Oracle Fusion Cloud SCM

How do I set up dual units of measure?

26C

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Author: Cynthia Sanchez

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1 Set Up Dual Measures

What's a Dual Unit of Measure?

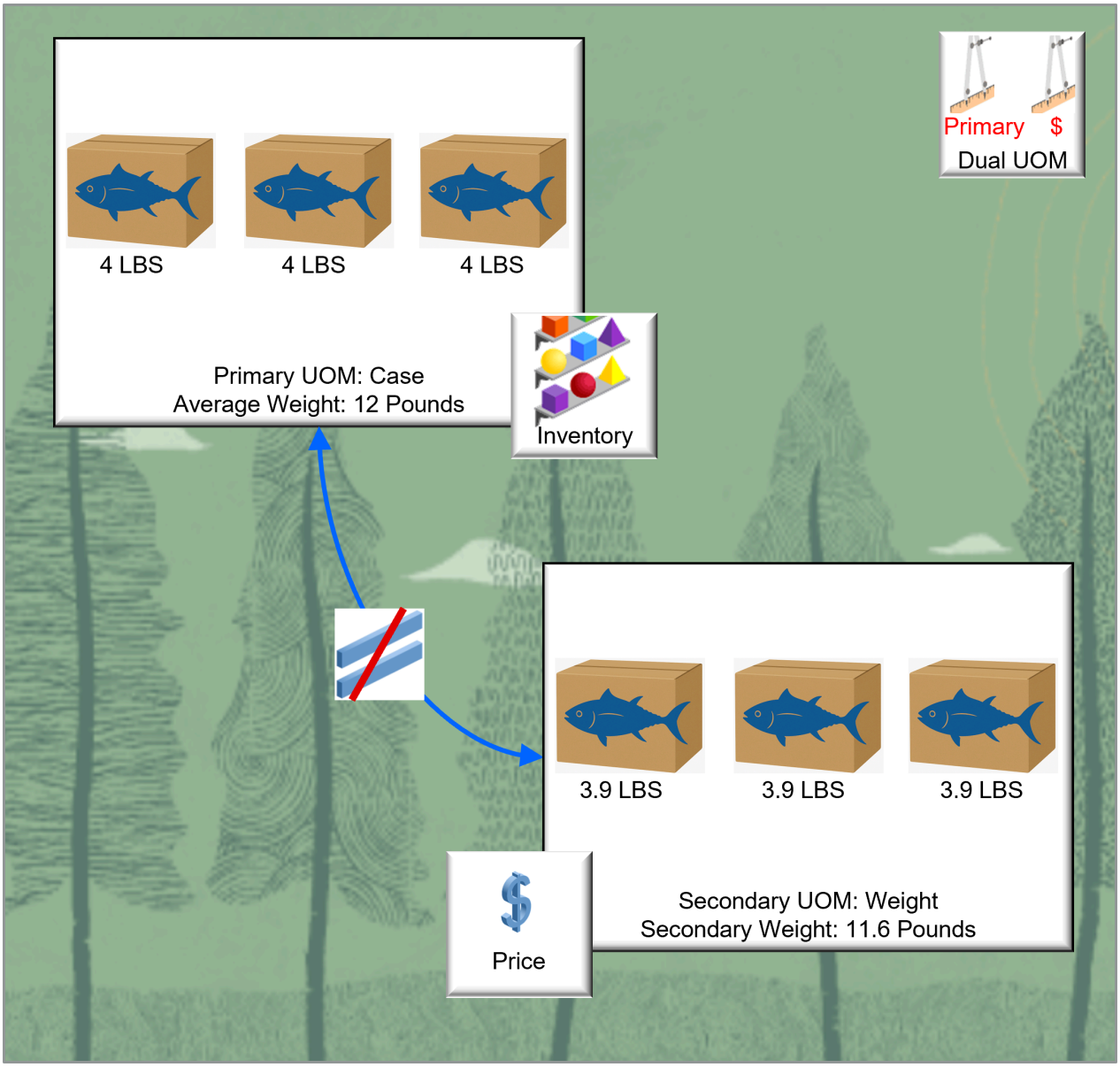
Use dual units of measure to order, price, manufacture, receive, pick, pack, and ship an item in the primary measure but price it in the secondary measure.

A *dual unit of measure* is an inventory management technique that manages an item's quantity in different measures at the same time, such as cases and pounds. You can use it to keep transactions and inventory accurate in each measure.

You might need to order, transfer, outsource, or buy an item in a unit of measure that's different from the unit of measure that you use to price and invoice it:

- You price fish by the pound but you sell the entire fish to your customer.
- You price steel by the ton but ship and receive it by the sheet.
- You price paper by the pound but ship and receive it by the roll.
- You price apples by the pound but ship and receive them by the bag.

Example



Note

- Weight for each fish is approximate because it naturally varies in size. 10 different fish will each sell for a different amount because each one has a unique weight. You might need to use the primary Case measure to stock your fish in inventory, but use the secondary Pounds measure to price it.
- A case of fish weighs an average of 12 pounds, and that's how you stock it.
- The actual weight just before you ship is 11.6 pounds, and that's the price you charge your customer.

Meet Your Requirements

You can use dual units of measure to meet these requirements:

- Track your item in the primary measure and in the secondary measure throughout your business flow. Use it through Oracle Order Management, Oracle Inventory Management, Oracle Procurement, and Oracle Manufacturing.

- Capture the item's actual weight that you sell, transfer, or purchase so you can accurately price, invoice, and cost it.
- Provide a price estimate when you sell or purchase so you can maximize value according to the exact weight that you ship or receive.

You can create an order line in the item's primary measure or in another measure that's in the primary measure's class, then convert that measure to automatically calculate quantity in the secondary measure:

- Track the item in a measure that's different from the measure that you use to stock the item. For example, use the primary Case to stock and track the quantity that your customer orders, and use the secondary Pounds to track the secondary quantity that you price and actually ship. You can use Case and Pounds simultaneously to track the item.
- Update the order line and automatically invoice it according to the quantity or the secondary quantity that you ship.
- Use and view two measures throughout your end-to-end supply chain. For example, start with the primary on the order line, then price and invoice in the secondary. Reserve, allocate, plan, produce, and ship in the primary.
- If you're doing an internal transfer, then you can create and fulfill the transfer order in the item's primary but calculate the transfer price in the secondary.
- Select the lot to use to fulfill the item during shipping.
- Revise a sales order. Add a new order line that uses dual measures to an existing order, or change the quantity on an order line that uses dual measures.
- Cancel an order line that uses dual measures.
- Cancel a sales order that uses dual measures. Order Management will automatically set the quantity and secondary quantity on all order lines to zero.

Realize these benefits:

- Improve the accuracy of the price that your charge your customer. Charge according to the quantity that you actually ship, in the secondary measure.
- Bill accurately so you can increase profitability.
- Improve your report's accuracy. Use secondary attributes in your report, such as the secondary quantity and the secondary measure.
- Increase revenue and improve customer satisfaction.

Support Your Business Flows

Order to Cash

You can use:

- Standard order.
- Back-to-back order. Use this feature to help you create the purchase order, transfer order, or work order when you use dual measures to fulfill demand in your back-to-back flow.
- Drop shipment. Create a sales order in the item's primary measure, then use the item's secondary quantity during fulfillment in your drop ship flow. If you want to use drop ship, then we recommend that you opt in to the Purchase Items That are Priced in Their Secondary UOM feature in the Procurement offering.

- Transfer order. Create a transfer order in the primary and automatically calculate the expected quantity in the secondary according to your conversion. Specify transfer pricing in the secondary according to the actual secondary quantity that you receive.
- Return order.

If a change of ownership happens between one business unit to another business unit, then Oracle Supply Chain Financial Orchestration orchestrates financial details and processes the transaction.

Procure to Pay

You can use:

- Purchasing. Create a purchase order in the primary and automatically calculate the expected quantity in the secondary according to a UOM conversion. Price the order line in the secondary and invoice it according to the actual secondary quantity that you receive.
- Self Service Procurement.
- Direct Procurement.
- Invoicing in Accounts Payable.
- Advance Shipment Notice.
- Pay on Receipt.
- Debit Memo.

Plan to Produce

You can use:

- Discrete Manufacturing.
- Process Manufacturing, including work definitions and work orders.
- Contract Manufacturing. Include dual measures in the production reports that you get from your contract manufacturer. Include a description of the materials used and what was finished. Include details in the primary measure and the secondary measure.
- Outside Processing.

For more about flows, see *Quick Start to Set Up Order-to-Cash*.

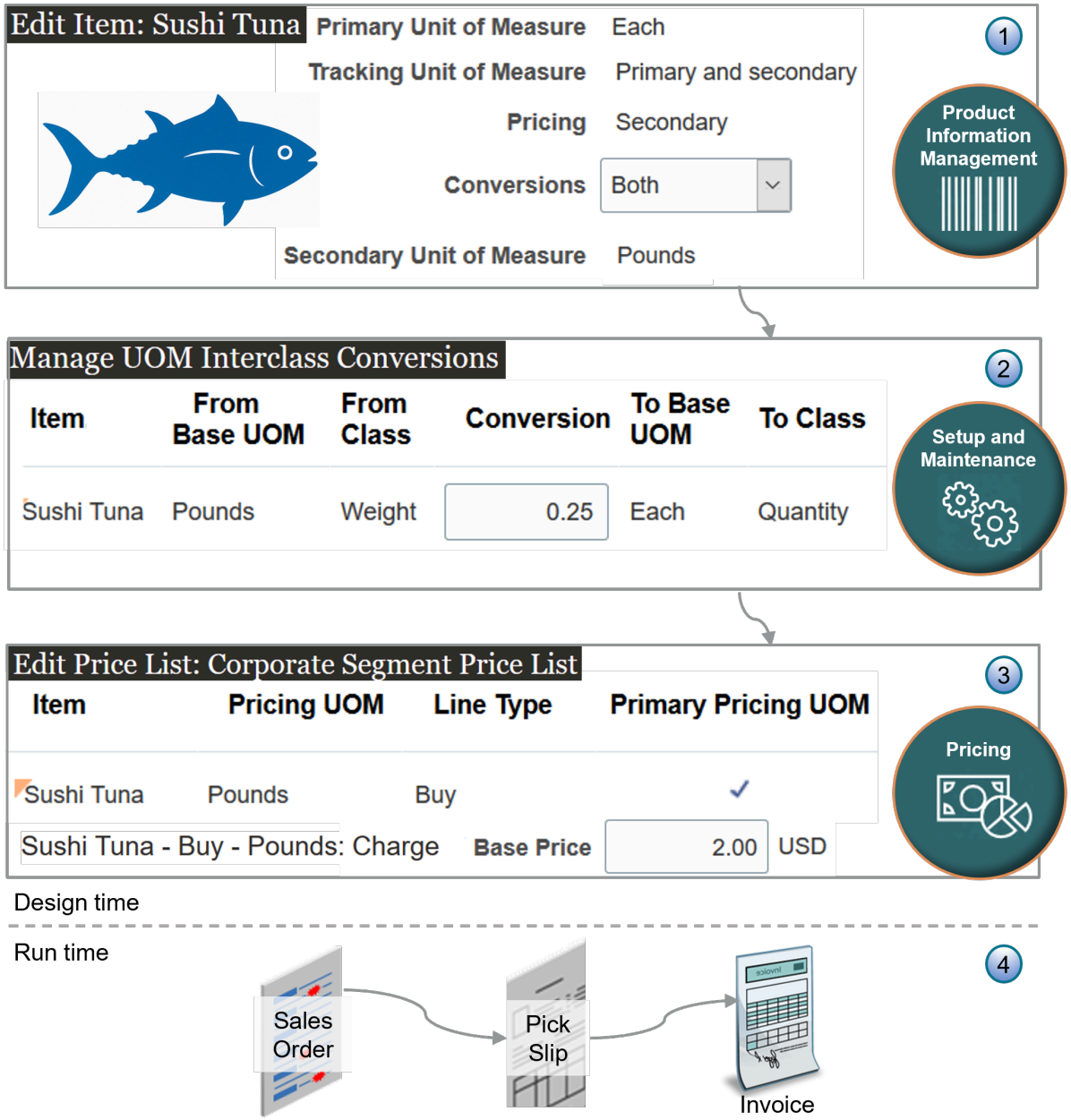
Set Up Dual Measures

Set up dual units of measure so you can order, price, manufacture, receive, pick, pack, and ship an item in the primary measure but price it in the secondary measure.

Assume you're in the Fresh Fish 4 U organization, and you're a fishmonger who sells an item named Sushi Tuna. You capture tuna in the open ocean and bring them to port every day, where you sell the whole fish to your favorite restaurateur, Fancy Fish.

You price it by pound, not by each fish, so you need to price it in the secondary measure. Sushi Tuna is a good candidate for dual measures because a tuna naturally varies in size, you typically sell each tuna as one fish each, but you price it by weight. You sell each tuna fish for a different amount because each one has a unique weight. You need to track the item in the primary measure and secondary measure throughout your order fulfillment lifecycle.

Here's your work map:



Summary of the Setup

1. Create the item.
2. Manage the conversion.
3. Set up pricing.
4. Test your work.

You need a different set of privileges for each work area that you use in this procedure. See *Get the Privileges That You Need to Implement Order Management*.

Create the Item

1. Go to **Home > Product Management > Product Management > Tasks > Create Item**.
   You must create a new item. You can't add dual measures to an item that already exists.
2. In the Create Item dialog, set the values:

Attribute	Value
Organization	Fresh Fish 4 U
Create New	Enabled
Number of Items	1
Item Class	Root Item Class

3. Make sure the Selected List window contains only Finished Goods, then click **OK**.
4. On the Create Item page, set the values:

Attribute	Value
Item	Sushi Tuna
Description	The world's tastiest tuna. Remember, you can tune a piano, but you can't tune a fish.
Primary Unit of Measure	Each Specify the unit of measure that you use to stock and sell and the item.
Tracking Unit of Measure	Primary and Secondary Specify how to track your on-hand balance. If you set it to Primary and Secondary, then you're telling Order Management that this item is a dual measure item.
Pricing	For this example, choose Secondary. See *Price Dual Measures*.
Conversions	Both

Attribute	Value
Secondary Unit of Measure	Pounds Specifies the measure that you use to price the item.
Defaulting Control	Choose a value: o **Default**. Use when your item's secondary measure might change at run time. o **Fixed**. Use when your item's secondary measure won't change at run time.

You can't change some of the values that you set in the Unit of Measure area after you save, so make sure you set them correctly.

5. Click **Specifications > Manufacturing**, then set the value:

Attribute	Value
Structure Item Type	Standard You must use Standard.

6. Click **Sales and Order Management**, then set the values:

Attribute	Value
Sales Product Type	Goods You must use Goods or leave it empty.
Shippable	Yes Can be Yes or No.
Invoiced	Yes
Invoice Enabled	Yes

7. Click **Save > Save and Close**.

See *How You Set Up Items in Product Information Management*.

Defaulting Control

If you set the Defaulting Control attribute to Default or No Default, then you can specify a deviation factor.

Variation sometimes happen during fulfillment, particularly with an item that varies in weight, such as fish because its ingredients evaporate over time, and that results in less weight. You might need to change the quantity on the pick slip to reflect the actual quantity picked. If you set Defaulting Control to Default, then you can use the deviation factor attributes to specify the percent that you can set for the Secondary Picked Quantity attribute on the pick slip.

Assume you set up a conversion between the primary Each and the secondary Pounds as 1 Each equals 10 Pounds, and you then set these values:

Attribute	Value
Positive Deviation Factor	10 If you set the quantity on the order line to 1 Each, then Inventory Management will limit the secondary measure to a maximum of 11 pounds. Here's the math for that: • 10 pounds multiplied by 10% equals a positive deviation of +1. • 10 pounds on the order line plus 1 equals 11.
Negative Deviation Factor	10 If you set the quantity on the order line to 1 Each, then Inventory Management will limit the secondary measure to a maximum of 9 pounds. Here's the math: • 10 pounds multiplied by 10% equals a negative deviation of -1. • 10 pounds on the order line minus 1 equals 9. If you set Positive Deviation Factor to 10 and Negative Deviation Factor to 10, then the user can set the value to 9, 10, or 11.

Note:

- You must use a decimal value for each attribute.
- You can't use dual measures when you set the Defaulting Control attribute to No Default.
- If a change happens between the time you pick the item and ship it, then you can override the picked quantity and secondary picked quantity, but the secondary shipped quantity must not exceed the secondary picked quantity. See *Manage Leftovers for Dual Measures*.

Manage the Conversion

You must set up a conversion between the item's primary measure and its secondary measure. You can use the standard conversion for many items or you can set up a conversion only for the item. In this example you set up a conversion for the item:

- 1 Pound equals 0.25 Each. If you order 1 Each of Sushi Tuna, then the value in the secondary Pounds measure is 4.

Try it:

1. Go to **Home > My Enterprise > Setup and Maintenance > Tasks > Search > Manage Units of Measure for Interclass Conversion**.
   In this example you convert between a measure that's in the Weight class and another that's in the Quantity class, so you create an interclass conversion. If your measures are in the same class, then use the Manage Units of Measure for Intraclass Conversion task.
2. On the Manage UOM Interclass Conversions page, click **Change Organization**, set the value, then click **OK**:

Attribute	Value
Organization	Fresh Fish 4 U

3. Click **Actions > Add**, set the values, then click **Save and Close**:

Attribute	Value
Item	Sushi Tuna
From Base UOM	Pounds
From Class	Weight
Conversion	0.25 You sell the Bullet Tuna species. Assume each of these tuna averages about 4 pounds each.
To Base UOM	Each
To Class	Quantity

4. Set up a standard conversion.
   Assume you package fish in a case, one case contains 3 tuna, so you also need to set up a rule that converts case to each:
   - Go to **Tasks > Search > Manage Units of Measure**.
   - On the Manage Units of Measure page, click **Actions > Add**, set the values, then click **Save**:

Attribute	Value
UOM Code	CS3

Attribute	Value
UOM Name	Case of 3
Description	Case of 3
Class Name	Quantity
Base UOM Name	Each

- Click **Manage UOM Standard Conversions**.
- On the Manage UOM Standard Conversions page, click **Actions > Add**, set the values, then click **Save and Close**:

Attribute	Value
UOM Name	Case of 3
Conversion	3
Base UOM Name	Each
Class Name	Quantity

Set Up Pricing

Assume you use the Corporate Segment Price List, and the sale price for tuna on the commercial market is about $2 a pound

You specify the Pounds measure as the primary. This way, pricing will price it by the pound, not by each. You specify 2.00 USD as the base price, so you charge $2 for each pound of tuna:

1. Go to **Home > Order Management > Pricing Administration > Price Lists**.
2. Search for and open the Corporate Segment Price List.
3. Click **Actions > Add Row**, set the values, then click **Save**:

Attribute	Value
Item	Sushi Tuna
Pricing UOM	Pounds

Attribute	Value
Line Type	Buy
Primary Pricing UOM	Selected. Enabling this option tells Pricing to use the value that you set in the Pricing UOM attribute to price the item. Don't confuse the Primary Pricing UOM attribute with the Primary Unit of Measure attribute that you set for the item in Product Management. The Primary Pricing UOM attribute is specifically for pricing, not for the item.

4. Click **Create Charge**, set the values, then click **Save and Close**:

Attribute	Value
Pricing Charge Definition	Sale Price
Calculation Method	Price
Base Price	2
Allow Manual Adjustment	Selected. Market conditions probably vary every day, so let your users adjust the price manually.

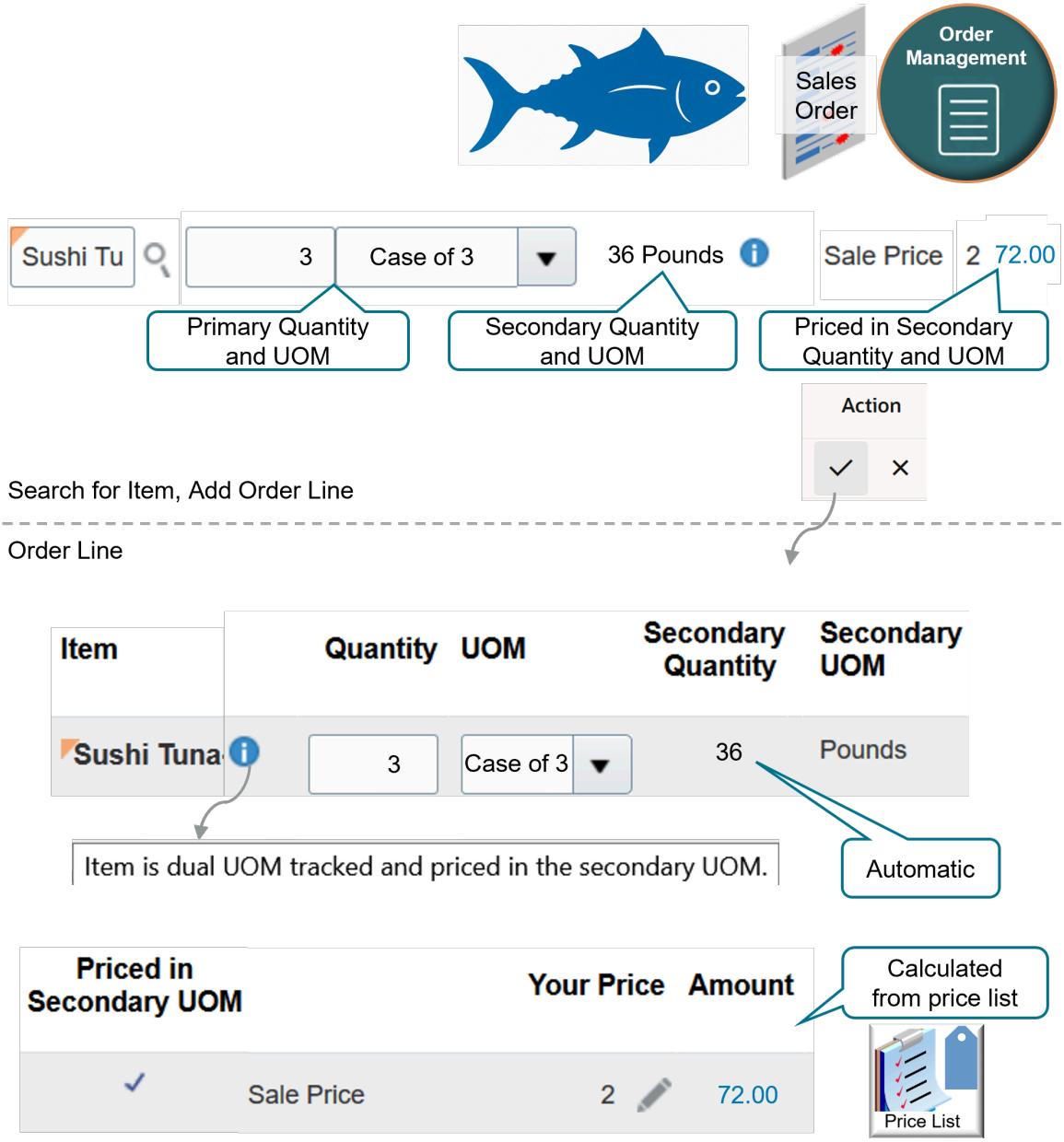
See *Manage Price Lists*.

Test Your Work

1. Go to the Order Management work area and create a sales order:

Attribute	Value
Customer	Fancy Fish
Business Unit	Fresh Fish 4 U

2. Search for and add the Sushi Tuna item on the order line:



Note

- You use the order line to search for the item. It displays the quantity and price for the primary measure and the secondary measure.
- You can't change the secondary quantity or secondary measure on the order line, but you can change the primary quantity and Order Management will automatically calculate the secondary quantity and the amount.
- The order line sets the unit of measure to the primary, by default. It also displays primary and secondary attributes which makes it easy to see the conversion.

3. Assume you change the Quantity to 3 and the UOM attribute to Case of 3:

Attribute	Value
Quantity	3 This is the primary quantity.
UOM	Case of 3 The primary measure of the item is Each. You can change it to any measure that's in the primary measure's class, such as Case of 3.
Secondary Quantity	36 The order line uses your conversion rules to automatically calculate the secondary quantity: o 1 case contains 3 tuna. o 1 tuna equals 4 pounds. o 3 tuna multiplied by 4 pounds means each case weighs 12 pounds. o 12 pounds for each case multiplied by the primary quantity of 3 equals a secondary quantity of 36.
Secondary UOM	Pounds
Sale Price	2
Line Price	72.00 Its the secondary quantity of 36 pounds multiplied by the unit price of 2 equals 72.00.
Information Icon	Let's you know that you're using dual measures for this item.

4. Click **Add**, then notice that the sales order adds the values that you set on the order line. Here are a few more details you should take note of:

Attribute	Value
Item	Contains your dual measure item.
Priced in Secondary UOM	Contains a value: o **Selected**. Pricing priced the order line according to the value in the Secondary UOM attribute on the order line. In this example, that would be Pounds.

Attribute	Value
	○ **Not Selected**. Pricing priced the order line according to the value in the UOM attribute on the order line. In this example, that would be Each. Order Management gets this value from the Pricing attribute that you set in Product Management.

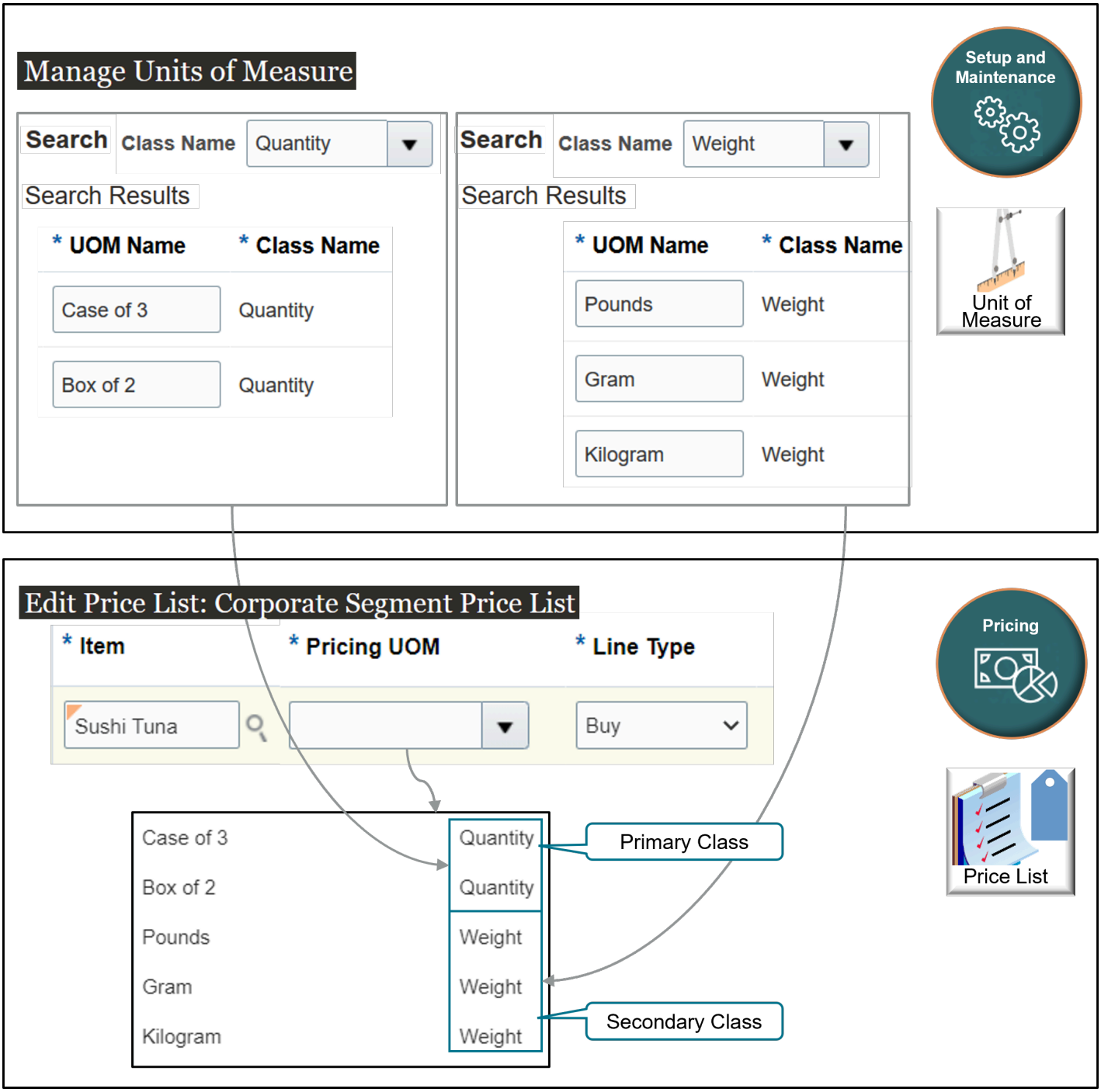
5. Submit:
   - The orchestration process schedules and reserves the item just like it does any other sales order. It schedules the order according to the order line's Quantity attribute and UOM attribute.
   - The secondary measure and the secondary quantity doesn't affect scheduling.

Assume the order number is 525940. Here's part of the order line:

Line	Item	Quantity	UOM	Status	Secondar Quantity	Secondar UOM	Price	Extended Amount	Assessab Value	Shipped Quantity	Secondar Shipped Quantity	Secondary Fulfilled Quantity
1	Sushi Tuna	3	Case of 3	Awaiting Shipping	36	Pounds	$2	$72	$72	empty	empty	empty

Price Dual Measures

Use the Pricing Administration work area to specify pricing for the item:



Note

- To identify and manage the units of measure that are in each class, go to the Setup and Maintenance work area, open the Manage Units of Measure task, then search according to class, such as Quantity.
  You can specify pricing for a dual measure in a price list, discount list, or shipping charge list.
- Use the Pricing UOM attribute to tell Pricing which measure to use to price the item. Use this attribute when you add the item to a list, such as the Corporate Segment Price List.

- Set up pricing in any measure that's in the primary's or the secondary's class.

Example

Let's see how the attribute values change as your item moves through fulfillment:

1. Start on the order line in Order Management.
2. Move to the shipment line in Oracle Shipping.
3. Now on the order line back in Order Management after Order Management receives the shipment confirmation from Shipping.
4. Finally on the invoice line in Oracle Receivables.

Assume you sell an item named Sushi Tuna. You sell the whole fish, and you sell it for the same price regardless of how big the fish is, so you use the primary Each measure to price it. Here's what pricing looks like when you sell a quantity of 2 fish and each one weighs 4 pounds:

Line	Ordered Quantity	Ordered UOM	Shipped Quantity	Secondary Quantity	Secondary UOM	Secondary Shipped Quantity	Secondary Fulfilled Quantity	Unit Price	Extended Amount
1. Order Line	2	Each	0	8	Pounds	-	-	$4	$8
2. Shipping Line	2	Each	2	8	Pounds	-	-	-	-
3. Submitted Order Line	2	Each	2	8	Pounds	8	-	-	-
4. Invoice Line	2	Each	-	8	Pounds	8	8	$4	$8

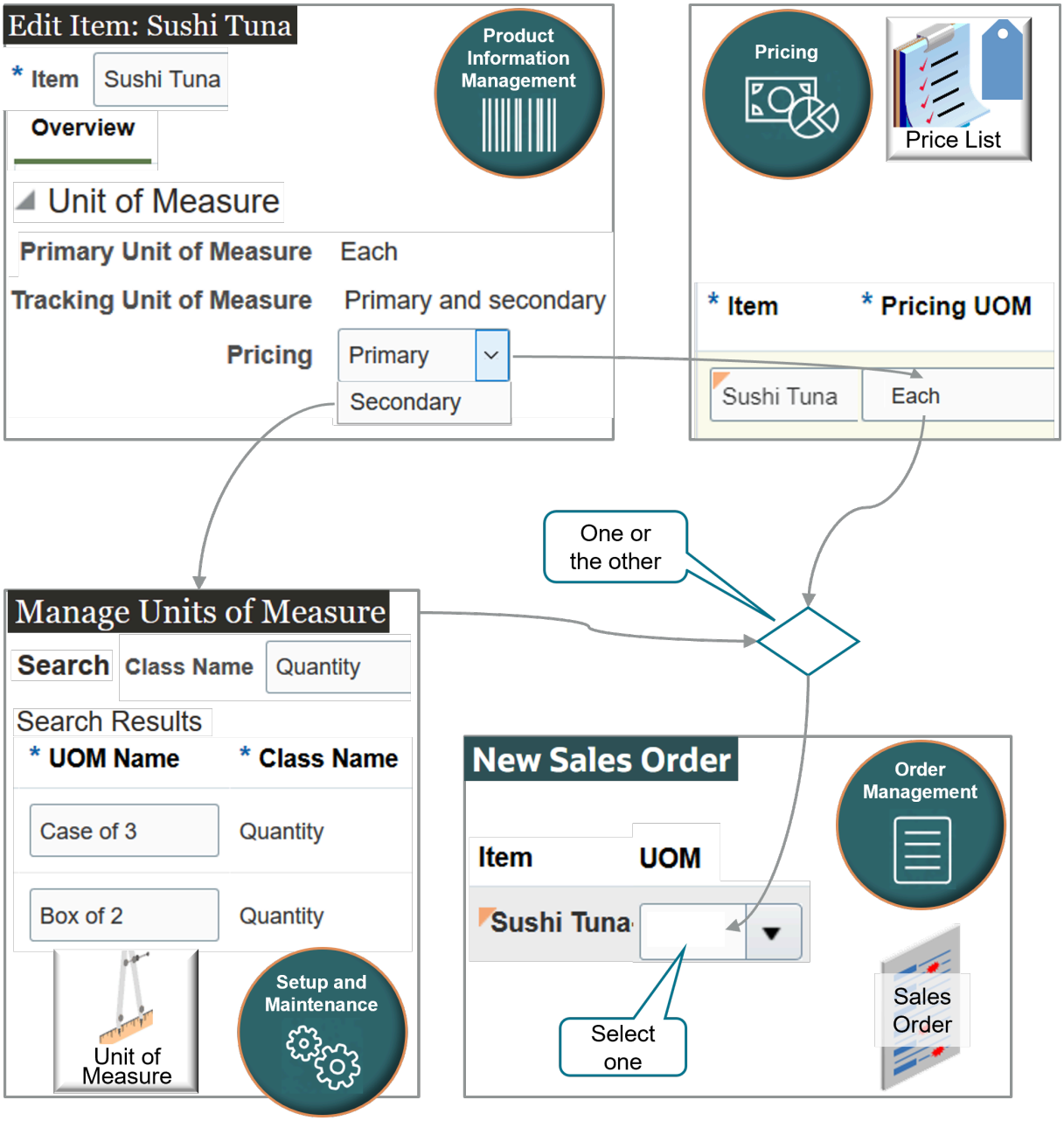
Each fish can vary in weight, so using Each results in pricing that's all over the map. Your customers prefer to buy the whole fish, so you decide to continue selling each whole fish instead of cutting it up, but you use the secondary Pounds measure to price it. Here's what pricing looks like when you sell a quantity of 2 fish, each one weighs 4 pounds, and you charge $1.50 a pound:

Line	Ordered Quantity	Ordered UOM	Shipped Quantity	Secondary Quantity	Secondary UOM	Secondary Shipped Quantity	Secondary Fulfilled Quantity	Unit Price	Extended Amount
1. Order Line	2	Each	0	8	Pounds	-	-	$1.5	$6
2. Shipping Line	2	Each	2	8	Pounds	-	-	-	-
3. Submitted Order Line	2	Each	2	8	Pounds	7	-	-	-
4. Invoice Line	2	Each	-	8	Pounds	7	7	$1.5	$10.5

Line	Ordered Quantity	Ordered UOM	Shipped Quantity	Secondary Quantity	Secondary UOM	Secondary Shipped Quantity	Secondary Fulfilled Quantity	Unit Price	Extended Amount

Set the Item's Pricing Attribute

The value that you set for the item's Pricing attribute in Product Management determines the value that you can set for the order line's UOM attribute:



Primary

If you set the item's Pricing attribute to Primary in Product Management, then you can set the order line's UOM attribute only to the measure that you specify in Pricing Administration. For example, if you set the Pricing UOM attribute to Each in Pricing Administration, then you must set the order line's UOM attribute to Each.

Pricing will use the primary measure to price the item.

Secondary

If you set the item's Pricing attribute to Secondary in Product Management:

- You can set the order line's UOM attribute to any measure that's in the same class as the measure that you specify in the Primary Unit of Measure attribute in Product Management.
- Pricing will use the secondary measure to price the item.
- If the Pricing attribute for the item validation organization contains Secondary, then you must price the item in the secondary measure.
- You can't change the line's Secondary UOM attribute to another value.
- Order Management will price the item according to the secondary measure regardless of whether you set up pricing in Pricing Administration. Pricing won't prevent you from using the primary, but if you use dual measures, then you must set up pricing according to the secondary measure. If you don't, you will encounter a runtime error.

Consider an example:

- You set the Item Validation Organization parameter to Fresh Fish 4 U. See *Manage Order Management Parameters*.
- In Product Management, you create the Sushi Tuna item in the Fresh Fish 4 U organization, and you set Sushi Tuna's primary measure to Each.
- The Each measure is in the Quantity class, so you can price the item in any measure that's in the Quantity class, such as Bag, Book, Box of 10, Case of 12, Dozen, Each, Gross, Ream, Sheet, and so on.

Related Topics

- What's a Dual Unit of Measure?
- Manage Price Lists
- How You Set Up Items in Product Information Management

Import Dual Measures

You can import an item that uses dual units of measure in the same way that you import an item that doesn't.

Here's an example payload:

For example, you can import:

Attribute	Value
ProductNumber	Sushi Tuna
OrderedQuantity	3
OrderedUOM	Case of 3

Note

- You can import through REST API, a web service, file-based data import (FBDI), or Electronic Data Interchange (EDI).
- You don't import some attributes for dual measures, such as secondary quantity, secondary UOM, secondary ordered quantity, and so on. Instead, Order Management calculates them at runtime according to your set ups.

Import Pricing

You can import a sales order that you already priced:

If you set the Pricing attribute in the Units of Measure area in Product Management to:

- **Secondary**. You must import price details for the item's secondary measure. If you don't, you'll encounter an error during import.
- **Primary**. You don't have to include these details.

Order Management doesn't check to make sure that the Priced Quantity in the imported order matches the conversion between the quantity ordered in the measure on the order line and the item's secondary measure. You must do this manually.

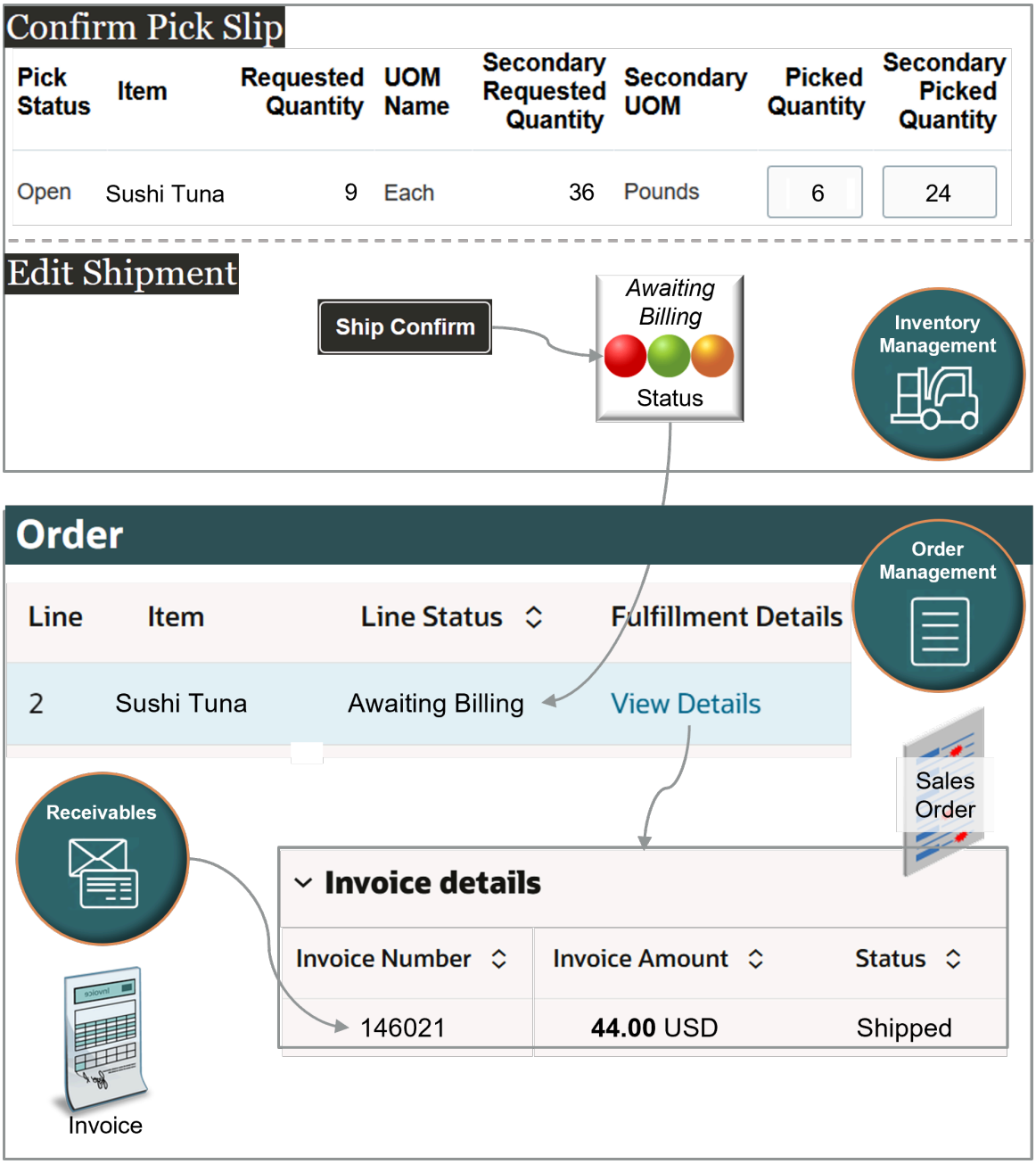
Use the freeze attributes. See *Freeze Price on Sales Orders*.

Related Topics

- Price Dual Measures
- Overview of Importing Orders Into Order Management
- Manage Price Lists

Track Dual Measures

Use Oracle Inventory Management and Oracle Order Management together to track your dual measures during fulfillment:



Here's what's happening:

- You submit on the sales order, then Order Management creates and sends a request to Oracle Shipping.
- Oracle Shipping creates a shipment request and populates the requested quantity and the secondary requested quantity according to the standard conversion that you set up for the item.
- You can also use the Inventory Management work area to manually create a pick wave, confirm the pick slip, and confirm the shipment.
- This feature maintains values for various attributes, such as Secondary Requested Quantity and Secondary UOM. It maintains and displays them throughout your flow across applications.

- Inventory Management lets Order Management know that it confirmed the shipment, then you use the Order Management work area to see that it updated the status on the order line to Awaiting Billing.
- You can also use the Order Management work area to examine the order line's status, such as Shipped, and to get the same invoice details that Oracle Receivables has on its invoice for the order line.

Note

- The Requested Quantity is in the primary Each measure. It contains 9 because you ordered 3 cases, and each case has 3 tuna.
- Assume a case sits too long on the shelf and spoils, you pick only 2 cases instead of the requested 3. The Picked Quantity is in the primary Each, so you set Picked Quantity to 6 because each case has 3 tuna. Each tuna weighs 4 pounds each, so Inventory Management automatically sets the Secondary Picked Quantity to 24 because each case weighs 12 pounds and you picked 2 cases.

Assume you already *Set Up Dual Measures*. Here's a summary of what you can do now:

1. Create pick wave.
2. Confirm pick slip.
3. Examine sales order.
4. Invoice sales order.
5. Examine invoice details on order lines.
6. Examine receivables.
7. Fix the order total.

Create Pick Wave

In this example, you set the picked quantity to a value that's different from the requested quantity. To start, you create a pick wave:

1. Go to **Home Page > Supply Chain Execution > Inventory Management (Classic) > Tasks > Show Tasks > Shipments > Create Pick Wave**.
2. On the Create Pick Wave page, set the values:

Attribute	Value
Release Rule	Standard
Ship From Organization	M1
Order	525940
Customer	Fancy Fish

3. Click **Show More > Options**, then set the value:

Attribute	Value
Autoconfirm Picks	Not selected.

Attribute	Value
	You can normally leave this enabled, but disable here so you can examine the confirm flow.

4. Click **Release Now**.
5. In the Confirmation Dialog, notice the text `Number of shipment lines released to warehouse: 1.`

   Assume Inventory Management creates pick wave 1307257.

Confirm Pick Slip

1. On the Inventory Management page, click **Tasks > Confirm Pick Slips**.
2. On the Confirm Pick Slips page, search for the value:

Attribute	Value
Pick Wave	1307257

3. In the search results, click the **link** in the Pick Slip column.
4. In the Picks area, note the values:

Attribute	Value
Requested Quantity Maximum Picked Quantity	9 Its the quantity in the primary measure, Each. You ordered 3 cases of tuna, and each case has a quantity of 3, so the total is 9.
Secondary UOM	Pounds
Secondary Requested Quantity	36 The conversion rule that you created calculates this value, which is a conversion between the item's primary Each measure and the item's secondary Pounds measure.
Secondary Picked Quantity	Empty

5. Set the value:

Attribute	Value
Picked Quantity	9

Attribute	Value
	It's the quantity in the primary Each measure.

6. Notice that the work area automatically updates the Secondary Picked Quantity according to the value that you set in the Picked Quantity:

Attribute	Value
Secondary Picked Quantity	36 It's the quantity in the secondary Pounds measure.

7. You set the Deviation Factor earlier in this procedure to +/- 10%. 10% of 36 is 3.6, so you can set the Secondary Picked Quantity to a:
   - Low of 32.4 (36 minus 3.6).
   - High of 39.6 (36 plus 3.6).

   You measure the weight of the two cases that you picked and find that they lost weight through evaporation. They actually weigh 34 pounds, not 36 pounds. So you manually decrease the value from 36 to 34, which is above the low range that the deviation allows:

Attribute	Value
Secondary Picked Quantity	34 The Deviation Factor attributes that you set for the item in Product Management controls the value that you can set. If you find that the cases you picked weigh less than 32.4 or more than 39.6, then you can't use them. You must pick some other cases.

8. Set the value, then click **Confirm > Confirm and Go to Ship Confirm**:

Attribute	Value
Ready to Confirm	Selected.

9. Confirm the shipment. On the Edit Shipment page, confirm the values, then click **Ship Confirm**:

Attribute	Value
Line Status	Staged

Attribute	Value
Requested Quantity Staged Quantity	9 It's the quantity in the primary measure, Each.
Secondary Picked Quantity	34
Secondary Requested Quantity	36

Inventory Management sends an update to Order Management that it confirmed the shipment, and Order Management updates the order's status to Awaiting Billing.

Here's a summary of the shipment line:

Item	Order Line	Line Status	Quantity UOM	Requested Quantity	Staged Quantity	Secondary Picked Quantity	Secondary Quantity UOM
Sushi Tuna	1	Staged	Each	9	9	34	Pounds

Examine Sales Order

1. Go to the Order Management work area and open sales order 525940.
2. Notice that the order's total is different than when you submitted it. This happens because you reduced the quantity that you actually picked.

   Here's the order line:

Item	Quantity	Status	UOM	Your Price	Amount
Sushi Tuna	3	Awaiting Billing	Case of 3	2	68

   Order Management uses the quantity that it receives from Shipping to recalculate the amount so it reflects that actual quantity that you shipped.
3. Notice the order line's values:

Attribute	Value
Shipped Quantity Fulfilled Quantity	3 You shipped and fulfilled all 3 cases of tuna in the primary, Each.

Attribute	Value
Secondary Shipped Quantity	34
Secondary Fulfilled Quantity	You shipped and fulfilled a total of 34 in the secondary, Pounds.

Order Management:

- Uses the standard conversion that you created and the line's Quantity attribute to set the Secondary Quantity.
- Order Management populates the Secondary Fulfilled Quantity attribute after the fulfillment completion step finishes. See *Guidelines for Setting Up Orchestration Process Steps*.

Invoice Sales Order

1. Make sure you have the privileges that you need to administer Oracle Maintenance Management.
2. Go to **Home Page > Supply Chain Execution > Maintenance Management > Tasks > Manage Assets**.
3. Click **Show Filters**, then search for the values:

Attribute	Value
Item	Sushi Tuna
Sales Order Number	525940

4. In the search results, click the **link** in the Number attribute, such as **100100375360194**.

   100100375360194 identifies the asset that Inventory Management created for the item.
5. On the Asset page, notice how the feature brought values from Order Management into Maintenance Management:

Attribute	Value
Asset Number	100100375360194
Description	The world's tastiest tuna.
Item	Sushi Tuna
Quantity	3 Case of 3
Secondary Quantity	34 Pounds

Attribute	Value
Customer	Computer Service and Rentals

6. Click **Last Sales Order Details**. Its the fourth icon from the top.
7. Notice how the Last Sales Order Details page contains a pricing breakdown:

Attribute	Value
Charge Definition	Sale Price
Priced Quantity UOM	Pounds
Product Unit Price	2
Primary	Contains a check mark.
Price Element	Your Price

Recall that the order line is still in the Awaiting Billing status. It means that Order Management sent the line to Oracle Receivables, and the order line is ready to invoice.

Now let's see how we get that to Closed status.

8. Go to **Home Page > Tools > Scheduled Processes**, then run the Import AutoInvoice scheduled process to invoice the sales order:

Attribute	Value
Business Unit	Vision Operations
Transaction Source	Distributed Order Orchestration
From Sales Order Number	525940
To Sales Order Number	525940

See *Update Intercompany Receivables Invoice Import Details*.

9. Go to the Order Management work area and open sales order 525940.

10. Look:

Attribute	Value
Item	Sushi Tuna
Status	Closed It means Oracle Receivables successfully invoiced the line.

Examine Invoice Details on Order Lines

1. Look:

Attribute	Value
Status	Shipped

2. Notice the billing attributes on the line. They indicate that the flow successfully invoiced the sales order:

Attribute	Value
Invoice Number	146021
Invoice Amount	68.00 USD

Order Management creates and sends a request to Oracle Receivables to create an invoice. Receivables uses the pricing unit of measure:

If You Use This Attribute on the Order Line To Price the Item	Receivables Will Use These Attributes From the Order Line When It Creates the Invoice
UOM	Fulfilled Quantity UOM
Secondary UOM	Secondary Fulfilled Quantity Secondary UOM

Examine Receivables

1. Go to **Home Page > Receivables > Billing > Tasks > Manage Transactions**.
2. Search for the value:

Attribute	Value
Transaction Number	146021 It's the invoice number that you noted on the order line in Order Management.

3. Click **146021** in the search results, then, in the Invoice Details area, notice the values on the invoice line:

Attribute	Value
Item	Sushi Tuna
UOM	Pounds It's the item's secondary measure. Order Management only sends the measure that it used to price the item to Oracle Receivables. In this example, Order Management priced the item in the secondary, so it doesn't send the primary quantity or primary measure to Oracle Receivables.
Quantity	34 It's the quantity that Oracle Shipping actually shipped, in the secondary measure.
Unit Price	2
Amount	68

Fix the Order Total

1. Examine the order's total:
   - Go to the Order Management work area, then open order 525940.
   - On the order page, notice the value at the top of the page:

Attribute	Value
Total	86.40

Attribute	Value

The order total is 86.40 but the amount on the invoice is 68. Why?

- Click the warning icon next to the order total, then examine the warning:

```
The total amount for sales order 525940 isn't correct. The order fulfillment process updated
the amount on one or more order lines in sales order 525940, but the order total doesn't include
these updates. To update the total, someone with a job role to manage scheduled processes must go
to the Scheduled Processes work area, then run the Update Sales Order Totals scheduled process.
Specify order number 525940 when you run the scheduled process. You can also set it up to run
automatically on a schedule.
```

This happens because Oracle Receivables recalculated the order line's extended amount according to the actual quantity that Shipping shipped, but Shipping hasn't sent this change to Order Management. Recall that you changed the quantity during shipping.

- Click the **86.40** total, then examine the charge breakdown:

Attribute	Value
Total List Price	72.00
Total Tax	14.40
Pay Now	86.40

86.40 reflects the quantity that existed when you submitted the sales order, not that you actually shipped.

2. To get the order total back in sync with the invoice, go to the Scheduled Processes work area, then run the *Update Sales Order Totals* scheduled process. For this example, set these values when you run it:

Attribute	Value
From Order Number	525940
To Order Number	525940

We recommend that you run the process only after you invoice the sales order. This makes sure that the order total will match the invoice total.

3. Go to the Order Management work area, open your sales order, click the **81.60** total, then verify that the sales order's total now matches the invoice total:

Attribute	Value
Total List Price	68.00
Total Tax	13.60
Pay Now	81.60

Use Dual Measures with Drop Shipments

Set up Oracle Order Management so your supplier can drop ship a sales order to your customer and invoice it according to the primary quantity or the secondary quantity that your supplier ships on the order line.

As an option, create a blanket purchase agreement (BPA) to procure the item from your supplier at a predefined price, then price it according to the secondary measure:

- Set the Supplier attribute on the Create Agreement dialog when you create the agreement.
- If the blanket purchase agreement exists, then Oracle Purchasing automatically creates a purchase order for the sales order, and sets the quantity and unit of measure on the Blanket Purchase Agreement page according to the item's primary measure regardless of the order line's measure.

If you capture the actual quantity that your fulfillment system ships in the secondary measure, then Order Management will automatically adjust the extended amount on the order line. For example, if you drop ship the item, then you can use the Advance Shipment Notice (ASN) from your supplier to determine the quantity that your supplier shipped in the secondary measure, then automatically adjust the extended amount on the order line.

Note

- You can't use AP Invoice with dual measures. You must use an Advance Shipment Notice as the event that starts the transfer of ownership.
- If you use AP Invoice, and if the flow creates the invoice, then you can't revise or cancel the order line.

Related Topics

- Overview of Drop Ship in Order Management

Return Dual Measures

Return an item that uses dual units of measure in a referenced or unreferenced return.

Referenced Return

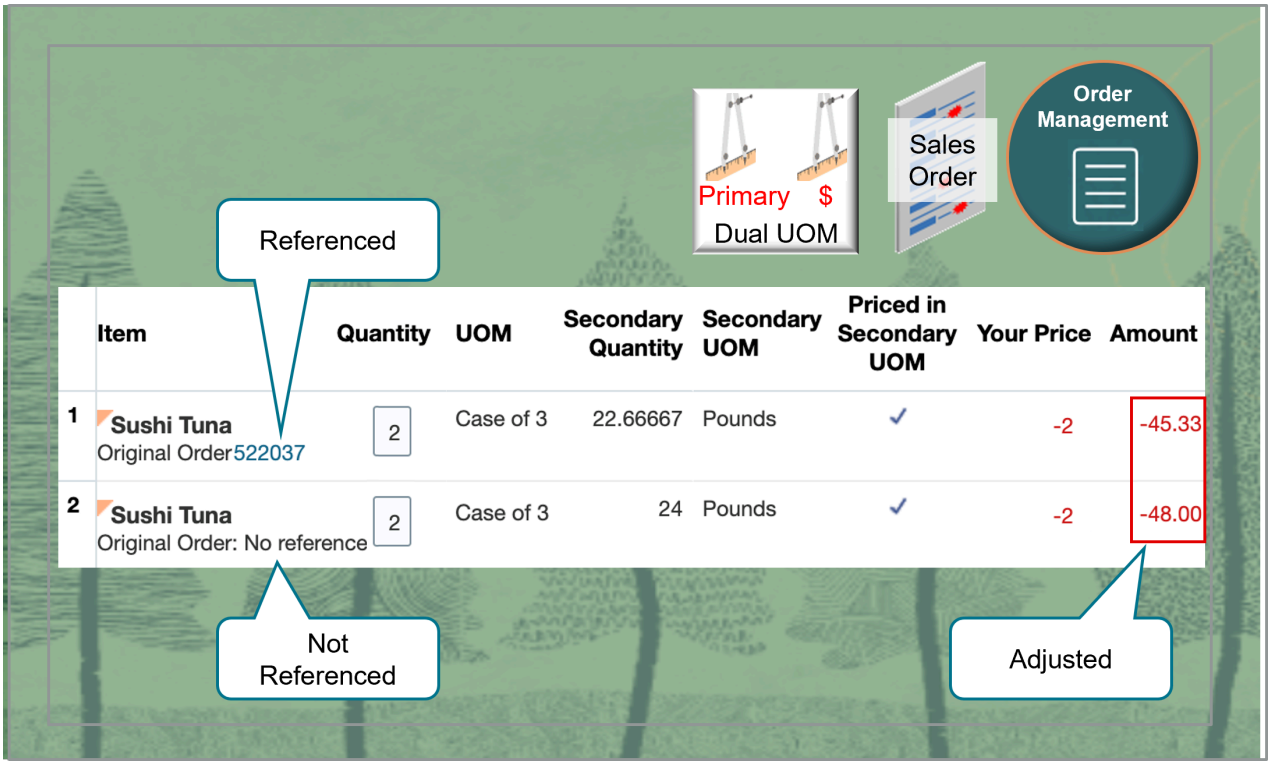
- The Return Quantity defaults to the actual quantity that you shipped.
- Oracle Order Management calculates the return order's price the same way that it calculated price on the original order. For example, if you price the original order according to the secondary quantity and the secondary measure, then Order Management prices the return according to the secondary quantity and the secondary measure.
- Returning the item in the same quantity and measure that you used in the original order helps to make sure you provide a credit that correctly matches the original charge.
- If you price the item in the secondary measure, then Order Management calculates credit for the line according to the secondary quantity that it fulfilled on the referenced line.
- You can return up to the quantity that Order Management fulfilled on the referenced order line.

Unreferenced Return

An *unreferenced return* is a sales order that includes a return line that doesn't reference the sales order that your customer used to purchase the item:

- You can add an unreferenced return line to a sales order.
- Order Management sets the secondary measure on the return line according to how you set up the item in Product Management and in the item validation organization.
- To calculate the secondary return quantity, Order Management uses the conversion rule that you set up between the return measure and the secondary measure.
- If you track and price the item in the secondary measure, then Order Management calculates credit for the return line according to the secondary return quantity.

This example has one line that references the original order and another line that doesn't:



Note

- You return a quantity of 2 on each line.
- Order Management prices each line in the secondary measure.
- Order Management prices each line differently depending on whether it references the original order:

If the Return Quantity	Then
On the line that references the original order is 22.66667	○ The credit doesn't depend on the quantity that you receive from Oracle Receiving. ○ You ordered 3 cases of tuna, and the secondary quantity that you fulfill and invoice for the 3 cases is 34 pounds, where each case weighs 11.33333 pounds. ○ Your customer returns 2 of the 3 cases. Order Management will calculate the Secondary Return Quantity as 22.66667 pounds [(2 * 34) / 3], or 2 returned cases multiplied by 34 pounds, then divided by the 3 original cases.
On the line that doesn't reference the original order is 24	○ There's no original return on this line, you never charged the customer for the full price, so you don't need to worry about crediting only a portion of the case of 3. ○ You credit [(2 * 12) -2] = -48, or a quantity of 2 multiplied by 12 pounds equals 24 pounds, multiplied by your price of -2 equals -48.00.

See *Allow Users to Return Items Without Original Sales Orders*.

Related Topics

- Guidelines for Processing Return Orders

Calculate Credit for Dual Measures

Specify whether to calculate credit according to the secondary quantity that you actually receive or to the quantity that your customer requests when they place a return order. This feature applies to a referenced return when you use dual units of measure and you price in the secondary measure.

If your customer returns an item that uses dual measures, and if the return references the original sales order, then Order Management sets the return quantity and the secondary return quantity to the actual quantity that it fulfilled on the original order, by default. Pricing calculates price on the return in the same way that it calculated price on the original order.

If you price the item in the secondary measure, then Pricing calculates credit for a referenced return according to the secondary fulfilled quantity on the referenced order.

Consider an example:

- Your customer orders 3 cases of an item that uses dual measures, and the secondary measure is Pounds.
- You set up a rule that converts the primary Case measure to the secondary Pounds measure. It converts 1 case to 12 pounds.
- You place an order for 3 cases and Order Management sets the secondary quantity to 36 pounds.
- You ship all 3 cases but you set the secondary quantity when you ship the item in Oracle Shipping to 34 pounds to account for some variability in the actual weight that you ship.
- The secondary quantity that you fulfill and invoice for the 3 cases is 34 pounds, where each case weighs 11.33333 pounds.
- You invoice the customer for 34 pounds.
- Sometime later, your customer returns 3 of the 3 cases that you shipped.
- Pricing calculates the Secondary Return Quantity as 34 pounds. Pricing uses this quantity to calculate credit regardless of the secondary quantity that you actually receive and deliver back to the warehouse. This way, the credit matches the amount that you invoiced the customer on the original order line.

In some situations, such as consumer goods and food processing, the quantity that you originally shipped might be less than the quantity that you receive on the return. You can use this feature to select the quantity you want to use to calculate credit for the referenced return. You can calculate credit according to the secondary quantity that you actually receive.

Assume the secondary quantity is 34 pounds on the original order, but its 35 pounds when you actually receive the item on the return order. You can use this feature to record the quantity as 35 pounds instead of 34 pounds and calculate credit to your customer for 35 pounds. Your customer will receive a credit that's higher than what they paid on the referenced order.

Here's your setup:

1. Go to **Home > My Enterprise > Setup and Maintenance > Tasks > Search > Manage Order Management Parameters**.

2. Set the Type of Secondary Quantity for Referenced Returns parameter:

Value	Calculate Credit According to the Quantity That You. . .
Returned Quantity in the Secondary UOM	Actually receive on the return order, in the secondary measure.
Ordered Quantity in the Secondary UOM	Shipped on the referenced order, in the secondary measure.

You can also specify whether to accept a credit amount that's more than the invoiced amount:

1. Go to **Home > My Enterprise > Setup and Maintenance > Tasks > Search > Manage Transaction Types**.

   See *Transaction Types*.
2. On the Manage Transaction Types page, in the search area, enter `Invoice` in the Name attribute, then click **Search**.
3. In the search results, in the Name column, click the transaction type that you use in your implementation, such as Invoice_1.
4. On the Edit Transaction Type page, enable the Allow Overapplication option.

   If you don't enable Allow Overapplication, and if the credit amount is more than the original invoice amount, then the credit will fail, and you can't remove the failure from Oracle Receivables until you enable it. We recommend that you consult with your sales and finance departments about whether to enable this option.

Related Topics

- Price Dual Measures

Manage Leftovers for Dual Measures

Leftovers are great after supper but require special handling in inventory. If your item uses dual units of measure, and if a transaction drives the item's on-hand quantity in the primary measure to zero, then Oracle Inventory Management automatically creates a transaction for the leftover quantity, but the secondary on-hand quantity isn't zero.

Note

If Secondary On-hand Quantity Is. . .	Leftover Transaction Will Have A . . .
Less than zero	Receipt
Greater than zero	Issue

You can set the Defaulting Control attribute to manage these differences:

Value	Description
Fixed	The primary quantity and your UOM conversion will determine the secondary quantity.

Value	Description
Default or No Default	The deviation that you specify will determine the secondary quantity.

Assume you allow a 10% deviation in either direction. The conversion from primary to secondary is 1 to 1, such as KG and Liters. Assume you receive 100 KG and 100 Liters. Assume you issue:

- 50 KG and 51 Liters to a shipment because the material expanded during fulfillment. That leaves you with 50 KG and 49 Liters on hand.
- 50 KG and 51 Liters. This leaves your on-hand quantity as 0 KG and -2 Liters. But this isn't physically possible. If you have 0 KG, you must also have 0 Liters.

Inventory Management will automatically create a receipt for the leftover quantity for 0 KG and 2 Liters to bring your on-hand quantity to 0 KG and 0 Liters. If you have 0 KG and a positive 2 Liters, Inventory Management will create an issue for the leftover quantity.

You typically see these leftovers when you allow a deviation. However, if you set Defaulting Control to Fixed, then the secondary on-hand quantity can sometimes get out of sync with the primary quantity and the UOM conversion because rounding errors accumulate. If a transaction leaves on-hand quantity at zero in the primary quantity, but not zero in the secondary quantity, then you'll have a transaction for the leftover quantity.

The reverse isn't true. If a transaction leaves on-hand quantity as zero in the secondary quantity but not zero in the primary quantity, then Inventory Management doesn't automatically create an issue for the primary measure. You can create a miscellaneous issue to make the primary measure 0.

For more about the Defaulting Control attribute, see *Set Up Dual Measures*.

Related Topics

- What's a Dual Unit of Measure?
- How Units of Measure, Unit of Measure Classes, and Base Units of Measure Relate to Each Other

Guidelines for Dual Measures

Consider these guidelines when you set up and manage dual units of measure.

- If you add an item that uses dual measures to an order line and then submit the order, then you have to use dual measures for that item during fulfillment.
- If you set up an item to use dual measures, and if you price it in the primary measure, then you can apply a coverage to the item. If you price it in the secondary, then you can't apply a coverage. See *Set Up Coverages for Sales Orders*.
- You can set up rules for your item in the same way that you set them up when you don't use dual measures. For example, available-to-promise rules, sourcing rules, assignment sets, and so on in Global Ordering Promising.
- If you need an orchestration process that does tasks that are specific for your dual measure item, then we recommend you use an assignment rule to assign that process instead of using line selection criteria. Also, you can use a dual measure attribute in your rule, such as Priced in Secondary UOM. See *Guidelines for Assigning Orchestration Processes*.

- Make sure the setup for the item's secondary measure is identical in the item validation organization and in the organization that you use to fulfill the order line. If these measures aren't the same, the Order Management work area will display an error message that requests you to change the warehouse or cancel the order line.
- Order Management automatically calculates and sets the secondary quantity and the secondary measure on the order line according to your conversion rules. You can't manually modify these values on the order line.
- You can't use dual units of measure with *Reduce Inventory When a Sales Order Doesn't Pick or Ship*.

If you use more than one measure to track the item:

- You must set up a conversion between the primary measure and the secondary measure, and if
- Your flow includes a purchase order or Advance Shipment Notice, then you must set up a conversion between the order line's measure and the purchase order's measure or the advance shipment notice's measure.

Primary and Secondary Quantity

- You can substitute item x for another item y, but only if items x and y use the same primary measure and the same secondary measure. Order Management doesn't call pricing after the substitution so it expects the secondary shipped quantities to be in the same measure that you use for the original item.
- If you apply a shipment tolerance on an order line, and if you price the item in the secondary measure, then the price on the invoice uses the secondary quantity that Order Management fulfilled, regardless of how you set the Quantity to Invoice for Overshipment parameter. See *Manage Order Management Parameters*.
- If you revise an order, then you can't modify the secondary measure or the secondary ordered quantity on that revision.

Secondary UOM

You can't use the secondary UOM in some scenarios. You must use the primary UOM for these scenarios:

- Model, such as an assemble-to-order item, pick-to-order item, or kit
- Item that you can't ship, such as a subscription or coverage
- Cost list or pricing guideline
- Promising through Global Order Promising
- Reserve inventory
- Consign inventory
- Outside processing
- Contract manufacturing
- Work order in discrete manufacturing
- Global Trade Management
- Field service
- Service logistics

Order Management Extensions

You can use these attributes in an extension:

- Secondary UOM

- Secondary Quantity
- Priced in Secondary UOM
- Secondary Shipped Quantity
- Secondary Fulfilled Quantity
- Secondary RMA Delivered Quantity

Here's an example extension pseudocode:

```
If Priced in Secondary UOM is Yes, then set the value of an extensible flexfield on the order line.
```

You can only read these attributes. You can't update them.

See *Attributes That You Can Use With Order Management Extensions*.