Oracle® Transportation Management

Order Management Guide

Release 6.4.2

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Oracle® Transportation Management Order Management Guide, Release 6.4.2

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Preface

This document is intended to provide an overview of order management functionality as well information for configuring Oracle Transportation Management (OTM) to process orders. Users migrating from versions prior to 6.2 should review the migration chapter.

Change History

Date	Document Revision	Summary of Changes
12/2016	-01	Initial release with substantial revisions. Added INSTRUCTED PREPACK to Default Order Configurations. General revisions of the document.

1. Order Management Terms

Table 1-1: Term Definitions

Term	Definition
Item	product to be shipped without form; contains attributes of product (ex. soda)
Order Base	total amount of product ordered, generally released in intervals over a period of time (purchase order)
Order Release	amount of product to be planned for shipping by Oracle Transportation Management (sales order)
Order Release Line	line items within an order release - one order release can have several order release lines, such as 1000 shoes, 200 socks, 500 pants, etc.
Order Configuration	allows you to configure how Oracle Transportation Management acts on order bases and releases; configuration is attached to order bases and order releases
Packaging Unit (PU)	represents the object which goods to be shipped are packed in, such as a box or a tote (ex. box containing cans of soda)
Packaged Item (PI)	form of product being shipped; contains attributes of the packaging (ex. can of soda)
Ship Unit	shippable unit, usually including the packed goods and the Transport Handling Unit (THU); the entity that will be used when planning orders into shipments
Transport Handling Unit (THU)	represents the object used to hold the goods during transportation (ex. pallet or a crate)

2. Order Model Overview

Order Base and Order Release

Orders may be entered into Oracle Transportation Management as order bases or order releases. An order base represents the total amount of product to be shipped, generally in intervals over a period of time. An order release represents the amount of product to be planned for shipping by Oracle Transportation Management. Order releases may be entered directly into Oracle Transportation Management via the user interface or XML integration, or they may be created from order bases using various actions.

Lines and Ship Units

Order bases and order releases may be entered with line items or with ship units. In general, line items (or lines) should be used when information is known about the product itself such as net weight or net volume and not much is known about how it will be packed for shipping. Ship units should be used when it is known how the product will be packed for shipping. For example, ship units would be an ideal mechanism to model 10 pallets each with a known gross weight, gross volume, or dimensions.

When creating order releases from an order base, portions of an order base line may be used to create order release lines. Similarly, portions of order base ship units may be used to create order release ship units.

Order Planning

The Oracle Transportation Management planning algorithm determines optimal shipping based on order release ship units. As described above, order releases may be created with line items or with ship units. If the order is created with line items, Oracle Transportation Management will create ship units based on the packing algorithm using Ship Unit capacities and order line consumption values. Details on this configuration are described later in this document.

The below diagram summarizes the interaction of order bases and releases and the various entry points to load orders in Oracle Transportation Management.

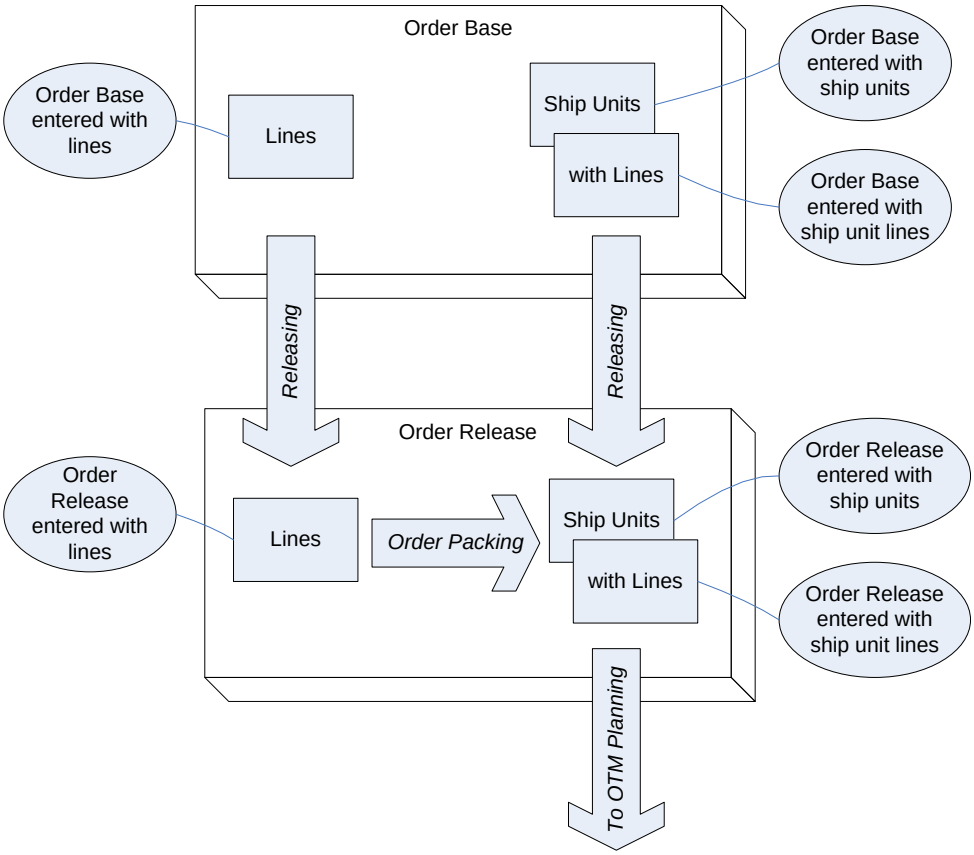

Figure 2-1: Order Base/Release interaction

3. Configuring Oracle Transportation Management for Order Processing

Order Configuration

The Order Configuration page in Order Management power data should be used to configure the types of orders that will be entered and how Oracle Transportation Management should calculate various fields. For example, this is where you can indicate whether orders will be entered by line or by ship unit. Each order base and order release entered in Oracle Transportation Management must have an order configuration attached.

On the **Order Configuration Header** tab, the **Order Base/Release Creation** field indicates whether order release lines or ship units will be entered.

Default Order Configurations

The table below describes the PUBLIC order configurations included with OTM. These can be used as-is, or copied and further customized/configured.

The public order configurations represent a sample way to set up an order configuration entry to model a specific business case in OTM. Based on one of these samples the client can copy this configuration and modify it as needed.

These order configurations are designated as line or ship unit based. All orders in OTM consist of both order lines and ship units. Here the designation of line or ship unit based is on how they are managed and manipulated externally. The line-based orders can be considered as orders that are entered into OTM as an order with lines and the ship units are the associated order entities that are created in OTM. So here the lines are the input and the ship units are the output. The ship unit-based orders can be considered as orders that are entered into OTM already packaged in their ship unit for transport. Here the ship units with the contents are the input and the order release lines are managed within OTM as well for consistency.

The order configurations are used by the order base business object and well as the order release. The order configuration defined on the order base governs how that order base is managed as well as the rules that govern how the order release is generated. The order releases from that order base will inherit the order base configuration. If the business process is starting with the order release then this object will be entered into OTM with an order configuration. These configurations are used for both.

Table 3-1: Default Order Configurations

Order Configuration	Line/Ship Unit Based	Description

Order Configuration	Line/Ship Unit Based	Description
AUTO_CALC	Line	Oracle Transportation Management determines the number of transport handling units to create. AUTO_CALC is used when OTM is calculating the ship units for the order release. The order release is a line-centric order and OTM will automatically calculate the number of ship units that are needed based on the ship unit building business logic. This business logic takes the order line quantities and builds transport handling ship units based on the reference data defined in OTM. The AUTO_CALC order configuration makes use of the ship unit count feature on the order release ship unit. This configuration has the parameter create individual ship units set to false. If based on the quantity defined on the lines the AUTO_CALC ship unit building business logic determines that it needs 4 pallets than a single ship unit record with a count of 4 will be created. The AUTO_CALC configuration can be used for implementations that take order base lines and release them to order release lines and then use the ship unit building logic to auto calc the number of order release ship units. The AUTO_CALC configuration can also be used for implementations that do not need the order base but start processing with the order release. Here the order release lines are used in the same manner with the ship unit building logic called to AUTO_CALC the number of order release ship units.

Order Configuration	Line/Ship Unit Based	Description
AUTO_CALC_UNIQUE	Line	Oracle Transportation Management determines the number of transport handling units to create with each having its own record. AUTO_CALC_UNIQUE is used when OTM is calculating the ship units for the order release. The order release is a line centric order and OTM will automatically calculate the number of ship units that are needed based on the ship unit building business logic. This business logic takes the order line quantities and builds transport handling ship units based on the reference data defined in OTM. The AUTO_CALC_UNIQUE order configuration varies from the AUTO_CALC configuration in that it does not make use of the ship unit count feature on the order release ship unit. If based on the quantity defined on the lines the auto-calc ship unit building business logic determines that it needs 4 pallets than it will build 4 unique ship unit records. This configuration has the parameter create individual ship units set to true. This configuration is recommended when distinct serial numbers and processing needs to occur for each ship unit. The AUTO_CALC_UNIQUE configuration is used to support the same types of order base and order release configurations as the AUTO_CALC configuration. The only difference with these two is how the ship unit output is created.

Order Configuration	Line/Ship Unit Based	Description
INSTRUCTED PREPACK	Line	Similar to PREPACK, but the ship unit calculation is independent of the lines. INSTRUCTED PREPACK is the order configuration used to take the order base lines and when forming the order release the method of creating the prepacked ship units is supplied in the release instructions. This configuration is intended for implementations that start with an order base and generate the order release in OTM. The order base is line-centric. When creating the order release this order configuration controls how OTM generates the ship Units. This order base release instruction specifies the details for the ship unit and the lines that are to be packed into it. Here the business logic of the ship unit building is not auto-calculating the order release ship units, but is looking to the release instructions specified to determine the number and content of the ship units. There are no feasibility logic checks here. This configuration follows the same approach as PREPACK. Oracle recommends that you do not use OMD (Edit Shipment or Propagate) with INSTRUCTED PREPACK. This configuration currently supports users manually instructing the creation of order release ship units via the Order Base Line Packing action.
ONE_TO_ONE	Line	Each line goes onto a single transport handling unit. The ONE_TO_ONE order configuration is used to model the business implementation where each order release line is used to generate a distinct ship unit. The ONE_TO_ONE configuration can be used for implementations that take order base lines and release them to order release lines and then use the ONE_TO_ONE rule to create an order release ship unit for each order release line. The ONE_TO_ONE configuration can also be used for implementations that do not need the order base but start processing with the order release. Here the order release lines are used in the same manner with the ONE_TO_ONE rule creating an order release ship unit for each order release line.

Order Configuration	Line/Ship Unit Based	Description
PREPACK	Line	All lines go onto a single transport handling unit. The PREPACK order configuration is used to model the business implementation where each all of the order release lines are placed into a single ship unit transport handling record. The transport handling unit to be used can be set on the order configuration record. The PREPACK configuration can be used for implementations that take order base lines and release them to order release lines and then use the PREPACK rule to create an order release ship unit that contains all of the order release lines. The PREPACK configuration can also be used for implementations that do not need the order base but start processing with the order release. Here the order release lines are used in the same manner with the PREPACK rule creating an order release ship unit that contains all of the order release lines.
SIMPLE	Line	Special case used by integration to map TransOrder interface to the Release interface.
SHIP_UNITS	Ship Unit	You specify ship unit information; Oracle Transportation Management updates a line. The SHIP_UNITS order configuration is used to model orders within OTM that come into the product already packaged as shipping units for transport. For these orders the ship unit and the ship unit line values are used as input. The ship unit and ship unit line level information that comes into OTM can have varies ways of specifying the associated quantity level information. The SHIP_UNITS configuration specifies this data at the ship unit level. The SHIP_UNITS configuration can be used for implementations that take order base ship units and create order releases that are ship unit centric from these order base ship units. The SHIP_UNITS configuration can also be used for implementations that do not need the order base but start processing with the order release. Here the order release ship units are entered in directly.

Order Configuration	Line/Ship Unit Based	Description
SHIP_UNIT_LINES	Ship Unit	You specify ship unit line information; Oracle Transportation Management calculates ship unit totals. The SHIP_UNIT_LINES order configuration is used to model orders within OTM that come into the product already packaged as shipping units for transport. For these orders, the ship unit and the ship unit line values are used as input. The ship unit and ship unit line level information that comes into OTM can have varies ways of specifying the associated quantity level information. The SHIP_UNITS_LINES configuration specifies this data at the ship unit line level and it is summed up to the ship unit level. The SHIP_UNITS configuration can be used for implementations that take order base ship units and create order releases that are ship unit centric from these order base ship units. The SHIP_UNITS configuration can also be used for implementations that do not need the order base but start processing with the order release. Here the order release ship units are entered in directly.

Orders by Line

For orders created by line, the **Ship Unit Creation** field may be used to configure when ship units will be created. If "On Create" is selected, Oracle Transportation Management will create ship units from the lines when the order is saved. If "User Initiated" is selected, the order may be saved with lines only; however, ship units must still be created before planning these orders into shipments. This can be done via the **Order Management > Change Order > Generate Ship Unit** action, or by **Manually Releasing Orders** in the Order Manager. The "User Initiated" option can be useful if it is expected that modifications will come in before the order will be ready for planning.

On the Order Release tab, **Releasing Logic** will indicate how ship units will be built from lines.

1. **One Ship Unit for All Lines (PREPACK)**: All order lines will be placed into a single ship unit. This option will create one ship unit that contains all of the lines on the order release. The ship unit that will be used is either entered in the order release line transaction or specified on the Package Item table. This option is used when the order management system or the integration layer does not specify the ship units thereby having OTM construct them in this simplistic manner. There is an additional use case for this scenario that utilizes the Allow repack and the Initial Transport Handling Unit specified below. This case is when the decision on what ship unit is best for the order release cannot be made at the order management or integration layer because the transportation decision itself impacts the correct ship unit that needs to be used. The decision of mode and cost determine what ship unit is to be used when the ship unit is repacked during the planning phase.
    - **Allow Repack**: When selected during the One Ship Unit for All Lines configuration option, this will set the Allow Repack check box on the newly created order release ship unit to Yes. This check box tells the planning engine to repack the Shipment Ship Unit potentially differently than the order release ship unit. The Planning engine might pack it differently as it considers the mode the order is being shipped on, the rates returned by the rating engine, or possible consolidations with other shipment lines going to the same destination.

- **Initial Transportation Handling Unit**: This field will appear on the Order Configuration screen only if the Allow Repack check box is set to Yes. Since the decision of selecting the appropriate Ship Unit is delayed until the Planning phase, the initial transportation handling unit specified here is used to create the place holder order release ship unit GID. For this field you could set it to the mostly widely-used transport handling unit thus having it match the Shipment Ship Unit 's transport handling unit that was selected for many of the orders. Alternatively you could chose to have the initial transport handling unit be a dummy default value and will quickly see if the Shipment Ship Unit transport handling unit was selected correctly.
- **Allow Mixed Freight During Repack:** While performing the repack during the planning engine, this check box indicates if mixed ship units may be created. Ship units are considered mixed freight if they do not have the same or "Like" packaged items.

2. **One Ship Unit per Line (ONE_TO_ONE)**: Each order line will be placed into its own ship unit.
   - **Splittable**: The Splittable field on the configuration screen controls how the splittable check boxes are set on the order release ship unit. The splittable check boxes on the order release ship unit indicate if and how the ship units may be split across multiple pieces of equipment. The order release header first indicates if this order may be split or not. If it is No then all contents of that order must be placed into a single piece of equipment. If the order release indicates that it may be split then we look to the split check boxes on the ship unit to see how to split it. The configuration fields defined here together with this option of One Ship Unit for all Lines work in the following manner:
     - **On:** If On is specified, the order release split check box will be set to Yes and the bulk split check box on the order release ship unit will be set to Yes. The bulk split check box indicates that the logic to split this order release across the different pieces of equipment will look at the order release line quantity information while splitting.
     - **Off:** If Off is specified, the order release and all the ship unit split check boxes will be set to No.
     - **Leave Alone:** If Leave Alone is specified, OTM does not look at the order configuration to get the rules for setting the split check boxes. Instead it looks to the order release itself to determine how the check boxes need to be set.
       - **Order Release Header Split:** Retains the value that was entered on the order release.
       - **Order Release Ship Unit Bulk Split:**
         - **Yes:** If the order release line is split field = Yes
         - **No:** If the order release line is split field = No

3. **Determine Number of Ship Units (AUTO_CALC)**: Oracle Transportation Management will determine the ship units based on static and transactional information provided on the order that is sent to the packing algorithm. The following options control how these ship units are built:
   - **Allow Repack**: When selected during the Determine Number of Ship Units configuration option, this will set the Allow Repack check box on the newly created order release ship unit to Yes. This check box tells the planning engine to repack the Shipment Ship Unit potentially differently than the order release ship unit. This field is used together with the Repack Percent Threshold field. The ship unit quantities are first checked against this threshold prior to setting the allow repack check box. If the ship unit is below this threshold then the Allow Repack check box is set to Yes. During this repack the planning engine might pack it differently as it considers the mode the order is being shipped on, the rates returned by the rating engine or possible consolidations with other shipment lines going to the same destination.
   - **Repack Percent Threshold:** This is the percentage that is checked against before setting the allow repack. There are multiple ways to define the consumption and capacity of the ship unit; weight, volume, package reference units. The most constrained of the ship unit quantities is applied to this threshold.

- **Splittable**: The Splittable field here on the configuration screen controls how the splittable check boxes are set on the order release ship unit. The splittable check boxes on the order release ship unit indicate if and how the ship units may be split across multiple pieces of equipment. The order release header first indicates if this order may be split or not. If it is No then all contents of that order must be placed into a single piece of equipment. If the order release indicates that it may be split then we look to the split check boxes on the ship unit to see how to split it. The configuration fields defined here together with this option of Determine Number of Ship Units work in the following manner:
    - **On:** If On is specified, the Order Release Split check box will be set to Yes and the Count Splittable check box on the order release ship unit will be set to Yes. The Count Splittable check box indicates that the logic to split this order release across the different pieces of equipment will look at the ship unit count field while splitting.
    - **Off:** If Off is specified, the order release and all the ship unit split check boxes will be set to No.
    - **Leave Alone:** If Leave Alone is specified OTM does not look at the order configuration to get the rules for setting the split check boxes instead it looks to the order release itself to determine how the check boxes need to be set.
        - **Order Release Header Split:** Retains the value that was entered on the order release
        - **Order Release Count Splittable:**
            - **Yes:** If all of the Order Release Line is split field = Yes for the lines contained in that ship unit
            - **No:** If any one of the Order Release Line is split field = No for the lines contained in that ship unit
- **Create Individual Ship Units**: When selected, if *n* ship units are needed for this order, *n* ship units will be built, each with a count of 1. If not selected, all homogeneous ship units will be represented as a single ship unit record with a count *n* to indicate the quantity.
- **Allow Mixed Freight During Repack:** While performing the repack during the planning engine this check box indicates if mixed ship units may be created. Ship Units are considered mixed freight if they do not have the same or 'Like' packaged items.

The following formulas are available for calculating the value of each field (Ship Unit Calculation available formulas may change depending on the **Ship Unit Calculation** selection):

- **Ship Unit Calculation Section**
    - Gross Weight:
        - Sum Gross Weight from Lines/Count
        - Total Gross Weight/Count
        - Net Weight per Ship Unit + Tare of THU
        - Same as Net Weight per Ship Unit
    - Gross Volume: This will always be the maximum of calculated volume from below formulas and volume by ship unit's dimension.
        - Sum Gross Volume from Lines/Count
        - Total Gross Volume/Count
        - Calculate Using Line Net Volume Accounting for THU Volume
        - Calculate Using Net Volume per Ship Unit Accounting for THU Volume
        - Calculate Using Ship Unit Dimensions
        - Same as Net Volume per Ship Unit
    - Net Weight:
        - Sum Net Weight from Lines/Count

        - Total Gross Weight / Count – Tare of THU
        - Gross Weight per Ship Unit – Tare of THU
        - Sum Gross Weight from Lines/Count
    - Net Volume:
        - Sum Net Volume from Lines/Count
        - Gross Volume per Accounting for THU Volume
    - Total Gross Weight:
        - Sum Gross Weight from Lines
        - Gross Weight per Ship Unit x Count
    - Total Gross Volume:
        - Sum Gross Volume from Lines
        - Gross Volume per Ship Unit x Count
- **Ship Unit Line section**
    - Gross Weight
    - Gross Volume
    - Total Packaged Count
    - Packaging Unit Count

  Note: Either the **Total Packaged Count** or **Packaging Unit Count** should be provided, so the Oracle Transportation Management will be able to calculate the other one.

Orders by Ship Unit

1. To create orders by ship unit, choose *Ship Unit* for **Order Base/Release Creation** on the Order Configuration's **Header** tab.
2. On the **Order Release Tab** view the Splittable field:
    - **Splittable**: The Splittable field on the configuration screen controls how the splittable check boxes are set on the order release ship unit. The splittable check boxes on the order release ship unit indicate if and how the ship units may be split across multiple pieces of equipment. The order release header first indicates if this order may be split or not. If it is No then all contents of that order must be placed into a single piece of equipment. If the order release indicates that it may be split then we look to the split check boxes on the ship unit to see how to split it. The configuration fields defined here together with this By Ship Units Order Configuration Option works in the following manner:
        - **On:** If On is specified, the Order Release split check box will be set to Yes and the Count Splittable check box on the order release ship unit will be set to Yes. The Count Splittable check box indicates that the logic to split this order release across the different pieces of equipment will look at the ship init count field while splitting.
        - **Off**: If Off is specified, the order release and all of the ship unit split check boxes will be set to No.
        - **Leave Alone**: If Leave Alone is specified OTM does not look at the order configuration to get the rules for setting the split check boxes instead it looks to the order release itself to determine how the check boxes need to be set.
            - **Order Release Header Split:** Retains the value that was entered on the order release.
            - **Order Release Count Splittable:** Retains the value that was entered on the order release.

3. On the **Order Release** tab, select a value for **Ship Unit Calculation** to indicate whether Oracle Transportation Management should sum ship unit line information up to the ship unit, or if ship unit information should be "pushed" down to a line that is kept in sync with the ship unit. The following options are available:
   - **Create/Update Single Ship Unit Line for Ship Unit**: You enter ship unit details; Oracle Transportation Management will build/update ONE ship unit line for the ship unit.
   - **Calculate Ship Unit Metrics from Ship Unit Line**: You provide Ship Unit Line details; Oracle Transportation Management will use this info to calculate ship unit gross/net/total weight/volume, width/length/height.
   - **Calculate Ship Unit Metrics Within Ship Unit/Ignore Lines**: Lines are for information only and will not be used to calculate the ship unit fields, nor will ship unit data be pushed down to the lines.
4. Also on the **Order Release** tab, select whether or not to calculate the ship unit's gross weight/volume, net weight/volume, and total weight/volume. You may also select whether or not Oracle Transportation Management should calculate the ship unit line's gross weight/volume, total package count, and packaging unit count. The options for whether or not to calculate a field are as follows:
   - **Always**: Oracle Transportation Management should always attempt to calculate the value for this field, regardless of whether or not it is already valued.
   - **Only if Null:** Oracle Transportation Management should only attempt to calculate the value for this field if it is not already populated.
   - **Never**: Oracle Transportation Management should leave this field unchanged.

     If "Always" or "Only if Null" is selected, Oracle Transportation Management may prompt for a formula if more than one is available. For example, some implementations may require ship unit net weight be calculated by summing the net weight from the lines and dividing by the ship unit count. Others may require the ship unit net weight be simply the gross weight of the ship unit less the tare weight of the transport handling unit.

The following formulas are available for calculating the value of each field (Ship Unit Calculation available formulas may change depending on the **Ship Unit Calculation** selection):

- **Ship Unit Calculation Section**
  - Gross Weight:
    - Sum Gross Weight from Lines/Count
    - Total Gross Weight/Count
    - Net Weight per Ship Unit + Tare of THU
    - Same as Net Weight per Ship Unit
  - Gross Volume: This will always be the maximum of calculated volume from below formulas and volume by ship unit's dimension.
    - Sum Gross Volume from Lines/Count
    - Total Gross Volume/Count
    - Calculate Using Line Net Volume Accounting for THU Volume
    - Calculate Using Net Volume per Ship Unit Accounting for THU Volume
    - Calculate Using Ship Unit Dimensions
    - Same as Net Volume per Ship Unit
  - Net Weight:
    - Sum Net Weight from Lines/Count
    - Total Gross Weight / Count – Tare of THU
    - Gross Weight per Ship Unit – Tare of THU

        - Sum Gross Weight from Lines/Count
    - Net Volume:
        - Sum Net Volume from Lines/Count
        - Gross Volume per Accounting for THU Volume
    - Total Gross Weight:
        - Sum Gross Weight from Lines
        - Gross Weight per Ship Unit x Count
    - Total Gross Volume:
        - Sum Gross Volume from Lines
        - Gross Volume per Ship Unit x Count
- **Ship Unit Line section**
    - Gross Weight
    - Gross Volume
    - Total Packaged Count
    - Packaging Unit Count

  Note: Either the **Total Packaged Count** or **Packaging Unit Count** should be provided, so the Oracle Transportation Management will be able to calculate the other one.

Static Data Set Up

The packaged item, package unit, and transport handling unit can be set up with static data, such as weight, volume, and dimensions. These static data will be used in the calculation, when transactional data are not provided.

Packaged Item

Packaged item can be defined in two ways.

Have Package Unit Defined on Packaged Item

In this case, the packaged item is packaged in this defined package unit. Inner count on the packaged item indicates how many items are packed in the packaged unit, it is informational only. In the Units section, you define how to pack these packaged items onto pallet using Number of Layers and Quantity per Layer.

Example 1, packaged item 12PACKCOLA. It has package unit 12PACK defined. One 12PACKCOLA is a box of 12 cans of COLA. 12PACKCOLA can be packed 4 layers onto PALLET-A, and each layer has 6 packs of 12PACKCOLA. 12PACKCOLA can also be packed 2 layers onto PALLET-B, and each layer has 8 packs of 12PACKCOLA.

Table 3-2: Sample Packaged Items

Packaged Item	Packaging Unit				Description
12PACKCOLA	12PACK				"12 pack cola" packaged item with packaging unit associated to packaged item

Packaged Item	Packaging Unit				Description
Transport Handling Unit	Packaging Unit:	Inner Pack Count	Number of Layers	Qty per Layer	
PALLET-A	n/a	n/a	4	6	12PACKCOLA can be packed 4 layers onto PALLET-A, and each layer has 6 packs of 12PACKCOLA
PALLET-B	n/a	n/a	2	8	12PACKCOLA can also be packed 2 layers onto PALLET-B, and each layer has 8 packs of 12PACKCOLA

Weight defined on packaged item includes weight from package unit. In the above example, it is for the whole package of 12PACKCOLA. Volume for the packaged item follows this hierarchy: effective volume on packaging unit on the packaged item, volume calculated using dimensions from packaging unit on the packaged item, the packaged item volume, and the volume calculated using dimensions from the packaged item.

Have Packaged Unit Defined on the Packaged Item Table

In this case, the packaged item is just the product information and does not have the notion of packaging contained within it. There can be multiple ways to package this item, so the concept of packaging unit must be introduced along with the package item so that OTM can fully understand how to ship this item. The inner count of the packaged item table indicates how many items are packed in the package unit, and this information will be used when calculating package count.

Weight defined on packaged item does not include package unit. In the following example, weight is for a single can of COLA.

Example 2, packaged item COLA. Package Unit is defined on TIHI table. COLA can be packed into 12PACK and put on PALLET-A (12 inner count, 4 layers, 6 12PACK per layer). COLA can also be packed into 24PACK and put on PALLET-B (24 inner count, 2 layers, 8 24PACK per layer).

Table 3-3: Sample Packaged Items

Packaged Item	Packaging Unit				Description
COLA	n/a				Packaged item COLA
Transport Handling Unit	Packaging Unit:	Inner Pack Count	Number of Layers	Qty per Layer	
PALLET-A	12PACK	12	4	6	COLA can be packed into 12PACK and put on PALLET-A (12 inner count, 4 layers, 6 12PACK per layer)
PALLET-B	24PACK	24	2	8	COLA can also be packed into 24PACK and put on PALLET-B (24 inner count, 2 layers, 8 24PACK per layer).

Package Unit

Package unit is the packaging of the shipped goods, such as boxes. Package unit has tare weight, effective volume and dimensions. Oracle Transportation Management will use the data you provided to do the calculation, but not verify if goods will fit in the package unit.

In above Example 2, cans of COLA can be packed into 12PACK box or 24PACK box. Here, 12PACK box and 24PACK box is package unit.

- Weight of '12PACK of COLA' = Weight of COLA X 12 + Tare Weight of 12PACK box
- Volume of '12PACK of COLA' = Volume of 12PACK
- Weight of '24PACK of COLA' = Weight of COLA X 24 + Tare Weight of 24PACK box
- Volume of '24PACK of COLA' = Volume of 24PACK

Defining Items as Like

The Item Type on the Packaged item table is used to define the Like item relationship in OTM. Packaged items with the same type take on the characteristics of like items when building the Ship Units. This Like feature is used for TiHi configurations and Package Reference Units.

Defining the TiHi information

The TiHi information describes how a ship unit is configured in respect to a specific packaged item and packaging unit. This information describes how many of the packaged item/packaging units are contained in a layer and how many of these layers may fit on the transport handling unit. Number of Layers and Quantity per Layer from TIHI table will be used to build ship unit. The packing algorithm can use this TiHi information to build ship units of the Same PI/PU or Like PI/PU, where the Like relationship is described in the packaged item table above. When building the Ship Unit the packing algorithm checks that the Like items have the same TiHi configuration (number of layers and quantity per layer) before using the TiHi information. They must have the same configuration to build the pallet using this information. If they do not then they will follow a building pattern for mixed freight.

Defining the Package Reference Unit

The package reference unit (PRU) information describes how a ship unit is configured in respect to a specific packaged item and packaging unit. This information is at a more abstract level then the TiHi data and therefore can be used to describe different dimension of the transportation handling unit capacity and the packaged item/package unit consumption. The transportation unit defines how many of the PRUs it can hold and the packaged item/package unit defines how many units it consumes. The dimension here can be of quantity, value of goods, hazardous, etc. The packing algorithm can consider multiple PRUs simultaneously. The PRU can be applied to all types of transport handling units that are built, or just when the same item is packed together, or like items, as well as just applying for mixed freight. This is covered by the PRU application rule. See online help for more information.

Transport Handling Unit (THU)

Transport handling unit or THU can be thought as a pallet which holds boxes of COLA. It also has tare weight, effective volume, and dimensions. A THU can be defined as IN, ON, or Max. IN means the goods are filled inside the THU, eg. THU is a bin; the gross volume of the ship unit is the volume of THU. ON means the goods sit on top of the THU, eg. THU is a pallet; the gross volume of the ship unit is the volume of the goods and the volume of the THU. When THU is MAX, and gross volume calculation formula is 'Calculate Using Net Per' or 'Calculate Using Line Net', the gross volume of the ship unit is the max of THU volume and net volume of the goods.

Number of Layers and Quantity per Layer defined on Packaged Item Manager Units grid will be used together with THU dimension to calculate the dimension of the ship unit. When THU is IN, the dimension of the THU is the dimension of the ship unit. When THU is ON, the height of the ship unit is

THU height plus goods height. When THU is MAX, the height of the ship unit is the max of THU height and goods height.

Custom UOMs

Custom UOMs (units of measure) can be defined and used within OTM providing more flexibility. If using custom UOMs, a conversion must be created to a standard UOM. See the help topic Units of Measure.

User Interface Customization

Order Base/Order Release Manager

The **Order Configuration** field on the order base and order release manager layouts should be configured to default to the desired configuration.

Oracle Transportation Management provides various fields on the line and ship unit such as **Total Gross Weight/Volume**, **Gross Weight/Volume per Ship Unit**, and **Net Weight/Volume per Ship Unit**. Since the settings on the order configuration will indicate the data to be entered and data to be calculated, it may be helpful to make some of the calculated fields read-only or hide them.

Actions

A few actions allow you to customize them. They work much like the managers which have been made customizable. One of the actions which has been made customizable is the Ready to Ship action on both the order base line and order base ship unit managers. To customize one of them you would:

1. Open the **Manager Layout** manager.
2. Search for *READY_TO_SHIP_OB_LINE* or *READY_TO_SHIP_OB_SHIP_UNIT.*
3. Select the action you wish to customize and click **Copy Manager Layout**.
4. From here you can hide/move sections, hide fields, set fields to read-only/required, give fields a default value, etc.
5. Click **Finished** to save your new screen layout.
6. Open the **Actions** manager.
7. Click **New** to create a new action.
8. In the Action Definition ID field select either *READY_TO_SHIP_OB_LINE* or *READY_TO_SHIP_OB_SHIP_UNIT*.
9. In the **Manager Layout ID** field select the layout you created above.
10. Click **Finished** to save your new action.
11. Open the **Screen Set Manager**.
12. Search for *OB_LINE or OB_SHIP_UNIT*.
13. Select the manager you wish to add your action to and click **Copy Screen Set**.
14. On the **Actions** tab add the action you created above.
15. Add your new screen set to the menu.
16. When you use your new screen set your new action will now be available.

The other customizable actions are the order release lines and order release ship units actions on the Order Base Line and Order Base Ship Unit managers respectively. The steps are the same as above except for different IDs in steps #2 and #8.

1. Open the **Manager Layout** manager.

2. Search for *RELEASE_LINES* or *RELEASE_SHIP_UNITS*.
3. Select the action you wish to customize and click **Copy Manager Layout**.
4. From here you can hide/move sections, hide fields, set fields to read-only/required, give fields a default value, etc.
5. Click **Finished** to save your new screen layout.
6. Open the **Actions** manager.
7. Click **New** to create a new action.
8. In the Action Definition ID field, select either *CREATE_AND_RELEASE_OB_LINE* or *CREATE_AND_RELEASE_OB_SHIP_UNIT*.
9. In the **Manager Layout ID** field select the layout you created above.
10. Click **Finished** to save your new action.
11. Open the **Screen Set** manager.
12. Search for *OB_LINE* or *OB_SHIP_UNIT*.
13. Select the manager you wish to add your action to and click **Copy Screen Set**.
14. On the **Actions** tab add the action you created above.
15. Add your new screen set to the menu.
16. When you use your new screen set your new action will now be available.

The additional customizable action Packing Order Base Lines is on the Order Base Line Manager. The steps are the same as above except for different IDs in steps #2 and #8.

1. Open the **Manager Layout** manager.
2. Search for PACKING_OB_LINE.
3. Select the action you wish to customize and click **Copy Manager Layout**.
4. From here you can hide/move sections, hide fields, set fields to read-only/required, give fields a default value, etc.
5. Click **Finished** to save your new screen layout.
6. Open the **Actions** manager.
7. Click **New** to create a new action.
8. In the Action Definition ID field, select PACKING_OB_LINE.
9. In the **Manager Layout ID** field select the layout you created above.
10. Click **Finished** to save your new action.
11. Open the **Screen Set** manager.
12. Search for PACKING_OB_LINE.
13. Select the manager you wish to add your action to and click **Copy Screen Set**.
14. On the **Actions** tab add the action you created above.
15. Add your new screen set to the menu.
16. When you use your new screen set your new action will now be available.

Bundling

From an order management perspective, Oracle Transportation Management will attempt to bundle lines and ship units during releasing, as well as try to bundle order releases during planning. Bundling is controlled by the rule set assigned to parameters.

Order Base during Releasing

The ORDER BASE BUNDLING RULE SET parameter indicates the rule set to be used during releasing to bundle lines and ship units. The rule set may be customized to remove undesired rules or sequence rules for better performance. Ideally, simpler checks that would more frequently cause lines or ship units to be incompatible should be moved higher in the list so they are evaluated earlier.

All rules available for re-sequencing or removal may be found in the set named **basebundlescen**. To customize the bundling rules, you should run the copy action on either the **basebundlescen** rule set or another rule set and create a new rule set. A description of each rule can be found in the Online Help. In addition to the customizable rules, the following order base fields must match in order for lines or ship units from different order bases to bundle:

- Locations and Load/Unload Points
- Bundling Type
- Default Stowage Mode
- Dim Rate Factor
- Equipment Group and Equipment Group Profile
- External System ID
- Fixed Buy/Sell Itinerary
- Inco Term
- Mode Profile GID
- Payment Method Code
- Pickup/Dropoff Routing Sequence
- Planning Group
- Buy/Sell Rate Record
- Buy/Sell Rate Offering
- Rate Service and Rate Service Profile
- Release Method
- Schedule
- Service Provider and Service Provider Profile
- Transport Mode
- Time Window Emphasis
- Priority
- Ignore Location Calendar
- Must Ship Direct
- Must Ship Through Pool
- Must Ship Through Cross-Dock
- Buffer Type
- Ship With Group

The OPTIMIZED ORDER BASE BUNDLING parameter controls which bundling algorithm to use. Non-optimized bundling would bundle with the given sequence of bundles while optimized bundling uses container optimization to produce better bundles. For example, if MAX WEIGHT PER BUNDLE is set to be 1000 LB and 4 bundles passed in with weight 500LB, 400LB, 600LB and 500LB, non-optimized bundling will produce 3 bundles: (500LB, 400LB), (600LB) and (500LB) while optimized bundling would generate only 2 bundles (500LB, 500LB), (400LB, 600LB).

Order Release during Planning

The ORDER RELEASE BUNDLING RULE SET parameter indicates the rule set to be used for bundling when planning orders into shipments. The rule set may be customized to remove undesired rules, but unlike the rules for order base, cannot be sequenced.

All available rules may be found in the set named **ordbundlescen**. To customize the bundling rules, you should run the copy action on either the **ordbundlescen** rule set or another rule set and create a new rule set. A description of each rule can be found in the Online Help.

Business Number Generator

The following Business Number Types may be customized as needed to generate IDs for the order base and child records:

- Order Base ID - ORDER_BASE_XID
- Order Base Line ID - OB_LINE_XID
- Order Base Line Release Instruction ID - OB_RELEASE_INSTR_XID
- Order Base Ship Unit ID - OB_SHIP_UNIT_XID
- Order Base Ship Unit Release Instruction ID - OB_SU_RELEASE_INSTR_XID
- Order Release ID (released from a base) - ORDER_RELEASE_XID
- Order Release ID (created without an order base) - ORDER_RELEASE_XID_STANDALONE
- Order Release Line ID - ORDER_RELEASE_LINE_XID
- Ship Unit ID - SHIP_UNIT_XID

Please see the Online Help for more information on the Business Number Context assigned to each Business Number Type and the available replacement values

> **Note**: Optionally, business numbers may be generated from an Oracle Sequence which can help performance. Please see the Online Help for examples.

4. Order Creation

As described earlier, order releases may be created either by releasing portions of an order base, or directly without an order base. Figure 2-1 describes the various entry points for an order, and how it ultimately results in an order release with ship units that can be planned into shipments.

Order Configuration's Role

Regardless of whether the order will be released from an order base or created directly, it is important to understand the **Order Configuration** options described above, as a configuration must be selected when entering an order base or order release. For example, the **Order Base/Release Creation** field indicates whether the order base/order release will be entered with lines or with ship units.

If lines are entered, the **Ship Unit Creation** field indicates whether or not Oracle Transportation Management should automatically create ship units from order release lines when an order release with lines is created. The selections on the Order Configuration's **Order Release** tab indicate how those ship units should be built.

If ship units are entered, the selections on the Order Configuration's **Order Release** tab indicate which ship unit and line fields should be derived, and in some cases, the formula to derive them.

The sections below describe the various ways an order release can be created.

By Ship Unit

If it is already known how an order is packed (the shippable units are known), the order should be entered by ship unit. There are three ways you can create an order release by ship unit:

1. Create an order base with ship units and release the order base. This will create an order release with one or more ship units. Please see below for additional information on releasing an order base using the Release Order Process and/or **Releasing Actions**.
2. On the Order Release manager Ship Unit tab there is a **New Ship Unit** button. Clicking this button will bring up the Ship Unit edit page where you can manually add all of the information associated with the new ship unit.
3. Use the **Select Line** field on the Order Release manager **Ship Unit** tab to select one or more order base ship units to pull into the order release (please see **Manually Releasing Orders** below).

By Line

If the shippable units are not known, and it is desired that Oracle Transportation Management create them from a list of items to be shipped, the order should be entered by line. There are three ways you can create an order release by line item:

4. Create an order base with line items and release the order base. Please see below for additional information on releasing an order base using **Release Order Process** and/or **Releasing Actions**.
5. Click the **New Line Item** button on the Order Release manager Line Item tab. This will bring up the Line Item edit screen where you can manually add all of the information associated with the new line item. This button will only appear if the order release is being created by line items.
6. Use the **Select Line** field on the Order Release manager Line Item tab to select one or more order base line items to pull into the order release (see **Manually Releasing Orders** below).

Once order release line items have been created, they must then be assigned to ship units before the order can be planned into a shipment. This will be done automatically if the **Ship Unit Creation** field on the order configuration is set to "On Create." If **Ship Unit Creation** is set to "User Initiated," it is up to you to create the ship units. This may be done via the UI or agent action "Generate Ship Units," or manually from the Ship Unit edit screen. The Ship Unit edit screen has a Select Line section that can be used to select one or more order release lines to move into the current ship unit. This button will only appear if the order release is being created by line items.

Generating Ship Units

For order releases that are entered as lines, OTM will generate the associated ship units from these lines. There are multiple methods that can be used to generate the ship units that are addressed in the order configuration table (Table 3-1: Default Order Configurations). These methods are PREPACK, ONE_TO_ONE and AUTO_CALC. The AUTO_CALC method utilizes the CONOPT algorithms in OTM to build ship units in an optimal manner. The following is an overview of the data that is used by the CONOPT algorithm to build ship units at the time of order release creation as well as shipment ship unit building. The shipment ship unit building time is for the repack capabilities. Repack allows the OTM ship unit building logic to repack the ship units at the time of shipment planning thus enabling it to make better transportation decision that are related to how the ship units are packed.

Key data utilized by Ship Unit Building

1. Order Configuration: The Allow Repack and Allow Repack of Partial Ship Unit indicators control the shipment ship unit repacking logic.
2. Transport Handling Units to be used for Ship Unit Building
    a. Can be specified directly on the order line.
    b. Can be defined on the packaged item .
    c. Can be restricted by location to only allow certain transport handling units.
    d. Can be restricted by mode to only allow certain transport handling units.
3. Transport Handling Unit Capacity restrictions
    a. The maximum dimensions used to generate ship units can be restricted by the receiving location.
    b. The ability to build mixed freight ship units can be controlled at the packaged item and the receiving locations.
    c. The maximum number of mixed items allowed on a ship unit can be restricted by the receiving location.
    d. The Capacity and consumption of transport handling units can be described in terms of Package Reference Units (PRUs).
4. Transport Mode
    a. During shipment ship unit building the rated cost can vary based on how the ship units are generated. Transport modes that support this type of rating can be designated with the Consider Cost during SSU repack option.

Releasing from an Order Base

Release Order Process

The Release Orders process is used to create order releases for any order base whose release instructions have not been processed. Oracle Transportation Management scans for a set of releasable order bases meeting a user-specific query. A releasable order base is defined as any order with release instructions that are not processed. The release instructions may have a "not processed" status due to an inactive Effective/Expiration Date time window that is defined on the base order, or if the Release Date on a particular Release Instruction has not occurred.

For more information, see the help topic Release Orders.

Release Instructions

Release instructions on the order base line or ship unit tell Oracle Transportation Management how much of the line to release.

Release instructions may be created two ways:

- **User**: Release instructions may be added manually via the user interface or XML integration. When using this approach, **Shippable** on the line or ship unit should not be selected. If it is desired that these release instructions not be processed, the **Allow Releasing** check box should be cleared.
- **Automatically**: If the **Shippable** check box is selected on the order base line or ship unit, Oracle Transportation Management will create the release instruction for you for the full amount of the line or ship unit. You should not create release instructions if shippable is checked. After Oracle Transportation Management creates the release instruction, it will uncheck the **Shippable** check box for you.

  Note: Automatically releasing the full amount of a line or ship unit is generally supported for backward compatibility. If the entire order base will be released in a single transaction, a preferred alternative is to enter the order release directly without an order base.

When an order base is saved via the user interface, or an agent or manual action is triggered to release the order base, Oracle Transportation Management will attempt to process any release instructions where **Processed** is not selected and **Allow Releasing** is selected. After processing the release instruction, Oracle Transportation Management will check the **Processed** check box.

Releasing Actions

The following are user interface actions that support this releasing process. Some of these actions are customizable as a manager layout defined in the User Interface Customization section above. This allows you to select the action that best fits the order configuration and the business process needed and then customize the fields that are displayed for the action.

Table 4-1: Releasing Actions

Action	Order Base	Order Base Line	Order Base Ship Unit	Definition
Hold/Allow Releasing	X			Toggles the RELEASE CONTROL status between "hold" and "allow" releasing. **Order Configurations Supported**: All except for INSTRUCTED_PREPACK

Action	Order Base	Order Base Line	Order Base Ship Unit	Definition
OB Line Packing		X		Allows you to select order base lines from single or multiple order bases to build an order release. Prompts with ship unit building instructions to create order release ship units from order base lines. **Order Configurations Supported**: INSTRUCTED_PREPACK
Release Lines	X	X*		Prompts with Order Base Line page allowing you to add release instructions or mark the line shippable. This action will attempt to bundle lines from different order bases. **Order Configurations Supported**: PREPACK ONE_TO_ONE AUTO_CALC
Release Ship Units	X		X*	Prompts with Order Base Ship Unit page allowing you to add release instructions or mark the line shippable. **Order Configurations Supported**: SHIP_UNITS SHIP_UNIT_LINES
Re-Release Order Base	X			Deletes existing order releases and re-processes the existing release instructions. **Order Configurations Supported**: All except for INSTRUCTED_PREPACK

* Will attempt to bundle lines from different order bases if run from the detail (order base line/order base ship unit) page.

Action	Order Base	Order Base Line	Order Base Ship Unit	Definition
Ready to Ship		X	X	Prompts for line/ship unit information, defaulting to the remaining amount to release. Data entered is used to create and process a new release instruction. **Order Configurations Supported**: PREPACK
Release Remaining Order Amount		X*	X*	Creates and processes a release instruction for the remaining unreleased amount. **Order Configurations Supported**: All except for INSTRUCTED_PREPACK
Release Total Order Amount		X*	X*	Creates and process a release instruction for the full amount, regardless of existing release instructions. **Order Configurations Supported**: All except for INSTRUCTED_PREPACK
Simple Ready to Ship		X		Prompts for a small amount of line/ship unit information that is used to create and process a new release instruction. **Order Configurations Supported**: PREPACK

Manually Releasing Orders

By Ship Unit

On the Order Release manager Ship Unit tab there is a **Select Line** field. You can use this field to select one or more order base ship units to pull into the order release. This field will only appear if the order release is being created by ship units.

By Line

Similar to the "By Ship Unit" example described above, the Order Release manager Line Item tab has a Select Line field allowing you to select one or more order base line items to pull into the order release. This field will only appear if the order release is being created by line items.

Workflow

Agent Actions

ORDER BASE – INSERT

The ORDER BASE – INSERT agent action is intended to be used in agents that listen for an order base to be created by XML Integration. The *Before Persist* check box on the event restriction should be selected to indicate that this agent should handle persistence of the order base. When executed, the order base will be released. It may also be configured to create a buy and/or sell shipment from the releases that are created. Oracle Transportation Management ships with PUBLIC agent ORDER BASE – INSERT that may be copied and used as a template.

ORDER RELEASE – INSERT

The ORDER RELEASE – INSERT agent action is intended to be used in agents that listen for an order release to be created by XML Integration. The *Before Persist* check box on the event restriction should be selected to indicate that this agent should handle persistence of the order release. Oracle Transportation Management ships with PUBLIC agent ORDER RELEASE – INSERT that may be copied and used as a template.

GENERATE SHIP UNITS

The GENERATE SHIP UNITS agent action is useful when the order configuration is set to not create ship units automatically. This enables an order with only lines to be modified more easily since there is no impact to ship units. Ship units may then be created when the order is ready for planning. This action may also be used to re-create the ship units from the lines.

XML Integration

Inbound order base and order release XML integrations should include the `ReleaseMethodGid` element. If not provided, Oracle Transportation Management will default the release method to `SHIP_UNIT_LINES` for orders with ship units and `ONE_TO_ONE` for orders with order lines only. These defaults may be changed via the `glog.releasemethod.shipunit.default` and `glog.releasemethod.line.default` properties as described in the **Migrating from Versions Prior to 6.2** chapter for migration considerations.

Inbound order releases must always include order lines regardless of whether or not ship units are included. One order release line should be created for every ship unit line.

The *Order Base/Release Creation* setting from the order configuration defined in Table 3-1: Default Order Configurations on the order configuration should be set to *Ship Unit* if ship units will be specified. If only order lines will be provided and Oracle Transportation Management is to building the ship units, the *Order Base/Release Creation* on the order configuration setting should be set to *Line.*

> **Note**: If creating the order via XML Integration, the Generate Ship Unit agent action must still be used immediately process the order (calculate ship unit fields, build ship units from lines, etc.) according to the settings on the order configuration.
>
> **Note**: For more information on integration configuration, see the Integration section of the Performance Tuning chapter in the Administration Guide.

5. Order Modification

Workflow

Agent Actions

The following agent actions may be used to process order modifications in Oracle Transportation Management. Depending on the status of the shipment and type of modification, different agent actions could be used in different situations.

ORDER RELEASE - MOD - NO PROCESSING

Order release will not be persisted and order's status **ORDER MODIFIED** is set to **ORDER MODIFIED_DENIED**. If the order is sent in from integration, the ORDER - INTEGRATION UNSUCCESSFUL event will be raised.

ORDER RELEASE - MOD - EDIT SHIPMENT

If quantities are changed on an order release, and existing ship units on the order release are created from order release lines originally, ship units will be regenerated from order release lines for non-fleet order releases. The rebuild of ship units will use the Ship Unit Building logic as defined in order configuration.

Otherwise, ship units will be recalculated according to order configuration defined on the order release.

Then, shipments will be edited according to the changes on the order release. The changes include quantity changes on the order's ship units, special service changes, and order stop changes (for fleet orders). Shipment cost and service time will be recalculated according to parameters for the action. These are Recalculate Service Time and Retender Shipment.

This action only applies to orders that have not been split, either across shipments or shipment equipment.

ORDER RELEASE - MOD - FUTURE PROCESSING

This will persist the order changes without modifying the related shipment and set order's status **ORDER MODIFIED** to **ORDER MODIFIED_MODIFIED**.

ORDER RELEASE - MOD - FULL IMPACT

The ORDER RELEASE - MOD - FULL IMPACT agent action will impact everything related to the order release. It will do the following:

1. Delete bills.
2. Delete unmatched shipment invoices.
3. Remove tender offers.
4. Unassign the order release from shipments.
5. Delete the order's ship unit if ship units are created from order release lines or order base lines.
6. Recreate/calculate order ship units.
7. Build shipments for the order release.

ORDER RELEASE - MOD - PROPAGATE CHANGES

The ORDER RELEASE - MOD - PROPAGATE CHANGES agent action should be not turned on if the ORDER RELEASE - MODIFY agent action is turned on.

Formerly, this agent action could only be configured as a post-persist agent action. This limited the transactional control over the updates. Starting with 6.4.2 this agent can be configured as a pre-persist agent action in a similar fashion as ORDER RELEASE - MOD – EDIT SHIPMENT. When configured as a pre-persist agent action, some limitations of using post-persist agent actions will be removed so you can remove ship units or order release lines.

When setting up this agent action, you can choose to propagate the following changes:

1. Propagate ship unit quantity.
2. Propagate pickup dates.
3. Propagate delivery dates.
4. Propagate equipment change.
5. Recalculate cost.
6. Propagate special service change.

The first step in ship unit quantity propagation is to check if there are order release lines without ship units on this order release. If there are, new ship units will be built for these order release lines using the order configuration on the order release. Then, quantity changes will be propagated to up/down stream shipments and order movements. If it is a line-based order, changes on the lines (including line insertion/deletion) will be propagated to the order release ship unit and further propagated to the shipment. For ship unit based orders, changes on the ship unit (including modification/insertion/deletion) will be propagated back to the order release line and back to the shipment ship unit. For order release line modification off a line-based order, use the ORDER RELEASE - MOD - EDIT SHIPMENT agent action.

IF ON EDITABLE SHIPMENT FOR ORDER RELEASE

Oracle Transportation Management business logic will check if the order release is on an editable shipment. The following conditions must be satisfied for a shipment to be editable.

1. Event has to be ORDER – MODIFIED.
2. Allowed Children Event:
    - Order – Customer Service Modified
    - Order – Quantities Modified
    - Order – Dates Modified
    - Order – Special Service Modified
    - Order – ShipUnit PD Stop Modified
    - Order – OR Stop Added or Removed
    - Order – ShipUnit Added or Removed
    - Order – Line Added or Removed
3. The related shipment is not editable if one of the following cases is true.
    - Order is split across shipments or shipment equipment.
    - No order movements or shipments found for order release.
    - Order release's time window is not compatible with some stops.

Saved Conditions

As mentioned above, the desired agent action may vary depending on the state of the shipment and type of modification. A saved condition may be used with the IF agent action to control which agent action should be used depending on the circumstance. The below saved conditions are included with Oracle Transportation Management and address some of the most common conditions.

OR ON SHIPMENT

OR ON SHIPMENT is a **saved condition** which uses a **saved query** 'OR ON SHIPMENT' to check if this order release is on a shipment.

```
select o.order_release_gid from ORDER_RELEASE o, VIEW_SHIPMENT_ORDER_RELEASE v
where (o.order_release_gid=v.order_release_gid) and (o.order_release_gid=?)
```

OR ON SHIPMENT IN TRANSIT

OR ON SHIPMENT IN TRANSIT is a **saved condition** which used a **saved query** 'OR ON SHIPMENT IN TRANSIT' to check if this order release is on a shipment which the carrier has already started to execute.

```
select o.order_release_gid
from shipment shp,shipment_s_equipment_join ssej,s_equipment_s_ship_unit_join
sessuj, s_ship_unit_line ssul,order_release_line orl,order_release
o,shipment_status ss,status_value sv
where shp.shipment_gid = ssej.shipment_gid
and ssej.s_equipment_gid = sessuj.s_equipment_gid
and sessuj.s_ship_unit_gid = ssul.s_ship_unit_gid
and ssul.or_line_gid = orl.order_release_line_gid
and orl.order_release_gid = o.order_release_gid
and shp.shipment_gid = ss.shipment_gid
and ss.status_value_gid = sv.status_value_gid
and sv.status_value_xid in
('ENROUTE_COMPLETED','ENROUTE_DELAYED','ENROUTE_DIVERTED','ENROUTE_ENROUTE','EN
ROUTE_MERGED','ENROUTE_PARTIAL','ENROUTE_UNLOADED - FULL','ENROUTE_UNLOADED -
PARTIAL')
```

OR ON SHIPMENT WITH RESOURCES TENDERED/SECURED

The OR ON SHIPMENT WITH RESOURCES TENDERED/SECURED is a **saved condition** which used a **saved query** 'OR ON SHIPMENT WITH RESOURCES TENDERED/SECURED' to check if this order release is on a shipment which has been tendered to a carrier.


```
select o.order_release_gid
from shipment shp, shipment_s_equipment_join ssej, s_equipment_s_ship_unit_join
sessuj, s_ship_unit_line ssul,order_release_line orl,order_release
o,shipment_status ss,status_value sv
where shp.shipment_gid = ssej.shipment_gid and
ssej.s_equipment_gid = sessuj.s_equipment_gid and
sessuj.s_ship_unit_gid = ssul.s_ship_unit_gid and
ssul.or_line_gid = orl.order_release_line_gid and
orl.order_release_gid = o.order_release_gid and
shp.shipment_gid = ss.shipment_gid and
ss.status_value_gid = sv.status_value_gid and
sv.status_value_xid in ('SECURE RESOURCES_ACCEPTED','SECURE
RESOURCES_BOOKED','SECURE RESOURCES_PICKUP NOTIFICATION','SECURE
RESOURCES_TENDERED','SECURE RESOURCES_BOL')
```

6. Migrating from Versions Prior to 6.2

Order Configuration (Release Method)

Users migrating to version 6.2 from a prior version of Oracle Transportation Management may recognize the Order Configuration as an enhanced version of release method. All options available in release method are also included in the order configuration; however, there are several other settings that should be reviewed to retain consistent behavior. Specifically, the following parameters no longer apply as of version 6.2:

- **AUTO CALC WEIGHT VOLUME**: This previously indicated whether or not Oracle Transportation Management was to perform "auto calc" logic: deriving various values on the order based on other given information. The order configuration described above allows for much more granular control over which fields should be calculated in Oracle Transportation Management and in some cases, how they should be calculated.
- **CALC SHIP UNIT VALUES FROM SHIP UNIT LINES**: Prior to version 6.2, this configured whether Oracle Transportation Management should sum up ship unit line information to the ship unit, or leave ship unit and line formation as-is. As of version 6.2, this is essentially managed with the **Ship Unit Calculation** setting on the order configuration.
- **RELEASING_QUAL**: In version 6.2, this is managed by the **Release Qualifier** setting on the order configuration.

The **Order Base/Release Creation** field can be used to indicate whether the order base/release will be entered by line or by ship unit. The radio button to make this selection has been removed from the order base and release; you now select line or ship unit by selecting an order configuration.

The **Buffering Supported** check box on the configuration will cause buffer orders to be created automatically when the release is created. The agent action CREATE BUFFER ORDER is no longer needed and should be disabled.

Allow Over Releasing is used to indicate whether or not an order base can be over released. This previously existed on the order base itself with a per release option; however as of version 6.2, per release is no longer supported.

Since the order configuration is required for all order bases and releases as of version 6.2, Oracle Transportation Management provides the ability to specify a default order configuration when one is not present for an order entered via XML integration. The following two properties ship with Oracle Transportation Management, but can be overridden to point to a different order configuration.

- glog.releasemethod.shipunit.default=SHIP_UNIT_LINES
- glog.releasemethod.line.default=ONE_TO_ONE

The glog.releasemethod.shipunit.default property is used for orders created with ship units, and glog.releasemethod.line.default is used for orders created with lines. These defaults provide behavior closest to 6.1, but should still be reviewed.

> **Note**: When send in order XML through integration, for order created with ship units, order xml has both Ship Unit and Line elements, property glog.releasemethod.shipunit.default is used.

Releasing Actions

Prior to version 6.2, Oracle Transportation Management had several order base releasing actions which all showed slightly different fields yet performed the same function. To make the actions easier to support some of these actions have been removed:

- **Set Appointment** action has been removed from the Order Base manager.
- **Estimate to Ship**, **Manually Build Ship Unit**, and **Set Appointments** actions have been removed from the Order Base Line manager.
- **Estimate to Ship** and **Set Appointments** actions have been removed from the Order Base Ship Unit manager.

To replace these actions, the Order Base Line action **Release Lines** and Order Base Ship Unit action **Release Ship Units** are now configurable, as described in the **Actions** section. This way you will be able to decide which fields they want to see, which should be required, which should be read-only, etc.