and cost group. The following information is displayed: item number, organization name, cost group, quantity onhand, unit cost, extended inventory value, currency, cost group description, extended material value, total material overhead value, extended resource value, total outside processing value, and extended overhead value.

Extended value is calculated as follows:

extended inventory value = quantity onhand * unit cost

You can see the extended value of each of the cost elements as extended material value, extended material overhead value, extended resource value, extended outside processing value, and extended overhead value.

To access the cost history details of an item, click on an item to view the Item Cost History page. Select a transaction and access the cost history details of the transaction which include: transaction costed date, transaction date, prior costed quantity, primary quantity, new quantity, transaction type, cost change, actual cost, actual material, actual material overhead, actual resource, actual overhead, prior cost, prior material, prior material overhead, prior resource, prior overhead, new cost, new material, new material overhead, new resource, and new overhead.

Line Schedules

To view project line schedules:

1. Select Line Schedules from the list in the Project/Task/Seiban Numbers details page. The following information is displayed: line, planned quantity, quantity completed, and variance quantity.

2. Select the line to view the following item information: includes line, item number, planned quantity, quantity completed, and variance quantity.

3. You can access the detailed, daily and weekly line schedules for each line in the Schedule Items window.

To view line schedule details:

1. Select Detail for the selected line schedule.

   The following information is displayed: line, project number, task number, source, schedule number, item number, start date, completion date, planned quantity, quantity completed, and variance quantity.

To view the daily schedule:

1. Select Daily button for the selected line schedule.

   The following information is displayed: line, item number, scheduled date, planned quantity, quantity completed, and variance quantity.

To view the weekly schedule:

1.   Select Weekly for the selected line schedule.

     The following information is displayed: line, item number, scheduled date, planned quantity, quantity completed, and variance quantity.

     You can use OA Personalization to customize the columns displayed on Project Manufacturing Inquiry. You can change/customize column prompts and display sequences also.

     > **Note:** Check with the system administrator for more information on changing/customizing columns

     The PJM Inquiry utilizes the views which were designed for Oracle Projects Discoverer Workbooks. All amount columns are from the PA_RPT_PRJ_SUMMARY view. Project attributes are from the PA_PROJECTS_ALL table.

     All amounts are based on the current Projects reporting period. Although this period is not shown on the PJM Inquiry, the amounts are based on the most recent summarization of the current reporting period.

     Note that the Expenditure Drill may not foot with the project summary amounts due to the fact that the Expenditure Drill contains all expenditure items, including those that may not be summarized.

Cost Activity

The Cost Activity Workbench summarizes manufacturing costs by element according to task or project. It provides a tool for summarizing manufacturing costs for a project to facilitate reconciliation with cost in Oracle Projects. Using this Workbench, you can see project totals at the cost element level for on-hand inventory, work-in-process, and sales order issues as well as project and cost group variances and standard and average cost update amounts. You can access details that comprise the totals displayed on the Workbench. For example, you can see a listing of WIP jobs that comprise the WIP Value, items that comprise the onhand value, sales orders that comprise the sales order issues, and purchase orders that comprise the purchase price variance. Note that sales order issues are added back into the total on the Workbench to reflect total incurred manufacturing cost (not inventory balance) to match the cost held in Oracle Projects. Cost Group level variances, such as Average and Standard Cost Updates, are not passed to Oracle Projects. These adjustments are included in a separate section of the Workbench for easy identification in reconciling cost between Manufacturing and Oracle Projects.

Viewing Project Cost Activities

To view project cost activity:

1. Select Cost Activities from the list on the Project/Seiban Numbers details page.

   The Cost Activity workbench displays the cost accounts for the project. You can view the details for each cost source. The displayed information is as follows:

- Cost Source-The costing source such as the WIP Value Summary, WIP Variance, Purchase Price Variance, Sales Order Issues, Project Level Variances, and Onhand Value. Select a source summary, you can see the individual details such as item value.

- Material- The raw material/component cost at the lowest level of the bill of material determined from the unit cost of the component item

- Material Overhead-The overhead cost of material, calculated as a percentage of the total cost, or as a fixed charge per item, lot, or activity. You can use material overhead for any costs attributed to direct material costs. If you use Work in Process, you can also apply material overhead at the assembly level using a variety of allocation charge methods.

- Resource- Direct costs, such as people (labor), machines, space, or miscellaneous charges, required to manufacture products. Resources can be calculated as the standard resource rate times the standard units on the routing, per operation, or as a fixed charge per item or lot passing through an operation

- Outside Processing-This is the cost of outside processing purchased from a supplier. Outside processing may be a fixed charge per item or lot processed, a fixed amount per outside processing resource unit, or the standard resource rate times the standard units on the routing operation. To implement outside processing costs, you must define a routing operation, and use an outside processing resource.

- Overhead- The overhead cost of resource and outside processing, calculated as a percentage of the resource or outside processing cost, as a fixed amount per resource unit, or as a fixed charge per item or lot passing through an operation. Overhead is used as a means to allocate department costs or activities. For example, you can define multiple overhead sub-elements to cover both fixed and variable overhead, each with its own rate. You can assign multiple overhead sub-elements to a single department, and vice versa.

- Total-The total of the cost elements for the cost source.

Related Topics

Viewing Project Details, page 18-2

Cost Structure, *Oracle Cost Management User's Guide*

Profile Options, *Oracle Projects Implementation Guide*

19

Model/Unit Effectivity

This chapter covers the following topics:

- Overview
- Model/Unit Effectivity - Example
- Multiple Model/Unit Number Ranges for the Same End Item
- Model/Unit Effectivity - Setup
- Model/Unit Effectivity Features in Oracle Project Manufacturing
- Generate and Maintain Model/Unit Numbers
- Bills of Material for Model/Unit Effective items
- Engineering Change Orders for Model/Unit Effective Items
- Order Management for Model/Unit Effective Items
- Planning of Model/Unit Effective Items
- Procurement of Model/Unit Effective Items
- Store, Track, and Manage Inventory of Model/Unit Effective Items
- WIP Features for Model/Unit Numbers
- Flow Manufacturing Support for Model/Unit Numbers
- Shipping of Model/Unit Effective Items
- Implementation Notes

Overview

This chapter explains the Model/Unit Effectivity feature of Oracle Project Manufacturing. It describes the setup steps for using model/unit numbers in manufacturing, the definition of model/unit numbers for items and the use of model/unit numbers in order management, planning, engineering, procurement, and production.

Model/Unit Effectivity, also known as end item serial effectivity or just serial effectivity, is a technique employed by many highly configured or make-to-order or engineer-to-order manufacturing organizations to control the effectivity of changes to bills of material and routings. By specifying a model/unit number as the effectivity, the company is cutting-in a particular change at a specific deliverable end item. The change can be effective for only one model/unit number of the product family or for a contiguous block of model/unit numbers. This technique does not use date to control effectivity and thus provides customers who engineer and manufacture long lead time products a convenient way to specify engineering changes. This change can occur at any level in the bill of material structure of the end item.

By using model/unit effectivity, the organization has many versions of the same end item part number. In order to identify a model/unit effective item, the item number by itself is insufficient. The unique identity of the item is a combination of the item number and the model/unit number of the end item.

You must be a licensed user of Oracle Project Manufacturing in order to use the model/unit effectivity features in any Oracle applications.

> **Note:** A model/unit number in this document is synonymous with the term Unit Number which appears on various windows in Oracle Applications.

Model/Unit Effectivity - Example

The bill shown in the figure provides an example of using model/unit effectivity for defining item configurations. Shaded boxes for the items represent a model/unit effective item. All other items are date effective.

Model/Unit Effective Bill for F-90 Jet effective for Unit Numbers F90-01 to F90-10
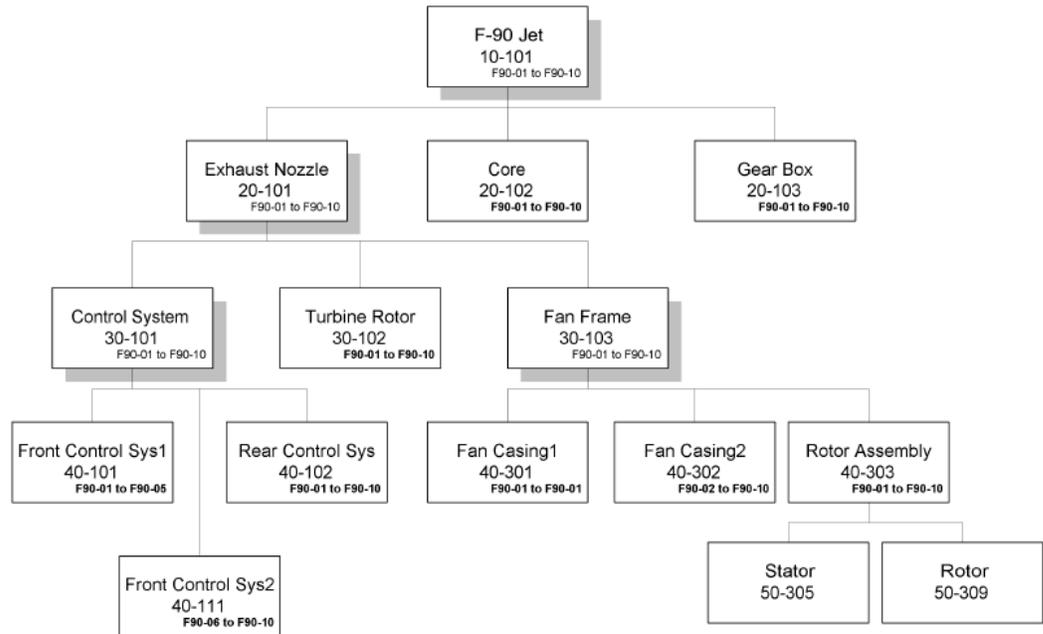
Components of a model/unit effective item can be defined to be effective for a single model/unit number (for example, Fan Casing1 40-301) or it could be defined to be effective for a range of model/unit numbers (for example, Fan Casing2 40-302)

> **Note:** Note the following in the above bill of material definition:
>
> • Model/unit effective items can have date effective items or other model/unit effective items as components. For example, F-90 Jet (10-101) has both date effective (20-102 and 20-103) and model/unit effective (20-101) items as its components.
>
> • All components in the bill of a model/unit effective item must be effective for a single model/unit number or for a range of model/unit numbers. This is also true for date effective components of model/unit effective assemblies. For example, even though Core (20-101) is a date effective item, you must specify a model/unit number when the item appears on the bill of a model/unit effective parent, F-90 Jet (10-101).
>
> • Bills for date effective assemblies cannot have unit effective components and you cannot enter model/unit effectivity on these bills. For example, Rotor Assembly (40-303) is a date effective component in the bill of model/unit effective item Fan Frame (30-103). The bill of Rotor Assembly can have only date effective items

as its components and you cannot specify model/unit numbers on the bill.

Explosion of an end item with a specific unit number yields different configurations of the same end item.

The following figure shows the configuration for F-90 Jet (Item Number 10-101) with a model/unit number F90-01.

Bill of Material for F-90 Jet for Unit Number F90-01
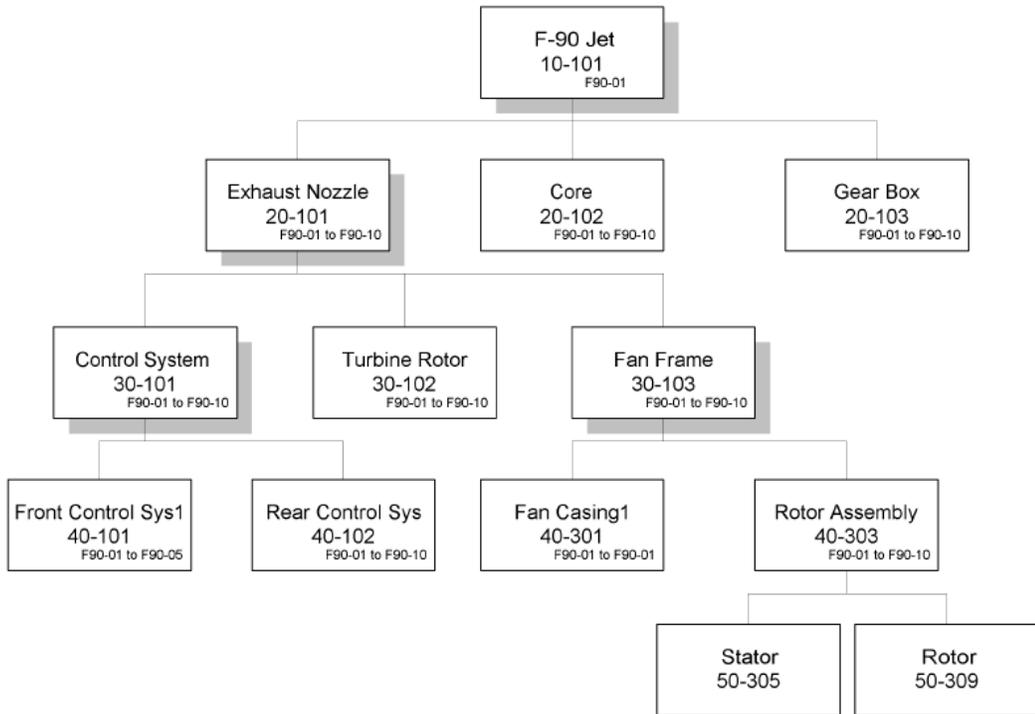
The configuration for a model/unit number of F90-06 is shown in Figure 14-3.

Bill of Material for F-90 Jet for Unit Number F90-06
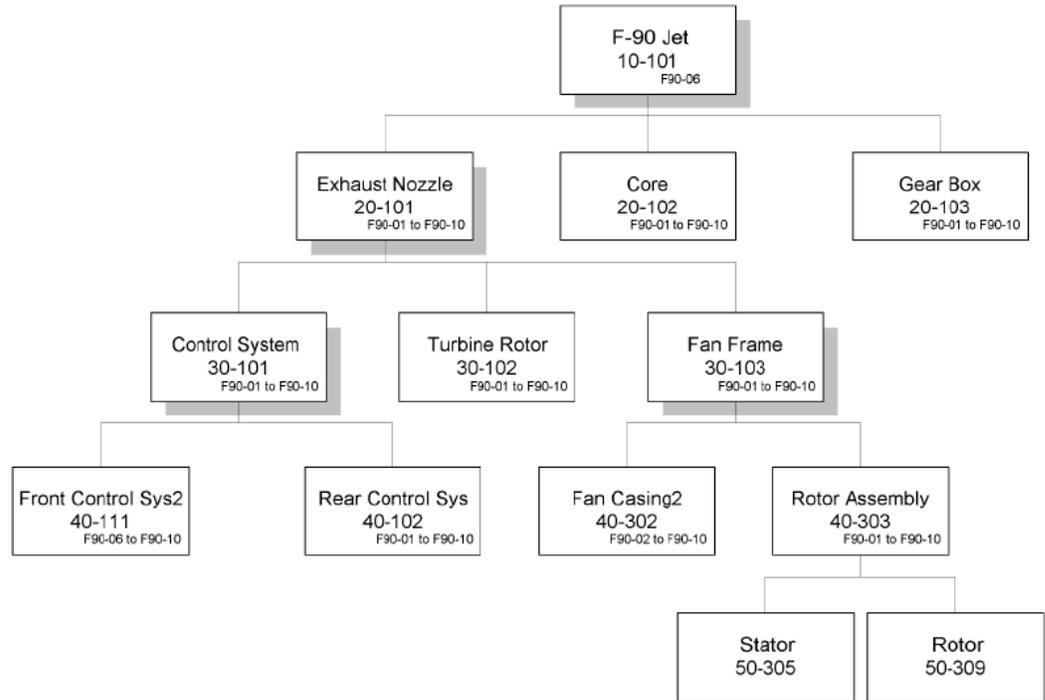
Multiple Model/Unit Number Ranges for the Same End Item

The prior example illustrates a single range of model/unit number (F90-01 to F90-10) to be effective for the end item 10-101, F-90 Jet, which is the most common configuration practice in the industry. You may also use multiple model/unit number ranges to be effective for the same end item. The following example illustrates how it can be accomplished.

> **Note:** You can simplify your configuration process if you associate a different end item number or revision number with a different model/unit number range instead.

The following figure illustrates a graphical bill of a F97 jet (item number 10-110) defined for model/unit number range from F97A-01 to F97A-10, and another bill of the same end item F-97 for model/unit number range from F97B-01 to F97B-10. Again, all shaded boxes indicate that items are under model/unit effectivity control. Boxes without shading indicate that items are under date effectivity.

Model/Unit Effective Bill for F-97 Jet effective for Unit Numbers F97A-01 to F97A-10
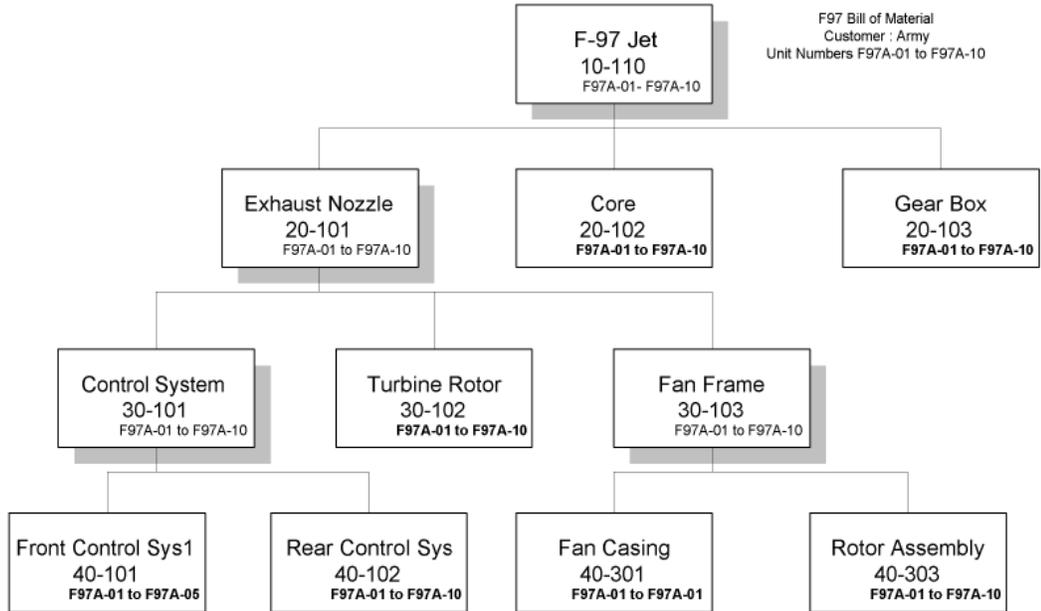
Model/Unit Effective Bill for F-97 Jet effective for Unit Numbers F97B-01 to F97B-10
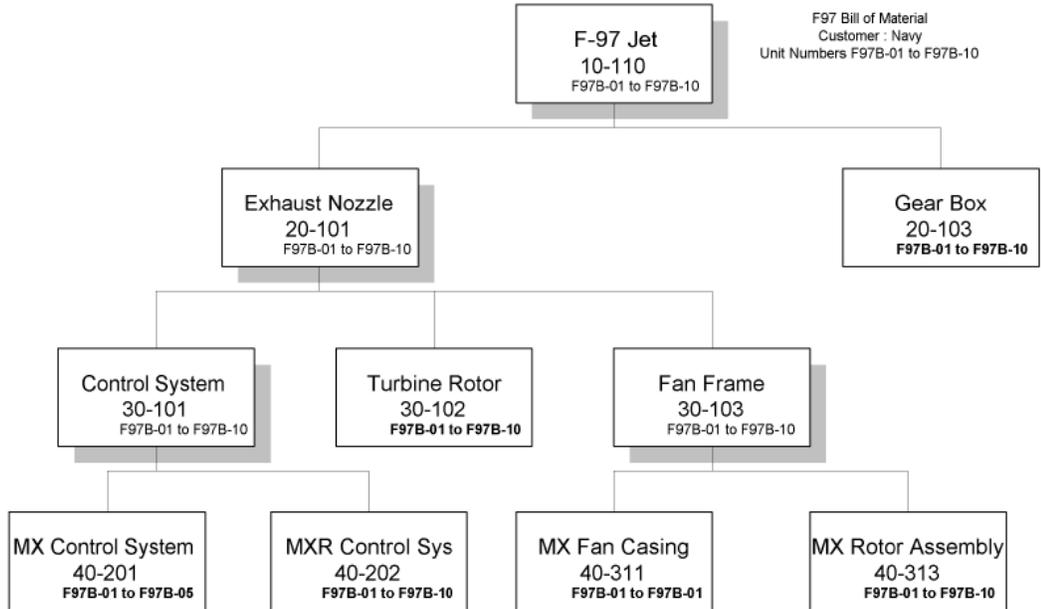
Model/Unit Effectivity - Setup

This section discusses the setup of Model/Unit Effectivity.

Prerequisite

The only prerequisite for using model/unit effectivity features is that Oracle Project Manufacturing must be installed. Oracle Projects is not required for using model/unit effectivity.

Set Project Manufacturing Parameter - Allow Cross Unit Number Issues (Optional)

Unit effective components effective for one end item model/unit number can be issued to a WIP Job for an assembly with a different model/unit number if the Allow Cross Unit Number Issues checkbox is checked in the Project Manufacturing Parameters window

This is an optional setup step and as a default, the checkbox is not checked.

Related Topics

Project Manufacturing Organization Parameters, *Oracle Project Manufacturing User's Guide*

Model/Unit Effectivity Features in Oracle Project Manufacturing

The following sections explain the model/unit effectivity specific features across all modules of Oracle Manufacturing. For more details on the base functionality for the features, refer to the respective product documentation.

Defining Model/Unit Effective items

Model/Unit effective items must be under Serial Control. The following two item attributes are important for model/unit effective items.

Serial Generation

The Serial Generation item attribute under the Inventory attribute group should be set to either Predefined or At Receipt for an item that is under model/unit effectivity control.

Effectivity Control

The Effectivity Control item attribute under the Bills of Material attribute group should be set to Model/Unit Number. You cannot have items that are both model/unit effective and date effective at the same time. This item attribute can be set only at the master level.
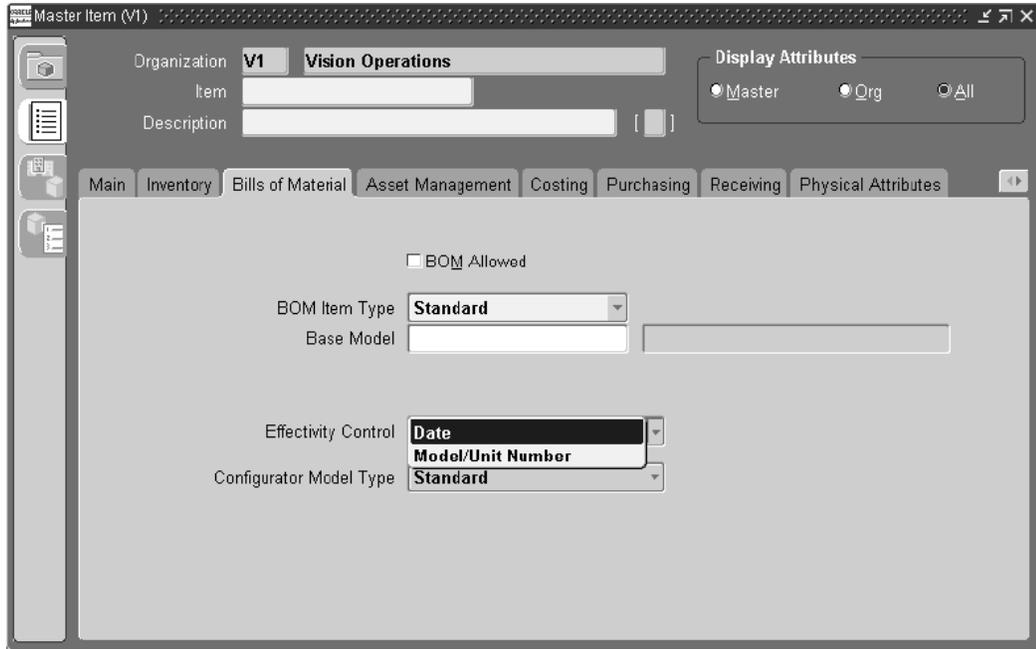
> **Note:** Make sure that you choose the appropriate item attributes for model/unit effective items.

- ATP check for model/unit effective items is done at the item level. Model/unit numbers are ignored during an ATP check. The Allow ATP item attribute check box should not be checked for model/unit effective items.

- ATO/PTO items cannot be model/unit effective.

- You cannot change the Effectivity Control item attribute from Model/Unit Effectivity to Date Effectivity if you have on hand quantity for the item or if you have a bill defined for the item or if the item is a component of some other Bill.

- You can have phantom items that are model/unit effectivity controlled. The same rules as other model/unit effective items that apply for bill definition apply for model/unit effective phantom items.

Related Topics

Item Attribute Description by Group, *Oracle Inventory User's Guide*

Generate and Maintain Model/Unit Numbers

This section discussing generating and maintaining Model/Unit Numbers

Generate Model/Unit Numbers

The Generate Model/Unit Numbers concurrent request allows you to create model/unit numbers associated with a specific End Item Number. The model/unit number is a alpha-numeric field consisting of two parts

• an alpha-numeric prefix

• a number.

In situations where the model/unit number is composed of a model number and a number, the prefix serves as a model number and the number corresponds to the numeric portion. The two parts are concatenated and serve as a single model/unit number for all manufacturing transactions. All the List of Values for unit number display this concatenated model/unit number.

If the start and end numbers specified on the concurrent request have different number of digits, the smaller numbers are padded with zeros as shown in the following table.

Prefix	Starting Number	Count	Resulting Unit Numbers
A	1	10	A01--A10
A	1	100	A001 - A100
A0	1	10	A001 - A010
A	-	9	A1 - A9

If you generate model/unit numbers from A1 to A10 as described in the first example above, and subsequently requests generation of model/unit numbers from A1 to A100, the system does not re-generate the overlapping model/unit numbers. In this case the new request generates model/unit numbers from A11 through A100.

Model/unit numbers are unique across all items and organizations.

Maintain Model/Unit Numbers

You can maintain model/unit numbers using the End Item Model/Unit Numbers window in Project Manufacturing. For a specified end assembly, you can add

comments against individual model/unit numbers or you can define a new model/unit number. You cannot update, delete, or disable previously created model/unit numbers.

Bills of Material for Model/Unit Effective items

This section discusses details of Model/Unit Effective items within Bills of Material.

Define Model/Unit Effective Bills of Material

Users can have model/unit effective items at any level within the Bill of Material structure. The bill definition for model/unit effective items is governed by the following general rules:

•   A model/unit effective item can either have another model/unit effective or a date effective item as its component

•   A Date effective item cannot have a model/unit effective item as its component.

These general rules apply within the usual framework provided by Oracle Bills of Material.

All component items, including date effective component, within the bill of a model/unit effective item should be specified with valid model/unit numbers. You can define components of a model/unit effective item as effective for a single model/unit number or effective for a range of model/unit numbers.

You can enter the components as effective for any model/unit number that has been generated using the Generate Model/Unit Numbers concurrent request. It is not necessary that the model/unit number entered on the Bill of Material for an assembly be generated for that assembly.

Bills of Material for model/unit effective items can be copied with model/unit numbers.

View Model/Unit Effective Bills of Material

You can view Bills for model/unit effective items using the Bills of Material window or the Indented Bills window. If you are using the Indented Bills window to view the bill for a model/unit effective assembly, you can also specify a range of Unit Numbers for which you want to view the Indented Bills of Material.

You can choose to view the bill using the All, Current, and Current and Future option filters. For model/unit effectivity controlled items, the Current, and Current and Future filters show only the active components while the All filter includes the disabled components of unit effective bills as well.

The Unit Effectivity tab of the components region includes a new checkbox Disabled, which identifies the status of the unit effective component. This checkbox in the Bills of Material window can be updated only if the bill is for a model/unit effective item. The checkbox cannot be updated if the component is already disabled or if the component has pending engineering change orders (ECOs).

Routings for Model/Unit Effective Items

You cannot specify routings for model/unit effective items. Routings are currently defined at the item level. All the model/unit numbers for a given item have the same primary routing as defined for the item. However, you may define and use alternate routings if necessary.

Lead Time Roll-Up for Model/Unit Effective Items

You can also specify model/unit number at the time of Lead Time Rollup. The lead times rolled up from routings for different model/unit numbers do not vary because routings by model/unit number are not supported.
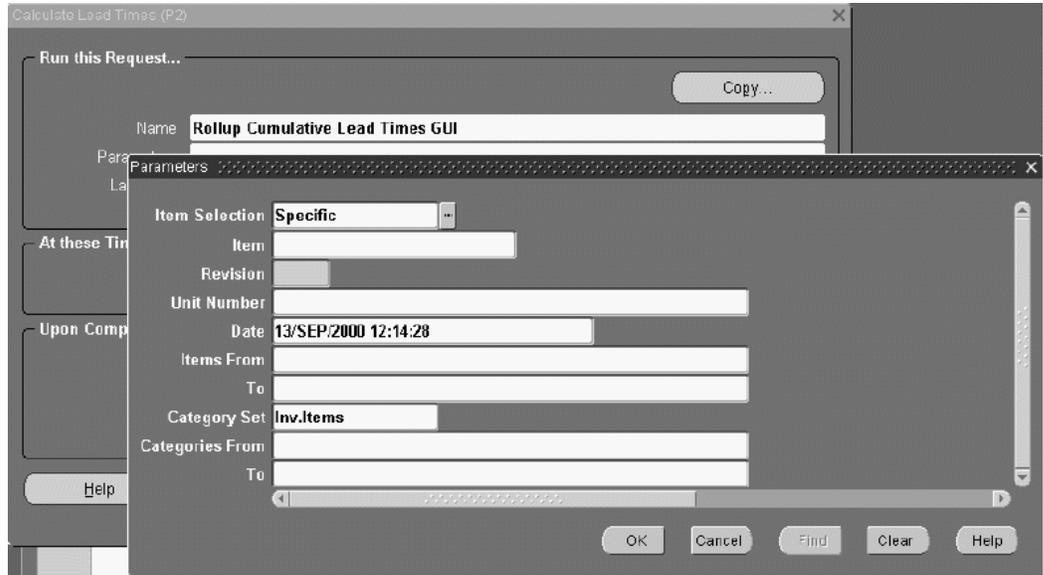
Bills of Material Open Interfaces

BOM open interfaces do not provide support for model/unit numbers.

Related Topics

Defining BOM, *Oracle Bills of Material User's Guide*

Engineering Change Orders for Model/Unit Effective Items

Users can create Engineering Change Orders for model/unit effective items.
Engineering change orders for a model/unit effective item can be effective for a single
model/unit number or for a range of valid model/unit numbers.

Revised Items Window

In order to specify an ECO effective for a range of model/unit numbers, the From Unit Number field is populated in the Revised Items window of the Engineering Change Orders window and the To Unit Number is specified in the Revised Components window of the window.

Revised Components Window

If the ECO is effective for the entire range of unit numbers as specified in the bill of material and is updating or disabling the usage of the component, the disabled check box on the bill is automatically checked for the component.

Scheduling Engineering Change Orders for Model/Unit Effective Items

You cannot specify an effective date on the ECO for a model/unit effective item. However, you can schedule ECOs for model/unit effective items using the Reschedule menu option from the Tools drop down menu. The scheduled ECOs are not auto-implemented, and you have to manually implement the ECOs.

Note that all pending ECOs for model/unit effective items are considered by MRP/Supply Chain Planning for determining component requirements if the MRP Active checkbox on the ECO is checked.

ECOs for model/unit effective items change the WIP material requirements. Mass changes to bills are not supported for model/unit effective items.

Changing Component Usage for a Partial Range of Model/Unit Numbers

You can create engineering change orders to be effective for a single model/unit number or for a range of model/unit numbers. If you change item usage for a partial range of model/unit numbers, you must create additional ECOs or manually update the bill of material of the assembly. However, if the engineering change order changes the entire

unit number range as it appears on the bill or if it affects the tail end of the unit number range in the bill, you do not need to create additional ECOs. The following example illustrates the various cases involving ECOs for a partial range of model/unit numbers.

Examples of ECOs for Model/Unit Effective Assembles

Case A: ECO changing the tail end of the range of unit of numbers

Action	Component	From Line Number	To Line Number	Quantity
Change	MU001	U007	U010	1 Each

Case B: ECO changing the intermediate range of unit of numbers

Action	Component	From Line Number	To Line Number	Quantity
Change	MU001	U005	U007	1 Each

Action	Component	From Line Number	To Line Number	Quantity
Add	MU001	U008	U010	1 Each

Case C: ECO changing the first range of unit of numbers

Action	Component	From Line Number	To Line Number	Quantity
Change	MU001	U001	U007	1 Each

Action	Component	From Line Number	To Line Number	Quantity
Add	MU001	U004	U010	1 Each

Original Bills of Material

Component	From Line Number	To Line Number	Quantity
MU001	U001	U010	1 Each

Additional Bills of Material

Component	From Line Number	To Line Number	Quantity
MU001	U001	U006	1 Each
MU001	U007	U010	1 Each

Component	From Line Number	To Line Number	Quantity
MU001	U001	U004	1 Each
MU001	U005	U007	1 Each
MU001	U008	U010	1 Each

Component	From Line Number	To Line Number	Quantity
MU001	U001	U007	1 Each
MU001	U008	U010	1 Each

In case A, the ECO is effective for Unit Numbers U007 to U010 (tail end of the range). Here the ECO for changing the usage of the component from 1-each to 2-each result in a bill as shown against the ECO. No additional changes are required.

On the other hand, in case B, the ECO is effective for an intermediate range of unit numbers (unit numbers U005 to U007). In such a case, you must create an additional ECO adding the same component for unit number U008 through U010. If the second ECO is not created, the effectivity of the components for unit numbers U008 through U010 are lost. This also applies if you create an ECO effective for a single intermediate unit number.

Similarly, for case C, you must create an additional ECO effective for unit numbers U004 to U010, if you intend to retain the effectivity of component MU001 for these unit numbers. As with case B, this also applies if you create an ECO changing the usage of the first unit number in the range.

> **Note:** You can manually update the bill of material for the model/unit effective assembly in the above cases. It is not necessary to create additional engineering change orders. This should be enforced as a user procedure when engineering change orders are created for model/unit effective items.

Disabling Components with Engineering Change Orders

You can disable components in the bill of material of a model/unit effective item. If the ECO is effective for an entire range of model/unit numbers as specified on the BOM, the original row in the bill is disabled. When you disable the usage of a component, the To

Unit Number from the bill of material defaults to the To Unit Number column of the ECO. You cannot change the To Unit Number when you are disabling a component via a ECO.

Order Management for Model/Unit Effective Items

This section describes Model/Unit Effective Items within Order Management.

Model/Unit Numbers on Sales Orders

For a model/unit effective item, you are required to enter a Unit Number on the sales order line (Other tab on the sales order entry window). The default behavior allows you to enter any valid model/unit number.

Sales orders cannot be entered for a range of model/unit numbers. Separate sales order lines for each model/unit number should be created if sales orders for a range of unit numbers need to be entered.

You can use model/unit effective items and date effective items on the same sales order. Model/unit numbers for ATO/PTO items are not supported.

Restricting Model/Unit Numbers at the Time of Sales Order Entry

You can restrict the list of values for Unit Numbers at the time of order entry using the extensible model/unit effectivity Demand Validation API. This API accepts the Order Category (regular orders versus internal orders), Item, Warehouse, and Unit Number as parameters and allows users to embed any validation logic as appropriate according to your unique business requirements.

See Also:

Oracle Project Manufacturing Technical Reference Manual

Drop Shipment Support for Model/Unit Effective Items

Drop shipment functionality for model/unit effective items is similar to the functionality for date effective items. The purchase requisitions created from a sales order carry the model/unit number specified on the sales order. The purchase order and the subsequent receiving transactions use the model/unit numbers as entered on the sales order.

Order Import for Model/Unit Effective Items

The Import Orders concurrent request imports model/unit numbers on sales orders. Internal sales orders created after running the Create Internal Sales Order concurrent request in Oracle Purchasing is imported with the model/unit number information.

Return Material Authorizations with Model/Unit Numbers

Return Material Authorizations (RMAs) with model/unit numbers are also supported. The behavior of RMA receipts for Model/Unit effective items is the same as serial controlled items.

Planning of Model/Unit Effective Items

This section discusses the planning of Model/Unit Effective Items.

MDS/MPS Entries with Model/Unit Numbers

You specify a valid model/unit number on a master demand schedule or a master production schedule entry for a model/unit effective item. You cannot specify a range of model/unit numbers on a MDS or MPS entry.

Load/Copy/Merge schedules with Model/Unit Numbers

Loading a master demand schedule or a master planning schedule from sales orders also loads the model/unit number information for the item along with the other requisite details. The model/unit information is also retained during copying or merging two schedules.

Netting by Model/Unit Numbers

Netting of supply and demand is handled by model/unit numbers for model/unit effective items. This netting follows the existing Project MRP netting logic and takes into account the item pegging attribute (hard and soft pegging), reservation level, and the hard pegging level plan options.

> **Note:** Pending ECOs for model/unit effective items is considered by MRP/Supply Chain Planning for determining component requirements, if the MRP Active checkbox on the ECO is checked.

Planner Workbench Features for Model/Unit Effective Items

The MRP/Supply Chain Planning Planner Workbench for MRP and MPS plans provides useful features for the planner to view, manage, and implement material plans for model/unit effective items. These features are:

- Supply/Demand can be searched for by model/unit number. Planners can search for supply and/or demand by model/unit number. The Find windows provide Unit Number as one of the search criteria for finding model/unit specific supply or demand.

- Model/unit number is displayed on the Planner Workbench: For model/unit effective items, the model/unit number is displayed on the Planner Workbench for both supply and demand records. The Unit Number column is a part of the folder window for the Planner Workbench. The Show Field option in the Folder Tools displays the model/unit number if it is not already displayed on the Planner Workbench.
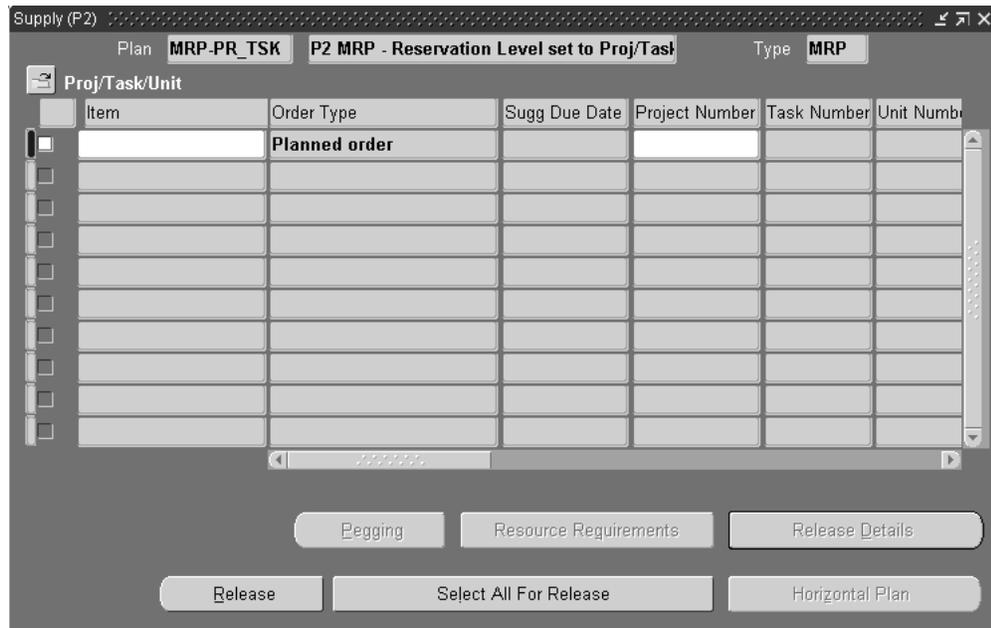
- Items window displays the Effectivity Control item attribute.

- Unit Number is displayed on the Implement Property Sheet.

- The pegging object navigator shows model/unit numbers.

- On-hand quantity is displayed by model/unit number.

Release Planned Orders with Model/Unit Numbers

Planned orders released from the MRP/Supply Chain Planning Planner Workbench carry the model/unit numbers on them. These planned orders, when converted into purchase requisitions or discrete WIP jobs, carry the corresponding model/unit numbers. The implement property sheet displays the model/unit number for the planned orders.

You can change the model/unit number on the Implement Property Sheet, if you to have a different model/unit number than suggested by the plan.

Order Modifiers with Model/Unit Effectivity

Order Modifiers for model/unit effective items apply at the item level and not at the model/unit number level. The planning engine suggests planned orders by model/unit number for a given model/unit effective item based on the demand. The order modifiers are then applied at the item level. If there is an excess, the excess is distributed among the various model/unit numbers in proportion to the demand for those model/unit numbers. This may result in fractional planned order quantities for model/unit effective items.

The following example illustrates the use of order modifiers for model/unit effective items.

Item: A001 Fixed Order Quantity = 30

Item	Unit Number	Demand Quantity
A001	U01	10.0
A001	U02	5.0
A001	U03	5.0

Assuming no on-hand for this item, this demand results in the Planned Orders for 10, 5, and 5 for unit numbers U01, U02 and U03 respectively. The total quantity of item A001 for which planned orders are suggested (20) based on the demand is less than the Fixed Order Quantity (30) for the item. The planning engine distributes the excess among the three unit numbers in proportion to their respective demands. It suggests additional planned orders of 5 for unit number U01, and 2.5 each for unit numbers U02 and U03 respectively. This is shown in the following table:

Item	Unit Number	Planned Order Quantity	Remarks
A001	U01	10.0	Pegged to demand
A001	U02	5.0	Pegged to demand
A001	U03	5.0	Pegged to demand

Item	Unit Number	Planned Order Quantity	Remarks
A001	U02	2.5	Excess due to order modifiers
A001	U03	2.5	Excess due to order modifiers
Total Order Quantity		30.0	Equals Fixed order Quantity

Forecast Entries for Model/Unit Effective Items

You cannot specify model/unit numbers on forecast entries.

Available to Promise for Model/Unit Effective Items

There is no ATP by model/unit numbers. ATP checks are conducted only at the item level.

Planning Open Interfaces for Model/Unit Effective Items

The Planning Open Interfaces currently do not support model/unit numbers on schedule entries.

Model/Unit Numbers on Assignment Sets in Supply Chain Planning

You cannot specify model/unit numbers while defining Assignment Sets in Supply Chain Planning.

Related Topics

Oracle MRP Supply Chain Planning User's Guide

Procurement of Model/Unit Effective Items

This section describes the procurement of Model/Unit Effective Items

Model/Unit Numbers on Purchase Requisitions

You can specify model/unit numbers on purchase requisitions. Model/unit numbers on requisitions are specified on the requisition distributions along with the project and task

information. When a purchase order is created from the requisition, the purchase order also carries the model/unit number. You must specify a valid model/unit number on the requisition for model/unit effective items.

Model/Unit Numbers on Purchase Orders

You can specify model/unit numbers on purchase orders in the PO distribution. Entering a model/unit number is mandatory for model/unit effective items. The model/unit number on a PO distribution becomes the model/unit number for the item being received.

Distributions Window
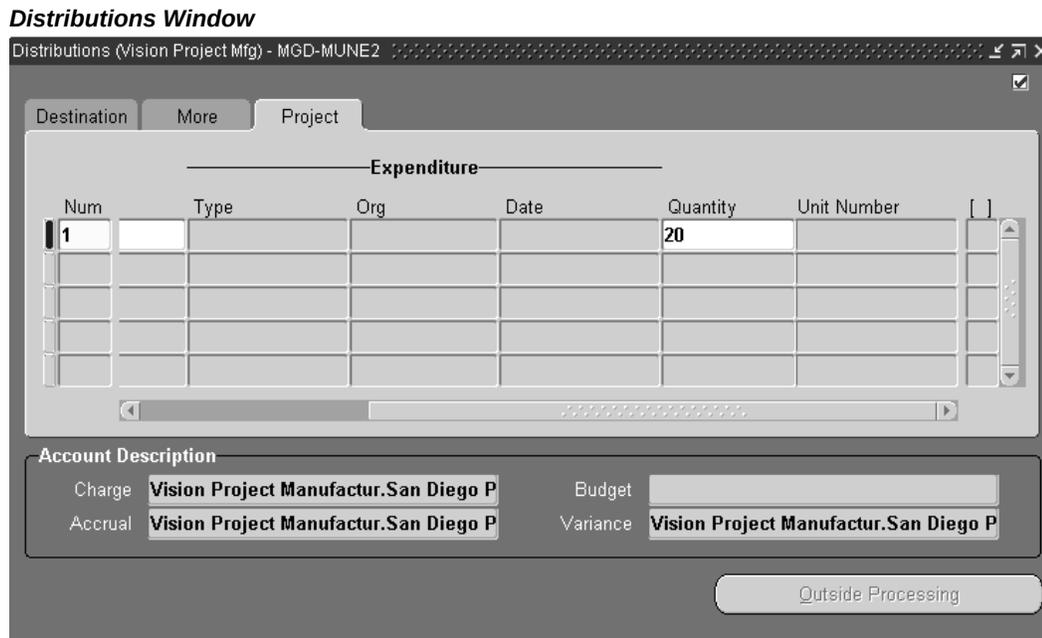
Model/Unit Numbers on Blanket Releases

You can create blanket releases for model/unit effective items by specifying model/unit number on the purchase release distribution. The blanket purchase agreement, however, is at the item level. You cannot specify model/unit number on blanket purchase agreements.

Model/Unit Numbers on RFQs and Quotes

The Request for Quote and Quotations feature does not support model/unit numbers. The model/unit number can be either be conveyed as an attachment to the RFQ or as a note to the supplier.

Model/Unit Numbers on Internal Requisitions and Internal Sales Orders

You must specify model/unit numbers on internal requisitions of model/unit effective items. The model/unit number is also carried forward to the internal sales orders created from these internal requisitions.

Store, Track, and Manage Inventory of Model/Unit Effective Items

This section describes how to store, track, and manage inventory of Model/Unit Effective Items.

Receiving Transactions for Model/Unit Effective Items

Model/unit numbers on the purchase order are automatically assigned to the items at the time of receipt. The model/unit number on the purchase order are associated with the appropriate serial numbers of the received items at receipt time. If project/task information is also specified on the purchase order/blanket release, receipt transaction should be done to the appropriate project locator. The project/task information default from the purchase order or blanket release distribution line.

Miscellaneous Receipts for Model/Unit Effective Items

You can process Miscellaneous Receipt transactions for model/unit effective items, but you cannot specify model/unit numbers on the transaction itself. After a Miscellaneous Receipt transaction, you must manually associate the model/unit number with the item serial numbers entered on the transaction in the Unit Number tab of the Serial Numbers window in Inventory.
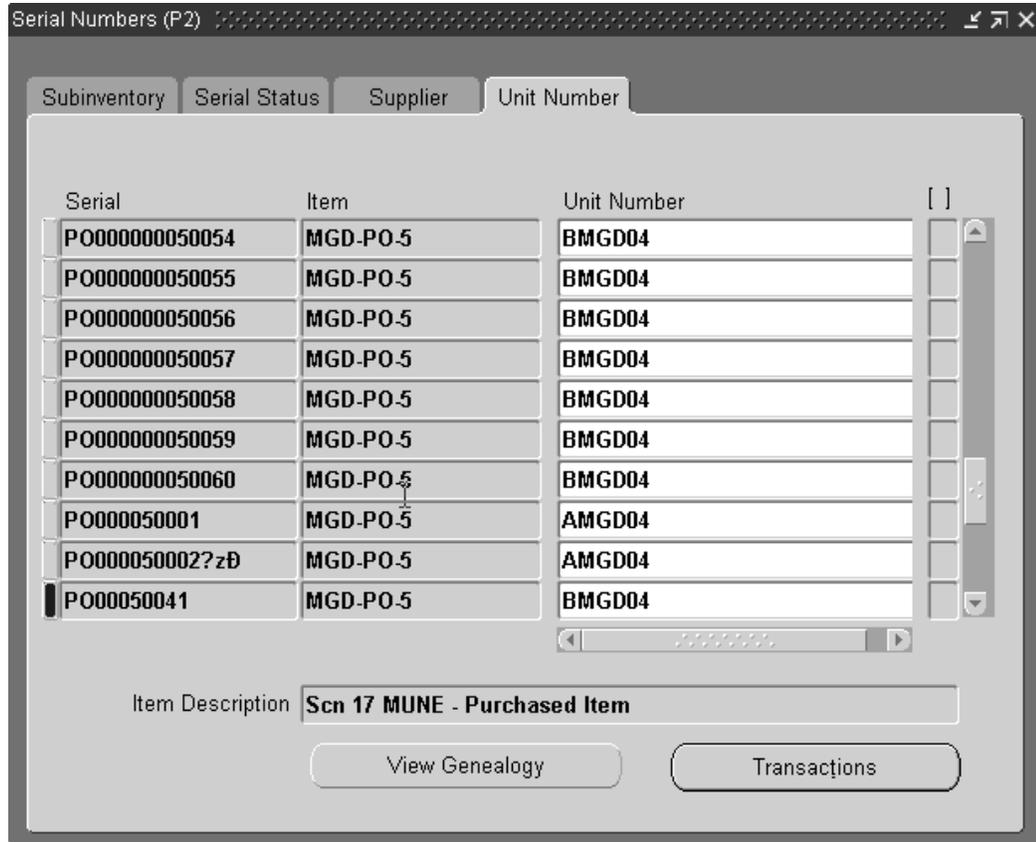
If model/unit numbers are not specified for the corresponding item serial numbers, the Unit Number field is null. If the Allow Cross Unit Number Issues checkbox is checked in the Project Manufacturing Parameters window, these serial numbers could be issued to a WIP job, and result in a loss of model/unit number information. Assigning model/unit numbers to Miscellaneous Receipt transactions should therefore be enforced as a user procedure.

Miscellaneous Issues for Model/Unit Effective Items

As with Miscellaneous Receipt transactions, you cannot specify a model/unit number on the Miscellaneous Issue transaction of model/unit effective items. The on hand for the appropriate model/unit number decrement from inventory based on the serial number information entered on the Miscellaneous Issue transaction. You must ensure that you enter the correct serial numbers for the transaction so that the appropriate model/unit numbers are transacted.

Subinventory Transfers for Model/Unit Effective Items

Subinventory transfers for model/unit effective items can be made similar to date effective items. You can process a common to common, common to project and project to project subinventory transfer for model/unit effective items and the unit number

information is maintained for the items transacted.

> **Note:** Project related subinventory transfers can be done using the
> Project Transfer Transaction Type in the Project Transfer window.

Onhand for Model/Unit Effective Items

You can view onhand quantities for model/unit effective items using the OnHand
Quantities window in Inventory. The Detailed OnHand Quantities window allows
users to display the serial numbers for the onhand quantities. The model/unit number
for the items on hand are also displayed along with the serial number information.
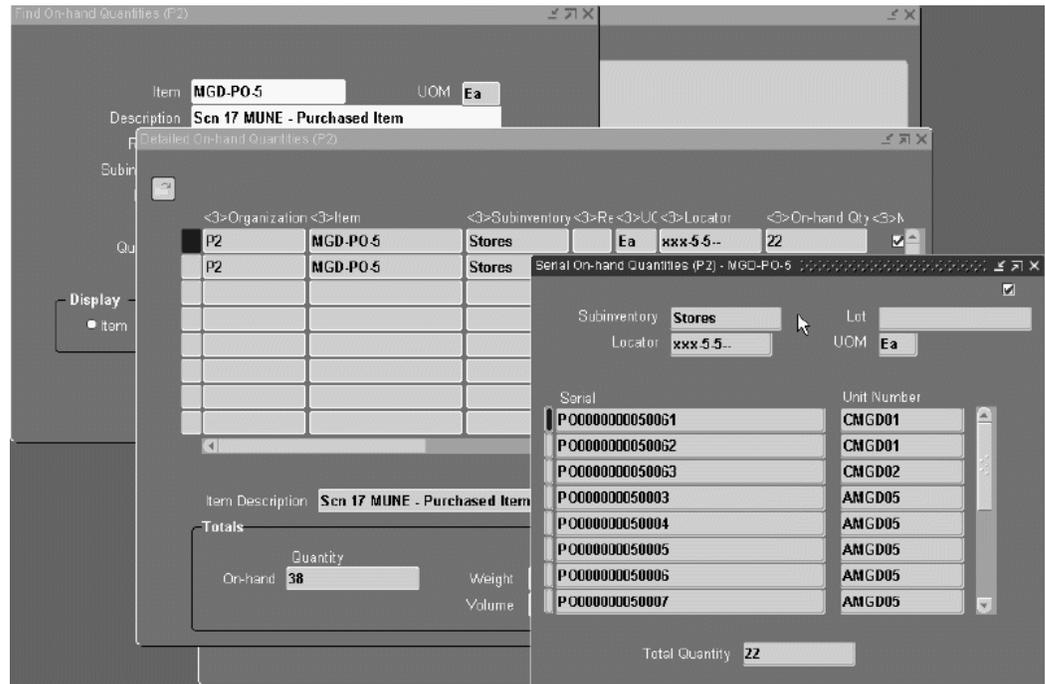
Viewing Supply/Demand for Model/Unit Effective Items in Inventory

You can only view the Item Supply/Demand information in Inventory by item number.
For model/unit effective items, the model/unit numbers are not displayed on the
window.

Transfer OnHand from One Model/Unit Number to Another

You can transfer model/unit effective items from one unit number to another by
updating the model/unit number that is associated with the serial number when the
serial number resides in stores. This is done by changing the model/unit number in the
Unit Number tab of the Serial Numbers window in Inventory. Access to this function

should be restricted by function security. The changes to model/unit numbers are captured in an audit trail.

> **Note:** The OLD_UNIT_NUMBER column in PJM_UNIT_SERIAL_HISTORY table stores the previous model/unit number for the item.

See Also:

Oracle Project Manufacturing Technical Reference Manual

Model/Unit Numbers on Intransit Shipments

Model/unit numbers are maintained for intransit shipments between two inventory organizations. When the intransit shipment is received into the destination organization, the on hand quantity for the appropriate model/unit number is automatically incremented.

View Genealogy for Model/Unit Effective Items

You can view the model/unit numbers on the genealogy for inventory transactions. The model/unit number information is displayed in the Properties section of the Tree Navigator window for model/unit effective items. This feature can be accessed from the View Genealogy button on the Serial Numbers window.

WIP Features for Model/Unit Numbers

This section discusses WIP features Model/Unit Numbers.

Discrete Jobs for Model/Unit Effective Items

You must enter a valid model/unit number on discrete WIP jobs for model/unit effective items. The unit number can be entered in the Schedule Group, Project tab of the Discrete Jobs window.

Discrete Jobs Window

Model/Unit Numbers on Repetitive Schedules

Model/unit numbers on Repetitive Schedules are not supported.

Exploding WIP Material Requirements by Model/Unit Number

For a discrete job for a model/unit effective item, WIP material requirements are determined based on the end item unit number specified on the discrete job. The material requirements are displayed in the Material Requirements and the View Material Requirements windows.

WIP Completions for Model/Unit Effective Items

At the time of WIP completion, you must specify the serial number information for model/unit effective items. The model/unit number specified on the WIP job is automatically assigned to the completed assemblies at the time of WIP completion. If project/task information is also specified on the WIP Job, the WIP completions must be done to the appropriate project locator. The project/task information defaults from the WIP job header.

WIP Component Issues and Backflush for Model/Unit Effective Items

You can view the model/unit number of a model/unit number effective item at the time of issue to a job. The model/unit number can be viewed as part of the list of values for serial numbers for model/unit effective items. The model/unit number along with its serial number is recorded as the serialized component is issued or backflushed to the job.

As a default behavior, if a component is under model/unit number effectivity control, you may issue to a parent assembly with the same model/unit number.

Component Issues Across Different Model/Unit Numbers

You can also allow issue of a model/unit effective component to a WIP job with a different model/unit number. This is permitted if the checkbox for the Project Manufacturing parameter Allow Cross Unit Number Issues is checked.

Cross Unit Number Issue Example
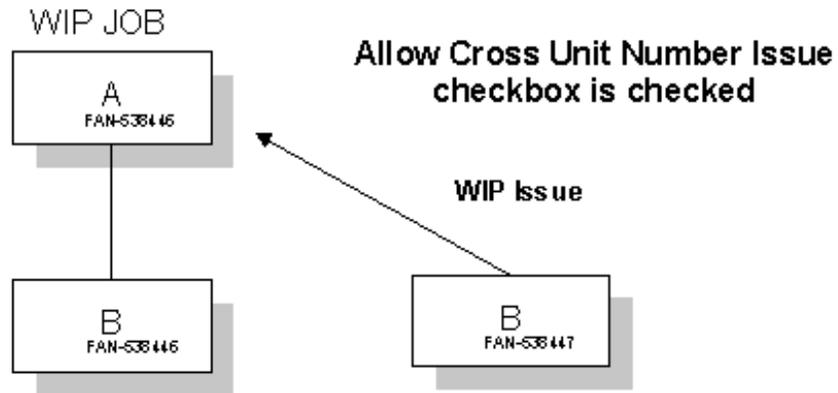
Figure 14-5 illustrates the example for cross unit number issue. Both items A and B are under model/unit effectivity control. Item B with unit number FAN-538446 is required for parent item B with unit number FAN-538446. Suppose the component B with FAN-538446 is delayed due to shortage or quality problem, while another component B with FAN-538447 is available. Based on Project Manufacturing parameter Allow Cross Unit Number Issue, you can issue component B with FAN-538447 to the WIP job for assembly A with FAN-538446.

When you select a component with a unit number that is different from the parent assembly, you receive a warning message. You need to confirm that you would like to proceed. You must still ensure that it passes current project/task validation logic if the WIP job is associated with a project/task.

The list of values of model/unit effective components that you can issue to a WIP job

changes based on the Project Manufacturing parameter Allow Cross Unit Number Issues. If the checkbox for the parameter is checked, you can view and issue all components of the same item across unit numbers. If it is not checked, you can view and issue only components of the exact same unit number as specified on the WIP job of the parent assembly.

For WIP material transactions that are imported through transaction interface, the end item unit number validation is based on the Project Manufacturing parameter Allow Cross Unit Number Issues.

> **Note:** Project Manufacturing parameter Allow Cross Unit Number Issues can affect user interface behavior, such as different list of values and different validation logic triggered from user navigation.

Work Order-less Completions for Model/Unit Effective Items

You must specify a valid model/unit number on work orderless completions of model/unit effective items. The model/unit number on the work orderless completion transaction is automatically assigned to the assembly serial numbers completed. Appropriate quantities of component items is backflushed from inventory.

Like discrete job issues and backflush transactions, the Project Manufacturing parameter Allow Cross Unit Number Issues also governs the backflushing of serialized model/unit effective components from inventory.

WIP Mass Load

During job creation, the end-unit-item is a required field in the interface table if the assembly item is under unit-effectivity contro.l. During an update of an existing job, the end-unit-item passes in only if the job status is unreleased. If a job passes in with a different status, it is nulled and ignored. If the passed in job has an unreleased job status, the system updates the job with the new value. If the end-unit-item is not passed in for an unreleased job status, the original end-unit-item defined on the job defaults in to the interface record.

Flow Manufacturing Support for Model/Unit Numbers

This section discusses Flow Manufacturing support for Model/Unit Numbers.

Model/Unit Numbers on Flow Schedules

You can create flow schedules for model/unit effective items similar to date effective items. The model/unit numbers on planned orders or sales order lines are automatically transferred to the flow schedules. The model/unit number is displayed on the flow schedules.

Model/Unit Numbers on Kanbans

Model/unit numbers on Kanbans are not supported.

Related Topics

Flow Schedules, *Oracle Flow Manufacturing User's Guide*

Work Orderless Completions for Model/Unit Effective Items, *Oracle Work in Process User's Guide*

Shipping of Model/Unit Effective Items

The pick release process picks up items with the same model/unit number as the sales order line item. If project and/or task are specified on the Sales Order line, the pick release process picks up items from the corresponding project/task locator with the appropriate model/unit number.

Like with all serial controlled items, ship confirm of Model/Unit effective items uses the Move Order Transactions window for shipping of Model/Unit effective items. At the time of ship confirm, the list of values for serial numbers shows only the serial numbers specific to the model/unit number entered on the sales order line. You cannot ship an item with a model/unit number different than that mentioned on the sales order line.

Model/Unit Numbers on Pick Slip, Pack Slip, and Other Shipping Reports

The model/unit number for an item does not appear on the Pick Slip, Pack Slip, or any other shipping reports.

Implementation Notes

When implementing Oracle Project Manufacturing, you should consider the following notes.

Costing at Item Level and not Model/Unit Number Level

Item costs are always maintained at the Item level. For model/unit effectivity controlled items, item costs cannot be viewed at the model/unit number level.

Model/Unit Effectivity Support for Discrete and Flow Manufacturing

Model/unit effectivity features are only supported in Discrete and Flow Manufacturing environments. There is no model/unit effectivity support in repetitive manufacturing.

No Reports by Model/Unit Numbers

No reports show the model/unit numbers.

ATO/PTO Items Cannot be Model/Unit Effectivity Controlled

Model/unit effectivity features do not apply for ATO/PTO items.

No Model/Unit Effective Routings

You cannot specify routings for model/unit effective items. Routings are currently defined only at the item level. All the model/unit numbers for a given item have the same primary routing as defined for the item. You may, however, define and use alternate routings if necessary.

Lead Time Roll-Up for Model/Unit Effective Items

You can also specify model/unit number at the time of Lead Time Rollup. The lead times rolled up from routings for different model/unit numbers do not vary because routings by model/unit number are not supported.

Bills of Material Open Interfaces Do Not Support Model/Unit Numbers

BOM open interfaces do not provide support for model/unit numbers.

Engineering Change Orders for Model/Unit Effective Items Cannot be Auto-Implemented

The scheduled ECOs for model/unit effective items are not be auto-implemented, you have to manually implement the ECOs.

Cannot Mass Change Bills of Material for Model/Unit Effective Items

You cannot process a mass change Bill of Material for a model/unit effective item.

No Return Material Authorizations Support with Model/Unit Numbers

Return Material Authorizations (RMA) with model/unit numbers are not supported.

Forecast Entries at Item Level only

You cannot specify model/unit numbers on forecast entries. Forecast entries can therefore be entered only at the item level.

No Available to Promise for Model/Unit Effective Items

There is no ATP by model/unit number. ATP checks are conducted at the item level.

Planning Open Interfaces Do Not Support Model/Unit Numbers

The Planning Open Interfaces currently do not support model/unit numbers on schedule entries.

No Model/Unit Numbers on Assignment Sets in Supply Chain Planning

You cannot specify model/unit numbers along with item numbers while defining assignment sets in Supply Chain Planning.

Request For Quotations and Quotations can be Entered Only at Item Level

The Request for Quotations and Quotations feature does not support model/unit numbers. The model/unit number can be either conveyed as an attachment to the RFQ or as a note to the supplier.

Kanban Planning at Item Level Only

Model/unit numbers on kanbans are not supported.

No Model/Unit Numbers on Pick Slip, Pack Slip, and Other Shipping Reports

The model/unit number for an item does not appear on the Pick Slip, Pack Slip, or any other shipping reports.

A

Cross Project Allocation

Cross Project Allocation Behavior Matrix

WIP Component Issue

Allow Cross Project	Checked		Unchecked	
Soft Peg	INV	WMS	INV	WMS
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No
Hard Peg				
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No

Allocation (Push or Pull with Subinventory and Release Backflush Compoments checked in WIP Parameters)

Allow Cross Project	Checked		Unchecked	
Soft Peg	INV	WMS	INV	WMS
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No
Hard Peg				
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	No	No
P2 > P1	Yes	Yes	No	No

Transact (Push or Pull with Subinventory and Release Backflush Compoments checked in WIP Parameters)

Allow Cross Project	Checked		Unchecked	
Soft Peg	INV	WMS	INV	WMS
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No
Hard Peg				
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	No	No

P2 > P1	Yes	Yes	No	No

Allocation (Push or Pull without Subinventory and Release Backflush Compoments checked in WIP Parameters)

Allow Cross Project	Checked		Unchecked	
Soft Peg	**INV**	**WMS**	**INV**	**WMS**
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No
Hard Peg				
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	No	No
P2 > P1	Yes	Yes	No	No

Transact (Push or Pull without Subinventory and Release Backflush Compoments checked in WIP Parameters)

Allow Cross Project	Checked		Unchecked	
Soft Peg	**INV**	**WMS**	**INV**	**WMS**
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	Yes
P2 > P1	Yes	Yes	No	No
Hard Peg				

P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	No	No
P2 > P1	Yes	Yes	No	No

Pick Wave Allocation

Allow Cross Project	Checked		Unchecked	
Soft Peg	**INV**	**WMS**	**INV**	**WMS**
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	Yes	Yes	Yes	No
P2 > P1	Yes	Yes	Yes	No
Hard Peg				
P1 > P1	Yes	Yes	Yes	Yes
Common > P1	No	Yes	No	No
P2 > P1	No	Yes	No	No

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