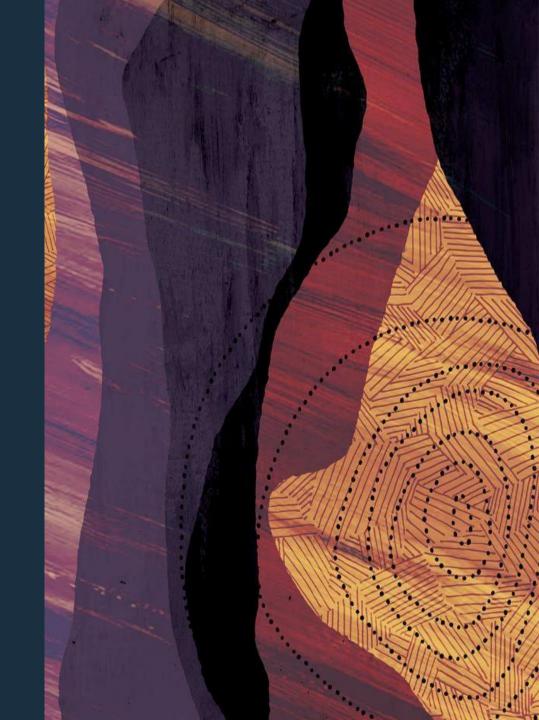
ORACLE NETSUITE

Supply Allocations Supply Planning Item 360

Gerry Dewil & Mike FarinaSolution Specialists
NetSuite



Clarifications



Hello Gerry,

We invite you to join the Rocky Mountain NetSuite User Group on **Wednesday, September 20, 2023** from 8:30am – 12:00pm. Our Online-Only feature presentation will cover Inventory Management.

We are grateful to $\underline{\text{LeaseQuery}}$ - the SuiteApp sponsor for this meeting , and to $\underline{\text{Myers-Holum}}$, the consulting sponsor .

This meeting is focused on the Inventory Management functions in NetSuite. Gerry Dewil of Oracle will cover Supply Planning, Supply Allocation and Item 360. We will cover the functionality of these three products and learn how they supplement each other, allowing the user to have a 360 degree view of the supply chain. These products are free SuiteApps that are available for download at no extra cost.

Slight correction:

- Supply Allocations is a feature that is part of the Advanced Inventory Module
- Supply Planning is a feature that is part of the Demand Planning module
- Item 360 is a free SuiteApp



Agenda

- Supply Allocations
 - Introduction and principles
 - Allocation Strategies and Schedules
 - Sales Channel Allocations and Reservations
 - Optimization Methods
 - Earliest Item Availability
 - Demo
- Supply Planning
 - Planning Overview
 - Refresh Planning Repository
 - Planning Workbench
- Supply Allocations and Supply Planning
- Item 360



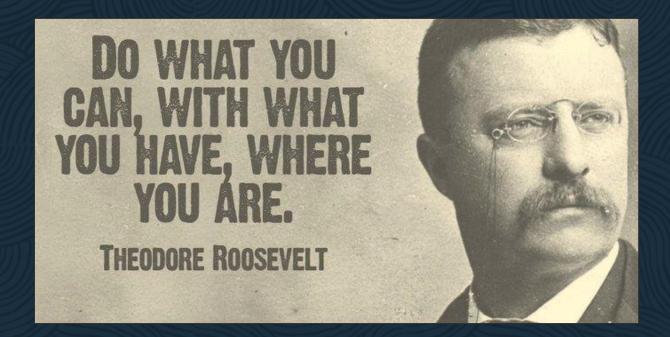


Gerry Dewil
Solution Specialist
Oracle NetSuite



Mike Farina
Solution Specialist
Oracle NetSuite

Supply Allocations





Supply Allocation

Prerequisites:

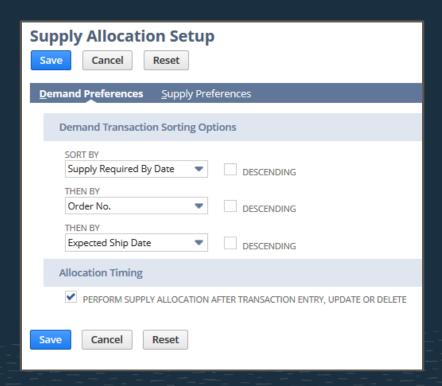
- Generally available since release 2019.2
- Inventory Cloud Service module license required
- Multi-location Inventory = ON

Setup

- Enable feature
- Define allocation strategies
- Set preferences
- Set-up Locations, Items and Inventory Statuses
- Customize transaction forms

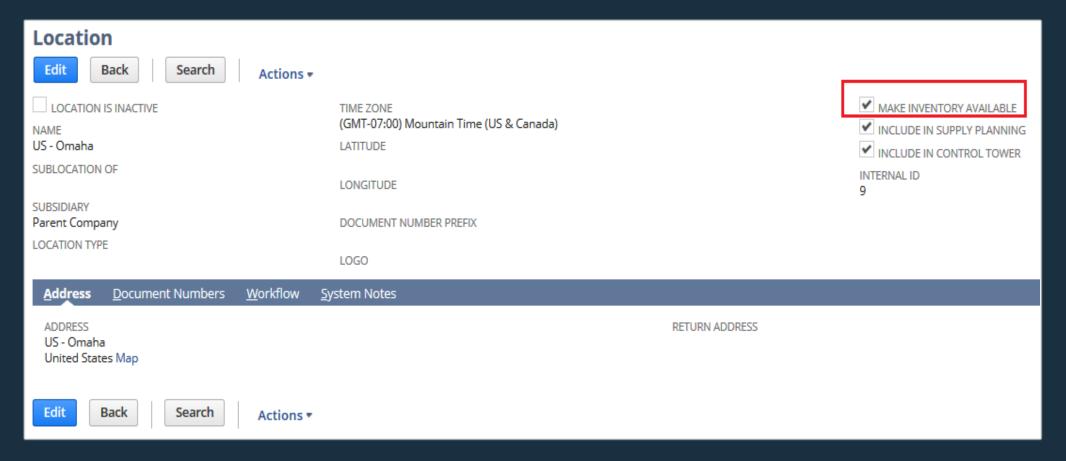
User access:

- Item Commitment permission for the feature-specific pages
- Respective permissions for other records (Location, Item, Transactions. Preferences)
- Subsidiary and Location restrictions work as NS standard



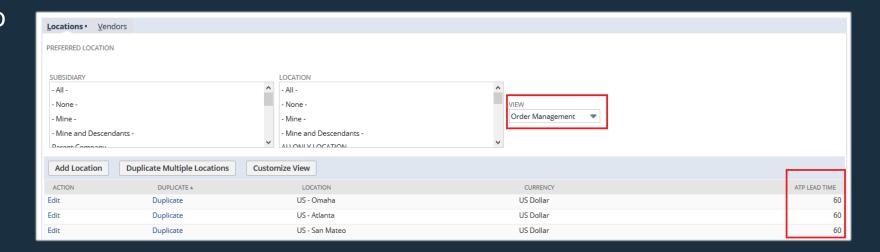
Location

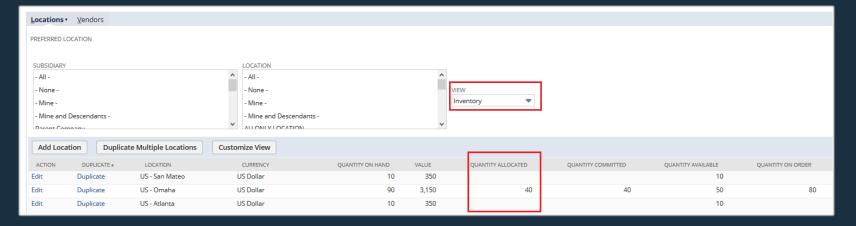
"Make Inventory Available" check-box on the Location record to include in allocation calculations.



Item

- New fields on Item record to set per location:
 - -ATP Lead Time
- -Quantity Allocated





Inventory Status (if enabled)

Determine Inventory availability in granularity

- -for each status
- -for commitment
- -for supply allocation
- -for both



What Is Supply Allocation?



Supply Allocation principles

Matching demand orders to current and future inventory

- allocation of On-Hand Inventory = assigning inventory to demand order lines /quantities (aka. inventory commitment)
- allocation of Future Inventory = assigning supply order lines /quantities to demand order lines /quantities
- calculate allocations for both on each Item/Location

Transfer Order
Assembly

Distribution Center

Transfer Order

Sales Order

Customer 1

1

Locations

Entities

Customer 2

Sales Order

Store

Purchase Order

Vendor

Supply Allocation Principles

Demand Orders

- Sales Orders
- Transfer Orders
- Work Orders

Supply Orders

- Purchase Orders
- Transfer Orders
- Work Orders
- Blanket POs
- Inbound Shipments

Demand
Date Fields

- Supply Required By Date
- Expected Ship Date
- Production Start Date

Supply Date Fields

- Expected Receipt Date
- Production End Date

Important Item Fields

- ATP Lead Time
- Allocated
 Quantity



Supply Allocation Principles



Allocation Strategies



4	Sep 2023									
Sun	Mon	Tue	Wed	Thu	Fri	Sat				
27	28	29	30	31	1	2				
3	4	5	6	7	8	9				
10	11	12	13	14	15	16				
17	18	19	20	21	22	23				
24	25	26	27	28	29	30				
1	2	3	4	5	6	7				

As Soon as Available + Available Quantity

#	ITEM ▲	SUPPLY TYPE	ORDER	ORDER STATUS	SOURCE	SUPPLY QUANTITY	SUPPLY RECEIPT DATE	ALLOCATED
1	NS-SA- E2	Purchase Order	PO4242	Pending Receipt	Crown Metal Works	80	09/12/2023	60
2	NS-SA- E2	Transfer Order	TO83	Pending Fulfillment	San Francisco	40	09/07/2023	40

As Soon as Available + Complete Quantity

ITEM	INVENTORY LOCATION	INVENTORY SUBSIDIARY	ORDER QUANTITY	UNITS	INVENTORY DETAIL	ORDER PRIORITY	SUPPLY REQUIRED BY DATE	EXPECTED SHIP DATE	DAYS LATE	ALLOCATED SUPPLY	AVAILABLE	COMMITTED
NS-SA-E2 SA Example 2 - Allocation Strategies	San Francisco	United States	500	Ea			09/26/2023	12/18/2023	83	0	0	0

Closest + Available Quantity

#	ITEM ▲	SUPPLY TYPE	ORDER	ORDER STATUS	SOURCE	SUPPLY QUANTITY	SUPPLY RECEIPT DATE	ALLOCATED
1	NS-SA- E2	Purchase Order	PO4243	Pending Receipt	Crown Metal Works	100	09/19/2023	100

WO released with earlier SRBD

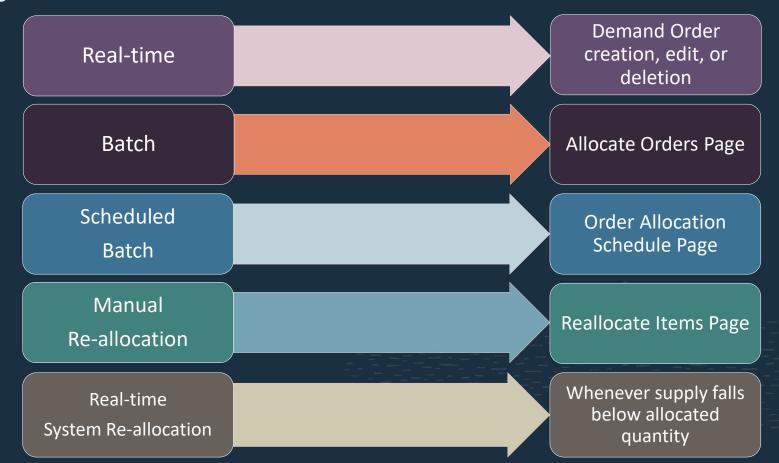
#	ITEM A	SUPPLY TYPE	ORDER	ORDER STATUS	SOURCE	SUPPLY QUANTITY	SUPPLY RECEIPT DATE	ALLOCATED
1	NS-SA- E2	Purchase Order	PO4242	Pending Receipt	Crown Metal Works	80	09/12/2023	80
2	NS-SA- E2	Purchase Order	PO4243	Pending Receipt	Crown Metal Works	100	09/19/2023	5
3	NS-SA- E2	Transfer Order	TO83	Pending Fulfillment	San Francisco	40	09/07/2023	15

WO785 Qty: 25



Supply Allocation Principles

Allocation triggers



Supply Allocation special cases

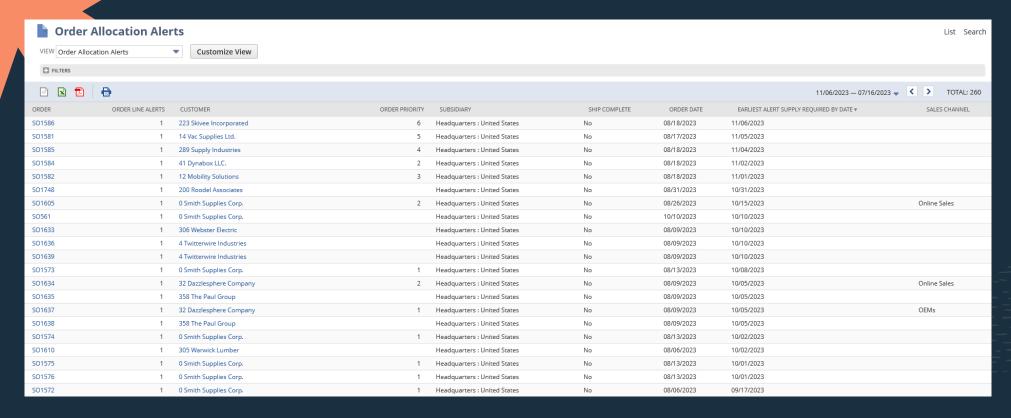
- 1. Drop-Ship Order: Supply Allocation does not deal with it
- 2. Special Order: Sales Order / Purchase Order link functions as a firm allocation
- 3. Arms-Length Intercompany Inventory Transfer
 - linked IC Sales Order /Purchase Order pair
 - For allocation those function as normal demand /supply orders
- 4. Intercompany Special Order: a combination of #2 and #3
- 5. Cross-subsidiary Fulfillment: allocation works with Location on Sales Order line

Supply Allocation Exceptions

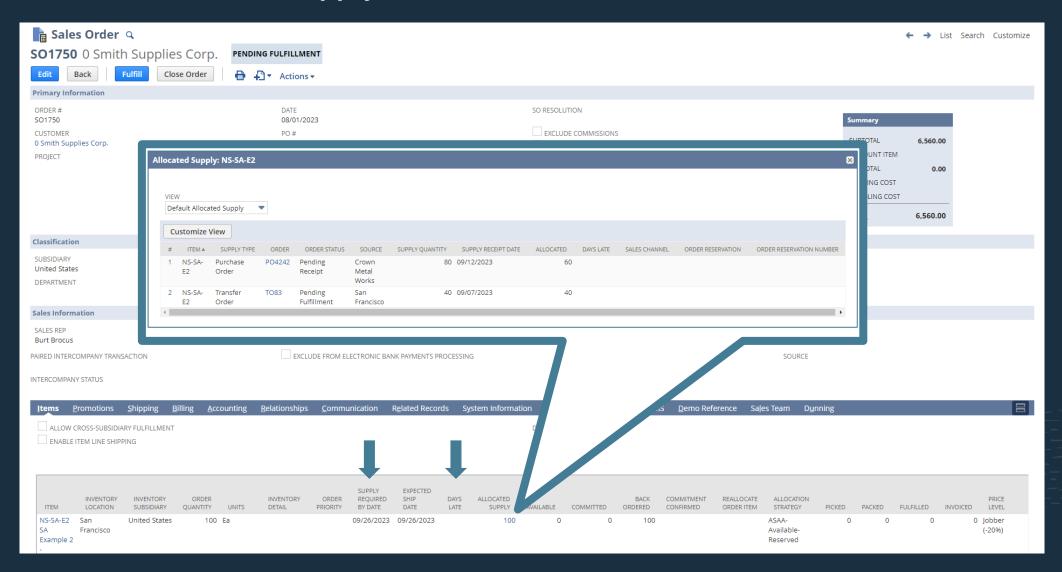




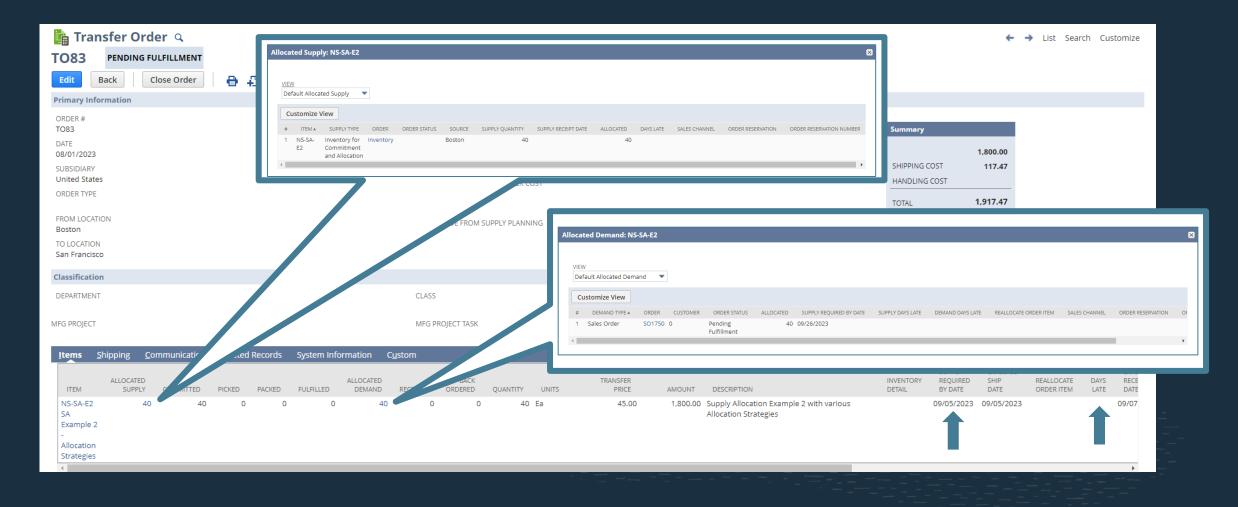
Supply Required By Date



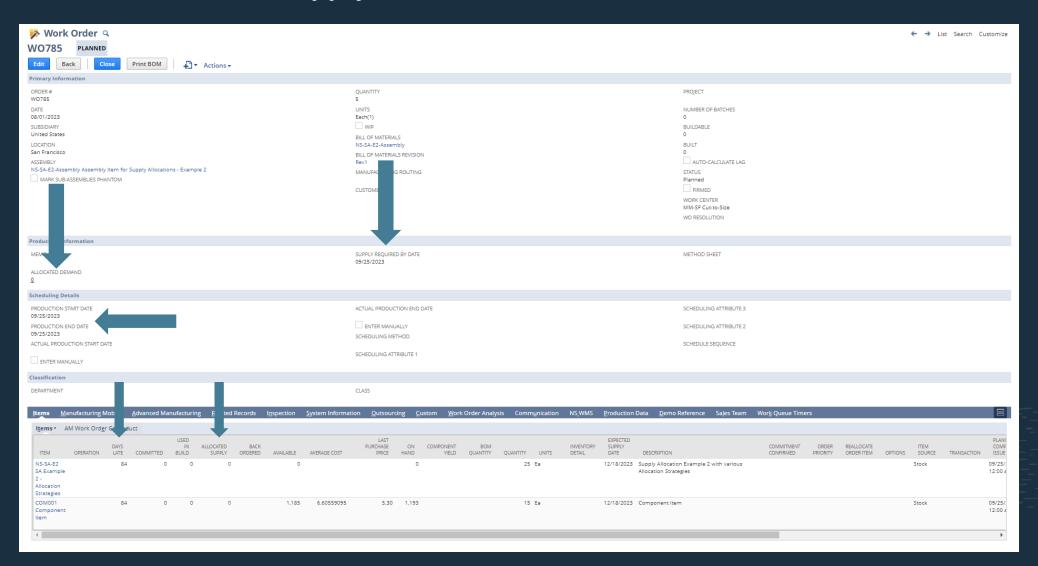
Sales Order – Allocated Supply



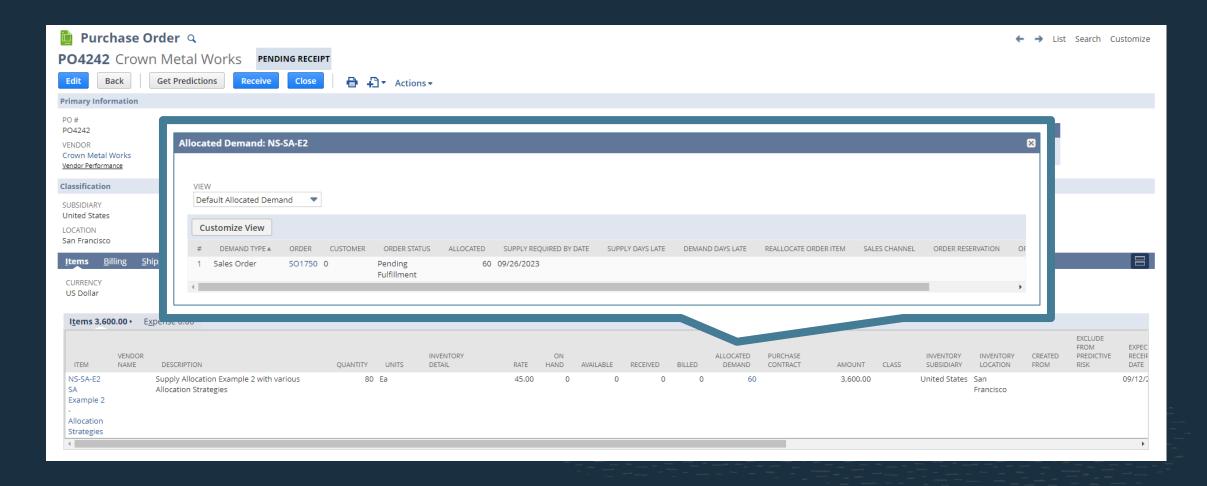
Transfer Order (Allocated Supply and Allocated Demand



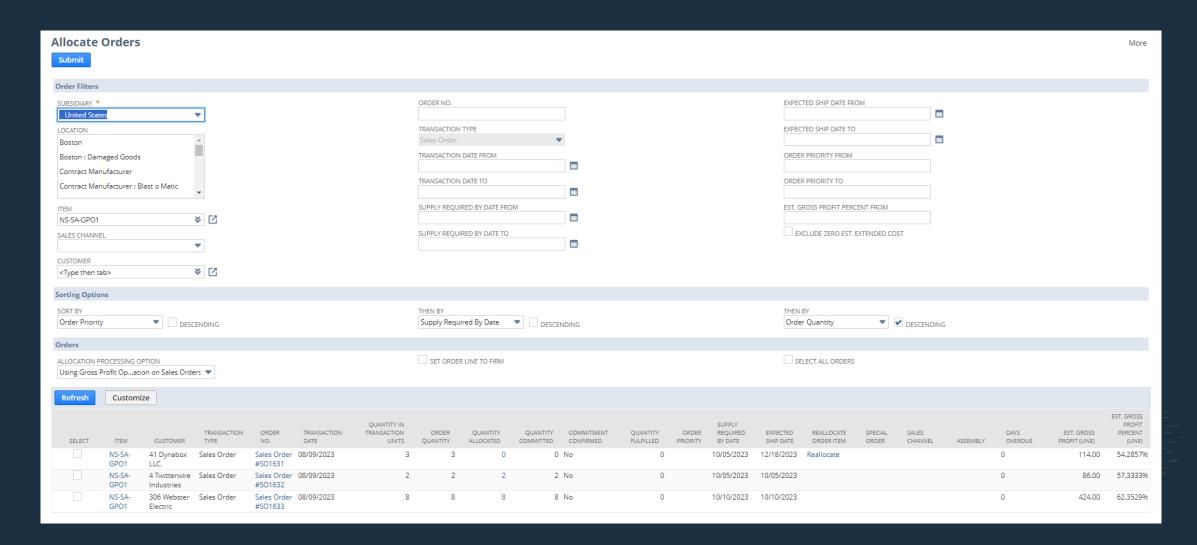
Work Order – Allocated Supply and Demand



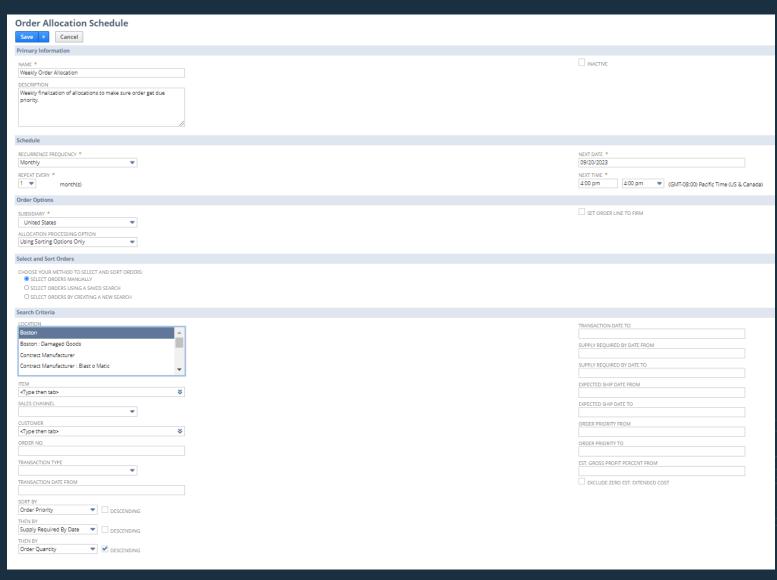
Purchase Order – Allocated Demand



Allocate Orders

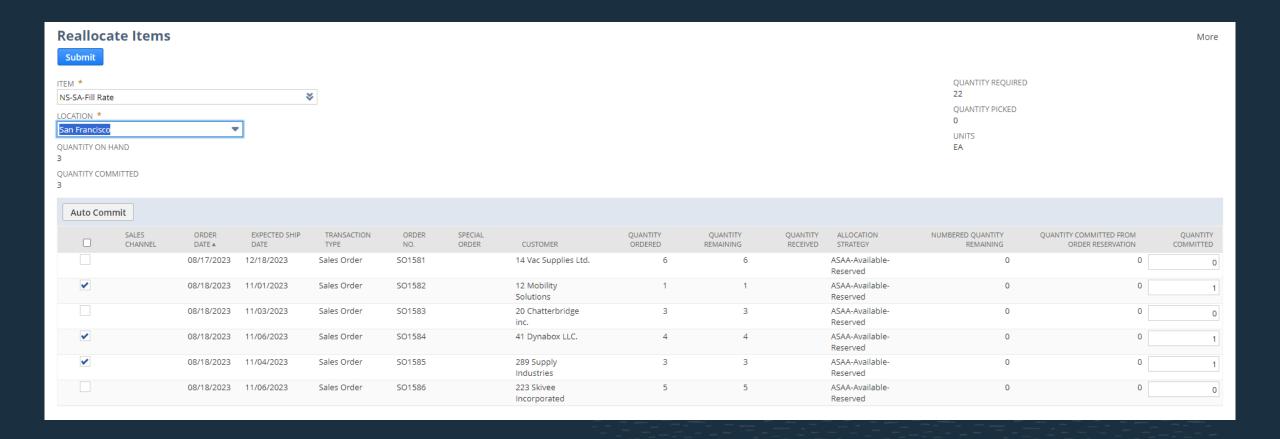


Order Allocation Schedule

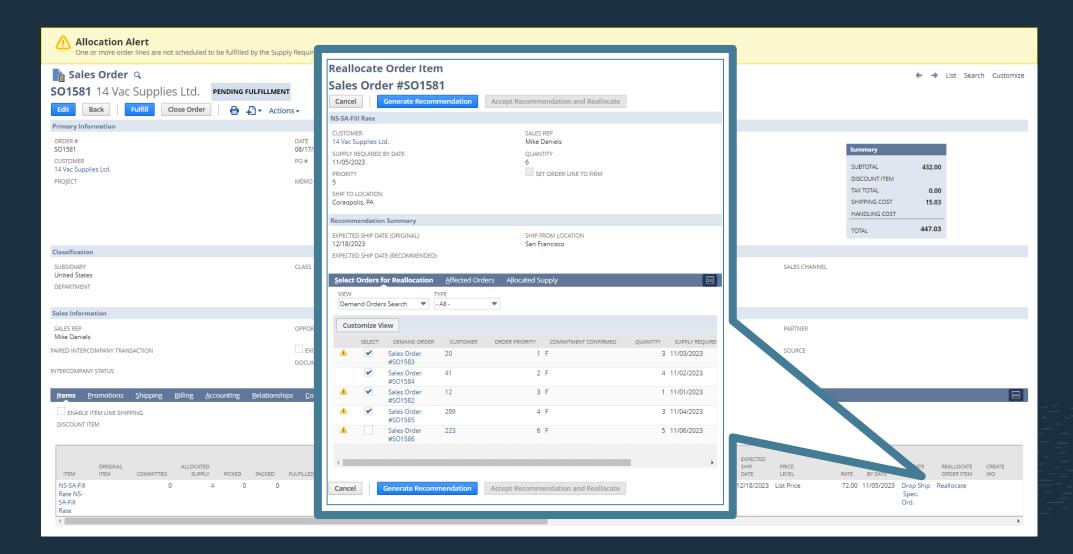




Reallocate Items



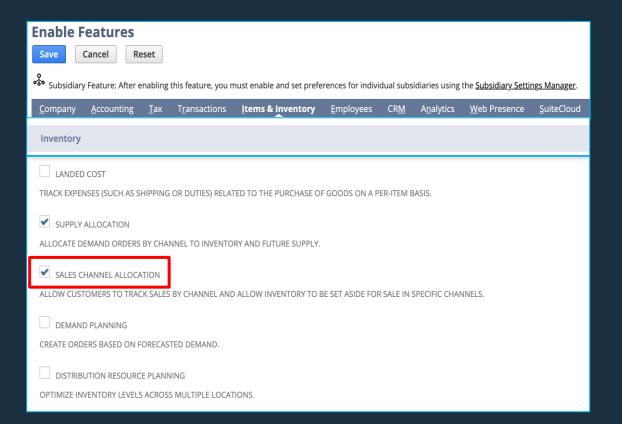
Reallocate Items From SO Line



Sales Channel Allocation - Setup

Enable the Sales Channel Allocation feature

- Pre-requisite: Supply Allocation
- Setup >Company >Enable Features >Items & Inventory >Sales Channel Allocation
- When the feature is enabled, the user can go directly to define Sales Channels

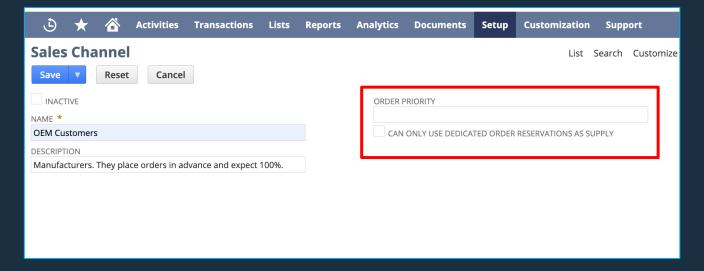




Sales Channel Allocation - Setup

Define Sales Channels

- Setup >Order Management >Sales Channels >New
- A simple record with:
 - Name
 - Description
 - Attributes to a Sales Order
 - The Sales Order can be assigned to the channel
 - The channel Order Priority is defaulted on the Sales Order lines



Sales Channel Allocation - Setup

Preferences for Order Reservations (Optional)

Example: To Automate the Closing of Order Reservation

When approved, the reservation is effective until:

- It's End Date OR
- The reservation quantity is fully allocated and fulfilled OR
- The reservation is manually closed.

A daily background process can automatically close Order Reservations that have passed their End Date.

The timing of the background process can be set up under Setup >Order Management >Supply Allocation Setup >Demand Preferences



Manage Supply Allocations by Channel Set current inventories aside for sales channels

- We want to set aside current and future inventories, so that those are available, when orders arrive from the sales channel.
- The inventories are set aside by order reservations.
- Order reservations are "containers" that reserve quantities of inventory and supply orders. Only a specific channel can consume the reserved quantities.
- An order reservation can:
 - Cover the supply needs of a channel:
 - For an Item
 - On a Location
 - For a period of time
 - Ensure that other channels do not consume the supply set aside

Inventory

- Location
- Quantity

Purchase Order #2

- LocationQuantity
- Expected Receipt Date

Purchase Order #3

- Location
- Quantity
- Expected Receipt Date

Order Reservation

Channel-A

- Location
- Quantity
- Start Date
 End Date

tem Location

Sales Order #1

Channel-A

- Location
- Quantity
- Supply Required By Date

Sales Order #2

Channel-A

- Location
- Quantity
- Supply Required By Date

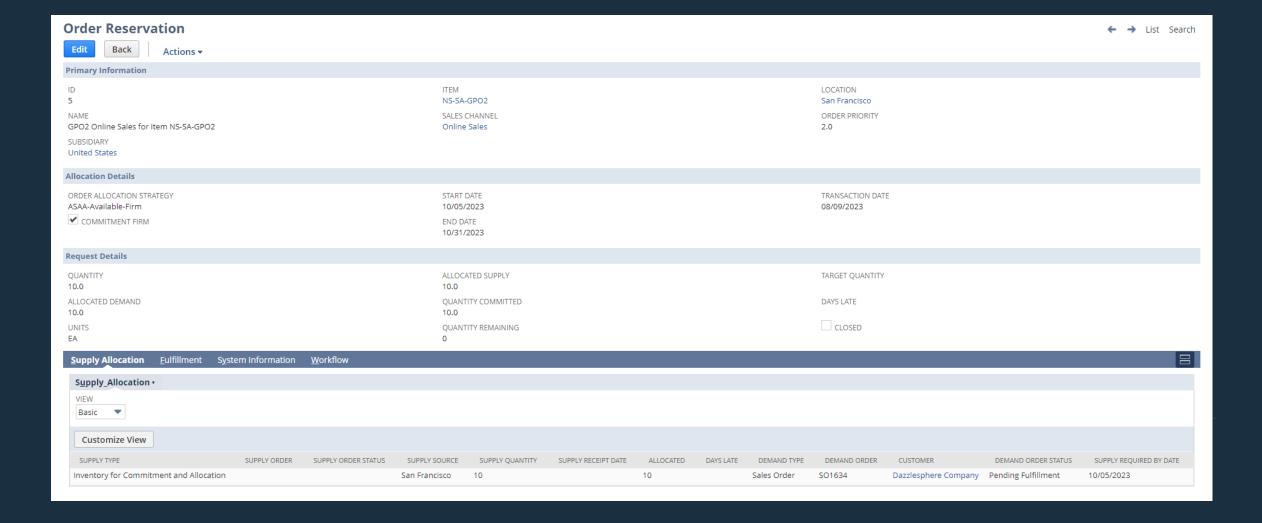
Sales Order #3

Channel-A

- Location
- Quantity
- Supply Required By Date



Sales Channels and Order Reservations



Optimization Options

Supply Allocation Automated Processing Options

Fill Rate Optimization

NetSuite's batch allocation logic calculates the largest possible number of order lines fully allocated on time.



Revenue Optimization on Sales Order

The system allocates existing supply to produce the maximum sales revenue.

Revenue is defined as the company income on the sales transaction after the product is sold (invoiced). The revenue on the sales order line is stored by the amount field, in the transaction currency.

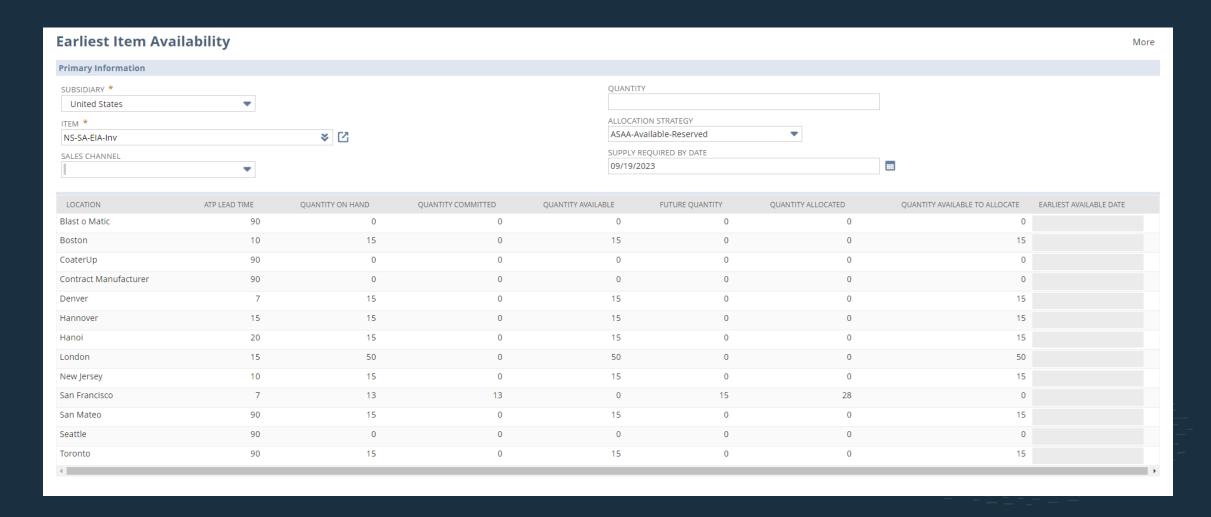
Gross Profit Optimization on Sales Order

The system allocates the existing supply to maximize sales profits.

Gross Profit is the remaining sales transaction amount after deducting the direct item cost from the revenue. When the Gross Profit feature is enables, gross profit is calculated on the sales order line and stored by the Est. Gross Profit field in the transaction currency.

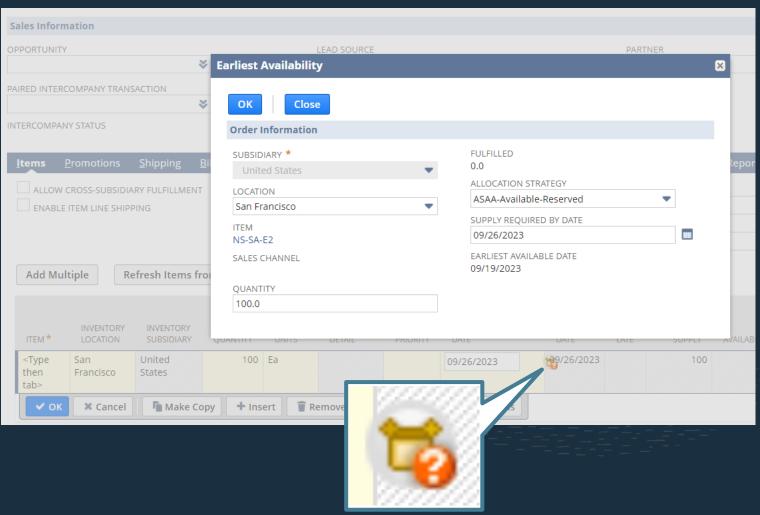


Earliest Item Availability



Earliest Item Availability on Sales Orders

- Pop-up from sales order form
- Icon visible in Edit mode
- Allows for What If analysis
- Changes can be applied to order line from pop-up



Demo

Supply Planning

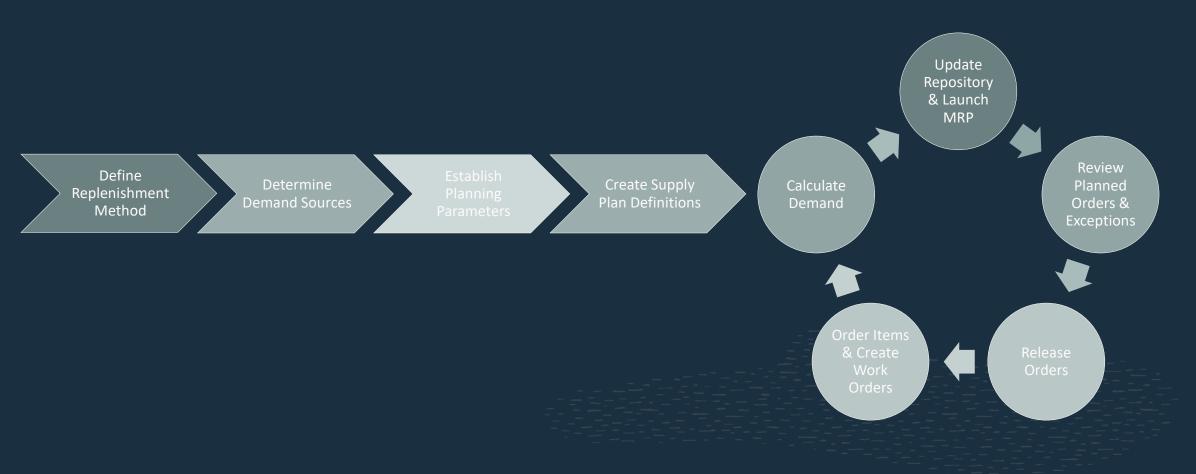
The Planning World

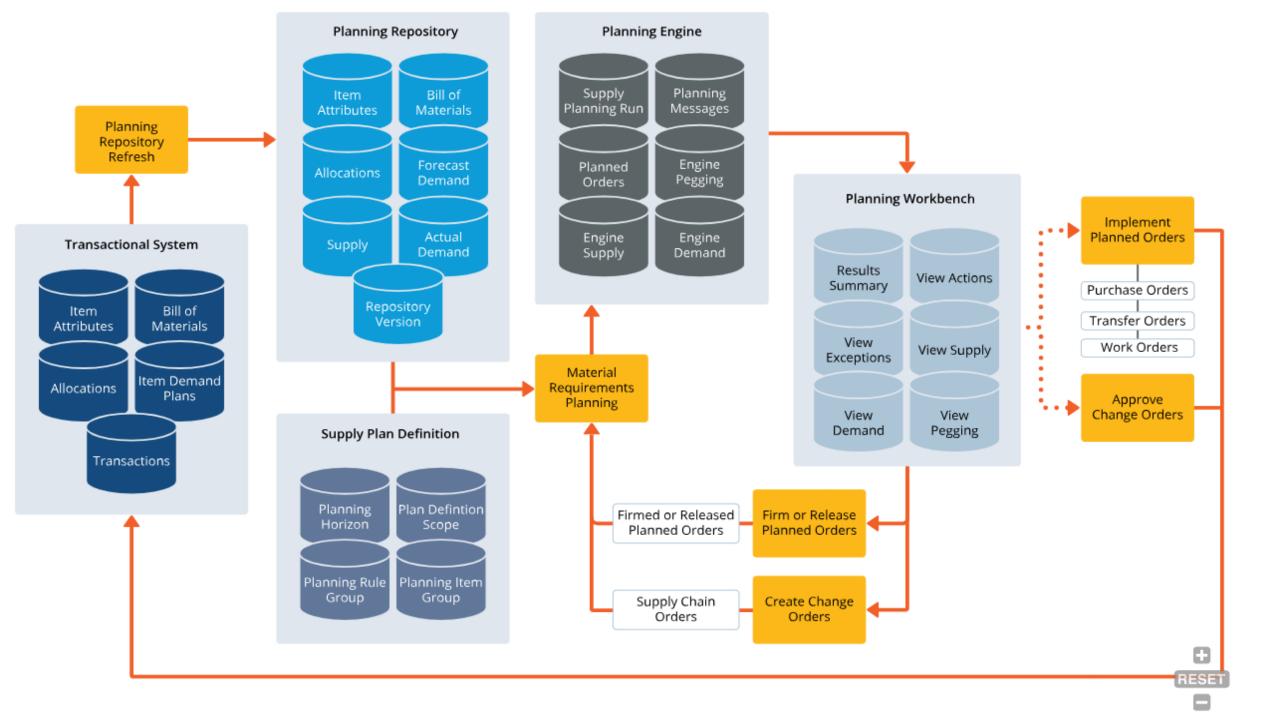
- Demand Planning
- Supply Planning = Material Requirements Planning (MRP)
- MRP is an infinite planning tool
 - Unconstrained vs Constrained Planning (Infinite / Finite)
 - Example of constrained planning: Enforce Capacity Constraints, Enforce Demand
- Sales & Operations Planning (S&OP)
- Master Production Schedule (MPS)
- Capacity Requirements Planning (CRP)
- Rough Cut Capacity Planning (RCCP)
- Association for Supply Chain Management (ASCM)
 - Certified Supply Chain Professional (CSCP)
 - ASCM was formerly APICS American Production and Inventory Control Society
 - Issued CPIM certification Certified in Planning and Inventory Management



Material Planning Process

Planning Cycle





Material Planning Configuration

Define Replenishment Method

Determine Demand Sources

Establish Planning Parameters

Create Supply Plan Definitions

- Material Requirements Planning
- Master Production Scheduling
- Time Phased

- Forecast (Demand Plans)
- Calculation Methods
- Moving Average
- Linear Regression
- Seasonal
- Sales Pipeline
- Import
- Orders Expected Ship Date
- Forecast Consumption

- Lead Times
- Safety Stock
- Lot Sizing Methods
- Lot for Lot
- Fixed Lot Size
- Periods of Supply
- Consumption Days
- Time Fence
- Reschedule Window

- Planning Locations
- Planning Item Groups
- Planning Horizon
- Demand Scope
- Distribution Transfer Rules

Λ

Important: Did you know that the NetSuite Supply Planning (MRP) solution replaces Time-Phased Planning, with more features and better performance?

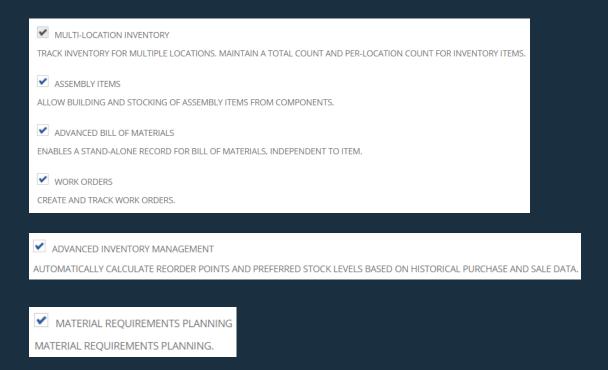
New customers should use the new Supply Planning (MRP) solution. Existing customers should develop a plan to move from Time-Phased Planning to the new solution.

Setup

Prerequisites – Required Features:

- Assembly Items
- Work Orders
- Advanced Inventory Management
- Advanced Bill of Materials
- Multi-Location Inventory
- Material Requirements Planning

To access these prerequisite features, go to: Setup > Company > Enable Features > Items & Inventory Tab > Inventory section



Supply Planning Workbench – Setup

Prerequisites – Required Preferences:

- Allow Purchase of Assembly Items
- Use Lead Time Per Location
- Purchase Order Approval Routing

Allow Purchase of Assembly Items – Go to: Setup > Accounting > Accounting Preferences > Order Management Tab > Work Order section



Use Lead Time Per Location – Go to: Setup > Accounting > Inventory Management Preferences



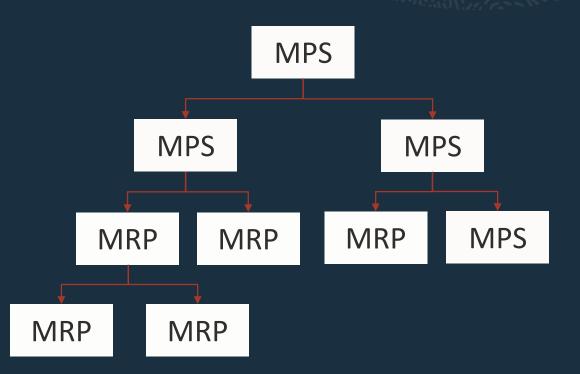
Purchase Order Approval Routing – Go to: Setup > Accounting > Accounting Preferences > Approval Routing Tab



MPS Replenishment Method

Master Production Schedule (MPS):

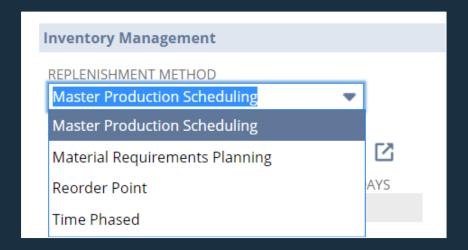
- For manufacturing companies, having visibility to their Master Production Schedule is critical.
- It provides a view of the critical items they produce, and distinguishes them from the items they require as components or raw materials, that will be needed to do the production.
- The added ability to differentiate MPS from MRP items will enable Supply Planning to send MPS items to Rough Cut Capacity Planning (RCCP) in a future release.



MPS Replenishment Method

Master Production Schedule (MPS):

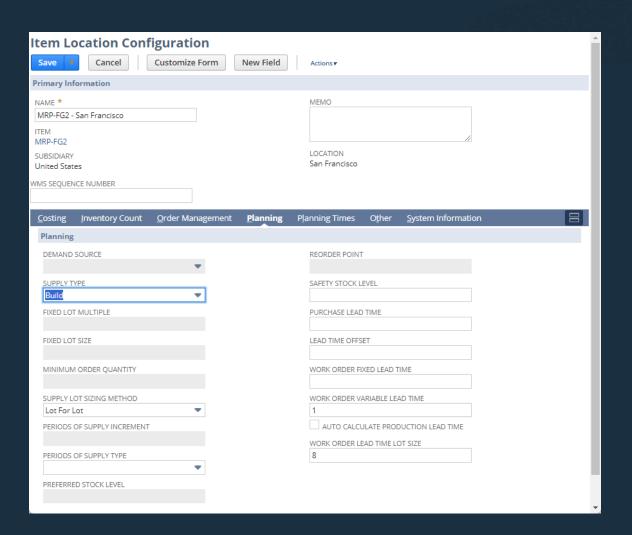
- The Replenishment Method can be set at the item level to either Master Production Scheduling (MPS) or Material Requirements Planning (MRP).
- Both MPS and MRP items will be processed by the Supply Planning engine.
- The engine will process MPS and MRP items in a single run (i.e. it will not stop after processing MPS items).



Item Setup

Setup

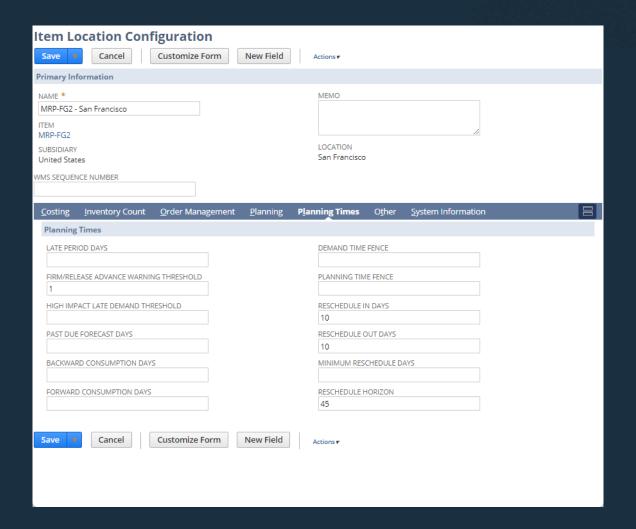
Item/location level – Planning subtab



Item Setup

Setup

Item/location level – Planning Times subtab



Supply Plan Definition

Setup

In order to come up with a supply plan definition, the planner needs to setup the following:

- Planning Item Categories
- Planning Item Groups
- Planning Rule Groups

Supply Plan Definition

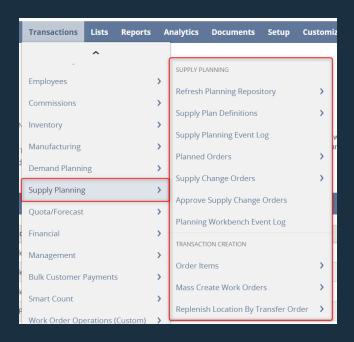


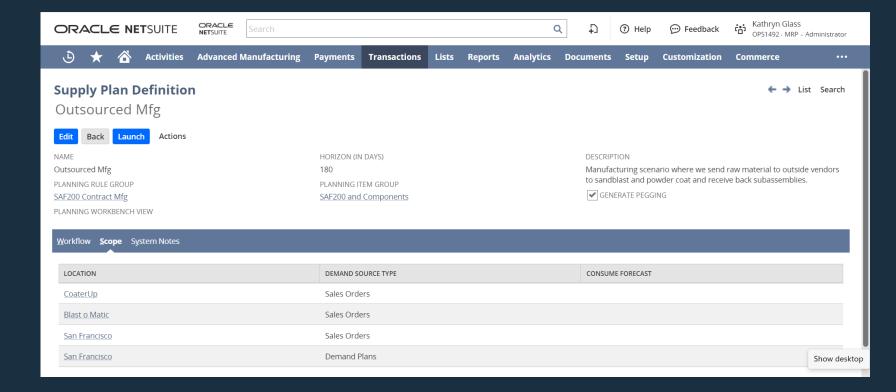
The supply plan definition contains the specific criteria of the planner that will be included on the MRP run.

The planner can make multiple supply plan definition for analysis.

For example, the planner wants to have a supply plan definition for their daily analysis of existing products and components.

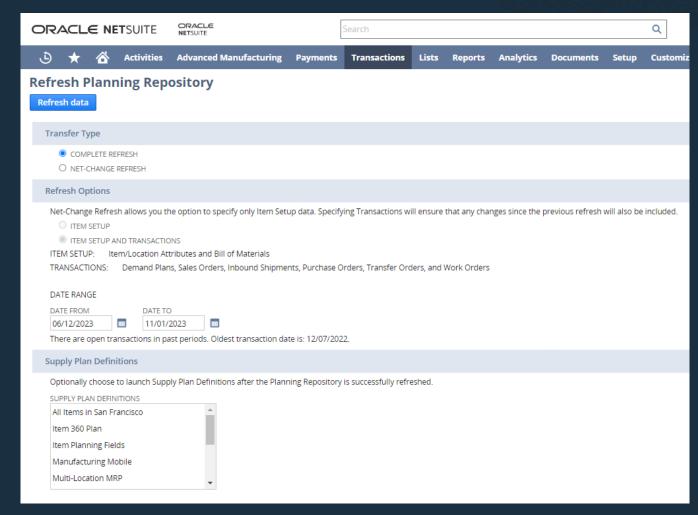
And then the planner can have another supply plan definition for upcoming products and how it will affect existing components, sub-assemblies, and new additional components.





Refresh Planning Repository

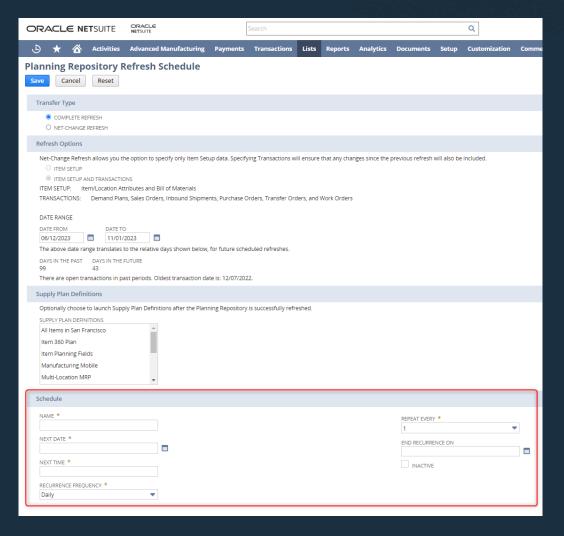
- Background process that updates the planning data repository. The planning data repository contains the transactional and other item-related data for the MRP run
- Picks up items with 'MRP' or 'MPS' replenishment method
- To reach the planning repository page, go to: Transactions > Supply Planning > Refresh Planning Repository.



Schedule Repository Refresh & MRP run

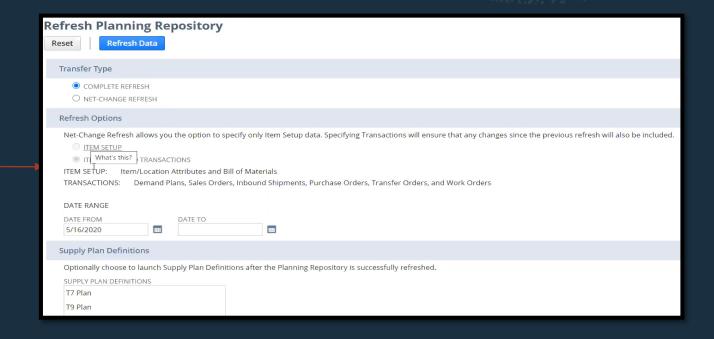
To create a Schedule:

- Choose Refresh Options
- Specify a date range for extracting data
- Choose from a list of supply plans to run after the refresh is complete (Optional)
- Enter Scheduling Parameters



Refresh Planning Repository & Launch MRP





Review Planned Orders & Exceptions

Action Types



Cancel

Lead Time Threshold

Reschedule In

Reschedule Out

Time Fence Threshold

Exception Types



Insufficient Lead Time

Item has no Activity

Negative Starting Balance

Negative Time Fence Balance

Past Due Demand & Past Due Supply

Supply Types



Inbound Shipment
On-hand Quantity

Transfer Order

Work Order

Planned Transfer Order

Planned Work Order

Planned Purchase Order

Purchase Order

Supply Change Order

Demand Types



Actual Demand

Forecast Demand

Planned Transfer Order

Planned Work Order

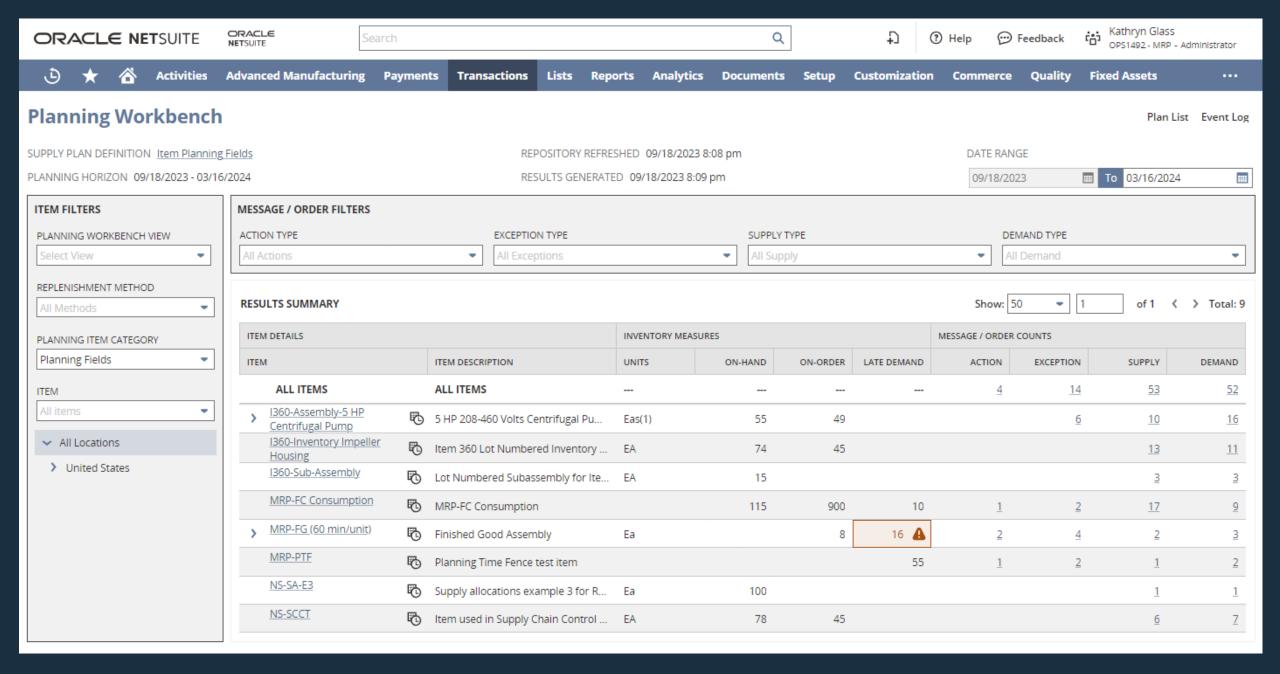
Safety Stock

Supply Change Order

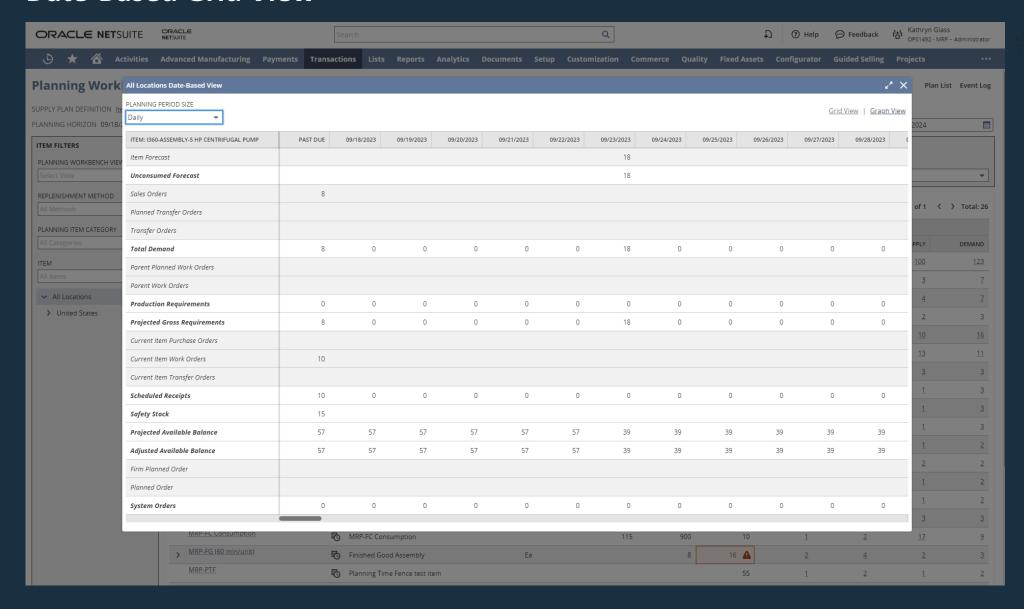
Transfer Order

Work Order

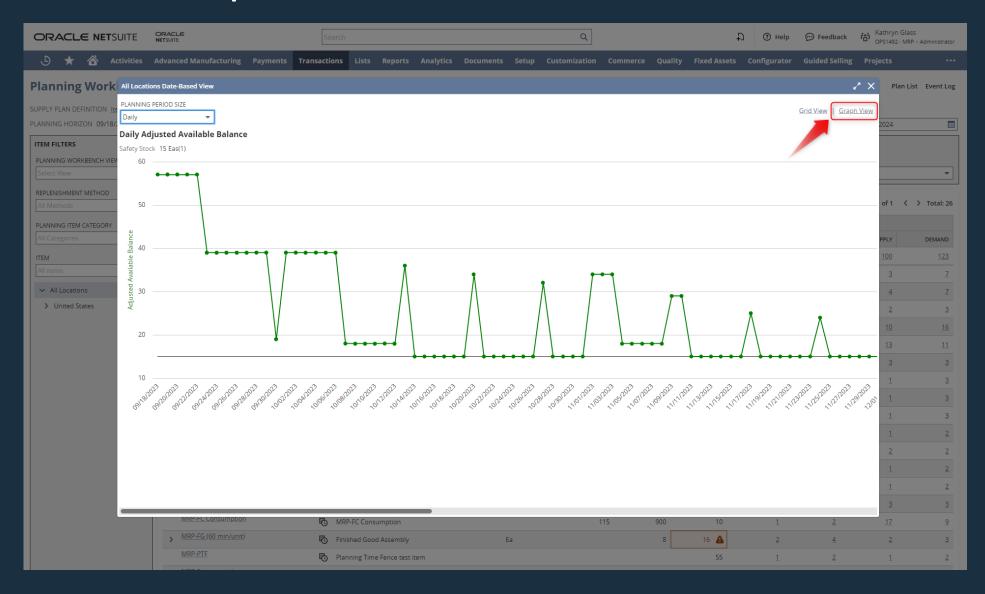




Date-Based Grid View



Date-Based Graph View - Definitions



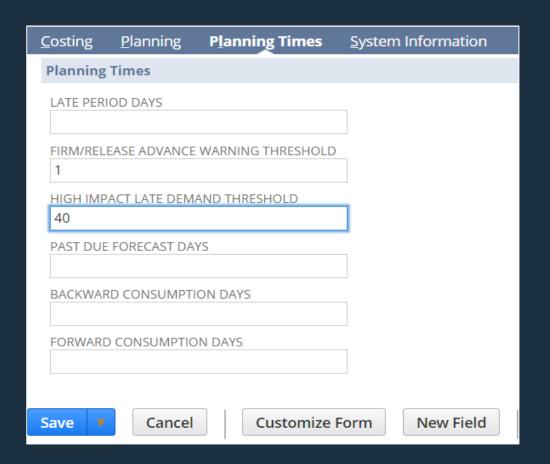
Date-Based Grid View - Definitions

Column	Past Due	Description
Item Forecast		Item Demand Plans
Unconsumed Forecast		Portion of Demand Plans that have not been consumed by Sales Orders
Sales Orders		Unfulfilled Sales Orders
Planned Transfer Orders		Planned Transfer Orders for which the current location is the Source
Transfer Orders		Unshipped Transfer Orders for which the current location is the Source
Total Demand		Total <u>Demand</u> from above Forecast, Sales Orders, Transfer Orders
Parent Planned Work Orders		Planned Work Orders for Item(s) that are a parent to the current item.
Parent Work Orders		Work Orders for item(s) that are a parent to the current item
Production Requirements		Total Production Requirements from above parent Planned Work Orders, Work Orders
Projected Gross Requirements		Total <u>Demand</u> and <u>Production Requirements</u> from above Rows
Current Item Purchase Orders		Purchase Orders for the current item (Not yet received)
Current Item Work Orders		Work Orders for the current item (Not yet completed)
Current Item Transfer Orders		Transfer Orders for which the current location is the Destination (Not yet received)
Scheduled Receipts		Total Scheduled Receipts from above Purchase Orders, Work Orders, Transfer Orders
·	On Hand Quantity	·
Projected Available Balance	On Hand Quantity	Total Demand + Scheduled Receipts - Projected Gross Requirements (Current State)
Adjusted Available Balance	On Hand Quantity	Total Demand + Scheduled Receipts - Projected Gross Requirements + System Orders (Balanced)
Firm Planned Order		Firm Planned Orders for the current item
Planned Orders		Planned Orders for the current item
System Orders		Firm Planned Orders + Planned Orders

Alert for High Impact Late Demand

High Impact Late Demand Threshold

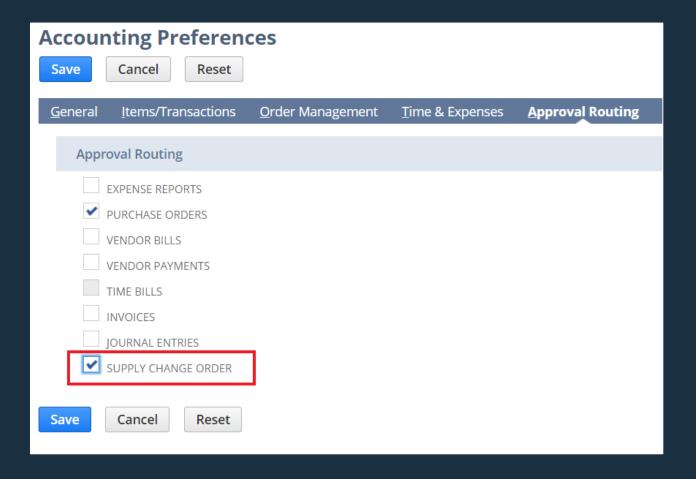
- Late demand is one of the most immediate concerns for planners.
- A parameter is provided at the item & location to establish a threshold for high impact late demand.
- This will help to highlight severe cases of late demand, so they can be addressed.



Change Order Approval

On the Accounting Preferences Screen:

Enable Custom Workflow Approval for Change Orders



Change Order Approval

The actions subtab on the workbench will provide suggestions for canceling or rescheduling orders

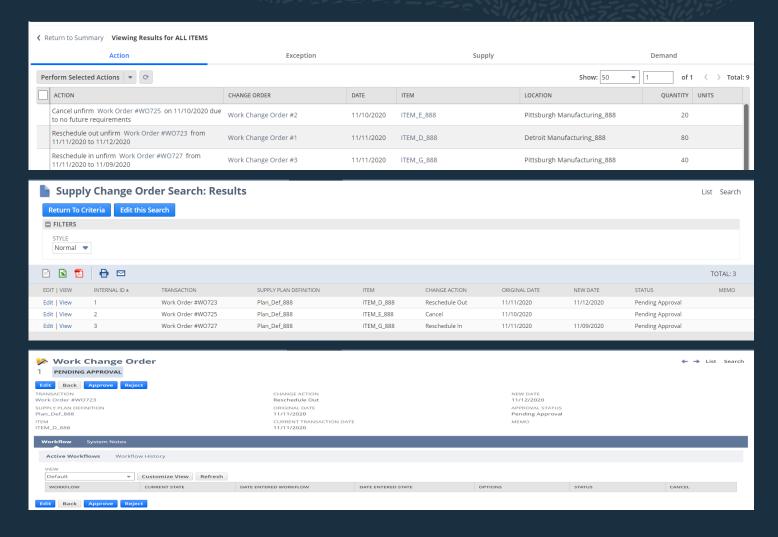


All change orders/cancellation will be fed into NS for visibility on approval routes



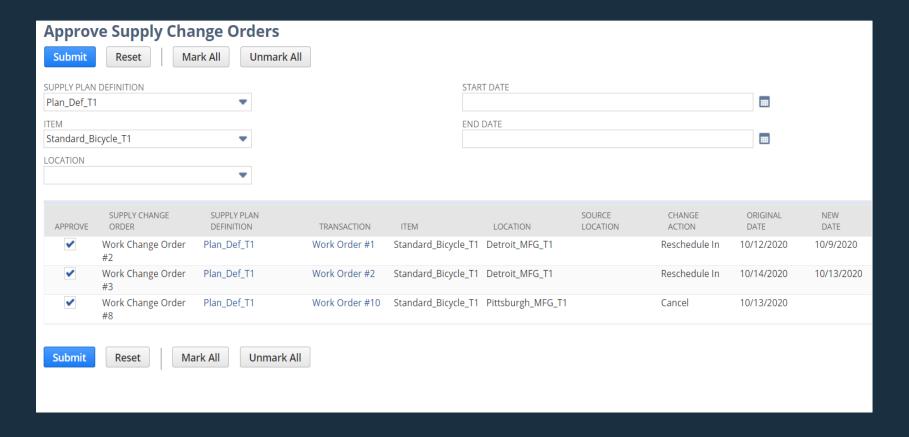
Once approved the engine will update transaction with a cancel or reschedule date





Bulk Change Order Approval

Easily approve multiple change orders on one page



REST/CSV

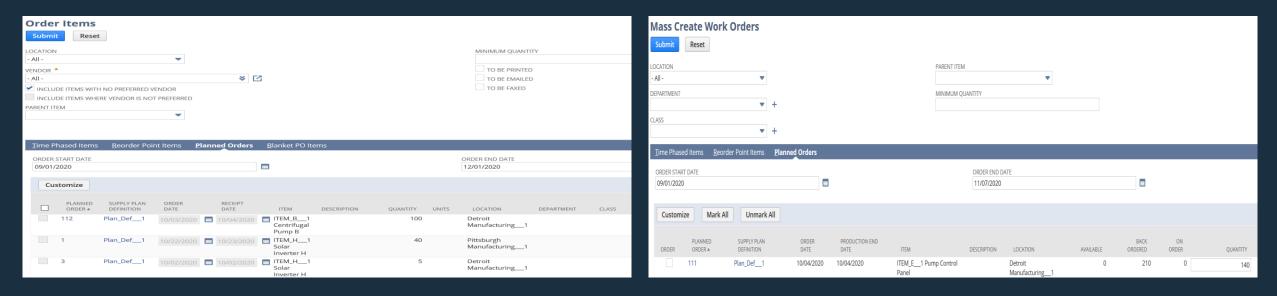
REST Exposure Provided For:

- Planning Item Category
- Planning Item Group
- Planning Rule Group
- Supply Plan Definition
- Planned Order
- Supply Change Order

CSV Exposure Provided For:

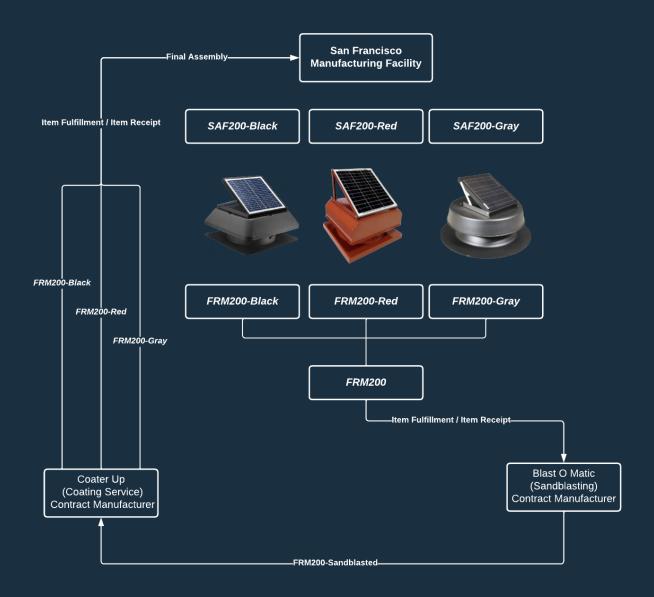
- Item
- Item Location Configuration
- Planning Item Category
- Planning Item Group
- Planning Rule Group
- Supply Plan Definition

Create Supply Orders



Manage your planned Purchase Orders and Work Orders in one place to schedule and release

Material Planning with Outsourced Manufacturing



Item 360 SuiteApp

Item 360

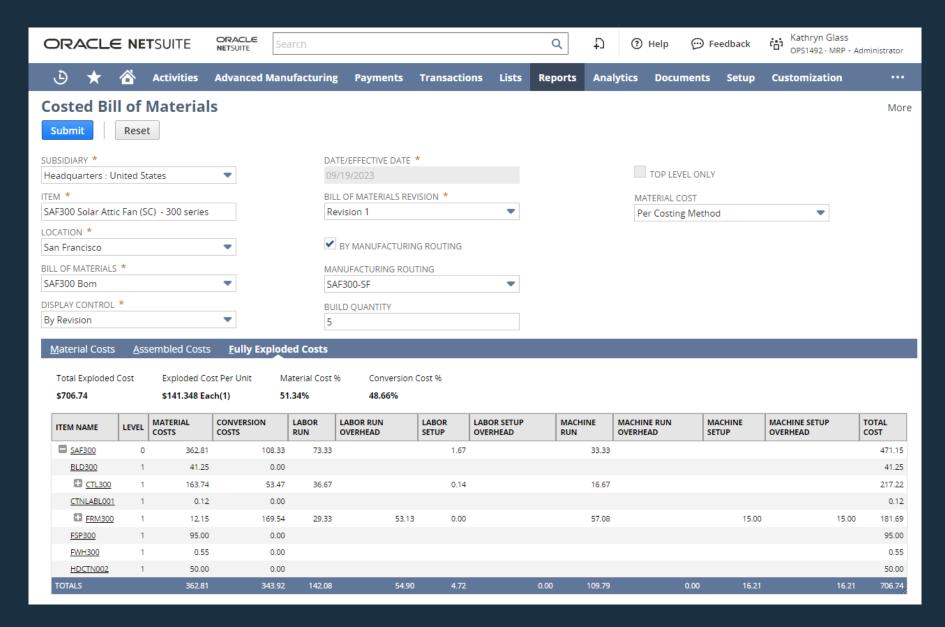
- Provides real-time and concise overview on Item's transactions in one consolidated Dashboard
- Enables Visibility into Item's transactions across multiple Subsidiaries and locations
- Item Alerts portlet for prompt informed decisions.
- Ability to access Item overview page from an Item record
- Requires a One World account



Costed Bill of Material SuiteApp

Costed Bill of Material

- View the comprehensive cost breakdown of an assembly item, including bills of materials, operations, and cost types based on selected bill of materials revision, routing and templates used
- Estimate the potential costs of manufacturing items for bill of materials based on costing method, purchase
 price and item default price
- Prerequisites:
 - The following features must be enabled in order to access Costed Bill of Materials
 - Advanced Bill of Materials
 - Assembly Items
 - Standard Costing
 - Advanced Item Location Configuration
- Application is free, no license charge. It will be included in all SuiteSuccess editions that include work order and assemblies from July 2023 onwards.
- Accounts can download from SuiteApp marketplace. Implementation wise, it replaces Costed BOM inquiry.



Work Instructions and Traveler SuiteApp

Work Instructions and Traveler Report

- Work Order Instructions report would be made available for customers with WIP and Routings features
- A new Subtab (Work Instructions)associated to a routing record
- Easier execution of WIP enabled work orders using instructions defined at every operation level in Routing
- Advanced manufacturing licensing is not required for printing of Work Instructions anymore
- Ability to view the work instructions within SCM Mobile (24. 1 release)



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