Oracle® Retail Order Administration Cloud Service

Integration and Import/Export Guide

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Oracle Retail Order Administration Cloud Service Integration and Import/Export Guide, Release 25.2.401.0

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- Exact error message received
- Screen shots of each step you take

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Oracle Retail Cloud Services and Business Agility

Oracle Retail Order Management System is hosted in the Oracle Cloud with the security features inherent to Oracle technology and a robust data center classification, providing significant uptime. The Oracle Cloud team is responsible for installing, monitoring, patching, and upgrading retail software.

Included in the service is continuous technical support, access to software feature enhancements, hardware upgrades, and disaster recovery. The Cloud Service model helps to free customer IT resources from the need to perform these tasks, giving retailers greater business agility to respond to changing technologies and to perform more value-added tasks focused on business processes and innovation.

Oracle Retail Software Cloud Service is acquired exclusively through a subscription service (SaaS) model. This shifts funding from a capital investment in software to an operational expense. Subscription-based pricing for retail applications offers flexibility and cost effectiveness.

1

System Control Values

System Control Values

A / B / C / D / E / F / G / H / I / J / K / L / M

A

B

K

L

2

Oracle Internal Imports and Exports

Oracle Retail Collect and Receive Enterprise Returns Integration

Order Administration is now integrated into the Oracle Retail Collect and Receive Foundation Cloud Service. When configured, Order Administration allows a Courier (that is, Uber) to be scheduled to pick up a customer's return package and drop it off at a retailer's store location.

A courier can be scheduled for a return authorization that has not been received or credited. The following features allow scheduling a courier:

- Modern View Order Returns/Refunds tab
- Create Return Authorization Service where alreadyScheduled is set to 'false'
- Update Return Authorization Service where alreadyScheduled is set to 'false'

Setup Requirements

Collect and Receive Foundation Cloud Service Setup:

Required properties: The following new properties are available to configure the integration with Collect and Receive Foundation Cloud Service:

- *oms.car.service.url (PROP):*The prefix URL for Oracle Retail Collect and Receive Foundation Cloud Service. Provided by your Oracle representative. Defaults to http://hostname:port/. OACS only supports version 2 of the Delivery API.
- *oms.car.scope (CPRP):* The scope used for the Collect and Receive Foundation Cloud Service services. Provided by your Oracle representative. Defaults to domain:scope.

> **Note**
>
> When calling Collect and Receive Foundation Cloud Service Services, Order Administration builds the URL using the *oms.car.service.url* value, version and a hard coded suffix.
>
> The Order Administration Client ID and Client Secret will be used to authenticate and access Collect and Receive Foundation Cloud Service services.

Required system control value settings: Use the following new system control values to enable the use of Collect and Receive Foundation Cloud Service:

- *Use CaR Returns (M81):* Select this system control value to enable the scheduling of a courier pickup for returns through Collect and Receive Foundation Cloud Service.
- *Courier Pickup Message (M82):* Defines a company-specific message to be displayed within the body of an information banner on the Courier Pickup for Return Authorization screen in Modern View when scheduling a courier pickup.

OOCS Setup:

For Order Administration to confirm a pick up location is eligible for a courier to pickup the return, a location eligible for drop-off must also be selected. This information is retrieved using Order Orchestration: Eligible Returns Locations REST/JSON Service.

Required properties: The following new properties are available to configure the integration with OOCS Return Locations:

- *oocs.return.locations.service (PROP):* The prefix URL for the OOCS Eligible Return Location service. Provided by your Oracle representative. Defaults to https://server:port/Locate/rest/api/org/v1/returns/..

Required system control value settings: Use the following new system control values to set filters for locations returned:

- *Maximum Number of Eligible Return Drop-Off Locations (M83):* Defines the maximum number of locations to return within the OOCS Eligible Return Drop-Off Location Service response message, when a customer initiates a courier pickup for a Return Authorization. If not populated, it uses the "Maximum No. Responses" Preference for the Organization associated to the system in OOCS.
- *Search Distance for Eligible Return Drop-Off Locations (M84):* Defines the maximum distance to search for an eligible return drop-off location when a customer initiates a courier pickup for a Return Authorization. If not populated, it uses the "Maximum Turn-by-Turn Distance" Preference for the Organization associated to the system and in OOCS.

Schedule Courier Pickup in Modern View Order

A new Schedule Courier Pickup button is now available on the Returns/Refunds tab of an Order in Modern View when:

- *Use CaR Returns (M81)* system control value is set to Yes.
- All lines and units on the Return Authorization are not received, credited, or canceled.
- A courier pickup is not already scheduled.

Check Eligibility

Within the Courier Pickup Return Authorization screen, the system will immediately check eligibility for a courier pickup using the Customer’s Ship-To Address from the originating order and select the nearest drop-off location to the customer’s address.

- Calls OOCS Eligible Return Locations service and selects the nearest location
- Calls Collect and Receive Foundation Cloud Service Build Quote service with Customer Pickup Address and Dropoff Location Address

If the eligibility check is successful, the screen will now display additional sections to Select Time Zone, Select Pickup Window and enter Package Details. If unsuccessful, an error will display the user can Edit the pickup address and Check Eligibility again.

Select Time Zone

A time zone must be selected to continue. The time zone selected will be used to provide a list of dates and times available to select a pickup window where the customer’s package will be picked up.

Only time zones in North America will be available.

Select Pickup Window

A customer can select a single 2-hour window between 8:00AM and 6:00PM that falls within the available store hours which will be provided to the courier for the pickup time range. If the

local time is 10:05 AM (based on the time zone selected), the list of pickup window options will start at 12:00PM - 2:00PM.

Drop-off Location Details and Store Hours can be defined within the Order Orchestration Location screen and will be returned in the Eligible Return Locations service for display.

Package Details

The size and number of packages being returned must be entered which will be provided to the courier for pickup through the CaR integration.

Select +Add Package for Pickup to open a drawer and set the number of packages for pickup. A package size must be selected for the number of packages entered. Options are:

- Small (Can be carried with one hand)
- Medium (Can be carried in a shopping bag)
- Large (Needs two hands to carry)
- X-Large (Heavy or odd size, requires two hands)

Notes for the courier can be added about the pickup location.

Submit to Courier

Once all Pickup and Package details are entered, click Submit to Courier button and the pickup will be scheduled.

- Calls Collect and Receive Foundation Cloud Service Build Delivery service with Customer Pickup Address, Drop-off Location Address, Pickup Window, Package Details and Courier Notes.

If scheduling is successful, the following will occur:

- A confirmation will be displayed, and the Courier Pickup screen will close.
- An Order Activity message will be written.
- A CWEmailOut Courier Pickup Notification (CP) will be sent if configured.

If unsuccessful, an error will display the user can Edit the details and Submit to Courier again.

Courier Pickup Details in Modern View Order

A new Courier Pickup Details drop-down list is now available on the Returns/Refunds tab of an Order in Modern View when:

- *Use CaR Returns (M81)* system control value is set to Yes.
- A courier pickup is already scheduled.

Select the Courier Pickup Details drop down list to select a specific Delivery ID to advance to the Courier Pickup Details screen where you can review the Pickup Location, Dropoff Location, Current Status and History, Pickup Window, Package Details and Canceled Reason.

Immediately upon loading the screen, Order Administration calls the Collect and Receive Foundation Cloud Service getStatus service for the current status.

Cancel Courier Pickup in Modern View Order

Within the Courier Pickup Details screen, you can select Cancel Courier Pickup only when the status is either ‘Pending’ or ‘Enroute Pickup’. Additionally, the Delivery ID must have received a successful response from CaR when retrieving the latest status.

If cancelation is successful, the following will occur:

- A confirmation will be displayed, and the Courier Pickup screen will close.
- An Order Activity messages will be written.
- A CWEmailOut Courier Pickup Notification (CP) will be sent if configured.

Schedule Courier Pickup through OACS Web Services

An external merchant application can call Order Administration to schedule or cancel a courier pickup or schedule a courier pickup for a return authorization directly and then pass details about the courier pickup to OACS.

If an external merchant application schedules the courier directly and is providing information to OACS, the Unique Delivery ID used to schedule the pickup in CaR must also be passed in the OACS services so display and additional processing can be tracked and displayed through Modern View.

If OACS is scheduling the courier, the pickup address, drop-off address, pickup window, and package details must all be passed in the service.

The following services can be used with the alreadyScheduled flag set to ‘true’ for including data about an already scheduled pickup and set to ‘false’ for Order Administration to perform the scheduling.

- Create a Return Authorization Service
- Update Return Authorization Service

If scheduling is successful, the following will occur:

- An Order Activity message will be written.
- A CWEmailOut Courier Pickup Notification (CP) will be sent if configured.

If unsuccessful, an error will be returned in the response. However, the Return Authorization will be created or updated.

Courier or Provider Cancels the Pickup

The courier or provider can cancel a trip if for example the customer is not home, or the store location is closed. If this occurs, OACS will receive a status of Canceled or Returned from Collect and Receive Foundation Cloud Service during a Collect and Receive Foundation Cloud Service getStatus request.

- Canceled occurs when a scheduled courier service is canceled successfully before packages get picked up from the customer's address.
- Returned occurs when a scheduled courier service is canceled successfully after packages get picked up by a courier but are not delivered to the retailer and instead need to be returned back to the customer's address.

OACS calls the CaR getStatus request when:

- A user displays the Courier Pickup Details screen in the Modern View Order, Returns/ Refunds tab.
- An external system calls the Get Return Authorization service for a return authorization with an associated courier pickup in open status.

If the status is updated to Canceled or Returned, the following will occur:

- An Order Activity message will be written.
- A CWEmailOut Courier Pickup Notification (CP) will be sent if configured.

Address Validation Integration

Order Administration supports the latest API formats with Experian Data Quality and has introduced Type-Ahead Address Lookup.

Order Administration supports the following integrations for address validation:

- Experian Data Quality (EDQ) Address Validate API using the RESTful format. This is also referred to as QAS.
- Generic RESTful Address Validation API that can be leveraged to integrate to an external address verification provider.

Order Administration supports the following integrations for type-ahead address lookup:

- Experian Data Quality (EDQ) Address Search API
- Generic RESTful Address Search API that can be leveraged to integrate to an external address search provider.

Setup Requirements

The following will need to be configured to enable Address Validation and/or Address Lookup unless indicated that it's only used for one of the integrations:

- Populate the 3-digit ISO Country Code in **Work with Countries (WCTY)**
  - Only countries where the region (or state code) is either empty or has a 2-character code are supported. For example: Canada (CAN), United Kingdom (GBR), United States (USA) and Australia (AUS) are all supported.
- *Address Service Authorization Token (B66)* system control value
- *Address Validation Service Endpoint URL (B67)* system control value. This URL is only used for Address Validation.
- *Address Type-Ahead Service Endpoint URL (B68)* system control value. This URL is only used for Address Lookup.
- *Address Interface (I67)* system control value. This setting is only used for Address Validation.
  - Must select QAS (Experian) or GENERIC to indicate the type of Address Service Interface.

Customer Engagement Batch Customer and Sales Integration

Oracle Retail Customer Engagement Batch Customer and Sales Integration allows you to send customer, sales, and return information from Order Administration to Customer Engagement. Sending this information to Customer Engagement provides a centralized view of the customer's value across your enterprise. You can use this information to perform data analysis, or segmentation, in Customer Engagement.

Customer Engagement Batch Customer and Sales Integration Process Flow

Send sales and return Information to Customer Engagement: On a nightly basis, run the Customer Engagement Sales Feed to send sales and return information to Customer Engagement.

- Order Administration generates the: Customer Engagement Post POSlog Transaction Message for invoices that are not excluded from the Customer Engagement Sales feed.
- Customer Engagement processes the messages from Order Administration and updates Customer Engagement with the sales and return information.

See Customer Engagement Sales Feed for processing details.

Viewing sales and return information in Customer Engagement: You can review the information sent to Customer Engagement in **Customer Lookup / Edit**.
The **Customers** section of the Customer Engagement User Guide provides information on reviewing and updating a customer in Customer Engagement.

- The Customer Engagement Add or Update Customer Message creates or updates a customer in Customer Engagement on a periodic basis. Customer information displays on the **Customer Lookup / Edit** screen. You can also review a summary of the customer on the **Customer Dashboard** screen.

  Note: See the Customer Engagement Customer Integration for information on communicating customer information interactively between Customer Engagement and Order Administration.
- The Customer Engagement Post POSlog Transaction Message creates sale and return transactions in Customer Engagement. Sale and return information displays on the **Transaction History** screen for a selected customer. You can also review a summary of the transactions associated with a customer in the **Purchase Activity** section of the **Customer Dashboard** screen.

See each message layout in the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for more information on how Order Administration populates each message, how the information updates the Customer Engagement database, and where you can view the information on the Customer Engagement screens.

Viewing sales and return information from Customer Engagement in Order Administration: You can use the Display Purchase History Screen to review a customer's purchase history from Customer Engagement. See Customer Engagement Purchase History Integration for an overview, required setup, and detailed information about the Display Purchase History screen.

In this topic:

- Setup in Customer Engagement for the Sales and Customer Integration
  - Order Management System Company > Customer Engagement Organization
  - Order Management System Customer Profile > Customer Engagement Attribute Definition
  - Creating Customer Type Codes
- Customer Engagement Sales Feed
  - Customer Engagement Sales Feed Process
- Customer Engagement File Transfer Service (FTS)

For more information: This section provides information on the Order Administration sales and item integration with Customer Engagement. See:

- The Customer Engagement Implementation Guide (Installer Version) for more information on the procedures and instructions required to install and configure the Customer Engagement application and database.
- The Customer Engagement Implementation Guide for information on working with system configuration settings in Customer Engagement.
- The Customer Engagement Batch Processing & Web Services Guide for more information on the Customer Engagement messaging interface, including how Customer Engagement processes XML messages and the details of each message.
- The Customer Engagement Database Dictionary for more information on the tables in the Customer Engagement database.
- The Customer Engagement User Guide for more information on using the Customer Engagement application.
- Customer Engagement Customer Integration for information on interactively synchronizing customer information between Customer Engagement and Order Administration.
- Customer Engagement Purchase History Integration for information on reviewing a customer's purchase history from Customer Engagement in Order Administration.
- Customer Engagement Customer Wish List Integration for more information on how to review and modify a customer's wish list from Customer Engagement using the Display Wish List Screen in Order Administration.
- Customer Engagement Loyalty Integration for information on using the Customer Engagement Loyalty integration with Order Administration.
- The Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details on messages.

Customer Engagement Integration Setup (Sales and Customer)

The setup required to use the Customer Engagement Sales Feed and Customer Engagement Customer Integration is described below.

Required versions: To use the Order Administration sales or customer integrations with Customer Engagement, you must be on these versions:

- Order Management System version 4.5 or higher, or Order Administration.
- Customer Engagement version 10.5 or higher, or Order Administration.

In addition, the Customer Engagement Customer Integration, Customer Engagement Purchase History Integration, and Customer Engagement Customer Wish List Integration uses version 2.3 of the Customer Engagement Customer API.

Setup is required in both Order Administration and Customer Engagement.

- Setup in Order Administration for the Customer Engagement Sales and Customer Integration
- Setup in Customer Engagement for the Sales and Customer Integration

Also, see Customer Engagement File Transfer Service (FTS) for additional setup requirements related to the file transfer service.

Setup in Order Administration for the Customer Engagement Sales and Customer Integration

The setup required in Order Administration to use the Customer Engagement Sales Feed and Customer Engagement Customer Integration is described below.

- System Control Values
- Store Cross Reference
- Store Tender
- ISO Currency Codes
- Web Service Authentication for Customer Engagement
- Customer Engagement Properties
- Periodic Functions
- Customer Engagement Batch Customer Conversion
- Customer Engagement Multiple Organizations

Also, see Customer Engagement File Transfer Service (FTS) for additional setup requirements related to the file transfer service.

System Control Values

System Control Value	Description
Use Retail Integration (H26)	Defines whether you assign a long SKU class or retail class to an item. Deselect this field to assign a long SKU class to an item. In this situation, select the following system control values: • Require Long SKU Division with Long SKU Department (E85) • Require L/S Department (I92) • Require L/S Class (I93) Select this field to assign a retail class to an item. A retail class is a long SKU class that is linked to a long SKU department. Also, the system requires you to enter long SKU values for an item: long SKU department, long SKU class (retail class), long SKU style, and long SKU subclass. **Note:** Not related to the Customer Engagement Customer Integration.

Use the ORCE Integration Values (L52) umbrella screen to set the following values:

System Control Value	Description
Default Location for ORCE Integration (K69)	Defines the store ID associated with customers sent to Customer Engagement in the Customer Engagement Add or Update Customer Message, provided the customer does not already have a RELATE_ID assigned. **Note:** The location cannot be greater than 8 positions and should not be greater than the length specified in the Retail Transaction Location ID Length specified in Customer Engagement, typically 5 positions. Also, the location code must be numeric to prevent any possible issues displaying a customer's purchase history in Xstore. The system also includes the store ID you define here in the name of the XML batch file that is sent to Customer Engagement. Example: MESSAGE_CO#_STORE_ID_DATETIME.xml, where: • **MESSAGE** is the type of the message contained in the XML batch file • **CO#** is the Order Administration company number • **STORE_ID** is the value defined in the Default Store for Sales Download (K69) system control value • **DATETIME** is the date and time the file was created in YYMMDDHHMMSS format; for example if the file was created on November 23, 2010 at 9:21:41, the DATETIME displays as 101123092141. An example of the XML batch file name that contains the Customer Engagement Add or Update Customer Message is: cw-customer_007_12301974_101123092141.xml. If the store ID does not exist in Customer Engagement, Customer Engagement automatically creates it when it processes the Customer message. **Note:** Not related to the Customer Engagement Customer Integration.
ORCE Customer Integration (L37)	Enter INTERACT to send information on new and updated customers to Customer Engagement interactively if Customer Engagement is the system of record for customer information. See Customer Engagement Customer Integration for more information.
Item for Non-Merchandise Amounts (L39)	Defines the item code to include in the Customer Engagement Post POSlog Transaction Message to represent all non-merchandise amounts for an invoice, such as freight, additional freight, handling and additional charges. Required if the Merchandise Only in Sales Feed (L36) system control value is unselected. **Note:** Not related to the Customer Engagement Customer Integration.
Cross Channel Orders to Exclude in Sales Feed (L35)	Defines the types of sales (debit) invoices Order Administration excludes from the Customer Engagement Post POSlog Transaction Message. **Note:** Not related to the Customer Engagement Customer Integration.

System Control Value	Description
Return Disposition Code to Exclude in ORCE Sales Feed (M22)	Defines the return disposition code assigned to return (credit) invoices that Order Administration excludes from the Customer Engagement Sales Feed when the Suppress refund field in the Order Payment Method table is Y. In this situation, Order Administration does not generate a return confirmation for these returns. **Note:** Not related to the Customer Engagement Customer Integration.
Merchandise Only in Sales Feed (L36)	Select this field to include merchandise and tax amounts only in the Customer Engagement Post POSlog Transaction Message. Deselect this field to include full invoice totals, including merchandise, freight, and additional charges, in the Customer Engagement Post POSlog Transaction Message. Use the Item for Non-Merchandise Amounts (L39) system control value to define the item code to include in the Customer Engagement Post POSlog Transaction Message to represent all non-merchandise amounts for an invoice, such as freight, additional freight, handling and additional charges. **Note:** Not related to the Customer Engagement Customer Integration.
ORCE Organization Descriptor (L50)	Use this field to identify the Customer Engagement organization that maps to your Order Administration company. **Note:** For integration with Customer Engagement 20.0+, this field now controls the web service messages structure rather than the organization descriptor, and must be set to ws.
Send Profile Data to ORCE (L51)	Select this field to include demographic profile data in the customer integration with Customer Engagement. Deselect this field to omit demographic profile date from the customer integration with Customer Engagement. See Order Management System Customer Profile > Customer Engagement Attribute Definition for details on how to configure and map attribute data.
ORCE File Service URL (M62)	Use this field to define the URL to use when sending customer, sales, or item information XML files to Oracle Retail Customer Engagement through the file transfer service (FTS). This field is required for transfers to Oracle Retail Customer Engagement 20.0 or higher; otherwise, leave this field blank. See Customer Engagement File Transfer Service (FTS) for more information.
ORCE Import Folder Path (M63)	Use this field to define the folder path where the file transfer service (FTS) should place zip files containing customer, sales, or item information XML files for import into Oracle Retail Customer Engagement. This field is required for transfers to Oracle Retail Customer Engagement 20.0 or higher; otherwise, leave this field blank. See Customer Engagement File Transfer Service (FTS) for more information.
Additional system control value	
Send ORCE Customer ID to Narvar (M70)	Defines whether to send the ORCE customer ID or the Order Administration customer number as the customer_id in the Narvar Order Request Message.

Store Cross Reference

Use Work with Store Cross Reference (WSCR) to set up cross reference information between a store location and Order Administration.

- The Store # must match the store ID defined in the Default Location for ORCE Integration (K69) system control value. .

> **Note**
>
> If the store ID does not exist in Customer Engagement, Customer Engagement automatically creates it when it processes the Customer Engagement Add or Update Customer Message.

> **Note**
>
> Not related to the Customer Engagement Customer Integration.

Store Tender

In Working with Pay Types (WPAY), define a store tender for each pay type that you send to Customer Engagement in the Customer Engagement Sales Feed. This code can be used in Customer Engagement as a loyalty qualifier.

> **Note**
>
> If the store tender does not exist in Customer Engagement, Customer Engagement automatically creates it in the DTV_TENDER_TYPES table when it processes the Customer Engagement Post POSlog Transaction Message.

> **Note**
>
> Not related to the Customer Engagement Customer Integration.

ISO Currency Codes

Order Administration sends the currency code for the offer associated with the source code on the order header in the Customer Engagement Post POSlog Transaction Message. Create ISO currency codes in Working with Currency (WCUR) and assign the ISO currency codes to your offers in Working with Offers (WOFR).

Example: **USD** is the ISO currency code for the US Dollar.

The code passed is:

- The currency code from the Order Header Extended table, if any. The currency for the order is defined here if the Multi Currency by Offer (E03) system control value is selected when the order is created. Otherwise,

- The currency code defined in the Local Currency Code (A55) system control value, if any. Otherwise,
- No currency code is passed.

> **Note**
>
> Not related to the Customer Engagement Customer Integration.

Web Service Authentication for Customer Engagement

If the web services used to process inbound messages to Customer Engagement require web service authentication, you must provide a valid web service authentication user and password in Working with Web Service Authentication (WWSA), or client ID and client ID if using OAuth. In this situation, when Order Administration generates a message to send to Customer Engagement it includes the web service authentication information in the HTTP header of the message. See *Web Service Authentication Process for Customer Engagement* for more information.

Customer Engagement Properties

Working with Customer Properties (PROP) contains settings required for integration with Customer Engagement.

Setting	Description	Setting
ORCE_DIRECTORY_PATH	Defines the location where Order Administration places the batch files to send to Customer Engagement. See Working with Admin Properties (CPRP). **Note:** Not related to the Customer Engagement Customer Integration.	This property is defined by Oracle and cannot be changed.
ORCE_CUSTOMER_ID_DIRECTORY_PATH	Defines the location on the Order Administration application server where the RLTCSID Update Customer with Relate ID periodic function (program name PFRCIU) looks for the Customer Engagement query results comma separated value file (CSV) to process. See Customer Engagement Update Customer with Relate ID Process.	This property is defined by Oracle and cannot be changed.
ORCE_CUSTOMER_SERVICE_PREFIX	The system uses this property to build the URL for communication with Customer Engagement.	https://server:8447/ where: **server** = the name of your Customer Engagement server **8447** = the port to use on the Customer Engagement server
ORCE_CUSTOMER_SERVICE_SUFFIX	The system uses this property, along with the ORCE_CUSTOMER_SERVICE_PREFIX and the value in the ORCE Organization Descriptor (L50) to build the URL for communication with Customer Engagement using the Customer Services API.	/OrceWebServices/v2_3/CustomerServicesApiService?wsdl where 2_3 is the version of the Customer Services API

Setting	Description	Setting
ORCE_SECURITY_USER_ID	The Customer Engagement user ID with Security Group permission included in the Customer Engagement API messages.	Must be a valid user ID in Customer Engagement that has Security Group permission
ORCE_DAY_PHONE_LABEL	Indicates the Telephone Type in Customer Engagement that maps to the daytime phone number in Order Administration. Should be set to BUSINESS. How to define in Customer Engagement? You can create a telephone type of BUSINESS in Customer Engagement by: • sending the Customer Engagement Add or Update Customer Message with a ContactType of Phone and a SubTypeCode BUSINESS • adding a row to the **CST_PHONE_TYPCODE** table in the Customer Engagement database	ORCE_DAY_PHONE_LABEL=BUSINESS
ORCE_EVE_PHONE_LABEL	Indicates the Telephone Type in Customer Engagement that maps to the evening phone number in Order Administration. How to define in Customer Engagement? You can create a telephone type of HOME in Customer Engagement by: • sending the Customer Engagement Add or Update Customer Message with a ContactType of Phone and a SubTypeCode HOME • adding a row to the **CST_PHONE_TYPCODE** table in the Customer Engagement database	ORCE_EVE_PHONE_LABEL=HOME

Setting	Description	Setting
ORCE_FAX_PHONE_LABEL	Indicates the Telephone Type in Customer Engagement that maps to the third phone number in Order Administration. The Third Phone Number Type (L53) system control value controls whether the third phone number is labeled as the mobile or fax number in Order Administration. **Note:** Match the name entered in the Third Phone Number Type (L53) system control value to the value defined for the ORCE_FAX_PHONE_LABEL. How to define in Customer Engagement? You can create a telephone type of FAX or MOBILE in Customer Engagement by: • sending the Customer Engagement Add or Update Customer Message with a ContactType of Phone and a SubTypeCode FAX or MOBILE • adding a row to the **CST_PHONE_TYPCODE** table in the Customer Engagement database	ORCE_FAX_PHONE_LABEL=MOBILE
ORCE_ALT_ID_OROMS	Indicates the Alt Key Type of the alternate key in Customer Engagement that maps to the Order Administration customer number. Customer Engagement automatically creates this entry for a customer when you send the customer to Customer Engagement if it does not already exist. Also, Customer Engagement adds a row to the **CST_ALT_KEY_TYPCODE** table in the Customer Engagement database if it does not already exist. **Note:** If you use the Customer Engagement Customer Integration and also generate the POSlog file for the Sales Integration with Customer Engagement, you need to leave this property set to SERENADE_ID.	ORCE_ALT_ID_OROMS=SERENADE_ID
ORCE_ALT_ID_POS	Not currently implemented.	N/A

Setting	Description	Setting
ORCE_ALT_ID_WEB	Indicates the Alt Key Type of the alternate key in Customer Engagement that maps to the ecommerce site's customer number. **How to define in Customer Engagement?** You can create a alternate key type such as OCP_CUST_ID in Customer Engagement by: • sending the Customer Engagement Add or Update Customer Message from your ecommerce system with an AlternateKey whose TypeCode is OCP_CUST_ID • adding a row to the **CST_ALT_KEY_TYPCODE** table in the Customer Engagement database **Note:** See the Customer Engagement Customer Integration for information on how the ecommerce customer ID is used to identify the customer in the order API.	ORCE_ALT_ID_WEB=OCP_CUST_ID

Periodic Functions

Customer Engagement Sales Feed: Use the RLTSLSF Customer Engagement Sales Feed periodic function (program name PFR0102) to send the Customer Engagement Sales Feed and Customer Engagement Post POSlog Transaction Message to Customer Engagement during the Customer Engagement Sales Feed. Assign this periodic function to a daily periodic process. See How to Schedule a Job. Note that the ORCE File Service URL (M62) and ORCE Import Folder Path (M63) system control values must be specified for the company for this function to run.

Customer Engagement Customer Integration Synchronization: Use the SYNCRDB periodic function (program name PFR0105) to send customer information to Customer Engagement, either as part of an initial export of customer records to Customer Engagement, or when there is a communication failure during interactive processing. See Synchronizing Customer Information through a Periodic Function for more information.

Customer Upload to Customer Engagement: Use the RLTCSUP Customer Upload to Customer Engagement periodic function (program name PFRBCC) to send all Order Administration sold to customers to Customer Engagement; see Customer Engagement Batch Customer Conversion. Note that the ORCE File Service URL (M62) and ORCE Import Folder Path (M63) system control values must be specified for the company for this function to run.

Update Customer with Relate ID: Use the RLTCSID Update Customer with Relate ID periodic function (program name PFRCIU) to update the Relate ID in the Customer Sold To table with the Customer ID from Customer Engagement; see Customer Engagement Batch Customer Conversion.

Customer Engagement Batch Customer Conversion

This process may be useful when you first integrate Order Administration with Customer Engagement and want to begin using the Customer Engagement Customer Integration.

The Customer Engagement Batch Customer Conversion process consists of the following steps:

1. Running the RLTCSUP Customer Upload to Customer Engagement periodic function (program name PFRBCC) to send all Order Administration sold to customers, excluding any sold to customers whose Ghost field in the Customer Sold To table is Y or that already have a Relate ID, to Customer Engagement using the batch Customer Engagement Add or Update Customer Message.
2. Running the RLTCSID Update Customer with Relate ID periodic function (program name PFRCIU) to update the Relate ID in the Customer Sold To table with the Customer ID from Customer Engagement.

Customer Engagement Batch Customer Upload to Customer Engagement Process

This process generates a batch customer conversion XML batch file, containing all sold to customers minus any flagged as a ghost or that already have a Relate ID, to send to Customer Engagement for processing.

Before you begin: Before you send all sold to customers to Customer Engagement, you should:

- Run Customer Sold To Merge/Purge to eliminate duplicate records.
- Make sure you have completed the Customer Engagement Integration Setup (Sales and Customer).
- Optionally, run the CTYCONV Country Code Conversion periodic function (program name PFCCC32) to update the country code in Order Administration tables from a 3-digit country code to a 2-digit ISO country code. If you run this periodic function, once it is done, you should also run the CTY3DEL Delete 3 Character Country Code periodic function (program name PFCCCD3) to delete the 3 position country code from the Order Administration tables since it is no longer used.

> **Note**
>
> Before you run these programs, you should end any running jobs and have the following tables cleared:

- Catalog Request Interface
- Customer API
- EC Tables: Country, SCF State, Ship Exclusion, State
- Marketing Download Tables: Customer Address Chg, Customer Inquiry, Customer Status Chg, Order Header, Vendor Download
- MBS Tables: Changed Customers, Work File
- Promotion Upload
- RI Item Upload
- Vendor Interface Download
- Vendor Upload

Also, the ORCE File Service URL (M62) and ORCE Import Folder Path (M63) system control values must be specified for the company.

#	Step
1.	Run the RLTCSUP Customer Upload to Customer Engagement periodic function (program name PFRBCC) to submit the RLTCUSTUP job. **Note:** When you submit the RLTCSUP periodic function, the system creates an Active Procedure to keep track of the updates made so that the process can be stopped and restarted at a later time.
2.	Order Administration writes any messages related to the Customer Engagement batch customer conversion, including any errors that may occur during processing, to the Application Log.
3.	Order Administration generates the following message using customer information from the Order Administration database: Customer Engagement Add or Update Customer Message: Contains customer information for all sold to customers in the Order Administration company for which the Customer Engagement batch customer conversion was run. Order Administration creates an XML batch file that contains all of the Customer messages generated and names the file cw-customer_conversion_CO#_STORE_ID_DATETIME.xml where: • **CO#** is the Order Administration company number • **STORE_ID** is the value defined in the *Default Location for ORCE Integration (K69)* system control value • **DATETIME** is the date and time the file was created in YYMMDDHHMMSS format; for example if the file was created on November 23, 2010 at 9:21:41, the DATETIME displays as 101123092141. Example file name: cw-customer_conversion_007_12301974_101123092141.xml
4.	Order Administration places the customer conversion XML batch file in the directory defined in the ORCE_DIRECTORY_PATH property. Order Administration also creates an empty text file named **OTHER.done** to notify Customer Engagement that the XML batch file is ready to be picked up and processed by Customer Engagement.
5.	Unless you are using the Customer Engagement File Transfer Service (FTS), Customer Engagement retrieves the customer conversion XML batch files from the ORCE_DIRECTORY_PATH and process the messages.
7.	For each XML message that is processed successfully, Customer Engagement updates the appropriate tables in the Customer Engagement database. You can view the results in the Customer Engagement application. See the Customer Engagement Add or Update Customer Message in the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for more information on how Order Administration populates the message, the tables in the Customer Engagement database that are updated and where you can view the information in Customer Engagement.

Customer Engagement Multiple Organizations

Each company in Order Administration can now be configured to communicate with a specific organization in Oracle Retail Customer Engagement (ORCE) and Order Retail Promotion Engine (ORPE). This allows a retailer to support multiple organizations to keep customer data separated within one instance of ORCE.

There are no changes required within Order Administration to support a single organization setup configure or continue to communicate to the default organization in ORCE and ORPE.

Order Administration will not store or pass the ORCE Organization ID in any communication. OMS communicates with a specific ORCE organization based on Application Client id. When there is more than the default organization in ORCE, each Application Client is assigned to Primary organization in the User screen within ORCE.

Once more than one organization is created within ORCE, the organization must be assigned to each Application Client ID within the User screens. If more than one organization is assigned to the Client, the primary organization will be used by Order Administration.

The Application Client ID (and Secret) that the ORCE Organization has access to, will be defined in the **Work with Outbound Web Services (WWSA)** in Classic View for each company. That Client ID for the company is what ORCE will use for selecting the organization to work with.

- Update the Client ID and Secret for each of the Web Services within **Work with Outbound Web Services (WWSA)** to ensure all communication is pointing to the correct ORCE Organization:
- – ORCE Coupon Service
  - ORCE Customer
  - ORCE File Service
  - ORCE Loyalty
  - ORCE Purchase History
  - ORCE Registry
  - ORCE Stored Value Card
  - ORPE Promotion

Additionally, once ORCE is configured for multiple organizations and you are sending the ORCE POSLog, the *ORCE Import Folder Path (M63)* system control value must be updated to include the ORCE Organization ID.

- For a single organization the path is ‘imports/fileset/’
- For multiple organization the path is ‘imports/fileset/#/’ where # is the ORCE Organization ID available through the ORCE Organization UI.

Customer Engagement Update Customer with Relate ID Process

This process updates the *Relate ID* in the Customer Sold To table with the correct customer ID from Customer Engagement.

#	Step
1	Runs a query over the Customer Engagement database to produce a list of Customer Engagement customers that have a Order Administration customer ID defined in the alternate key SERENADE_ID. Example: OROMS Customer ID / ORCE Customer ID 73 / 8515 75 / 8516 85 / 8518 87 / 8519 88 / 8520 89 / 8521 90 / 8522 91 / 8523 92 / 8524 94 / 8526 95 / 8527 96 / 8528 97 / 8529 98 / 8530
2	Saves the query results as a comma separated value file (CSV) in the directory specified in the ORCE_CUSTOMER_ID_DIRECTORY_PATH property.
3	Runs the RLTCSID Update Customer with Relate ID periodic function (program name PFRCIU) to submit the RLTCUSTID job. This job uses the Order Administration Customer number and Customer Engagement Customer ID in the saved query file to update the Relate ID for the sold to customer in the Customer Sold To table. For each record in the Customer Sold To table that is updated, the system also updates the Synchronize with Remote DB field to N. **Note:** This periodic function updates the Relate ID for the sold to customer in the Customer Sold To table based on the query results file, regardless of whether a Relate ID was already defined for the sold to customer.
4	Order Administration writes any messages related to the Relate ID update, including any errors that may occur during processing, to the Application Log.
5	Once the job is complete, the system deletes the query results file saved in the ORCE_CUSTOMER_ID_DIRECTORY_PATH.

Setup in Customer Engagement for the Sales and Customer Integration

The setup required in Customer Engagement to use the Customer Engagement Sales Feed and Customer Engagement Customer Integration is described below.

- Order Management System Company > Customer Engagement Organization
- Order Management System Customer Profile > Customer Engagement Attribute Definition
- Creating Customer Type Codes

Order Management System Company > Customer Engagement Organization

An organization in Customer Engagement corresponds to a company in Order Administration. You associate a Customer Engagement organization with an Order Administration company through the *ORCE Organization Descriptor (L50)* system control value.

Use the System Configuration screens to define configuration settings for the Customer Engagement organization that integrates with Order Administration. See the Customer Engagement Implementation Guide for information on working with system configuration settings in Customer Engagement.

Configuration Settings Required for the Order Administration Customer and Sales Integrations with Customer Engagement

Select System > Configuration in Customer Engagement to define these settings for the organization that integrates with Order Administration.

Setting	Description
Organization Descriptor	The organization descriptor must match the setting in the *ORCE Organization Descriptor (L50)* system control value. This setting identifies the Customer Engagement organization that maps to your Order Administration company.
Default Location ID	Enter a default location ID of up to 12 positions.
Customer Classes All Types	Enter NONE, NONE.
Customer Classes Default Type	Enter NONE.
Enable Xstore Alt Key Creation	Select this field if the integration to Customer Engagement includes Order Administration and Oracle Retail Xstore Point-of-Service. Selecting this field will assign an XSTORE_ID to the customer if one does not already exist.
Use Customer Validation	Select this option to validate customer input and strip invalid character data. Customer validation is performed using the Customer Engagement customer-validation.xml file. Customer information is checked for extra spaces, special characters, numbers in inappropriate places, and other similar configurable checks.
Retail Transaction Register ID Length	Set to 8.
Retail Transaction Store ID Length	The store ID sent to Customer Engagement from Order Administration is defined in the *Default Location for ORCE Integration (K69)* system control value and cannot be greater than 8 positions and should not be greater than the length specified in the Retail Transaction Location ID Length specified in Customer Engagement, typically 5 positions.

> **Note**
>
> Whenever you make changes to an organization's configuration settings, you must stop Customer Engagement, deploy the configuration settings to Customer Engagement, and restart Customer Engagement. See:

- **Shut Down Services** in the **Add New Organization** section of the Customer Engagement Implementation Guide (Installer Version) for more information on how to stop Customer Engagement.
- the Customer Engagement Implementation Guide for more information on deploying configuration settings to Customer Engagement.

- **Restart Services** in the **Add New Organization** section of the Customer Engagement Implementation Guide (Installer Version) for more information on how to restart Customer Engagement.

Order Management System Customer Profile > Customer Engagement Attribute Definition

In Customer Engagement, use the **Attribute Definition** screen to create an attribute definition for each Order Administration profile code that may be associated with a customer exported to Customer Engagement. See the **Attribute Definition** section of the Customer Engagement User Guide for detailed instructions.

Requirement: This setup is required whenever you send profile data to Customer Engagement, regardless of whether you use the Customer Engagement Add or Update Customer Message or the interactive Customer Engagement Customer Integration. The Send Profile Data to ORCE (L51) system control value controls whether to include demographic profile data.

Required settings: When creating the attribute definition, define the fields as follows:

Field	Description
Intended Use	Select Customer.
Attribute Name	Enter the Profile Description as defined in Order Administration.
Unique	Select this checkbox.
Description	Enter a description for the attribute definition. Example: If the Order Administration profile is MARITAL STATUS, enter MARITAL STATUS.
Data Type	Select Character.

If a customer profile > attribute definition cross reference does not exist:

- Customer Engagement Batch Customer and Sales Integration: If you send a profile code in the Customer Engagement Add or Update Customer Message to Customer Engagement that does not exist as an attribute definition in Customer Engagement, Customer Engagement will not process the message and instead places the message in an error status.

Example:

```
XML Line Number: 3

Response: UNKNOWN_ATTRIBUTE_TYPE: attributeType=CALL ANYTIME

Exception(s) :

com.dtv.csx.services.customer.attributes.AttributeException:
UNKNOWN_ATTRIBUTE_TYPE: attributeType=CALL ANYTIME
```

- Customer Engagement Customer Integration: If Customer Engagement sends an attribute value for an attribute that you have not created as a profile category in Setting Up Customer Profiles (WPFL), Order Administration ignores the profile data when creating or updating the customer. Also, if Customer Engagement sends an attribute value for an attribute that exists as a profile category in Order Administration, but you have not set up a corresponding profile data option, Order Administration ignores the profile data. See Profile data under Customer Data Mapping between Order Administration and Customer Engagement for more information.

Customer Engagement attributes required if you also use Oracle Retail Xstore Point-of-Service: use the **Attribute Definition** screen in Customer Engagement to create an attribute definition for the following attributes.

Name	Use	Description	Unique	Data Type
ACTIVE_FLAG	Customer	Xstore Active Flag	Y	Logical
EMAIL_RCPT_FLAG	Customer	Xstore Email Receipt Flag	Y	Logical
CUSTOMER_GROUPS	Customer	Xstore groups	Y	Character
PROMPT_TO_JOIN_LOYALTY	Customer	TRUE=Prompt Customer to Join Loyalty	N	Character
PARTY_TYPE_CODE	Customer	Xstore Party Type	N	Character

Creating Customer Type Codes

Purpose: If you use the Customer Engagement Customer Integration and have not sent customer information to Customer Engagement through the Customer Engagement Batch Customer and Sales Integration, you need to confirm that all the required type codes are set up in Customer Engagement to support the mapping in the customer integration. If necessary, you need to create the type codes by adding rows to the corresponding tables in the Customer Engagement database.

Created dynamically? If you have previously used the Customer Engagement Add or Update Customer Message to send customer information to Customer Engagement, then the type codes were dynamically created in the Customer Engagement database tables listed below.

Properties file entries: If a type code is one of the properties defined in the Customer Engagement Properties, the property is indicated in the table below. Normally, you should use the setting indicated in the table unless your representative indicates otherwise.

Displayed where?

- The customer address type is displayed on the **Customer Addresses** screen in Customer Engagement.
- The alternate key type is displayed on the **Customer Alternate Keys** screen in Customer Engagement.
- The email type is displayed on the **Customer Email Addresses** screen in Customer Engagement.
- The phone type is displayed on the **Customer Telephone Numbers** screen in Customer Engagement.

Type Code	ORCE Table	Setting	Property
Address	CST_ADDR_TYPCODE	HOME	none
Alternate key	CST_ALT_KEY_TYPCODE	**Example**: SERENADE_ID	ORCE_ALT_ID_ OROMS
Email	CST_EMAIL_TYPCODE	HOME	none

Type Code	ORCE Table	Setting	Property
Phone	CST_PHONE_TYPCODE	daytime phone: BUSINESS evening phone: HOME fax or mobile phone: MOBILE	ORCE_DAY_PHONE_LABEL ORCE_EVE_PHONE_LABEL ORCE_FAX_PHONE_LABEL

Customer Engagement Sales Feed

The **Customer Engagement Sales Feed** allows you to send sales and return information from Order Administration to Customer Engagement.

Customer Engagement Sales Feed Setup: See Customer Engagement Integration Setup (Sales and Customer).

Customer Engagement Sales Feed Process

1. Run the RLTSLSF Customer Engagement Sales Feed periodic function (program name PFR0102) to submit the RLTSLSF job.

   The ORCE File Service URL (M62) and ORCE Import Folder Path (M63) system control values must be specified for the company.

2. Order Administration writes any messages related to the Sales feed, including any errors that may occur during processing, to the Application Log.

3. Order Administration generates the following messages using item and invoice information from the Order Administration database:

   Customer Engagement Post POSlog Transaction Message: Contains sales and credit invoice information for invoices whose Extracted to Store field in the Invoice Header table is blank.

   Excluded sales (debit) invoices: The system excludes sales (debit) invoices from the Customer Engagement Post POSlog Transaction message whose OST OBR Delivery Type in the Order Ship To table matches the setting of the Cross Channel Orders to Exclude in Sales Feed (L35) system control value.

   Excluded return (credit) invoices: The system excludes return (credit) invoices from the Customer Engagement Post POSlog Transaction message whose return disposition code matches the setting of the Return Disposition Code to Exclude in ORCE Sales Feed (M22) system control value when the Suppress refund field in the Order Payment Method table is **Y**.

   Merchandise amounts only? The setting of the Merchandise Only in Sales Feed (L36) system control value determines whether Order Administration includes full invoice totals or only merchandise and tax amounts in the message.

   ItemID setting: The setting of the ORCE Integration Item ID (L38) system control value determines how Order Administration populates the ItemID in the message.

   Non-merchandise amounts: If the Merchandise Only in Sales Feed (L36) system control value is unselected, the Item for Non-Merchandise Amounts (L39) system control value defines the item code that represents all non-merchandise amounts for an invoice, such as freight, additional freight, handling and additional charges in the message.

Order Administration creates an XML batch file that contains all of the POS messages generated and names the file **cw-poslog_CO#_STORE_ID_DATETIME.xml** where:

- **CO#** is the Order Administration company number
- **STORE_ID** is the value defined in the Default Location for ORCE Integration (K69) system control value
- **DATETIME** is the date and time the file was created in YYMMDDHHMMSS format; for example if the file was created on November 23, 2023 at 9:21:41, the DATETIME displays as 231123092141.

  Example file name: cw-poslog_007_12301974_231123092141.xml

4. Order Administration creates an XML batch file that contains all of the POS messages generated and names the file cw-poslog_CO#_STORE_ID_DATETIME.xml where:
   - *SKU Relate Extracted* field in the SKU table for the items/SKUs included in the Customer Engagement Feed to **Y**.
   - *Extracted to Store* field in the Invoice Header table to **Y**.
5. Order Administration places the XML batch files in the directory defined in the ORCE_DIRECTORY_PATH property. If the XML batch file contains the Customer Engagement Add or Update Customer Message or the Customer Engagement Post POSlog Transaction Message, Order Administration also creates an empty text file named **OTHER.done** to notify Customer Engagement that the XML batch files are ready to be picked up and processed by Customer Engagement.
6. Unless you are using the Customer Engagement File Transfer Service (FTS), Customer Engagement retrieves the XML batch files from the ORCE_DIRECTORY_PATH and processes the messages.
7. For each XML message that is processed successfully, Customer Engagement updates the appropriate tables in the Customer Engagement database. You can view the results in the Customer Engagement application. For more information on how Order Administration populates each message, the tables in the Customer Engagement database that are updated and where you can view the information in Customer Engagement, see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

Customer Engagement File Transfer Service (FTS)

Overview: The Oracle Retail Customer Engagement file transfer service enables you to transfer customer, sales, and item information to Customer Engagement through a RESTful API.

> **Note**
>
> Use of the file transfer service is required for integration with Oracle Retail Customer Engagement 20.0 or higher; however, it is not supported in earlier releases of Customer Engagement.

If the file transfer service is enabled, it transfers data generated through the following Periodic Functions:

- Customer Engagement Sales Feed (RLTSLSF)
- Customer Engagement Batch Customer Conversion (RLTCSUP)

Process overview:

- When each of the above periodic functions runs, it creates the xml files that are stored temporarily at the ORCE_DIRECTORY_PATH, as described above under Customer Engagement Batch Customer and Sales Integration Process Flow and Customer Engagement Sales Feed.
- If the ORCE File Service URL (M62) and ORCE Import Folder Path (M63) system control values are specified, the system creates a zip file that contains the generated xml files for the company. The zip file is named `OMS_123_ws_210503092141.zip` where:
  - `OMS` is hard-coded
  - `123` is the company code
  - `ws` is the value defined in the ORCE Organization Descriptor (L50) system control value
  - `210503092141` is the date and time in YYMMDDHHMMSS format
- The system posts a request to the Customer Engagement file transfer service using the ORCE File Service authentication, as described below. The request includes the objectName tag, set to the ORCE Import Folder Path setting plus the zip file name. For example, if the ORCE Import Folder Path is set to imports/fileset/, and the zip file name is OMS_123_ws_210503092141.zip, then the objectName tag is set to imports/fileset/OMS_123_ws_210503092141.zip.
- If the request is successful, the file transfer service returns:
  - A pre-authorization request (PAR) in the response message. This pre-authorization is valid for a limited time.
  - The `accessUri` indicating where to place the file.
- The system then posts a PUT request to put the file in the specified accessUri.
- If the PUT succeeds, the system then removes the files from the ORCE_DIRECTORY_PATH.

Customer Engagement scans the storage folder path on a regular basis (based on the Batch File Processing Schedule property defined in Customer Engagement) for new files to process, based on the Batch File Processing Schedule configuration setting.

Errors and troubleshooting:

- If the request fails, the system removes the generated zip file, but the xml files remain in the ORCE_DIRECTORY_PATH so that they can be included the next time you run one of the periodic functions listed above for the company.
- If the ORCE Import Folder Path is not populated but not valid, the file transfer service does not return an error, but Customer Engagement does not process the transferred file. Unprocessed files are automatically purged after seven days. See the ORCE Import Folder Path (M63) for more information.
- If the client ID specified for the ORCE File Service is not assigned the FileReview role in Customer Engagement, the request will fail.

Required configuration: In addition to the requirements described under Customer Engagement Integration Setup (Sales and Customer), the following setup is required for the file transfer service:

- System control values:
  - ORCE File Service URL (M62)
  - ORCE Import Folder Path (M63)

- Web service authentication: Use the Work with Outbound Web Service Authentication Screen to set up authentication for the ORCE File Service.

> **Note**
>
> OAuth authentication is required for the ORCE File Service. Also, the client ID specified must be assigned the FileReview role in Customer Engagement.

Customer Engagement Customer Integration

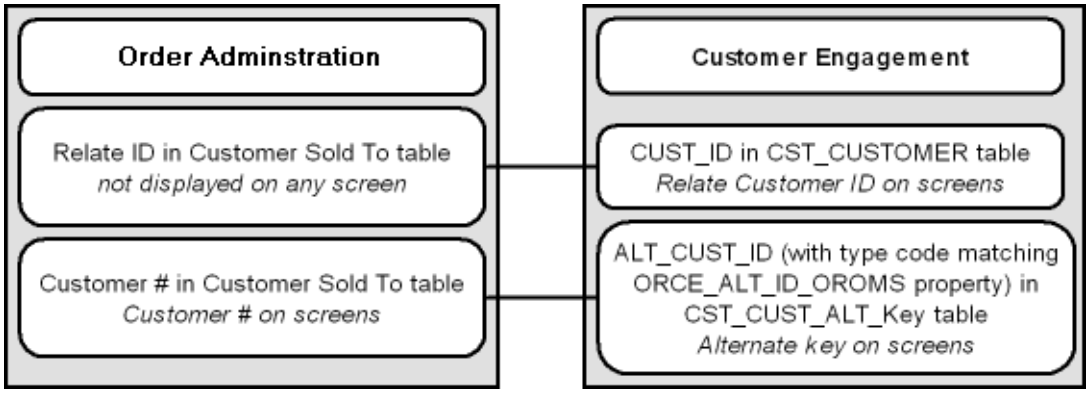
Purpose: Use the Customer Engagement customer integration to keep customer information in Order Administration in sync with Customer Engagement when Customer Engagement is the system of record for customer information. This integration also keeps Order Administration in sync with an additional system, such as your e-commerce site or your point-of-sale application, if that system also integrates with Customer Engagement as its system of record for customers.

When does Order Administration communicate with Customer Engagement?

- *Searching for a customer:* When you search for an existing customer in an Order Administration menu option, Customer Engagement returns a list of customers matching the search criteria. See *Notes on Searching for a Customer on Order Administration Screens* for more information.
- *Synchronizing customer information (add/update customer):* Synchronization occurs when:
  - You create a new customer in Order Administration Classic View or Contact Center Order Entry. Order Administration sends a message indicating to create the new customer in Customer Engagement.
  - You retrieve an existing customer record from Customer Engagement. When Customer Engagement sends the current customer information to Order Administration, Order Administration creates or updates its customer record based on the information received from Customer Engagement. The creation or update occurs through both Classic View and Modern View.
  - You update an existing customer at an Order Administration Classic View or Modern View screen. Order Administration sends an update message to Customer Engagement.
  - You update an existing customer through the order API, in certain cases. See *Customer Synchronization through the Order API* for a discussion.
  - You use a periodic function to synchronize Order Administration customer records with Customer Engagement. Order Administration sends its current customer information to Customer Engagement and stores the Relate ID in the Customer Sold To table. See *Synchronizing Customer Information through a Periodic Function* for more information.

How are synchronized customers linked? A pair of synchronized Order Administration and Customer Engagement customer records are linked by matching customer numbers:

- *Order Administration:* the Relate Id in the Customer Sold To table identifies the customer ID in Customer Engagement
- *Customer Engagement:* the Alternate key in Customer Engagement identifies the customer number in Order Administration. The ORCE_ALT_ID_OROMS setting in *Working with Customer Properties (PROP)* defines the alternate key type for the Order Administration customer number in Customer Engagement.



E-Commerce site: If your e-commerce site also uses Customer Engagement as the system of record for customers, then the e-commerce customer ID is also stored in Customer Engagement as an alternate key. In this situation, the e-commerce site might pass its customer ID in the CWOrderIn message to help Order Administration identify the correct record when synchronizing customer information with Customer Engagement if the e-commerce site does not have the Order Administration customer number. The e-commerce site does not pass the Relate ID to Order Administration in the order API. See *Customer Synchronization through the Order API* for a discussion.

Setup for the Customer Engagement customer integration: Customer synchronization takes place if the *ORCE Customer Integration (L37)* system control value is set to *INTERACT*. See *Customer Engagement Integration Setup (Sales and Customer)* for more information on required setup.

Order Administration initiates contact: In the Customer Engagement customer integration, Order Administration initiates all customer searches and add/update messages by sending these requests to Customer Engagement.

Customer Engagement version compatibility: The Customer Engagement customer integration in Order Administration, as described below, is compatible with version 10.5 or higher of Customer Engagement.

In this topic:

- *Deleting Certain Information for an Existing Customer*
- *Functions that are Inconsistent with the Customer Engagement Customer Integration*

For more information: See:

- *Customer Engagement Batch Customer and Sales Integration* for more information on sending merchandise hierarchy, item, customer, sales and return information from Order Administration to Customer Engagement using a batch process. This section also includes *Customer Engagement Integration Setup (Sales and Customer)*.
- *Customer Engagement Purchase History Integration* for more information on reviewing completed sales and return transactions from Customer Engagement on the *Display Purchase History Screen* in Order Administration.
- *Customer Engagement Customer Wish List Integration* for more information on how to review and modify a customer's wish list from Customer Engagement using the *Display Wish List Screen* in Order Administration.
- *Customer Engagement Loyalty Integration* for more information on using the Customer Engagement Loyalty integration with Order Administration.
- The **Customer Engagement Implementation Guide** for more information on configuration settings for Customer Engagement.
- The **Customer Engagement Batch Processing and Web Services Guide** for more information on the Customer Engagement API interface.
- The **Customer Engagement Database Dictionary** for more information on the tables in the Customer Engagement database.
- The **Customer Engagement User Guide** and **JET UI User Guide** for more information on using the Customer Engagement application.

Customer Engagement Customer Integration: Typical Information Flows

Overview: Through the customer integration with Customer Engagement, information about the customer flows between the e-commerce site, the point-of-sale (POS) system, Customer Engagement, and Order Administration, so that the customer's current name, address, and email address are synchronized across systems. Customer Engagement stores both the Order Administration customer number and the Xstore or e-commerce customer number as alternate keys. The *ORCE Customer Integration (L37)* system control value must be set to **INTERACT**.

Orders also flow between systems, such as between the POS system and Order Orchestration, and the customer information included in an order can trigger customer creation or update across systems.

Customer Synchronization through the Order API

Communication between Customer Engagement, the e-commerce site, and Order Administration through the Generic Order Interface (Order API) varies, depending on whether the customer registers and is logged in at the e-commerce site.

- *Registered:* If the customer registers or logs in at the e-commerce site, then the e-commerce site and Customer Engagement synchronize customer information in Customer Engagement before the e-commerce site sends the order to Order Administration. In this situation, Order Administration does not need to notify Customer Engagement to create the customer record, since the communication between the e-commerce site and Customer Engagement has already taken place; however, if the customer did not previously exist in all of the integrated systems or the customer information was not previously synchronized, Order Administration might need to update Customer Engagement with its customer

number, and record the Relate ID in the Customer Sold To table. The most likely scenarios are described below.

Scenario	Can Occur When:	More Information:
Site has received OACS customer and Relate ID number from ORCE: The e-commerce site synchronizes customer information with Customer Engagement, where at that time there was a Order Administration customer number as an alternate key.	The customer has previously placed an order in Order Administration, either through the order API or through the call center, and Order Administration has already synchronized the customer information with Customer Engagement. In this scenario, Customer Engagement optionally provides the Order Administration customer number as well as the Relate ID to the e-commerce site, and the e-commerce site provides these numbers to Order Administration in the CWOrderIn message. In this case, Order Administration updates its own customer record with current name and address information, but does not need to communicate with Customer Engagement, since the e-commerce site has already done so. The *relate_cust_sync_success* flag is set to Y.	When the Customer Registers or Logs in at the E-Commerce Site
Site does not have OACS customer number: The e-commerce site synchronizes customer information with Customer Engagement, and at that time there is no Order Administration customer number in Customer Engagement as an alternate key.	A new customer registers on the e-commerce site and creates an order, and no previous communication has occurred between Order Administration and Customer Engagement. In this case, the e-commerce site providesthe ORCE customer ID in the CWOrderIn message, and Order Administration needs to synchronize its customer information with the current information that is already in Customer Engagement and the e-commerce site, including assignment of the current ORCE customer ID to the Order Administration customer record. The *relate_cust_sync_success* flag is set to Y.	When the Customer Registers or Logs in at the E-Commerce Site

Scenario	Can Occur When:	More Information:
E-Commerce site does not communicate with ORCE	The customer checks out as a guest or the e-commerce site is unable to communicate with Customer Engagement for any reason before submitting the order to Order Administration, even if the customer might already exist in either Customer Engagement or Order Administration, or both. In this situation, an ecommerce customer number is passed, rather than the Order Administration or the ORCE customer ID. Order Administration notifies Customer Engagement to create or update the customer. The *relate_cust_sync_success* flag is set to Y.	When the Customer Checks Out as a Guest at the E-Commerce Site or the E-Commerce Site Cannot Communicate with Customer Engagement

After Order Administration ships the order, it uses the Customer Engagement Batch Customer and Sales Integration to communicate sales information to Customer Engagement.

The communication flows described below are:

- When the Customer Registers or Logs in at the E-Commerce Site
- When the Customer Checks Out as a Guest at the E-Commerce Site or the E-Commerce Site Cannot Communicate with Customer Engagement
- When Order Administration Cannot Communicate with Customer Engagement

When the Customer Registers or Logs in at the E-Commerce Site

Registration (new account) or login (existing account): The registration or account login process involves communication between Customer Engagement and the e-commerce site. For example:

- When the customer logs into the e-commerce site or creates a new account, the e-commerce site:
  - searches Customer Engagement for the customer
  - if the customer does not exist in Customer Engagement, sends an add/update message to create the customer in Customer Engagement
  - if the customer does exist in Customer Engagement, sends an add/update message to update the customer in Customer Engagement with any changes to the customer's name or address
- Customer Engagement:
  - creates the customer record if it does not exist, using the e-commerce site's customer number as an alternate key; otherwise,
  - updates the customer record if it already exists, including adding the e-commerce site's customer number as an alternate key, and updating the current name and address if necessary

  - acknowledges the e-commerce site's request, including the e-commerce ID, the ORCE customer ID, and the Order Administration customer number if it already exists as an alternate key

Submitting the order for an existing Order Administration customer: The e-commerce site should include the Order Administration customer number and/or the ORCE customer ID, if they are available, in the CWOrderIn message. This could occur if:

- the customer has previously registered at the e-commerce site and used it to place an order; or,
- the customer has previously placed an order through the call center as well as registering through the e-commerce site, and Order Administration and Customer Engagement have synchronized the customer records independently of the e-commerce site.

In this scenario:

- the customer record in Customer Engagement includes:
  - the ORCE customer ID
  - the Order Administration customer number as an alternate key, with the type of key specified in the ORCE_ALT_ID_OROMS property.
  - the e-commerce ID as an alternate key
- the customer record in Order Administration includes:
  - the Order Administration customer number
  - the ORCE Customer ID

> **Note**
>
> The e-commerce ID is used to synchronize the customer record with Customer Engagement. Once the records are synchronized , the e-commerce ID is not retained.

- the CWOrderIn message from the e-commerce site should include:
  - the current customer name and address
  - the Order Administration `customer_number` and/or the *Relate ID*, passed as the `orce_customer_ID`
  - the `relate_cust_sync_success` flag set to *Y*, indicating that the e-commerce site and Customer Engagement have been synchronized with current customer information
  - the `sold_to_address_update` flag set to *Y*, indicating that Order Administration should update the customer information from the message in the Order Administration database
- Order Administration updates the customer name and address using the information from the CWOrderIn message and does not communicate with Customer Engagement, since the e-commerce site has already communicated with Customer Engagement and the ORCE customer ID is already stored in the customer record.

Exceptions:

- If the customer record with the specified number does not currently exist in Order Administration (for example, as a result of a merge/purge), Order Administration uses its standard matchcode search logic (see Customer Creation, Matching and Update Logic in the Order API) to attempt to find the customer in the Customer Sold To table, creates or

updates the customer as needed, and sends the current customer information, including the Order Administration customer number, to Customer Engagement.

- When the customer record exists in Order Administration and the relate_cust_sync_success flag is set to N, but no orce_customer_id is passed, Order Administration uses the customer's email address to obtain the ORCE customer ID and update the existing customer record if the record did not previously have a ORCE customer ID and the CWOrderIn message does not include the name and address, but does include:
- A valid customer number and an email address, if the customer record did not previously have an email address specified, or
- A valid customer number, if the customer record did previously have an email address specified.

If the CWOrderIn message includes just a valid customer number, and the customer's email address is not known, Order Administration does not update the customer record with the ORCE customer ID.

When it creates the order, Order Administration sends the CWORDEROUT message, including the Order Administration customer number, to the e-commerce site.

> **Note**
>
> - If the e-commerce system submits multiple CWOrderIn messages for the same order (for example, if the payment information is sent after the initial message), it should include the Order Administration customer number or the ORCE customer ID each time.
> - The `sold_to_address_update` flag should be set to **Y** when the CWOrderIn message includes customer name and address information.
>
> When it creates the order, Order Administration sends the CWORDEROUT message, including the Order Administration customer number and the ORCE customer ID, if known, to the e-commerce site.

When the Customer Checks out as a Guest at the E-Commerce Site or the E-Commerce Site Cannot Communicate with Customer Engagement

Unknown customer? If the e-commerce site has not synchronized the customer information with Customer Engagement, the CWOrderIn message does not include either the Order Administration customer number or the e-commerce ID. This situation could occur if:

- the customer has opted to check out as a guest, or
- communication is down between the e-commerce site and Customer Engagement.

In either case, the e-commerce site cannot determine whether the customer record exists in either Customer Engagement or Order Administration.

In this scenario:

- the CWOrderIn message from the e-commerce site should include:
  - the current customer name, address, and email address
  - the `relate_cust_sync_success` flag set to *N*, indicating that the e-commerce site and Customer Engagement have not been synchronized with current customer information

  - the `sold_to_address_update` flag set to *Y*, indicating that Order Administration should update the customer information from the message in the Order Administration database

> **Note**
>
> In this scenario, the CWOrderIn message does not include either the Order Administration customer number or the e-commerce ID.

- To synchronize the customer records across the systems, Order Administration:
  - searches for the customer in Order Administration using its standard matchcode search logic; see Customer Creation, Matching and Update Logic in the Order API
  - if it finds a matching customer and that customer does not currently have an ORCE Customer ID:
    * updates the customer name and address with the information from the CWOrderIn message
    * sends an update to Customer Engagement including the Order Administration customer number to add as an alternate key and the current name and address information from the CWOrderIn message, and updates the Order Administration customer with the ORCE Customer ID
  - if it finds a matching customer and that customer already has a ORCE Customer ID
    * updates the customer with the information from the CWOrderIn message
    * sends an update to Customer Engagement, including the Order Administration customer number and the current name and address information
  - if there is no matching customer in Order Administration:
    * creates a new customer in Order Administration using the information from the CWOrderIn message
    * sends a message to search Customer Engagement based on the customer's email address
    * if Customer Engagement returns any matching customers, selects the first customer in the response that does not currently have a Order Administration alternate key; sends an update to Customer Engagement, including the Order Administration customer number to add as an alternate key and the current name and address information from the CWOrderIn message; and updates the Order Administration customer with the Relate ID
    * if Customer Engagement does not return any matching customers, creates a new customer in Customer Engagement and synchronizes the current customer name and address, Order Administration customer number, and Relate ID between Order Administration and Customer Engagement

> **Note**
>
> Order Administration searches Customer Engagement for a customer using email address only if the `relate_cust_sync_success` flag is set to *N*.

Exception: If Order Administration creates a new customer or selects an existing customer without a Relate ID, but Customer Engagement returns only customers that already have

Order Administration alternate keys in the search response, Order Administration selects the first customer record returned in the search response and updates it with the current name and address information and the Relate ID.

> **Note**
>
> Set the `sold_to_address_update` flag to *Y* when the CWOrderIn message includes customer name and address information.

When it creates the order, Order Administration sends the CWORDEROUT message, including the Order Administration customer number, as well as the ORCE customer ID, to the e-commerce site.

When Order Administration Cannot Communicate with Customer Engagement

If Order Administration cannot communicate with Customer Engagement during order API processing, it selects the Synchronize with remote DB flag for the customer sold to record. The next time you run the *SYNCRDB* periodic function, it attempts to synchronize the Order Administration customer record with Customer Engagement.

If an e-commerce ID was passed in the CWOrderIn message, this ID is stored in the Customer Sold To table until the record is synchronized.

See Synchronizing Customer Information through a Periodic Function for more information on the *SYNCRDB* periodic function.

What Does the relate_cust_sync_success flag Control?

The `relate_cust_sync_success` flag in the CWOrderIn message indicates whether the e-commerce site has successfully synchronized information about the customer with Customer Engagement when the ORCE customer ID is not passed.

If this flag is set to **Y**:

- When the system searches Order Administration for a customer using standard customer selection rules, if the selected customer already has an ORCE customer ID, the system creates a new customer for the order, since the existing Order Administration customer record is not consistent with the Customer Engagement customer record. The system then synchronizes the customer record with Customer Engagement, updating the ORCE_ALT_ID_OROMS in Customer Engagement as an alternate customer number as well as the ORCE_ALT_ID_WEB, if available, but not updating other fields such as the signup store or home store.
- When creating a new customer for the order, the system does not search Customer Engagement for a customer record based on email address; it only sends an update, as described above.
- The system does not send an update to Customer Engagement if the CWOrderIn message specifies a valid Order Administration customer by customer number or alternate customer number, and the customer already has an ORCE customer ID.

Otherwise, if this flag is set to **N**:

- When the system searches Order Administration for a customer using standard customer selection rules, if the selected customer already has an ORCE_ALT_ID_OROMS in Customer Engagement, the system uses this customer instead of creating a new customer for the order, and sends a name and address update to Customer Engagement if the information is different; however, it does not update the home store or signup store.

- The system searches Customer Engagement for a customer record based on the email address for the customer on the order when it creates a new customer because a customer does not match the name and address in the CWOrderIn message, or when it selects an existing customer that does not have a ORCE customer ID or e-commerce ID. In this case, if there is a match found in Customer Engagement, the customer record in Order Administration is updated with the alternate keys from Customer Engagement.
- The system always sends a create/update request to Customer Engagement that includes the customer's name, address, and customer number. The request does not include other fields, such as the signup store or home store, if the customer is already assigned an ORCE customer ID.
- If the customer exists in Order Administration but does not already have an ORCE customer ID, Order Administration obtains the ORCE customer ID when the CWOrderIn message does not include the name and address, but does include:
  - A valid customer number and an email address, if the customer record did not previously have an email address specified, or
  - A valid customer number, if the customer record did previously have an email address specified.

Otherwise, if the CWOrderIn message includes just a valid customer number, and the customer's email address is not known, Order Administration does not update the customer record with the Customer Engagement customer ID.

When the Customer Contacts the Call Center

Overview: A customer can also create an order by contacting the call center. When the customer contacts the call center to place an order, request a catalog, create a customer membership outside of order entry, or update name and address information, the CSR needs to first search for the customer in order to keep the Customer Engagement and Order Administration customer records in sync and prevent creating duplicate records. The process when a customer contacts the call center is:

- **Search Customer Engagement first**: When the CSR performs a search, Order Administration first checks in Customer Engagement for any matches. Unlike the process used for the order API, the customer search can send various criteria to Customer Engagement. If the CSR selects a customer from the search results and enters any updates, Order Administration syncs these updates with the Customer Engagement customer record.
- **Search Order Administration second**: If the CSR's search does not find any matches in the Customer Engagement database, Order Administration checks for any matches in its Customer Sold To table. When the CSR selects and works with a Order Administration record, Order Administration sends the current information to Customer Engagement, creating the customer record there and stores the returned ORCE customer ID with the customer record.
- *Create customer if no match:* If there are no matches in either database, then the CSR can create a new customer, and Order Administration sends the new customer record to Customer Engagement, then stores the returned ORCE customer ID with the new customer record.

Examples of these processes are provided below.

Searching Customer Engagement for the Customer

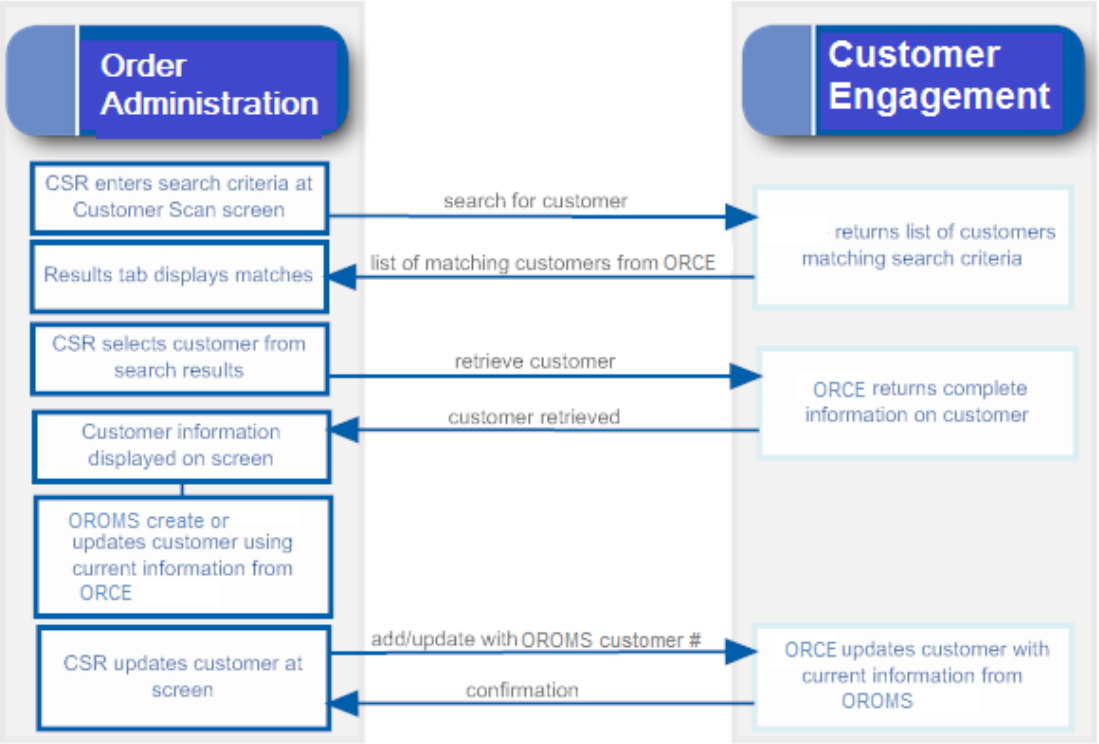
When the customer contacts the call center to place an order, request a catalog, create a customer membership outside of order entry, or update name and address or other information:

Searching:

- The CSR enters the search criteria at the Customer Scan Screen.
- There is at least one customer record in Customer Engagement that matches the search criteria.
- The *Results* tab at the Customer Scan screen displays the names, home addresses, email addresses, and primary phone numbers of any customers in the Customer Engagement database matching the search criteria. The *Results* tab displays the error message `Maximum search results exceeded, please refine your search` if the number of matching records exceeds the Customer Lookup Limit system configuration setting in Customer Engagement. In this situation, you need to make your search criteria more specific to make sure that you can find the customer record you are looking for.

Selecting a customer from the Customer Engagement search results:

- If the CSR selects a record from the *Results* tab:
  - Order Administration requests information on the complete customer record from Customer Engagement
  - Customer Engagement sends the customer information, including the alternate key, if any, that maps to the Order Administration customer number.
  - If the alternate key identifies an existing customer in the Customer Sold To table, Order Administration updates the customer record with the current information from Customer Engagement. Also:
    * If more than one record in Customer Engagement is assigned the same alternate key mapping to the Order Administration customer number, Order Administration uses the information from the first matching record to update the customer record in the Customer Sold To table.
    * If the alternate key that identifies an existing customer in the Customer Sold To table has a different ORCE customer ID, Order Administration updates the ORCE customer ID for the customer record.
  - If there is not an alternate key that identifies an existing customer in Order Administration, Order Administration creates a new customer record.



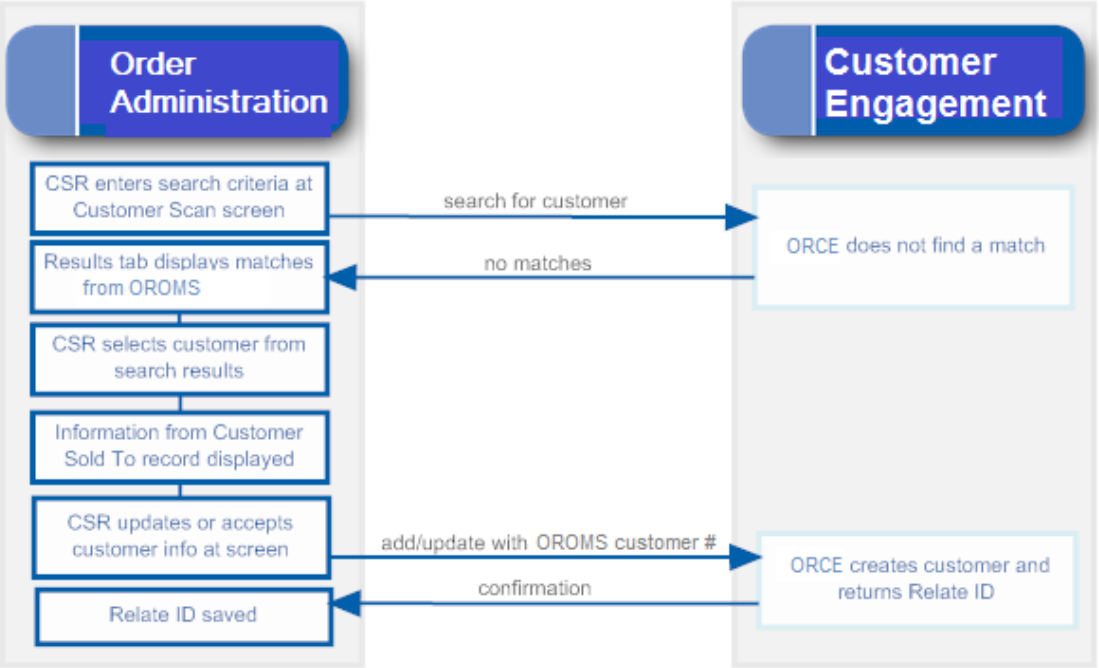
Searching Order Administration for the Customer in Classic View

Searching:

- The CSR enters the search criteria at the Customer Scan Screen.
- There are no records in Customer Engagement that match the search criteria, but there is at least one match in the Order Administration Customer Sold To table.
- The *Results* tab at the Customer Scan screen displays the names, home addresses, email addresses, and primary phone numbers of any customers in Order Administration's Customer Sold To table that match the search criteria.

Selecting a customer from the Order Administration search results:

- If the CSR selects a record from the search results:
  - Order Administration retrieves the current information from its Customer Sold To table.
  - When the CSR updates or accepts the customer information, Order Administration sends an add/update message to Customer Engagement.
  - Customer Engagement creates the customer record, assigning the Order Administration customer number as an alternate key, and sends the Customer Engagement customer number to Order Administration.
  - Order Administration updates the Customer Sold To record with the *Relate Id*.



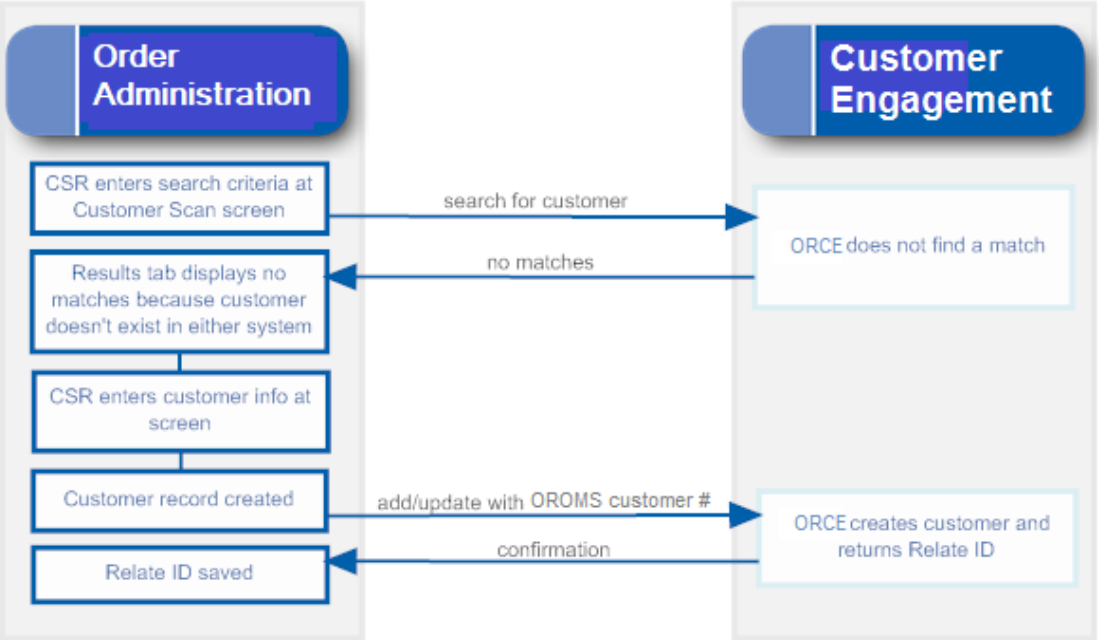
Creating a New Customer

Searching:

- The CSR enters the search criteria at the Customer Scan Screen.
- There are no records matching the search criteria in either Customer Engagement or Order Administration.
- The results do not include any records.

Creating the customer:

- When the CSR enters the information on the new customer:
  - Order Administration creates the customer record in its Customer Sold To table.
  - Order Administration sends an add/update message to Customer Engagement.
  - Customer Engagement creates the customer record, assigning the Order Administration customer number as an alternate key, and sends the Customer Engagement customer number to Order Administration.
  - Order Administration updates the Customer Sold To record with the *Relate Id*.



Notes on Searching for a Customer on Order Administration Screens

Since the Customer Engagement customer integration is based on Customer Engagement acting as the system of record for customer information, searching on Order Administration screens always looks to Customer Engagement first for the customer unless the menu option is related to existing orders.

Customer Scan screen availability: Order Administration provides the Customer Scan Screen to search for a customer in order entry, customer maintenance, and customer membership creation if the ORCE Customer Integration (L37) system control value is set to **INTERACT**. When you search using this screen, the system first calls Customer Engagement when searching for customers, and checks the Order Administration Customer Sold To table only if Customer Engagement does not return any records that match your search criteria.

You cannot use the Customer Scan Screen when searching for a customer in regular or streamlined order inquiry, order maintenance, or return authorizations, because these options are related to existing orders for the customer in Order Administration. In these options, if you scan on a field related to customer name or address, you advance to a subsequent scan screen that displays customer records from the Order Administration database.

> **Note**
>
> If the CSR creates a new customer without first searching, this indicates to create the customer in Customer Engagement regardless of whether any duplicate customers exist there. To avoid creating duplicate customers in Customer Engagement, it is important to search first.

For more information: See the Customer Scan Screen for more information on searching for customers at Order Administration screens.

Customer Synchronization through Modern View

Searching for a Customer at the Home Page

If the ORCE Customer Integration (L37) system control value is set to **INTERACT**, when you search for a customer in Modern View, Order Administration submits the search to Customer Engagement.

Customer(s) found in Customer Engagement? If Customer Engagement returns any customer records, they are displayed in the customer search results:

- If a customer returned in the response is selected, but did not previously exist in Order Administration, the customer record is created, and an Order Administration customer number is assigned.
- If a customer returned in the response is selected and did previously exist in Order Administration, but was not assigned a Customer Engagement ID, the customer record in Order Administration is updated with the ID passed from Customer Engagement, as well as the name and address information from Customer Engagement
- If a customer returned in the response is selected and previously existed in Order Administration with a Customer Engagement ID assignment, the customer's name and address information are updated with the information from Customer Engagement.

Customer not found in Customer Engagement? If there are no matches returned from Customer Engagement, any matching records in the Order Administration Customer Sold To table are displayed. If there is only one matching record, Order Administration sends the customer information to Customer Engagement. Customer Engagement creates a record for the customer and sends the new Customer Engagement ID to Order Administration, and Order Administration updates the customer record with the ID.

The page indicates whether the search results were found in Customer Engagement or in Order Administration.

Search based on Customer Engagement ID? The Use Oracle Retail Customer Engagement Customer Number on Search flag in Work with Contact Center controls whether to submit your entry in the customer number search field as the Order Administration customer number or the ORCE Customer ID. If you enter a customer number, any other search criteria you enter are ignored. If this flag is selected and the ORCE Customer Integration (L37) system control value is set to **INTERACT**, Modern View screens display the Customer Engagement customer ID rather than the Order Administration customer number.

Contact Center Order Entry

If the *ORCE Customer Integration (L37)* system control value is set to **INTERACT**, you can create or update a customer in Customer Engagement through Contact Center Order Entry in Modern View.

In Contact Center Order Entry, if the customer is:

- *New in both Order Administration and Customer Engagement:* If you enter the name and address for a new customer, or update the information for an existing customer, the customer information is created or updated in Customer Engagement after you complete this step and advance to the Items step.
- *New in Order Administration but exists in Customer Engagement:* If the information you enter to create a new customer in Order Administration matches an existing customer in Customer Engagement, the customer record in Customer Engagement is updated, including assigning the Order Administration customer number.
- *Exists in Order Administration but new in Customer Engagement:* If the information you enter to create a new customer matches an existing customer in Order Administration and you select that customer at the Duplicate Customer Found window, but the customer is not already assigned a Customer Engagement ID, the customer record in Customer

Engagement is created, and the new Customer Engagement ID is assigned to the customer in Order Administration.

- *Exists in both Order Administration and Customer Engagement:* If the information you enter to create a new customer matches an existing customer in Order Administration and you select that customer at the Duplicate Customer Found window, and the customer is already assigned a Customer Engagement ID, the update applies to both the Order Administration and the Customer Engagement customer records.
- If communication fails between Order Administration and Customer Engagement, the customer information is synchronized the next time you run the SYNCRDB periodic function. See *Synchronizing Customer Information through a Periodic Function* for more information.

Additional Customer Updates through Modern View

You can also update a customer in Modern View through the Edit Customer Information panel when searching for an order or customer, and the Edit Sold-To panel from the Order Summary page. In this case:

- *Exists in Order Administration but new in Customer Engagement:* If you update a customer that is not already assigned a Customer Engagement ID, the customer record in Customer Engagement is created, and the new Customer Engagement ID is assigned to the customer in Order Administration.
- *Exists in both Order Administration and Customer Engagement:* If you update a customer that is already assigned a Customer Engagement ID, the update applies to both the Order Administration and the Customer Engagement customer records.
- If communication fails between Order Administration and Customer Engagement, the customer information is synchronized the next time you run the SYNCRDB periodic function. See *Synchronizing Customer Information through a Periodic Function* for more information.

Additional Ways to Create or Update a Customer in Order Administration and Customer Engagement

In addition to order entry, you can search for, create, or update a customer through the additional options listed below. If the ORCE Customer Integration (L37) system control value is set to **INTERACT**:

Option	Description	For more information, see:
Catalog request interface (WCRU)	When you create a customer through the catalog request interface, the new customer information is also created in Customer Engagement.	*Working with the Catalog Request Interface (WCRU)*

Option	Description	For more information, see:
Customer maintenance (WCST)	When you select the Work with Customers option, you advance to the *Customer Scan Screen*. When you: • search for or retrieve an existing customer, the information is provided by Customer Engagement if the customer record exists there • create a new customer or update customer name, address, email, phone, or preferences, the customer information is sent to Customer Engagement so that the records are synchronized	*Work with Customers (WCST)*
Work with Customer Memberships (WWCM)	When you prompt on the Customer # field at the *Create Customer Membership Window*, you advance to the *Customer Scan Screen*. If you: • search for or retrieve an existing customer, the information is provided by Customer Engagement if the customer record exists there • create a new customer or update customer name, address, email, phone, or preferences, the customer information is sent to Customer Engagement so that the records are synchronized	*Working with Customer Memberships (WWCM)*

Option	Description	For more information, see:
Customer API	When you receive the *Inbound Customer Message (CWCustomerIn)* to create a new customer or update customer name, address, email, phone, or preferences, the customer information is sent to Customer Engagement so that the records are synchronized. For more information see the Order Administration Web Services Guide on https://support.oracle.com My Oracle Support (ID 2953017.1). **Note** Resubmitting a customer API request through *Working with Customer API (WCAI)* is not currently implemented.	*Generic Customer API* For more information see the Order Administration Web Services Guide on https://support.oracle.com My Oracle Support (ID 2953017.1).

Option	Description	For more information, see:
Order Orchestration Integration	When submitting a new order to Order Orchestration, the ORCE customer ID is sent as the `customer_no` in the SubmitOrder request if: • The Send ORCE Customer ID to OROB (M71) system control value is selected, and • an ORCE customer ID is assigned to the customer, and • the ORCE Customer Integration (L37) system control value is set to **INTERACT.** **Receiving from Order Orchestration:** When creating new orders based on the fulfillments response message, if: • The ORCE Customer ID in OROB Fulfillment (M72) is selected, and • The ORCE Customer Integration (L37) system control value is set to **INTERACT**. The customer_no passed in the fulfillments response maps to the ORCE customer ID rather than the Order Administration customer number. When updating an existing customer through a retail pickup or delivery order, the updated customer information is sent to Customer Engagement for synchronization if the Sold to Email Update for Orders Brokered to OROMS (K96) or Sold to Address Update for Orders Brokered to OROMS (K97) system control values are selected.	*Retail Pickup (including Ship-for-Pickup) or Delivery Orders*

Option	Description	For more information, see:
Creating or selecting an order recipient	When you: • search for or retrieve an existing customer as an order recipient, the information is provided by Customer Engagement if the customer record exists there • create a new customer as an order recipient, or update customer name, address, email, phone, or preferences for the recipient, the customer information is sent to Customer Engagement so that the records are synchronized **Note** Only sold-to and recipient customers are synchronized with Customer Engagement. Order ship-tos and permanent ship-tos are not included in the integration with Customer Engagement.	*Adding a Recipient Order in Order Entry*

Option	Description	For more information, see:
Order maintenance	When you: update the customer name, address, email, phone, or preferences for the customer placing or receiving the order (recipient customer but not a permanent ship-to or order ship-to), the updated customer information is sent to Customer Engagement. This update occurs regardless of whether the customer was previously synchronized with Customer Engagement.	*Work with Order Screen in Order Maintenance*

Customer Data Mapping between Order Administration and Customer Engagement

Overview: The table below lists the fields that are mapped between Order Administration and Customer Engagement in the customer integration.

> **Note**
>
> - When Order Administration creates or updates a customer, it puts alphanumeric information in all uppercase. If the customer name and address in Customer Engagement is not all uppercase, this indicates that Order Administration has not created or updated the customer. The exception is the email address, which can be upper and lower case in both Customer Engagement and Order Administration.
> - Not all mapped fields are the same length in both systems. When Order Administration imports information from Customer Engagement, it truncates certain fields as indicated in the table below, and updates the corresponding fields in Customer Engagement with the truncated information.

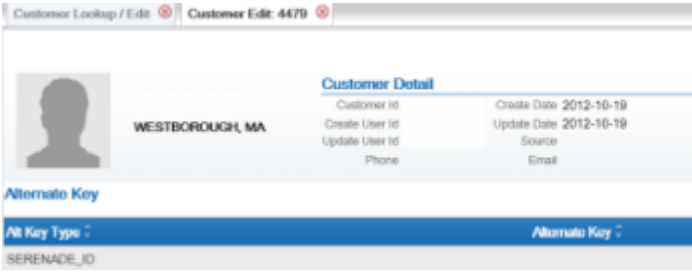
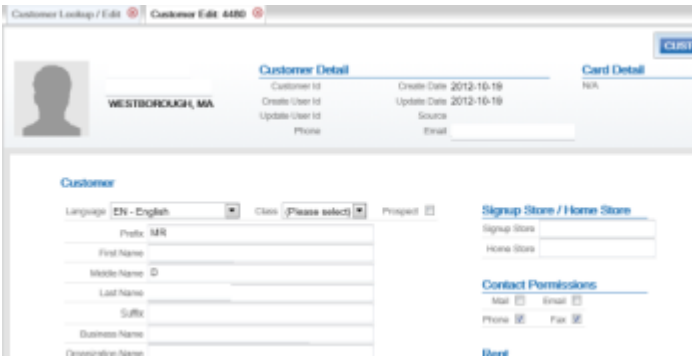
Reviewing the customer in Customer Engagement: Use the *Customer Lookup / Edit* option in Customer Engagement to search for, review, or update a customer.

Which tables? Customer records are stored in:

- *Order Administration:* the Customer Sold To table, except where noted below.
- *Customer Engagement:* the CST_CUSTOMER table.

For more information: See the *Information that is not mapped* for a listing of some of the fields that are not mapped as part of the Customer Engagement customer integration.

OACS Field	ORCE Field	Comments
Customer numbers		

OACS Field	ORCE Field	Comments
Displaying in Customer Engagement:	• **Order Administration customer number:** select **Alternate Key**. • **Relate ID**: labeled the Customer Id.	
Customer number	Alternate key OROMS_ID	Indicates the Alt Key Type of the alternate key in Customer Engagement that maps to the Order Administration customer number. This field is available for display in Customer Engagement by selecting *Alternate Key* in the *Customer Lookup /Edit* option. Customer Engagement automatically creates this entry for a customer when you send the customer to Customer Engagement interactively or through the *Customer Engagement Add or Update Customer Message* if it does not already exist based on the *ORCE_ALT_ID_OROMS* setting in the *Customer Engagement Properties* file. In this situation, Customer Engagement also adds a row to the **CST_ALT_KEY_TYPCODE** table in the Customer Engagement database if it does not already exist.
Relate id	Customer ID	**Note** The Relate id: • is not displayed on any screen in Order Administration • is an alphanumeric field in the Order Administration Customer Sold To table
Name	**Displaying in Customer Engagement:** Under *Customer*.	
Prefix	Prefix	Truncated in Order Administration to 3 positions. Any trailing spaces are removed.

OACS Field	ORCE Field	Comments
First name	First name	Truncated in Order Administration to 15 positions. Any trailing spaces are removed.
Middle initial	Middle name	Truncated in Order Administration to 1 position. Any trailing spaces are removed.
Last name	Last name	Truncated in Order Administration to 25 positions. Any trailing spaces are removed.
Suffix	Suffix	Truncated in Order Administration to 3 positions. Any trailing spaces are removed.
Company	Business Name	Truncated in Order Administration to 30 positions. Any trailing spaces are removed.
Customer-level information and permissions	The customer-level permissions in Customer Engagement are informational only.	**Displaying in Customer Engagement:** Included under the *Customer* option. See above.
Retail Store ID	Signup Store Home Store	The value defined in the *Default Location for ORCE Integration (K69)* system control value is passed if the `relate_cust_sync_success` flag is set to N in the CWOrderIn message, indicating that the e-commerce site has not yet successfully synchronized information about the customer with Customer Engagement. Otherwise, if the `relate_cust_sync_success` flag is set to Y, the location ID is not passed, in order to prevent updating the existing store locations in Customer Engagement.
N/A	Source	*Contact Center* defaults when a new customer is sent to Customer Engagement.
Mail flag	Mail contact permission flag	Order Administration to Customer Engagement: *Y* defaults if the Mail flag is selected Customer Engagement; otherwise leave blank. Order Administration does not automatically update the setting sent from Customer Engagement.
Opt in/out setting for primary email address	Email contact permission flag	Order Administration does not automatically update the setting sent from Customer Engagement.
Day or Evening phone number	Phone contact permission flag	Order Administration does not automatically update the setting sent from Customer Engagement.

OACS Field	ORCE Field	Comments
Do not fax	Fax contact permission flag	Order Administration to Customer Engagement: *Y* defaults if the *Third Phone Number Type (L53)* system control value is set to *FAX* and the Do Not Fax field for the customer in Order Administration is unselected; otherwise leave blank. Customer Engagement does not send this setting to Order Administration.
Rent	Rent contact permission flag	Order Administration does not automatically update the setting sent from Customer Engagement.
Birth Month and Birth Date	Birth date	Order Administration to Customer Engagement: The month and date defined in the Birth month and Birth date fields for the customer. The year passed to Customer Engagement defaults to *1900*; however this year is not used if a birth year has already been defined in Customer Engagement. **Note:** If you remove the Birth month and Birth date from the customer in Order Administration, the Birth date defined in Customer Engagement is retained. Customer Engagement to Order Administration: The date defined in the Birth date field, including the actual month, day, and year defined.

OACS Field	ORCE Field	Comments
Address **Note** Only the customer's HOME address in Customer Engagement is mapped to Order Administration. If more than one HOME address exists in Customer Engagement, the system	**No address validation in Customer Engagement:** Unlike Order Administration, Customer Engagement does not require an address for a customer, and does not validate that the address includes certain required components; for example, no address lines are required. To prevent problems in Order Administration, it is important that any other means you use to create customers in Customer Engagement, such as through your e-commerce site, always creates a home address when you use the Customer Engagement customer integration. If a home address does not exist in Customer Engagement, Customer Engagement displays the customer in Order Administration without an address. Also, if certain fields for the home address are not defined in Customer Engagement, these fields will be blank when you display the	**Displaying in Customer Engagement:** Select *Address*. 

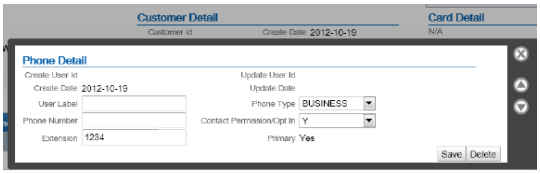
OACS Field	ORCE Field	Comments
	uses the primary HOME address. This information is required in order for Order Administration to create the customer record correctly.	customer in Order Administration. However, when you update the customer's address in Order Administration so that is passes validation, the system will also update the customer's home address in Customer Engagement
		Customer Engagement automatically creates an Address type of *HOME* when it receives a customer from Order Administration interactively or through the *Customer Engagement Add or Update Customer Message*. In this situation, Customer Engagement also adds a row to the **CST_ADDR_TYPCODE** table for ADDRESS_TYPECODE `HOME` in

OACS Field	ORCE Field	Comments
the Customer Engagement database if it does not already exist.		
N/A	Primary	Set to *Yes* in Customer Engagement.
Street	Address line 1	Truncated in Order Administration to 32 positions. Any trailing spaces are removed.
Apt/Suite	Apartment	Truncated in Order Administration to 32 positions. If deleted in Order Administration, also deleted in Customer Engagement. Any trailing spaces are removed.
Address (lines 2-4)	Address lines 2-4	Truncated in Order Administration to 32 positions. Stored in the Customer Sold To Extended table. If deleted in Order Administration, also deleted in Customer Engagement. Any trailing spaces are removed.
City	City	Truncated in Order Administration to 25 positions. Any trailing spaces are removed.
State	State	Truncated in Order Administration to 2 positions and validated against the states in the Country table. Any trailing spaces are removed.
Postal code	Postal code	Truncated in Order Administration to 10 positions and validated against the SCF table. Any trailing spaces are removed.
Country	Country	Must be a 2-position country code; validated in Order Administration against the Country table. **Note** Use the two-position ISO country code; for example, use US instead of USA. Any trailing spaces are removed.

OACS Field	ORCE Field	Comments
Mail	Contact permission/opt in setting (address level)	Order Administration to Customer Engagement updates: • **Y** in Order Administration = **Y** in Customer Engagement • **N** in Order Administration = **N** in Customer Engagement Customer Engagement to Order Administration updates: • **Y** or any setting starting with **Y** in Customer Engagement = **Y** in Order Administration • **N** or any setting starting with **N** in Customer Engagement = **N** in Order Administration

Note

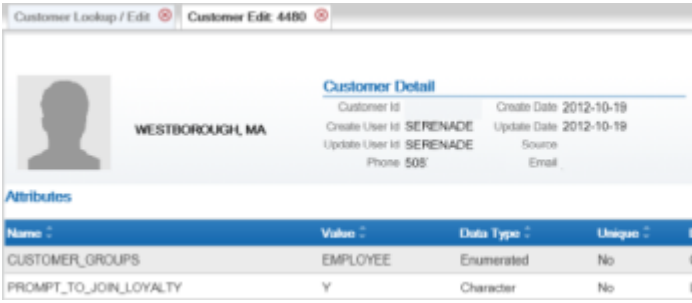
The mail permission setting in Customer Engagement must consist of or start with the letters **Y** or **N**; otherwise, synchronizing the customer with Order Administration results in an error when validating the customer in Order Administration because the only valid settings in Order Administration are **Y** and **N**.

OACS Field	ORCE Field	Comments
Phone numbers The phone numbers in Order Administration map to the soft-coded Telephone types based on the *Customer Engagement Properties*. Customer Engagement automatically creates the Telephone type codes of *HOME*, *BUSINESS*, and *FAX* or *MOBILE* when it receives a customer from Order Administration interactively or through the *Customer Engagement Add or Update Customer Message*. In this situation, Customer Engagement also adds rows to the **CST_PHONE_TYPCODE** table for types of *WORK*, *HOME*, and *FAX* or *MOBILE* in the Customer Engagement database if they do not already exist. **Note** Phone number extensions are not mapped between Customer Engagement and Order Ad	Phone numbers in Order Administration are stored in the Customer Sold To Phone # table. Any formatting is removed from the phone number before sending to Customer Engagement. **Removing a phone number:** If you delete a phone number in either Customer Engagement or Order Administration, the system deletes the associated phone number in the other system.	**Displaying in Customer Engagement:** Select *Phone*. Optionally, highlight a phone number to open the **Phone Detail** window. 

OACS Field	ORCE Field	Comments
	min istr atio n.	
Day	varies	The *ORCE_DAY_PHONE_LABEL* setting in the *Customer Engagement Properties* file indicates the Telephone Type in Customer Engagement that maps to the daytime phone number in Order Administration; this setting should be set to *BUSINESS*. Any trailing spaces are removed from the phone number. **Primary?** If there is a daytime phone number, this phone number in Customer Engagement is flagged as Primary by default after synchronizing customer information with Order Administration.
Eve	varies	The *ORCE_EVE_PHONE_LABEL* setting in the *Customer Engagement Properties* file indicates the Telephone Type in Customer Engagement that maps to the evening phone number in Order Administration; this setting should be set to **HOME**. Any trailing spaces are removed from the phone number. **Primary?** If there is no daytime phone number, then the evening phone number in Customer Engagement is flagged as Primary by default after synchronizing customer information with Order Administration. Also, if you delete the daytime phone number in Order Administration, then the evening phone number is flagged as Primary in Customer Engagement.

OACS Field	ORCE Field	Comments
Mbl or Fax	varies	The *ORCE_FAX_PHONE_LABEL* setting in the *Customer Engagement Properties* file indicates the Telephone Type in Customer Engagement that maps to the third phone number in Order Administration; this setting should be set to **FAX** or **MOBILE**. Any trailing spaces are removed from the phone number. **Note** The *Third Phone Number Type (L53)* system control value controls whether the third phone number is labeled as the mobile or fax number in Order Administration. **Primary?** If there is no daytime or evening phone number, then the fax/mobile phone number in Customer Engagement is flagged as Primary by default after synchronizing customer information with Order Administration. Also, if you delete the daytime and evening phone number in Order Administration, then the fax/mobile phone number is flagged as Primary in Customer Engagement.
N/A	Contact permission/opt in setting (phone-level)	For the day and evening phone numbers: **Y** defaults if a corresponding phone number is defined; otherwise **N** defaults. If the *Third Phone Number Type (L53)* system control value is set to **FAX**: • **N** defaults if the Do Not Fax field is selected for the customer. • *Y* defaults if the Do Not Fax field is unselected for the customer. If the *Third Phone Number Type (L53)* system control value is set to *MOBILE*: *Y* defaults if a mobile phone number is defined; otherwise, *N* defaults.

OACS Field	ORCE Field	Comments
Email address In Order Administration, the primary email address is stored in both the Customer Sold To table and the Customer Sold To Email table. Additional, non-primary email addresses are stored only in the Customer Sold To Email table. Only the HOME email address that is flagged as primary in Customer Engagement is eligible to be included in the integration.	Customer Engagement automatically creates an Email type of **HOME** when it receives a customer from Order Administration interactively or through the *Customer Engagement Add or Update Customer Message*. In this situation, Customer Engagement also adds a row to the **CST_EMAIL_TYPCODE** table for EMAIL_TYPECODE *HOME* in the Customer Engagement database if it does not already exist.	**Displaying in Customer Engagement:** Select Email. Optionally, highlight the email address to open the **Email Detail** window. 
N/A	Primary	Set to *Yes* in Customer Engagement.
Email address	Email type: HOME	Only the HOME email address that is flagged a primary is eligible to be included in the integration. If the customer has any other email type in Customer Engagement, but not a HOME email type, the email address(es) are not passed to Order Administration. Any trailing spaces are removed.
Opt in/opt out	Contact permission/opt in setting (email level)	Order Administration to Customer Engagement updates: • **O1** in Order Administration = **Y** in Customer Engagement • **O2**, **O3**, or **O4** in Order Administration = **N** in Customer Engagement Customer Engagement to Order Administration updates: • **Y** in Customer Engagement = **O1** in Order Administration • **N** in Customer Engagement = **O2** in Order Administration • any other value in Customer Engagement = no change in Order Administration
Format	Format preference	• **H** in Order Administration = **HTML** in Customer Engagement • **T** or blank in Order Administration = **TEXT** in Customer Engagement

OACS Field	ORCE Field	Comments
Profile data In Order Administration, profile data is stored in the Customer Profile table.	**Included in the integration?** The *Send Profile Data to ORCE (L51)* system control value controls whether to include demographic profile data when synchronizing customer information. **Required setup:** You need to complete the setup described under *Order Management System Customer Profile > Customer Engagement Attribute Definition* in order to synchronize the information between the systems. Examples are provided below.	**Displaying in Customer Engagement:** Select **Attributes**. 
Profile description	Attribute name	Use the *Setting Up Customer Profiles (WPFL)* option in Order Administration to set up the type of demographic information you are capturing, and also use the **Attribute Definition** screen in Customer Engagement to create a corresponding attribute definition for each Order Administration profile code. **Example:** To capture marital status, you can set up: • Order Administration: a profile category with a description of **MARITAL STATUS** • Customer Engagement: an attribute name of **MARITAL STATUS** and a description of **MARITAL STATUS** with a data type of **Character**

OACS Field	ORCE Field	Comments
Profile data description	Attribute value	Use the *Setting Up Customer Profiles (WPFL)* option in Order Administration to set up each valid profile data value that you can capture. It is not necessary to set up valid data in Customer Engagement; Customer Engagement stores the data as a text string. **Example:** In the *Setting Up Customer Profiles (WPFL)* option in Order Administration, set up profile data options such as: • Code = **M** • Description = *MARRIED* Customer Engagement stores an attribute value of *MARRIED*.
Additional information		
user ID	Create user	For new customers, set to *OROMS-USERID*, where *USERID* is the user ID of the person who performed the customer create, if the customer record originated in Order Administration.
user ID	Update user	Set to *OROMS-USERID*, where *USERID* is the user ID of the person who performed the customer update, if the customer record was most recently updated by Order Administration.
N/A	Create date	The date when the customer record was created in Customer Engagement.

OACS Field	ORCE Field	Comments
N/A	Update date	The most recent date when the customer record was changed. Activities in Order Administration that change the Update date include: • selecting the customer for an order as the sold-to or order recipient • viewing the customer in customer maintenance • selecting the customer for a catalog request • selecting the customer for a customer membership in *Working with Customer Memberships (WWCM)* The above activities change the Update date in Customer Engagement, even if there is no change to the information about the customer or if you reject the order in order entry. **Note** Creating an order for the customer through the order API changes the Update date in Customer Engagement if the `sold_to_address_update` flag in the CWOrderIn message is selected and no `customer_number` is passed, even if there is no change to the customer's name and address information.
ORCE_SECURITY_USER_ID	Security ID	The Customer Engagement user ID with security group permission defined in the *ORCE_SECURITY_USER_ID* setting in the *Customer Engagement Properties* file. **Note** This value does not display on any screen in Customer Engagement.

Information that is not mapped

- **From Order Administration:**
  - PO Box
  - Delivery code: From the *Default Delivery Code for New Order Entry Customers (D13)*, but you can override this default. Not related to the Address type in Customer Engagement, although only addresses with a type of HOME are used as part of the integration.
  - Class: From the *Default Customer Class in Order Entry (D63)*, but you can override this default.
  - Alternate customer number: However, if a third system, such as the e-commerce site, synchronizes with Customer Engagement, then its customer number might also be stored in Customer Engagement as an additional alternate key. Also, *select* the *Enable Xstore Alt Key Creation* system configuration setting in Customer Engagement if the integration to Customer Engagement includes Order Administration and XStore. Selecting this field will assign an XSTORE_ID to the customer if one does not already exist.
- **From Customer Engagement:**
  - County: If the county is populated in Customer Engagement, this information is cleared when the customer record is synched with Order Administration.
  - Address type: Only the address with a type of HOME is used as part of the integration. If the customer record in Customer Engagement does not have a HOME address, then the address you enter for the customer in Order Administration is created as the HOME address in Customer Engagement.
  - Email address: Only the email address with a type of HOME is used as part of the integration.
  - Class: The *Default Customer Class in Order Entry (D63)* defaults in Order Administration

Updating an Existing Customer

Overview: In general, the integration keeps existing Order Administration and Customer Engagement customer records synchronized when you update customer information through either system. A few things to note are listed below.

Deleting customer information through screens in Order Administration:

- If you delete address lines 2-4 or apartment in Order Administration, these address lines are also deleted in Customer Engagement.
- Deleting other data in Order Administration does not delete the corresponding fields in Customer Engagement; as a result, this data is repopulated when the customer information is resynchronized. This occurs if you delete the customer's prefix, middle initial, suffix, company name, phone numbers, and primary email address in Order Administration.

Deleting customer information through Customer Engagement: Deleting prefix, first name, middle initial, suffix, last name or business name, address lines 2-4, apartment, phone number extensions, or email address in Customer Engagement deletes the corresponding fields in Order Administration. However, deleting phone numbers in Customer Engagement does not delete the phone numbers in Order Administration; as a result, the phone numbers are repopulated in Customer Engagement when the customer information is resynchronized.

Phone number extensions: If you add an extension to an existing phone number:

- if you add the extension in Order Administration, the extension is not added to Customer Engagement.
- if you add the extension in Customer Engagement, the extension is not added to Order Administration and is removed when the customer information is resynchronized.

For more information: See *Customer Synchronization through the Order API*.

Synchronizing Customer Information through a Periodic Function

Overview: The *SYNCRDB* periodic function (Program Name = PFR0105) sends current customer information to Customer Engagement. You can use this periodic function:

- if communication has failed for any reason during normal operations, so that customer information was not synchronized interactively
- to initially export customer information from Order Administration to Customer Engagement

Synchronization trigger: If the Synchronize with remote DB flag in the Customer Sold To table is set to *Y*, the SYNCRDB periodic function attempts to synchronize the customer record with Customer Engagement. Order Administration sets this flag to *Y* automatically when communication with Customer Engagement fails. To initially export existing customer information to Customer Engagement, you can use a SQL statement to set this flag to *Y* for all customer records if you do not use the conversion periodic function.

Synchronization updates: The SYNCRDB periodic function:

- sends current customer information from Order Administration to Customer Engagement, including creating an alternate key in Customer Engagement using the Order Administration customer number; see *Customer Data Mapping between Order Administration and Customer Engagement* for details
- populates the Relate Id field in the Customer Sold To table if the field is currently blank
- clears the Synchronize with remote DB flag for the Customer Sold To record
- clears the E-commerce ID for the Customer Sold To record if the order API has saved this information to use when synchronizing the customer; see *Customer Engagement Customer Integration: Typical Information Flows* for more information

The periodic function does not retrieve information from the Customer Engagement customer record to update the Order Administration customer record, with the exception of populating the Relate Id.

> **Note**
>
> The periodic function synchronizes customer records only if the *ORCE Customer Integration (L37)* system control value is set to **INTERACT**.

Information used for matching: The SYNCRDB periodic function uses the following information to match customer records between Order Administration and Customer Engagement:

- Relate Id: Customer Engagement customer number = Relate Id in the Order Administration Customer Sold To table
- Customer number: Customer Engagement alternate key record whose Alt Key Type matches the `ORCE_ALT_ID_OROMS` setting in *Working with Customer Properties (PROP)* = the Order Administration customer number

- E-commerce ID: Customer Engagement alternate key record whose Alt Key Type matches the `ORCE_ALT_ID_WEB` setting in *Working with Customer Properties (PROP)* = the e-commerce site's customer number. From the `ecommerce_id` passed in the CWOrderIn message, and saved as the E-commerce ID in the Customer Sold To table only if the order API was unable to synchronize the Order Administration and Customer Engagement customer records
- Primary email address: an email address for the customer in Customer Engagement = the customer's primary email address in Order Administration

Matching rules: The SYNCRDB periodic function uses the following rules:

- If a Relate Id or an e-commerce ID is specified in the Customer Sold To table and the Synchronize with remote DB flag is set to *Y*, Order Administration sends the current Order Administration customer number, e-commerce ID (if any), and customer name and address, including phone numbers and the primary email address.

Customer Engagement returns its Customer Engagement customer number; if this number is different from the current Relate Id in the Customer Sold To table, Order Administration updates the Relate Id. The current Relate Id might be different if, for example, a merge/purge took place in Customer Engagement.

- If no Relate Id or e-commerce ID is specified in the Customer Sold To table, and the Synchronize with remote DB flag is set to *Y*, Order Administration first searches Customer Engagement based on primary email address. If Customer Engagement returns:
  - any matching customers, Order Administration synchronizes the customer with the first customer returned that is not already assigned a Order Administration alternate key; if all matching customers already have Order Administration alternate keys, it selects the first customer returned in the response
  - no matching customers, Order Administration sends an add/update message to create a new customer in Customer Engagement

Troubleshooting: The SYNCRDB function always creates a new customer in Customer Engagement if the Order Administration customer does not have an email address, e-commerce ID, or valid Relate Id. The function does not match customers based on name, address, or phone number.

Customer Engagement Customer Integration: Notes and Troubleshooting

Things to note:

- **Must search before creating a customer at Order Administration screens:** Because the Customer Engagement customer integration is based on using Customer Engagement as the system of record for customers, you need to use the *Customer Scan Screen* to search for a customer and make sure that the record does not already exist before creating a new record to avoid the possibility of creating a duplicate. Creating the customer without searching first indicates that you want the customer created, regardless of any existing duplicates.
- **Customer Engagement customer ID:** The Customer Engagement customer ID is stored in the Order Administration Customer Sold To table, and may be included in web service requests or used for customer matching as described above, but is not displayed on any screens in Order Administration.
- ***Logging:*** The information passed between Order Administration and Customer Engagement is written to the *Trace Log* if its logging level is set to DEBUG or ALL.
- **If customer information returned from Customer Engagement is masked:** If the customer information returned from Customer Engagement displays as asterisks instead of the actual data, there may be an authority problem with the ORCE_Security_User in

Customer Engagement. In this situation, verify that the Default View Where No Security Group is Assigned property is set to Read/Write. If the default view cannot be changed, assign the ORCE_Security_User to the system admin role.

- **If communication fails:** If for any reason the communication fails between Order Administration and Customer Engagement and the synchronization cannot be completed, the Synchronize with remote DB flag in the Customer Sold To table is set to *Y*. You can use the SYNCRDB periodic function to synchronize the customer records; see *Synchronizing Customer Information through a Periodic Function* for more information.
- **Customer Lookup Limit:** The *Results* tab at the *Customer Scan Screen* displays the error message `Maximum search results exceeded, please refine your search` if the number of matching records exceeds the Customer Lookup Limit system setting in Customer Engagement. In this situation, you need to make your search criteria more specific to make sure that you can find the customer record you are looking for.
- **Narvar integration:** If the Send ORCE Customer ID to Narvar (M70) system control value is selected, the ORCE customer ID, if assigned to the customer, is sent in the Narvar Order Request message.
- **Web services using the ORCE customer ID:** See the ORCE Customer Integration (L37) system control value is set to INTERACT, the ORCE customer ID is included in various web service messages rather than the Order Administration customer number. See that system control value for more information
- **Order Orchestration:** The Send ORCE Customer ID to OROB (M71) system control value controls whether to send the ORCE customer ID in the SubmitOrder request, and the ORCE Customer ID in OROB Fulfillment (M72) controls whether the customer_no passed in the fulfillments response maps to the ORCE customer ID rather than the Order Administration customer number. See these system control values for more information.

Additional data from Customer Engagement not passed to Order Administration: Not all customer information in Customer Engagement is sent to Order Administration. See the *Customer Data Mapping between Order Administration and Customer Engagement* for details on the information that is mapped.

Additional data in Order Administration not passed to Customer Engagement: Not all customer information in Order Administration is passed to Customer Engagement. For example, permanent ship-to addresses, bill-to accounts, and contract pricing information are not passed. See the *Customer Data Mapping between Order Administration and Customer Engagement* for details on the information that is mapped.

Email addresses never deleted from Customer Engagement: Even if you change or delete a customer's email address, this information is not visible on the screen but is retained in the Customer Engagement database. For this reason, searching on the deleted or overwritten email address still finds the customer, and customer matching logic described under *Customer Synchronization through the Order API* uses the deleted or overwritten email address as it would use a current email address.

Phone number extension: Phone number extensions are not passed between Customer Engagement and Order Administration.

Customer Engagement customer changed to uppercase by synchronization: When a Customer Engagement customer record is updated from the corresponding Order Administration customer record, the alphanumeric characters in Customer Engagement change to all uppercase. This occurs because Order Administration stores customer information in all uppercase. The exception is the email address, which is stored in upper and lowercase in both systems.

Company/business name: When you use the Customer Engagement customer integration, you cannot search for customer by name if the customer has a company/business name but not a last name.

No address validation in Customer Engagement: Unlike Order Administration, Customer Engagement does not require an address for a customer, and does not validate that the address includes certain required components; for example, no address lines are required.

Setup information: See *Customer Engagement Integration Setup (Sales and Customer)* for information on the required setup for integration with Customer Engagement.

Activities that do not Trigger Communication with Customer Engagement

Functions that do not request or update customer information from Customer Engagement include:

- generating backorder cards
- generating soldout notifications
- generating return or shipment confirmations
- pick slip generation
- membership order generation
- reviewing an order in order inquiry, including displaying the customer
- maintaining an order, unless you change information about the customer
- billing an order
- creating an order for the customer through the ChannelAdvisor integration

Deleting Certain Information for an Existing Customer

Certain information deleted in Order Administration is not deleted in Customer Engagement, and becomes repopulated in Order Administration after resynchronization. The information that persists in this process is:

- name fields, including the company/business name
- email address

Example: You delete the customer's middle initial in Order Administration, but this does not delete this field in Customer Engagement. The next time the Customer Engagement and Order Administration customer records are resynchronized, the middle initial is repopulated in Order Administration.

Address fields: If you delete additional address fields in Order Administration, such as the second through fourth address lines and the apartment/suite, this information is also deleted in Customer Engagement and does not reappear after resynchronization.

Email and phone: If you change the email address and phone numbers in Order Administration, the previous information persists in the Customer Engagement database, although it is no longer displayed on the screen and does not repopulate the Order Administration customer record at resynchronization. However, if you search for a customer using the previous email address or phone number as a search criterion, the customer is eligible to be included in the search results.

Functions that are Inconsistent with the Customer Engagement Customer Integration

Customer search API: The generic customer inquiry (search) API does not support searching Customer Engagement for customers. This API searches across Order Administration customer records only.

Mass customer updates: Updates using NCOA or similar options in Order Administration are not recommended if you use the Customer Engagement customer integration.

Cannot delete a customer if using the Customer Engagement customer integration: If the *ORCE Customer Integration (L37)* system control value is set to *INTERACT*, you cannot delete a customer in Order Administration customer maintenance.

Customer Engagement Loyalty Integration

Customer Engagement Loyalty Integration allows you to register customers in the Oracle Retail Customer Engagement loyalty program. Once a customer is registered in the loyalty program, you can retrieve the customer's loyalty points and awards balances, accrue points from completed purchases, and redeem awards as a pro-rated merchandise discount on an order.

About loyalty programs: Loyalty programs define the rules used for tracking the purchases of customers belonging to store loyalty programs, usually through a system of points. The loyalty points can then be redeemed for discounts of a fixed amount (though the points alone have no intrinsic value). The discounts can be distributed through the mail as paper coupons, or made available to customers as an award coupon created by the award program associated with the customer's loyalty card.

The Customer Engagement Loyalty integration retrieves a customer's loyalty information from Customer Engagement at specific points in Order Administration so users can view a customer's loyalty card information, current loyalty points, and current award coupons. Communication with Customer Engagement uses the Customer Engagement API Interface; the loyalty information is not stored in Order Administration. Certain activities in Order Administration update the customer's loyalty account information in Customer Engagement:

- **Modern View**
  - the Customer Order List pages can display a prompt for the customer to join loyalty a loyalty program if not already a member.
  - a Loyalty tab is available at the Customer Order List pages to display the customer's current loyalty and award programs. Optionally, you can issue points for a loyalty program, or issue an award coupon for an award program.
  - in Contact Center Order Entry, you can prompt for the customer to join a loyalty program if not already a member. If the customer is already a member of more than one program, you can select a card so that an award from the card can be applied to the order. At the Review step, you can specify the award amount to apply.
- **Classic View**
  - at Customer Loyalty Registration Window, you can ask a customer to join the loyalty program; when a customer joins, Customer Engagement generates a card for the customer and creates the customer's loyalty account.
  - at the Issue Loyalty Points Window, you can issue points to the customer's loyalty account; Customer Engagement increases the points in the customer's loyalty program.

  - at the Issue Loyalty Coupon Window, you can issue an award coupon to the customer's loyalty account; Customer Engagement creates the award coupon in the customer's awards program.l
  - during order entry (interactive and using the generic order interface), you can apply an award amount to an order. When you accept the order, Customer Engagement subtracts the award amount from the customer's awards program.
- the Customer Engagement Sales Feed sends sales and return information to Customer Engagement in the Customer Engagement Post POSlog Transaction Message; Customer Engagement increases or decreases the loyalty points from the customer's loyalty program based on the program rules defined for the customer's loyalty card in Customer Engagement.

Entitlement Programs are not supported.

> **Note**
>
> Other applications, such as XStore and the web storefront, communicate with Customer Engagement to retrieve and update loyalty account information for the customer. This section explains the Customer Engagement Loyalty integration between Customer Engagement and Order Administration only.

In this topic:

For more information: See:

- Customer Engagement Customer Integration for more information on interactively communicating with Customer Engagement to keep customer information in Order Administration in sync with Customer Engagement when Customer Engagement is the system of record for customer information.
- Customer Engagement Batch Customer and Sales Integration for more information on sending merchandise hierarchy, item, customer, sales and return information from Order Administration to Customer Engagement using a batch process. This section also includes Customer Engagement Integration Setup (Sales and Customer).
- Customer Engagement Purchase History Integration for more information on reviewing a customer's purchase history from Customer Engagement on the Display Purchase History Screen in Order Administration.

- Customer Engagement Customer Wish List Integration for more information on how to review and modify a customer's wish list from Customer Engagement using the Display Wish List Screen in Order Administration.
- The Customer Engagement Implementation Guide for more information on system configuration properties for Customer Engagement.
- The Customer Engagement Batch Processing and Web Services Guide for more information on the Customer Engagement API interface.
- The Customer Engagement Database Dictionary for more information on the tables in the Customer Engagement database.
- The Customer Engagement User Guide and the JET UI User Guide for more information on using the Customer Engagement application.

Customer Engagement Loyalty Integration Setup

Before you can use the Customer Engagement Loyalty Integration, you must complete the required setup.

Required versions: To use the Loyalty Integration with Customer Engagement, you must be on these versions:

- Order Management System version 4.5 or higher, or Order Administration.
- Customer Engagement version 10.5 or higher.

In addition:

- the Customer Engagement Customer Integration and Customer Engagement Purchase History Integration uses version 2.3 of the Customer Services API.
- generating a new loyalty card and assigning it to a customer uses version 3.1 of the Stored Value Card Transaction Services API.

> **Note**
>
> In order for transactions to process correctly, the Franchisee feature must be disabled in Customer Engagement.

- retrieving loyalty and award summary information for all accounts attached to a specified loyalty card uses version 2.1 of the Card Services API.
- issuing loyalty points to a specified loyalty card and retrieving all of the loyalty points account activity for a specified loyalty account uses version 1.2 of the Loyalty Account Services API.
- issuing an award coupon to a specified loyalty card, retrieving all of the award account activity for a specified loyalty account, and automatically redeeming an award coupon for a specified amount uses version 1.2 of the Award Account Services API.

Setup is required in both Order Administration and Customer Engagement.

- Setup in Order Administration for the Customer Engagement Loyalty Integration
- Setup in Customer Engagement for the Customer Engagement Loyalty Integration

For more information: See Customer Engagement Integration Setup (Sales and Customer) for more information on the setup required to use the Customer Engagement Sales Feed, and Customer Engagement Customer Integration.

Setup in Order Administration for the Customer Engagement Loyalty Integration

- System Control Values for the Customer Engagement Loyalty Integration
- Secured Feature for the Customer Engagement Loyalty Integration
- Web Service Authentication for Customer Engagement
- Customer Engagement Property Settings
- Menu Options Related to the Customer Engagement Loyalty Integration

System Control Values for the Customer Engagement Loyalty Integration

System Control Value	Description
Prorate Dollar Discounts and Coupons (D90)	Select this system control value to automatically display the Enter Loyalty Award Discount Window when you select the Reprice option in order entry.
ORCE Organization Descriptor (L50)	Use this field to identify the Customer Engagement organization that maps to your Order Administration company.
Default Location for ORCE Integration (K69)	Use this field to define the Customer Engagement location to associate with the Customer Engagement loyalty program. **Note** The location code must be numeric to prevent any possible issues displaying a customer's purchase history in Xstore.
Use ORCE Loyalty (M06)	Select this system control value if you want to use the Customer Engagement Loyalty integration. **Important** If you select this system control value: • The ORCE Customer Integration (L37) system control value must be set to INTERACT, indicating you communicate with Customer Engagement interactively. • You must define a card prefix in the ORCE Loyalty Card Prefix (M08) system control value. • You must define a card series sequence number in the ORCE Loyalty Card Series Sequence Number (M09) system control value.

System Control Value	Description
Prompt to Join Loyalty (M07)	Select this system control value if you want the system to automatically display the Customer Loyalty Registration Window during order entry and Work with Customers when the sold to customer is not already registered in the Loyalty program. **Note** If you select this system control value, the ORCE Customer Integration (L37) system control value must be set to INTERACT, indicating you communicate with Customer Engagement interactively.
ORCE Loyalty Card Prefix (M08)	Defines the 5 digit prefix assigned to the Card Definition in Customer Engagement that is used to assign new loyalty cards to sold to customers that join the loyalty program. **Note** This setting must match the setting in Customer Engagement; for example, if the card prefix in Customer Engagement is `00905`, you must enter `00905` in this system control value.
ORCE Loyalty Card Series Sequence Number (M09)	Defines the 2 digit card series number assigned to the Card Definition in Customer Engagement that is used to assign new loyalty cards to sold to customers that join the loyalty program. **Note** This setting must match the setting in Customer Engagement; for example, if the card series sequence number in Customer Engagement is `02`, you must enter `02` in this system control value.
ORCE Loyalty Registration Notification Email Program (M10)	Defines the program used to generate a Loyalty Registration Notification email when a sold to customer joins the loyalty program and is assigned a loyalty card in Customer Engagement. LoyRegNotf is the base program that generates the Loyalty Registration Notification email in HTML format. In this situation, the *XML Only* flag for the Loyalty Registration Notification email template must be unselected.

Secured Feature for the Customer Engagement Loyalty Integration

Secured Feature	Description
ORCE Issue Awards/Points (J07)	This feature controls whether the Issue Points and Issue Awards options display on the Display Loyalty Account Screen. • Allow (default) = The Issue Points and Issue Awards options display on the Display Loyalty Account Screen. • Exclude = The Issue Points and Issue Awards options do not display on the Display Loyalty Account Screen.

Web Service Authentication for Customer Engagement

If the web services used to process inbound messages to Customer Engagement require web service authentication, you must provide a valid web service authentication user and password in Working with Web Service Authentication (WWSA), or a client ID and client secret if using OAuth. In this situation, when Oracle Retail Order Administration generates a message to send to Customer Engagement it includes the web service authentication information in the HTTP header of the message. See Oracle Retail Omnichannel Web Service Authentication Configuration Guide on My Oracle Support (2728265.1) for more information.

Customer Engagement Property Settings

Working with Customer Properties (PROP) contains settings required for integration with Customer Engagement.

Setting	Description	Example Setting
ORCE_CUSTOMER_SERVICE_PREFIX	The system uses this property to build the URL for communication with Customer Engagement using the Customer Servics API.	**https://server:8447/** where: **server** = the name of your Customer Engagement server **8447** = the port to use on the Customer Engagement server
ORCE_CUSTOMER_SERVICE_SUFFIX	The system uses this property, along with the `ORCE_CUSTOMER_SERVICE_PREFIX`, to build the URL for communication with Customer Engagement using the Customer Services API.	**/OrceWebServices/v2_3/CustomerServicesApiService?wsdl** where **2_3** is the version of the Customer Services API
ORCE_SVC_SERVICE_SUFFIX	The system uses this property, along with the `ORCE_CUSTOMER_SERVICE_PREFIX`, to build the URL for communication with Customer Engagement using the Stored Value Card Transaction Services API.	**/OrceWebServices/v3_1/SvcTransactionServicesApiService?wsdl** where **3_1** is the version of the Stored Value Card Transaction Services API
ORCE_CARD_SERVICE_SUFFIX	The system uses this property, along with the `ORCE_CUSTOMER_SERVICE_PREFIX`, to build the URL for communication with Customer Engagement using the Card Services API.	**/OrceWebServices/v2_1/CardServicesApiService?wsdl** where **2_1** is the version of the Card Services API

Setting	Description	Example Setting
ORCE_LOYALTY_SERVICE_SUFFIX	The system uses this property, along with the ORCE_CUSTOMER_SERVICE_PREFIX, to build the URL for communication with Customer Engagement using the Loyalty Account Services API.	**/OrceWebServices/v1_2/LoyaltyAccountServicesApiService?wsdl** where **1_2** is the version of the Loyalty Account Services API
ORCE_LOYALTY_AWARD_SERVICE_SUFFIX	The system uses this property, along with the ORCE_CUSTOMER_SERVICE_PREFIX, to build the URL for communication with Customer Engagement using the Award Account Services API.	**/OrceWebServices/v1_2/AwardAccountServicesApiService?wsdl** where **1_2** is the version of the Award Account Services API
ORCE_LOYALTY_PROMPT_ATTRIBUTE	Defines the corresponding Customer Engagement custom attribute to identify whether Order Administration should automatically display the Customer Loyalty Registration Window for a customer that is not already assigned to a loyalty card. See Customer Engagement PROMPT_TO_JOIN_LOYALTY Attribute Definition for setup instructions.	**PROMPT_TO_JOIN_LOYALTY**
ORCE_SECURITY_ USER_ID	The Customer Engagement user ID with Security Group permission included in the Customer Engagement API messages.	Must be a valid user ID in Customer Engagement that has Security Group permission
ORCE_LOYALTY_REG_MESSAGE	The text to display on the Customer Loyalty Registration Window, up to 55 positions.	**Does the customer want to join the loyalty program?**

Menu Options Related to the Customer Engagement Loyalty Integration

Menu Option	Description
Working with E-Mail Notification Templates (WEMT)	Define default text to include in Oracle Retail Customer Engagement Loyalty Registration Notifications.
Establishing Order Hold Reason Codes (WOHR)	Create the RL (Oracle Retail Customer Engagement Communication Failure) order hold reason code.

Setup in Customer Engagement for the Customer Engagement Loyalty Integration

- Order Management System Company > Customer Engagement Organization
- Customer Engagement PROMPT_TO_JOIN_LOYALTY Attribute Definition
- Card Definition
  - Card Series Distribution for Card Definition
  - Generate and Activate Cards for Card Definition
  - Programs for Card Definition

Order Management System Company > Customer Engagement Organization

An organization in Customer Engagement corresponds to a company in Order Administration. You associate an Customer Engagement organization with an Order Administration company through the ORCE Organization Descriptor (L50) system control value.

Use the System Configuration option in Customer Engagement to define settings for the Customer Engagement organization that integrates with Order Administration. See the Customer Engagement Implementation Guide for more information on how to define configuration settings for Customer Engagement.

Configuration Settings Required for the Loyalty Integration with Customer Engagement

Select System Configuration in Customer Engagement to define these settings for the organization that integrates with Order Administration.

Setting	Description
Default Location ID	Enter a default location ID of up to 12 positions.
Account Activity Lookup Limit	Enter the maximum number of account activity records that can be returned when making any type of account activity lookup request to the Customer Engagement Services server. The default value is 400. If the number of loyalty account transactions returned to Order Administration exceeds this setting, Order Administration does not display any activity on the Display Loyalty Account History Screen and instead displays an error message: `Max results value defined in ORCE has been exceeded`.
Card Number Length	Controls the number of digits in a card number. Must be between 10 and 16.
Process Loyalty Returns	Select Yes to process returns to a loyalty account.

> **Note**
>
> Whenever you makes changes to an organization's configuration settings, you must use the Deploy option, available at the Customer Engagement System Configuration screen, to deploy the configuration settings.

Customer Engagement PROMPT_TO_JOIN_LOYALTY Attribute Definition

In Customer Engagement, use the **Attribute Definition** screen to create an attribute definition that identifies whether Order Administration should automatically display the Customer Loyalty Registration Window for a customer that is not already assigned to a loyalty card.

> **Note**
>
> The attribute you create must match the entry for the ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in the Customer Engagement Property Settings.

See the **Attribute Definition** section of the Customer Engagement User Guide for detailed instructions.

Required settings: When creating the attribute definition, define the fields as follows:

Field	Description
Intended Use	Select Customer.
Attribute Name	Enter the value defined for the ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in the Customer Engagement Property Settings, such as `PROMPT_TO_JOIN_LOYALTY`.
Unique	Leave this check box unselected.
Description	Enter a description for the attribute definition. Example: `TRUE if the system should prompt this customer to join a loyalty program.`
Data Type	Select Character.

Card Definition

Create a card definition in Customer Engagement to use when assigning new loyalty cards to customers that join the loyalty program.

When creating the card definition:

- the 5 digit card prefix you define must also be entered in the Order Administration ORCE Loyalty Card Prefix (M08) system control value.
- the 2 digit sequence number you define must also be entered in the Order Administration ORCE Loyalty Card Series Sequence Number (M09) system control value.
- make sure you assign the Customer Engagement organization that integrates with Order Administration to the card definition.

For more information: See **Card Definitions** in the Customer Engagement User Guide for instructions on creating and updating a card definition in Customer Engagement.

Card Series Distribution for Card Definition

Create a card series distribution for the card definition you created. The card series distribution contains one or more batches of cards to be generated and then distributed to customers.

For more information: See **Card Series Distribution** under **Card Definitions** in the Customer Engagement User Guide for instructions on creating and updating a card series distribution in Customer Engagement.

Generate and Activate Cards for Card Definition

Generate and activate a set of cards within the card definition.

For more information: See **Generate Cards** and **Activate Cards** under **Card Definitions** in the Customer Engagement User Guide for instructions on generating and activating a set of cards within a card definition.

Programs for Card Definition

Create the following programs for the card definition you created:

- Loyalty program: The loyalty program defines the rules used to track the purchases of customers belonging to the program through a system of points that can then be redeemed for discounts on an order. **Example:** Create a rule to earn 1 point for each purchase dollar.
- Award program: The award program defines the coupons, or e-wards, that are distributed to the customers belonging to the program. These awards are typically distributed as part of promotions such as birthday or anniversary awards, or they can be made available to

customers who have accumulated a certain number of points as part of the loyalty program. **Example:** Create a rule to issue a $25.00 award coupon each time the customer spends $100.00.

For more information: See **Programs** in the Customer Engagement User Guide for more information on creating and updating programs for a card definition in Customer Engagement.

Registering a Customer in the Customer Engagement Loyalty Program

Includes:

- Enrolling a Customer in Loyalty: Classic View
- Enrolling a Customer in Loyalty: Modern View

Enrolling a Customer in Loyalty: Classic View

The system registers a sold to customer in the Customer Engagement loyalty program when you select **Yes** on the Customer Loyalty Registration Window.

When you select to register the customer in the Customer Engagement loyalty program:

1. Order Administration sends a Customer Engagement Loyalty Generate Card Request to Customer Engagement.
2. Customer Engagement uses the information in the Loyalty Generate Card Request to associate and activate a new loyalty card for the customer.
3. Customer Engagement returns the Customer Engagement Loyalty Generate Card Response to Order Administration, containing the customer's loyalty card number.
4. Order Administration:
   - generates a Oracle Retail Customer Engagement Loyalty Registration Notifications email to send to the customer. This email contains the loyalty card number assigned to the customer; see Oracle Retail Customer Engagement Loyalty Registration Notifications for the setup required to generate the notice and see Oracle Retail Customer Engagement Loyalty Registration Notification Sample and Contents for a sample email.
   - creates a record in the Customer Note table indicating a Customer Engagement Loyalty Registration Notice has been sent to the customer: `Loyalty Reg Notice to sflye@EXAMPLE.com`. You can review customer notes on the Edit Customer Notes Screen. The note is written even if the system generates the *Inbound Order XML Message (CWORDERIN)* rather than an actual email, or if the email cannot be relayed if, for example, there is a problem with the destination email address.
5. Order Administration sends a Customer Engagement Update Customer Request to:
   - update the ORCE_LOYALTY_PROMPT_ATTRIBUTE setting for the customer to **FALSE** so that Order Administration will not prompt the customer again to join the Loyalty program.
   - update the customer's birth month and day if it was entered on the Customer Loyalty Registration Window.
6. Customer Engagement returns the Update Customer Response indicating whether the update was successful.
7. If you advanced to the Customer Loyalty Registration window from the Customer Selection Screen:
   - Order Administration sends a Customer Engagement Loyalty Card Request to Customer Engagement, requesting the details of the loyalty card.

- Customer Engagement returns the details of the loyalty card in the Customer Engagement Loyalty Card Response.
- Order Administration uses the information in the Loyalty Card Response to display the loyalty card number and its associated points and awards on the Customer Selection screen.

Communication failure:

- If you select **Yes** on the Customer Loyalty Registration window and a connection could not be made to Customer Engagement, the system displays an error message similar to the following: `No response from ORCE-card not generated`.
- If the value in the *ORCE Loyalty Card Prefix (M08)* or *ORCE Loyalty Card Series Sequence Number (M09)* system control value is not valid in Customer Engagement, the system displays an error message similar to the following: `No response from ORCE-card not generated`.

Customer Loyalty Registration Window

Use this window to ask a sold to customer to join the Customer Engagement loyalty program.

How to display this screen: This window is available when the Use ORCE Loyalty (M06) system control value is selected, the ORCE Customer Integration (L37) system control value is set to INTERACT, and you:

- Select **Loyalty** from the *Action* drop-down menu on the Customer Scan Screen in Work with Customers (WCST) or Order Entry (OEOM).
- Select **Loyalty** on the Customer Selection Screen after selecting a sold to customer.
- Select **Loyalty Account** on the Display More Options Screen.
- Select **Loyalty Account** on the More Customer Sold To Options Screen.

When you select the Loyalty option, the system retrieves the sold to customer's information from Customer Engagement. If Customer Engagement does not find a loyalty card for the customer, the system advances you to the Customer Loyalty Registration Window, where you can select to enroll the customer in the Customer Engagement Loyalty program.

> **Note**
>
> - If Customer Engagement finds a loyalty card assigned to the customer, the system advances you to the Display Loyalty Account Screen. If Customer Engagement finds more than one loyalty card assigned to the customer, the loyalty account information for the first card displays on the screen.
> - If a *Relate ID* is not defined for the customer in the Customer Sold To table, the system displays an error message similar to the following: `This customer does not have a Relate ID`.
> - If a connection could not be made to Customer Engagement, the system displays an error message similar to the following: `Unable to connect to ORCE`.

When this window displays automatically: If the Prompt to Join Loyalty (M07) system control value is selected, this window displays automatically when you:

- Select a sold to customer on the CTI Customer Selection Screen if Customer Engagement does not find a loyalty card for the customer and the customer's

ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in Customer Engagement is TRUE or blank.

- Change a sold to customer in Creating and Updating Sold-to Customers (WCST) if Customer Engagement does not find a loyalty card for the customer and the customer's ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in Customer Engagement is TRUE or blank.
- Create a sold to customer in Creating and Updating Sold-to Customers (WCST) or Order Entry (OEOM) after the customer is created in Customer Engagement.
  - In Work with Customers, this window automatically displays after the final Accept to create the customer.
  - In Order Entry, this window automatically displays after the system validates the customer information and source code on the order and you click Accept.
- Create an order in Order Entry (OEOM) if you do not use the CTI Customer Selection Screen and Customer Engagement does not find a loyalty card for the customer and the customer's ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in Customer Engagement is TRUE or blank. This window automatically displays after the system validates the customer information and source code on the order and you click Accept.

Field	Description
Loyalty Registration Message (unlabeled field above customer)	The text defined for the ORCE_LOYALTY_REG_MESSAGE setting in Working with Customer Properties (PROP).
Customer	The number, company name, last name, and first name of the sold to customer being asked to join the Customer Engagement loyalty program.
Birth month/day	The sold to customer's birth month and birth day. Valid birth months are: `Jan`, `Feb`, `Mar`, `Apr`, `May`, `Jun`, `Jul`, `Aug`, `Sep`, `Oct`, `Nov`, `Dec`. Enter `000` if you do not wish to define a birth month. Valid birth days are `1-31`. The system validates the birth day against the selected birth month. **Note** If you enter a birth month and day on this window, regardless of whether the customer joins the Customer Engagement loyalty program or not, the system updates the birth month and day in the Customer Sold To table. The birth year does not display on the screen; however, it defaults to `1900` in the Customer Sold To table unless it has been updated through the Customer Engagement Customer Integration. *Birth Month: Numeric, 2 positions (01-12 in table); required if you define a birth day.* *Birth Day: Numeric, 2 positions; required if you define a birth month.* *Birth Year (in table only): Numeric, 4 positions; optional.*

Screen Option	Procedure
Register the customer in the Customer Engagement loyalty program	Select **Yes**. See Registering a Customer in the Customer Engagement Loyalty Program.
Do not register the customer in the Customer Engagement loyalty program, but ask the customer again at a later time	Select **Not Now**.
Do not register the customer in the Customer Engagement loyalty program and do not ask the customer again	Select **Never**. The system sends an Add or Update Customer Request to Customer Engagement to update the ORCE_LOYALTY_PROMPT_ATTRIBUTE setting in Customer Engagement to FALSE.

Enrolling a Customer in Loyalty: Modern View

Prompts are displayed in Modern View at the Customer Order List, Customer Item List and Customer Purchase History List pages, as well as the Review step in Contact Center Order Entry, if:

- the ORCE Customer Integration (L37) system control value is set to INTERACT, and
- the Use ORCE Loyalty (M06) and Prompt to Join Loyalty (M07) system control values are selected, and
- the customer has an ORCE customer ID and is not already a loyalty member, and has not previously requested to stop prompting for loyalty membership, such as by selecting the **Never** option at the prompt.

Loyalty prompt options: A prompt to join loyalty is displayed below the customer's name and customer number, providing the following options:

- **Never:** Do not ask the customer again about joining loyalty. In this case, Order Administration sends a Customer Engagement Update Customer Request to update the ORCE_LOYALTY_PROMPT_ATTRIBUTE setting for the customer to FALSE so that Order Administration will not prompt the customer again to join the Loyalty program.
- **Not Now:** The customer is not joining loyalty now, but can be prompted again in the future. Order Administration does not send an update to Customer Engagement.
- **Enroll:** Enroll the customer in loyalty.

Prompt wording: The ORCE_LOYALTY_REG_MESSAGE property from Working with Customer Properties (PROP) defines the wording of the prompt message. Defaults to Does the customer want to join the loyalty program?

There is also an option to enroll the customer in loyalty at the Customer Loyalty List page in Modern View if the above conditions are met and if the customer is not already enrolled.

When enrollment of the customer is confirmed, the communication with Customer Engagement and updates described above under Enrolling a Customer in Loyalty: Classic View take place

Reviewing Customer Engagement Loyalty Account Information

Classic View: Use the following screens to review loyalty account information for a customer that is registered in the Customer Engagement Loyalty program:

- Display Loyalty Account Screen: allows you to review the current points accrued and the awards available to the customer.
- Display Loyalty Account History Screen: allows you to review the points activity and award activity associated with the customer's loyalty card.
- Customer Selection Screen: allows you to review the loyalty card number, current earned points, and current awards balance assigned to the customer's loyalty account.

> **Important**
>
> If the customer is assigned to more than one loyalty card in Customer Engagement, Order Administration Classic View displays loyalty card information for the first card returned from Customer Engagement.

Modern View: The Customer Loyalty List page in Modern View displays the customer's cards, loyalty and awards programs, account numbers, levels, and balances. This page is available by selecting the Loyalty tab at the Customer Order List page. From this page, you can also open the Account Details panel to review details of each account and optionally issue loyalty points or award coupons, with proper authority. See the Modern View online help for more information.

Customer Engagement: You can also review the loyalty account information in Customer Engagement; see Reviewing the Customer's Loyalty Card in Customer Engagement.

Display Loyalty Account Screen

Use this Classic View screen to review the current points accrued and the awards available for the loyalty program and award program associated with the customer's loyalty card.

When you advance to the Display Loyalty Account screen:

1. Order Administration sends a Get Customer Request to Customer Engagement containing the customer's *Relate ID* from the Customer Sold To table.
2. Customer Engagement uses the *Relate ID* in the Get Customer Request to find the customer and returns the Get Customer Response containing the customer's information, including the customer's cards.
3. Order Administration sends a Customer Engagement Loyalty Card Request to Customer Engagement containing the customer's card number.
4. Customer Engagement uses the customer's card number in the Loyalty Card Request to retrieve the loyalty points and awards for the loyalty program and award program associated with the customer's loyalty card.
5. Customer Engagement returns the Customer Engagement Loyalty Card Response to Order Administration, containing the customer's loyalty account information.
6. Order Administration displays the loyalty account information returned from Customer Engagement on the Display Loyalty Account screen.

How to display this screen: This screen is available when the *Use ORCE Loyalty (M06)* system control value is selected and you:

- Select **Loyalty** from the *Action* drop-down menu on the Customer Scan Screen in Work with Customers (WCST) or Order Entry (OEOM).
- Select **Loyalty** on the Customer Selection Screen after selecting a sold to customer.
- Select **Loyalty Account** on the Display More Options Screen.

- Select **Loyalty Account** on the More Customer Sold To Options Screen.

When you select the Loyalty option, the system retrieves the sold to customer's information from Customer Engagement. If Customer Engagement finds a loyalty card assigned to the customer, the system advances you to the Display Loyalty Account Screen. If Customer Engagement finds more than one loyalty card assigned to the customer, the loyalty account information for the first card returned displays on the screen.

> **Note**
>
> - If Customer Engagement does not find a loyalty card for the customer, the system advances you to the Customer Loyalty Registration Window, where you can select to enroll the customer in the Customer Engagement Loyalty program.
> - If a *Relate ID* is not defined for the customer in the Customer Sold To table, the system displays an error message similar to the following: `This customer does not have a Relate ID`.
> - If a connection could not be made to Customer Engagement, the system displays an error message similar to the following: `Unable to connect to ORCE`.

Column sort: You can sort on the *Coupon ID*, *Coupon Amount*, and *Expiration Date* columns on this screen by clicking on the column name. An arrow pointing up displays next to the field when the values for the field display in ascending sequence; an arrow pointing down displays next to the field when the values for the field display in descending sequence.

The information that displays on this screen is from Customer Engagement and is not stored in Order Administration.

Field	Description
Customer #	The number, company name, last name, and first name of the sold to customer registered in the Customer Engagement Loyalty program. *Customer number: Numeric, 9 positions; display-only.* *Customer name: Alphanumeric, 40 positions; display-only.*
Loyalty Card #	The loyalty card number assigned to the customer in Customer Engagement. The points and awards associated with this card display on the screen. From *cardNumber* in the Customer Engagement Loyalty Card Response.
Loyalty Points	
The loyalty points for the loyalty program associated with the customer's loyalty card. Only loyalty points from Customer Engagement display on this screen; escrow and bonus points from Customer Engagement do not display.	
Current Points	The total current earned points balance for the customer loyalty account. From **EARNED points** *value* in the Customer Engagement Loyalty Card Response.
Points Earned This Year	The total earned points balance for the current year for the customer's loyalty account. From **YTD points** *value* in the Customer Engagement Loyalty Card Response.

Field	Description
Total Points Earned	The total lifetime earned points balance for the customer's loyalty account. From **LTD points** *value* in the Customer Engagement Loyalty Card Response.
Program Level	A description of the current level of the loyalty program to which the customer's loyalty account is assigned. From **loyaltyProgramLevel** *value* in the Customer Engagement Loyalty Card Response.
Current Awards	
Coupon ID	The ID number for the coupon created or redeemed by the award activity. From **coupon** *id* in the Customer Engagement Loyalty Card Response.
Amount	The amount of the coupon applied to the customer's award account by the activity. From **coupon** *amount* in the Customer Engagement Loyalty Card Response.
Expiration Date	The date when the coupon expires. `No Expiration` displays if an expiration date is not defined for the coupon. From **coupon** *ExpirationDate* in the Customer Engagement Loyalty Card Response.

Screen Option	Procedure
Review loyalty account history	Select Loyalty History to advance to the Display Loyalty Account History Screen.
Issue points	Select Issue Points to advance to the Issue Loyalty Points Window. **Note** This option is available only if you have authority to the ORCE Issue Awards/ Points (J07) secured feature.
Issue awards	Select Issue Awards to advance to the Issue Loyalty Coupon Window. **Note** This option is available only if you have authority to the ORCE Issue Awards/ Points (J07) secured feature.

Display Loyalty Account History Screen

Use this screen to review points activity and award activity for the loyalty program and award program associated with the customer's loyalty card.

When you advance to the Display Loyalty Account History screen:

1. Order Administration sends a Customer Engagement Get Customer Request to Customer Engagement containing the customer's *Relate ID* from the Customer Sold To table.
2. Customer Engagement uses the *Relate ID* in the Get Customer Request to find the customer.
3. Customer Engagement returns the Customer Engagement Get Customer Response to Order Administration, containing the customer's information, along with the customer's loyalty card information.
4. Order Administration sends a Customer Engagement Loyalty Card Request to Customer Engagement containing the customer's card number.
5. Customer Engagement uses the customer's card number in the Loyalty Card Request to retrieve the loyalty account and award account associated with the customer's loyalty card.
6. Customer Engagement returns the Customer Engagement Loyalty Card Response to Order Administration, containing the customer's loyalty account and award account information.
7. Order Administration sends a Customer Engagement Loyalty Account History Request and Customer Engagement Award Account History Request to Customer Engagement.
8. Customer Engagement uses the information in the Loyalty Account History Request and Award Account History Request to retrieve the customer's loyalty account and award account activity.
9. Customer Engagement returns the Customer Engagement Loyalty Account History Response and Customer Engagement Award Account History Response to Order Administration, containing the customer's loyalty account and award account activity.
10. Order Administration displays the loyalty account and award account activity returned from Customer Engagement on the Display Loyalty Account History screen.

> **Note**
>
> - If Customer Engagement finds more than one loyalty card assigned to the customer, the loyalty account information for the first card returned displays on the screen.
> - Order Administration does not display `Inquiry` type transactions on the screen.
> - If the number of loyalty account transactions returned exceeds the Account Activity Lookup Limit setting in Customer Engagement, the system does not display any activity on the Display Loyalty Account History screen and instead displays an error message: `Max results value defined in ORCE has been exceeded`.

How to display this screen: Select Loyalty History on the Display Loyalty Account Screen.

Column sort: You can sort on the *Coupon ID*, *Coupon Amount*, and *Expiration Date* columns on this screen by clicking on the column name. An arrow pointing up displays next to the field when the values for the field display in ascending sequence; an arrow pointing down displays next to the field when the values for the field display in descending sequence.

The information that displays on this screen in from Customer Engagement. Activity transactions display in descending activity date sequence.

Field	Description
Customer #	The number, company name, last name, and first name of the sold to customer registered in the Customer Engagement Loyalty program. *Customer number: Numeric, 9 positions; display-only.* *Customer name: Alphanumeric, 40 positions; display-only.*
Loyalty Card #	The loyalty card number assigned to the customer in Customer Engagement. The points and awards associated with this card display on the screen. From *cardNumber* in the Customer Engagement Loyalty Card Response.
Loyalty Account History	
Activity Date	The date and time when the loyalty points or award coupon activity occurred. **Note** The time for loyalty points activity always displays as 12:00:00. **Loyalty account:** From *businessDate* in the Customer Engagement Loyalty Account History Response. **Award account:** From *activityDateTime* in the Customer Engagement Award Account History Response.

Field	Description
Activity	The type of activity that occurred against the card. **Points Activity** • Issue Points • Return Points • Issue Award • Void Points • Activated • Deactivated • Points Recovery • Earn Points • Expire Points • Points Balance Transfer • Change Level • Account Merge • Change Earn Date • Sustain Extension **Awards Activity** • Account Merge • Activate • Automatic Redeem • Deactivate • Issue Birthday Coupon • Issue Coupon • Issue Signup Coupon • Notify Coupon Expire • Redeem • Reset Expiration Date • Void Award Loyalty account: From *transactionType* in the Customer Engagement Loyalty Account History Response. Award account: From *transactionType* in the Customer Engagement Award Account History Response.

Field	Description
Award Effect	The effect of the awards activity. `0.00` displays if the transaction did not have a positive or negative effect on the awards amount or Customer Engagement returns `0` or no value for the awards activity. **Positive Awards Activity** A positive amount displays if the awards activity increased the awards amount on the loyalty card. • Activate • Issue Birthday Coupon • Issue Coupon • Issue Signup Coupon **Negative Awards Activity Automatic Redeem** A negative amount displays if the awards activity decreased the awards amount on the loyalty card. • Deactivate • Notify Coupon Expire • Redeem • Void Award **No Effect (Positive or Negative) Awards Activity** • Account Merge • Reset Expiration Date **Note** This field is blank for loyalty account activity. From *activityAmount* in the Customer Engagement Award Account History Response.

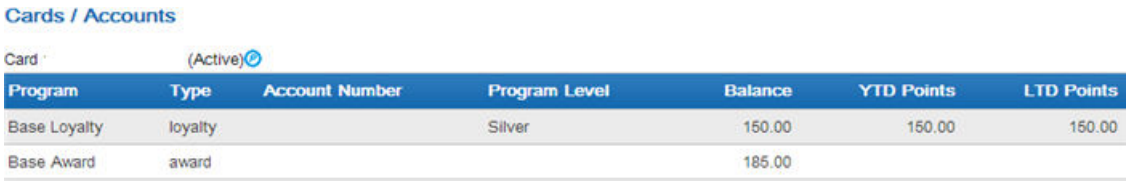
Field	Description
Point Effect	The effect of the points activity. `0.00` displays if the transaction did not have a positive or negative effect on the number of points or Customer Engagement returns `0` or no value for the points activity. **Activities that Add Points to the Loyalty Card** • Issue Points • Activated • Deactivated (frozen balance) • Points Recovery • Earn Points • Points Balance Transfer **Activities that Subtract Points from the Loyalty Card** • Return Points • Issue Award • Void Points • Expire Points • Change Level **Activities that have No Effect on Loyalty Points** • Account Merge • Change Earn Date • Sustain Extension **Note** This field is blank for award account activity. From *numPoints* in the Customer Engagement Loyalty Account History Response.
Pending	Yes displays if the points are pending being issued; otherwise this field is blank. **Note** This field is blank for award account activity. From *pendingFlag* in the Customer Engagement Loyalty Account History Response.
Location ID	The location ID associated with the transaction. Loyalty account: From *locationId* in the Customer Engagement Loyalty Account History Response. Award account: From *locationId* in the Customer Engagement Award Account History Response.

Field	Description
Activity ID	The activity transaction ID assigned to the transaction in Customer Engagement. You can use this value as a reference for voiding a transaction in Customer Engagement or when writing a customer or order note. Loyalty account: From *accountActivityId* in the Customer Engagement Loyalty Account History Response. Award account: From *awardTranId* in the Customer Engagement Award Account History Response.

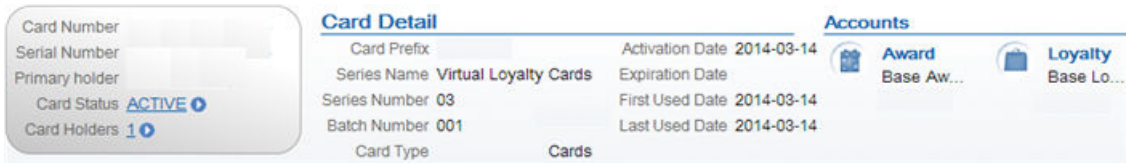
Reviewing the Customer's Loyalty Card in Customer Engagement

Use the following screens in Customer Engagement to review the loyalty card assigned to the customer.

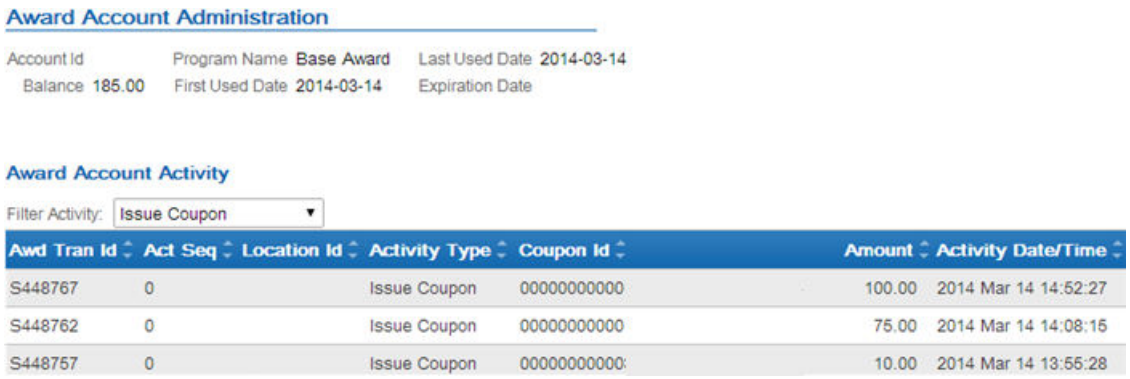
Customer Dashboard: The Card / Accounts section of the Customer Dashboard displays the card number generated for the customer and information about the loyalty program and award program associated with the customer's card.



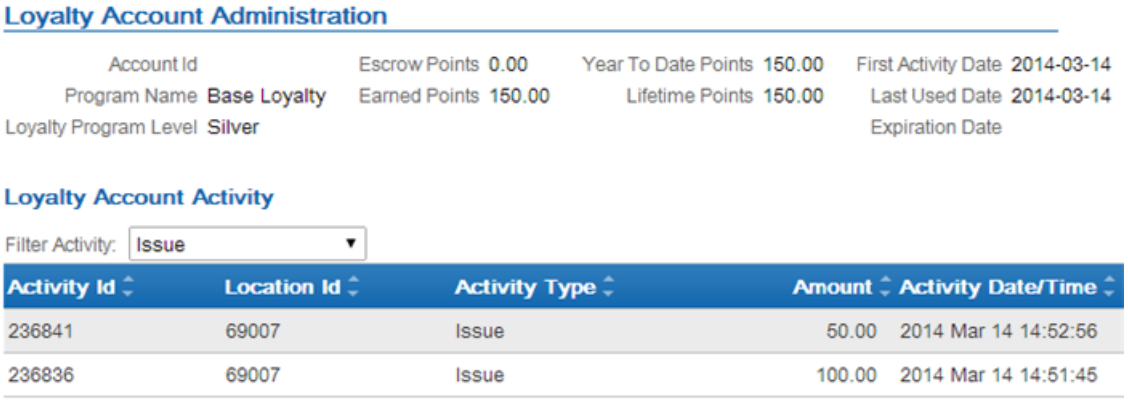
Card / Account Administration Screen: The Card / Account Association screen displays information about the card assigned to the customer.



- Selecting the Award account on the Card / Account Association screen displays basic information and activity for the award program associated with the card. You can click on a transaction to display additional information about the activity.



- Selecting the Loyalty account on the Card / Account Association screen displays basic information and activity for the loyalty program associated with the card. You can click on a transaction to display additional information about the activity.



Applying Points to a Customer's Loyalty Card

Use the Issue Loyalty Points window to issue points to the loyalty program assigned to the customer's card.

Modern View: The option to issue points is also available in Modern View at the Account Details panel from the customer order list page, requiring authority to the same secured feature as Classic View.

Issue Loyalty Points Window

How to display this screen: Select Issue Points on the Display Loyalty Account Screen. You must have authority to the ORCE Issue Awards/Points (J07) secured feature to advance to this window.

Field	Description
Loyalty Card #	The loyalty card number assigned to the customer in Customer Engagement to which you wish to issue points. This is the card number that displays on the Display Loyalty Account Screen. *Display-only.*
Points Amount	The number of points to issue. Updates the earned points balance for the customer's loyalty account in Customer Engagement. *Numeric, 7 positions with a 2-place decimal; Required.*
Comments	An informational field to describe the points being issued. *Alphanumeric, 1000 positions; Required.*

To issue points:

1. Enter a Points Amount and Comments.
2. Click **OK**.

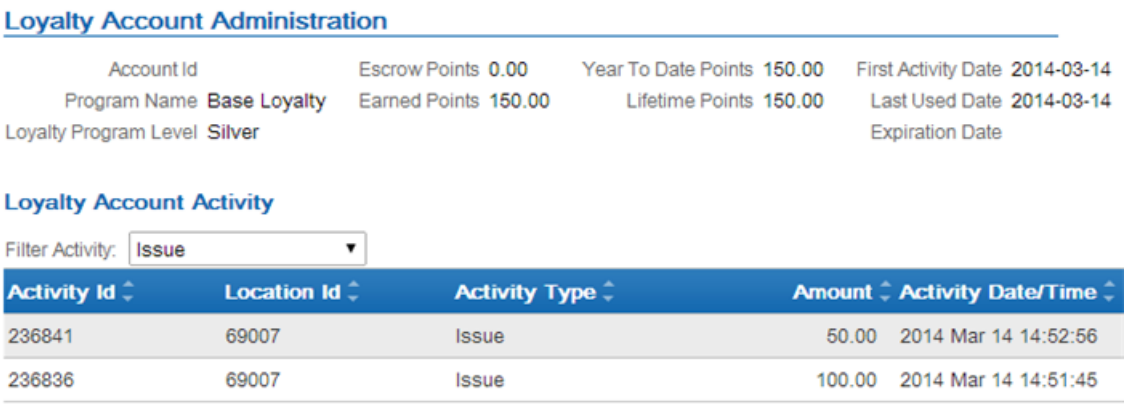
When you click **OK**:

1. Order Administration generates a Customer Engagement Issue Points Request to Customer Engagement containing the loyalty card information and the loyalty points to issue.

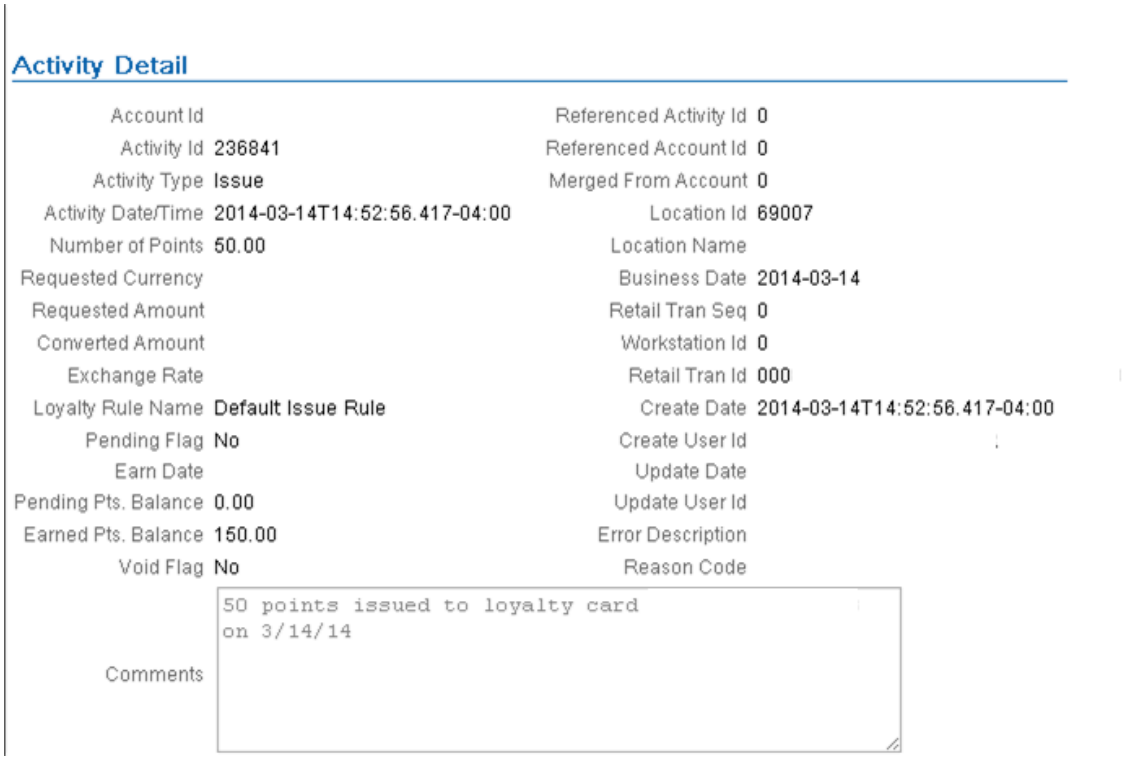
2. Customer Engagement receives the request and adds the loyalty points to the customer's loyalty account.
3. Customer Engagement generates a Customer Engagement Issue Points Response to Order Administration.
4. Order Administration generates a Customer Engagement Loyalty Card Request containing the customer's card number.
5. Customer Engagement receives the Loyalty Card Request and returns a Customer Engagement Loyalty Card Response containing information on the customer's card, current points balances and current award coupons.
6. Order Administration returns you to the Display Loyalty Account Screen. The *Current Points*, *Points Earned This Year*, and *Total Points Earned* fields will include the new points issued.

> **Note**
>
> If a connection could not be made to Customer Engagement, the system displays an error message: `Unable to connect to ORCE`.

Reviewing the issue points transaction in Customer Engagement: You can review the issue points transaction in Customer Engagement by selecting the Loyalty account on the Card / Account Association screen; activity for the loyalty program associated with the card displays at the bottom of the screen.



Click on the issue points transaction to advance to the Activity Detail window where you can review the details of the transaction.



Applying Coupons to a Customer's Loyalty Card

Use the Issue Loyalty Coupon window to issue an award coupon to the award program assigned to the customer's card.

Modern View: The option to issue an award coupon is also available in Modern View at the Account Details panel from the customer order list page, requiring authority to the same secured feature as Classic View.

Issue Loyalty Coupon Window

How to display this screen: Select **Issue Awards** on the Display Loyalty Account Screen. You must have authority to the ORCE Issue Awards/Points (J07) secured feature to advance to this window.

Field	Description
Loyalty Card #	The loyalty card number assigned to the customer in Customer Engagement. This is the card number that displays on the Display Loyalty Account Screen. *Display-only.*
Award Amount	The amount to assign to the award coupon. Updates the award balance for the customer's award account in Customer Engagement. *Numeric, 7 positions with a 2-place decimal; Required.*

Field	Description
Expiration Date	The date when the award coupon expires. The expiration date you enter must be greater than the current date. If you do not define an expiration date, the award coupon uses the award program rules defined in Customer Engagement. *Optional.*
Comments	An informational field to describe the award coupon being issued. *Alphanumeric, 1000 positions; Required.*

To issue an award coupon:

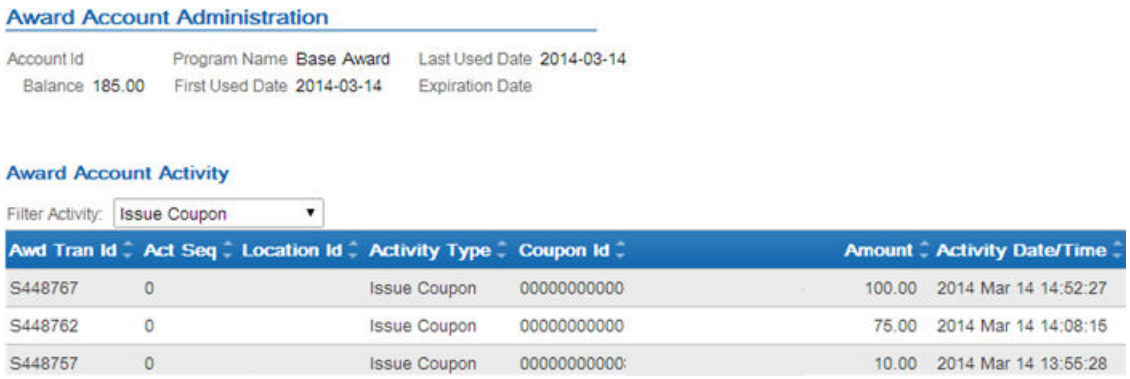
1. Enter an Award Amount and Comments.
2. Optionally, enter an Expiration Date.
3. Click **OK**.

When you click **OK**:

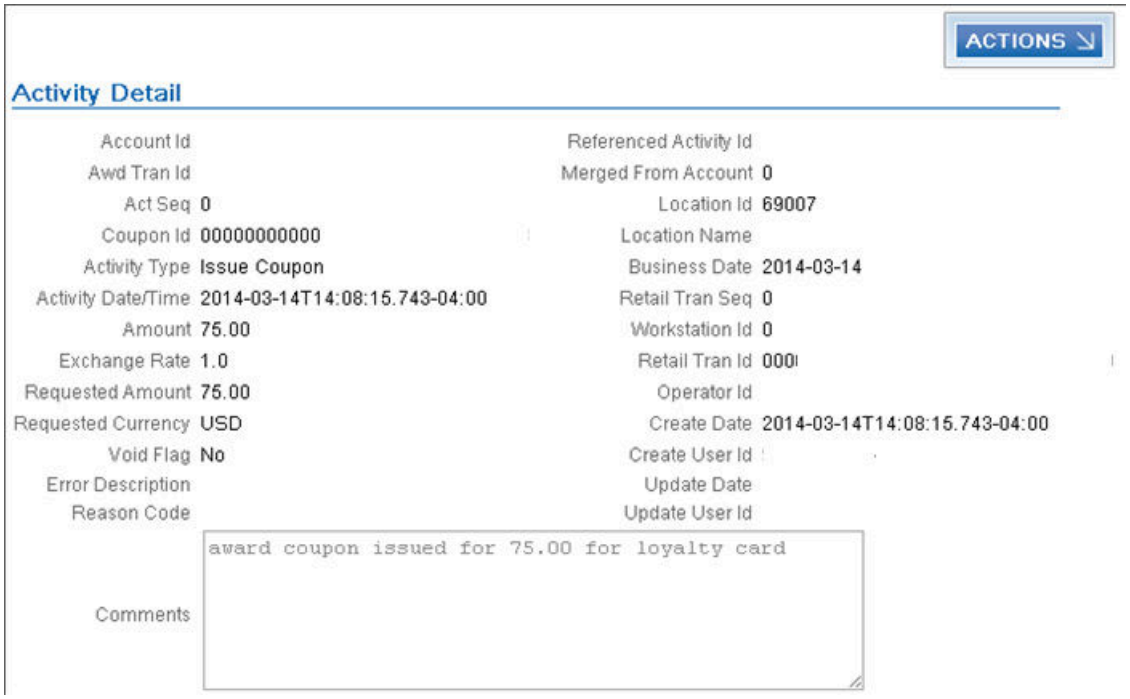
1. Order Administration generates a Customer Engagement Issue Coupon Request to Customer Engagement containing the loyalty card information and the award coupon amount to issue.
2. Customer Engagement receives the request and adds the award coupon for the specified amount to the customer's award account.
3. Customer Engagement generates a Customer Engagement Issue Coupon Response to Order Administration.
4. Order Administration generates a Customer Engagement Loyalty Card Request containing the customer's card number.
5. Customer Engagement receives the Loyalty Card Request and returns a Customer Engagement Loyalty Card Response containing information on the customer's card, current points balances and current award coupons.
6. Order Administration returns you to the Display Loyalty Account Screen. The *Current Awards* section of the screen will include the new award coupon issued.

> **Note**
>
> If a connection could not be made to Customer Engagement, the system displays an error message: `Unable to connect to ORCE`.

Reviewing the issue coupon transaction in Customer Engagement: You can review the issue coupon transaction in Customer Engagement by selecting the Award account on the Card / Account Association screen; activity for the award program associated with the card displays at the bottom of the screen.



Click on the issue coupon transaction to advance to the Activity Detail window where you can review the details of the transaction.



Accruing Loyalty Points during Order Processing

Customers enrolled in the Customer Engagement loyalty program accrue points from completed purchases based on the program rules defined for the loyalty account in Customer Engagement.

When you send sales and return information to Customer Engagement in the Customer Engagement Post POSlog Transaction Message during the Customer Engagement Sales Feed, Customer Engagement:

- determines the loyalty account to accrue points against based on the customer passed in the Customer Engagement Post POSlog Transaction message.
- for sales transactions, increases the loyalty points on the customer's loyalty account based on the program rules defined for the loyalty account in Customer Engagement.

- for return transactions, decreases the loyalty points on the customer's loyalty account based on the program rules defined for the loyalty account in Customer Engagement.

Example: The issue rule defined for the customer's loyalty program in Customer Engagement is to issue 1 point for each purchase dollar.

The customer has 155 earned points in Customer Engagement.

The customer places an order for $80.00.

When you run the Customer Engagement Sales Feed to update Customer Engagement with the sales and return information in the Customer Engagement Post POSlog Transaction Message, Customer Engagement increases the customer's earned loyalty points to $235.00 (155 earned points + 80 points associated with sales).

The customer returns an item for $30.00.

When you run the Customer Engagement Sales Feed to update Customer Engagement with the sales and return information in the Customer Engagement Post POSlog Transaction Message, Customer Engagement decreases the customer's earned loyalty points to $205.00 (235 earned points - 30 points associated with returns).

For more information: See **Issue Rule** in the Customer Engagement User Guide for more information on defining rules for a loyalty program.

Applying and Redeeming Customer Engagement Awards during Order Processing

You can apply an award amount to an order as a pro-rated merchandise discount and redeem the award amount applied to the order in Customer Engagement.

- Applying Awards during Interactive Order Entry (Classic View)
- Applying Awards during the Generic Order Interface (Order API)
- Combining the Loyalty Award Amount with Other Discounts
- Loyalty Award Discount Calculations
- Redeeming Awards during Order Processing
- If Communication Fails during Coupon Redemption

> **Note**
>
> - You can apply an award amount to an order during order creation only; you cannot apply an award amount to an order in order maintenance.
> - You can apply an award amount to a pre-order quote; however, the award amount is not redeemed until you convert the quote to an order. When you convert the quote to an order, the system allows you to change the award amount for the order before you accept the order and redeem the award amount. See Entering Pre-Order Quotes and Converting Quotes to Orders for more information about quote processing.
> - Canceling an order or order line associated with a redeemed award amount does not increase a customer's award balance. You must issue points or awards to the customer's loyalty card manually; see Applying Points to a Customer's Loyalty Card and Applying Coupons to a Customer's Loyalty Card.

Applying Awards during Contact Center Order Entry (Modern View)

The option to apply an award amount to an order is available in Contact Center Order Entry at the Review step, through the Apply Awards window. You can specify an awards amount to apply for each displayed awards program. The Order Summary panel on the right displays the total value of awards that are available to apply to the order.

If the customer has more than one loyalty card, the Select Card window opens automatically when you advance to the Items step so you can select the card to use when applying any awards to the order. Optionally, you can change your loyalty card selection at the Items, Shipping, or Review step.

Applying Awards during Interactive Order Entry (Classic View)

Use the following steps to apply an award amount to an order during interactive Order Entry.

To apply an award amount to the order: On the Enter Loyalty Award Discount Window, enter the award amount to apply to the order and click OK. The system applies the award amount as a pro-rated merchandise discount. The discount is applied to all discountable order lines, including order lines that contain a price override reason code.

> **Note**
>
> - The award amount does not apply to order lines that contain a non-discountable item or to sale items if the Exclude Sale Item When Prorating Discounts (I65) system control value is selected.
> - If the entered award amount is greater than the discountable merchandise amount on the order, the system displays a message similar to the following: `Award amount cannot exceed discountable merchandise`.
> - If the entered award amount is greater than the current awards balance for the loyalty card, the system displays a message similar to the following: `Award amount cannot exceed remaining balance`.
> - If more than one order ship to exists on the order, the system applies the award amount to the selected order ship to only.
> - The system updates the *Customer Engagement Award Amount* in the Order Ship To table with the award amount applied to the order.
> - The system includes the award amount in the *Discount* field on the order.

Enter Loyalty Award Discount Window

Use this window to apply a coupon award amount as a pro-rated merchandise discount during order repricing.

> **Note**
>
> This window is available during order entry only; this window is not available during order maintenance.

How to display this screen: Select Reprice during order entry. The system displays the Enter Loyalty Award Discount Window if:

- the Use ORCE Loyalty (M06) system control value is selected, and
- the Prorate Dollar Discounts and Coupons (D90) system control value is selected, and

- the *Price Method* for the source code on the order header is set to Reg Plus Reprice, and
- the sold to customer on the order is assigned to a loyalty card in Customer Engagement, and
- there are current awards associated with the customer's loyalty account that are available for redemption.

Field	Description
Loyalty Card #	The loyalty card number assigned to the customer that is associated with the awards balance. **Note** If the customer is assigned to more than one loyalty card in Customer Engagement, Order Administration displays loyalty card information for the first card returned from Customer Engagement. *Display-only.*
Available awards balance	The total current awards balance for the loyalty card. *Display-only.*
Max award amount allowed	The maximum award amount that can be applied to the order. `0.00` displays if the order is not eligible for an award amount. *Display-only.*
Enter award amount to apply	The award amount to apply to the order as a pro-rated merchandise discount. A message similar to the following displays if you enter an award amount that is greater than the Available awards balance: `Award amount cannot exceed remaining balance`. A message similar to the following displays if you enter an award amount that is greater than the merchandise amount: `Award amount cannot exceed discountable merchandise`. *Numeric, 7 positions with a 2-place decimal; Optional.*

For more information: See Combining the Loyalty Award Amount with Other Discounts and Loyalty Award Discount Calculations for more information on how the award amount is applied to the order.

Applying Awards during the Generic Order Interface (Order API)

Use the following steps to apply a coupon award amount to a web order.

To apply an award amount to the order: Enter the award amount to apply to the order in the *relate_award_amount* tag included in the *ShipTo* element of the *Inbound Order XML Message (CWORDERIN)*.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

When Order Administration processes the CWOrderIn message, the system determines if the order is eligible for the relate award amount.

Does the sold to customer have a loyalty card? The system verifies that the customer in Customer Engagement has a loyalty card.

- If the Customer Engagement customer does not have a loyalty card, the system does not apply the award amount to the order and creates a record in the Order Transaction History table for the order indicating the award amount was not redeemed on the order. For example:

Date	Type	Transaction Note	Amount	User
3/06	SYSTEM UPDATE	Award amt not redeemed-card# not found	10.00	your default user

Is prorating dollar discounts and coupons enabled? The system applies the award amount defined in the *relate_award_amount* tag to the order only if the Prorate Dollar Discounts and Coupons (D90) system control value is selected.

Does the customer's award balance cover the relate_award_amount? If the Customer Engagement customer has a loyalty card, the system determines if the award balance for the loyalty card is equal to or greater than the *relate_award_amount* entered on the order.

- If the award balance is 0.00 or less, the system does not apply the award amount to the order and creates a record in the Order Transaction History table for the order indicating the award amount was not redeemed on the order. For example:

Date	Type	Transaction Note	Amount	User
3/06	SYSTEM UPDATE	Award amt not redeemed-award balance=0	25.00	your default user

- If the award balance is less than the *relate_award_amount*, the system applies the available award balance to the order as a pro-rated merchandise discount. For example, if the *relate_award_amount* on the order is 25.00, but the award balance is $5.00, the system applies 5.00 to the order. The system creates a record in the Order Transaction History table for the order indicating the award amount that was redeemed on the order. For example:

Date	Type	Transaction Note	Amount	User
3/06	UPSELL PROMO	Total Prorated Order Level Discount	5.00	SFLYE
3/06	UPSELL PROMO	Award Redeemed-ID: S444399	5.00	SFLYE

- If the award balance is equal to or greater than the *relate_award_amount*, the system applies the entire award amount to the order as a pro-rated merchandise discount. The system creates a record in the Order Transaction History table for the order indicating the award amount that was redeemed on the order. For example:

Date	Type	Transaction Note	Amount	User
3/06	UPSELL PROMO	Total Prorated Order Level Discount	25.00	SFLYE

Date	Type	Transaction Note	Amount	User
3/06	UPSELL PROMO	Award Redeemed-ID: S444399	25.00	SFLYE

The award amount is applied as a pro-rated merchandise discount to all discountable order lines, including order lines that contain a price override reason code.

The system updates the *Customer Engagement Award Amount* in the Order Ship To table with the award amount applied to the order.

Note

- The award discount does not apply to order lines that contain a non-discountable item or to sale items if the Exclude Sale Item When Prorating Discounts (I65) system control value is selected.
- If the discountable merchandise amount is less than the entered award amount, the system decreases the *Customer Engagement Award Amount* in the Order Ship To table to match the discountable merchandise amount. If the discountable merchandise amount is 0.00 or a negative amount, the system updates the *Customer Engagement Award Amount* in the Order Ship To table to 0.00.
- If more than one order ship to exists on the order, the system applies the award amount to the selected order ship to only.
- If you send a subsequent *Inbound Order XML Message (CWORDERIN)* to complete a web order with payment information or update an order with errors, in order to apply the *relate_award_amount* to the order, the *payment_only* flag for the subsequent message must be set to N so that the Order API program deletes the existing order and recreates it using the information provided in the inbound message. It is important that the subsequent message include all information required to complete the order, or the information that was not included in the subsequent message will be lost.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

For more information: See Combining the Loyalty Award Amount with Other Discounts and Loyalty Award Discount Calculations for more information on how the award amount is applied to the order.

Combining the Loyalty Award Amount with Other Discounts

The loyalty award amount is applied as a pro-rated merchandise discount AFTER order detail coupons and any line level promotions have been applied to the lines on the order.

If the merchandise amount after applying discounts is less than the loyalty award amount to apply to the order, the system automatically adjusts the loyalty award amount so that the amount is equal to the discounted merchandise amount.

Loyalty Award Discount Calculations

The system uses the following calculations to determine the award discount amount to apply to each order line.

The system calculates the *Discount Percentage* for each order line:

```
Order line extended amount after applying order detail coupons and line level
promotions / order merchandise total = discount percentage
```

The system calculates the *Unit Selling Price* for each order line:

```
order line post-discount unit price - [(total award amount X discount % from
above calculation) / line unit quantity] = unit selling price
```

Example 1: Award Amount Only

An order has the following order lines:

- line 1: 1 unit for 50.00
- line 2: 1 unit for 10.00 (non-discountable)
- line 3: 1 unit for 10.00

The merchandise total is 70.00, 60.00 of which is discountable.

The system applies a 10.00 loyalty award amount to the order.

The system calculates the discount percentage for each eligible order line:

```
line 1: 50.00 / 60.00 = .833 x 100 = 83.33% discount percentage
```

```
line 3: 10.00 / 60.00 = .166 x 100 = 16.66% discount percentage
```

The system calculates the unit selling price for each order line:

```
line 1: 10.00 loyalty award amount x 83.33% discount percentage = 8.33
```

```
8.33 / 1 line unit quantity = 8.33
```

```
50.00 unit price - 8.33 = 41.67 unit selling price
```

```
line 3: 10.00 loyalty award amount x 16.66% discount percentage = 1.666
```

```
1.666 / 1 line unit quantity = 1.666
```

```
10.00 unit price - 1.66 = 8.33 unit selling price
```

The merchandise total after applying the loyalty award amount is 60.00 (line 1 41.67 + line 2 10.00 + line 3 8.33).

Example 2: Award Amount with Line Level Promotion

An order has the following order lines:

- line 1: 1 unit for 50.00
- line 2: 1 unit for 10.00 (non-discountable)
- line 3: 1 unit for 10.00

The merchandise total is 70.00, 60.00 of which is discountable.

The system applies a 5.00 line level promotion and 10.00 loyalty award amount to the order.

The system calculates the discount percentage for each eligible order line:

```
line 1: 50.00 / 60.00 = .833 x 100 = 83.33% discount percentage
```

```
line 3: 10.00 / 60.00 = .166 x 100 = 16.66% discount percentage
```

The system calculates the unit selling price for each order line:

```
line 1: 15.00 (line level promotion + loyalty award amount) x 83.33% discount
percentage = 12.50

12.50 / 1 line unit quantity = 12.50

50.00 unit price - 12.50 = 37.50 unit selling price

line 3: 15.00 line level promotion + loyalty award amount x 16.66% discount
percentage = 2.50

2.50 / 1 line unit quantity = 2.50

10.00 unit price - 2.50 = 7.50 unit selling price
```

The merchandise total after applying the line level promotion and loyalty award amount is 55.00 (line 1 37.50 + line 2 10.00 + line 3 7.50).

Example 3: Award Amount with Order Level Coupon

An order has the following order lines:

- line 1: 1 unit for 50.00
- line 2: 1 unit for 10.00 (non-discountable)
- line 3: 1 unit for 10.00

The merchandise total is 70.00, 60.00 of which is discountable.

The system applies a 50.00 loyalty award amount and 20.00 order level coupon to the order.

The system calculates the discount percentage for each eligible order line:

```
line 1: 50.00 / 60.00 = .833 x 100 = 83.33% discount percentage

line 3: 10.00 / 60.00 = .166 x 100 = 16.66% discount percentage
```

The system calculates the unit selling price for each order line:

```
line 1: 70.00 (loyalty award amount + 20.00 order level coupon) x 83.33% discount
percentage = 58.33

58.33 / 1 line unit quantity = 58.33

50.00 unit price - 58.33 = -8.33 unit selling price (the system updates the price
of the line to .00)

line 3: 70.00 (loyalty award amount + 20.00 order level coupon) x 16.66% discount
percentage = 11.66

11.66 / 1 line unit quantity = 11.66

10.00 unit price - 11.66 = -1.66 unit selling price (the system updates the price
of the line to .00)
```

The merchandise total after applying the order level coupon and loyalty award amount is 10.00 (line 1 .00 + line 2 10.00 + line 3 .00).

Since the merchandise amount after applying discounts is less than the loyalty award amount to apply to the order, the system automatically adjusts the loyalty award amount so that the amount is equal to the discounted merchandise amount; in this example, the system adjusts the loyalty award amount to 40.00 (20.00 coupon amount + 40.00 loyalty award amount = 60.00 total discount, which matches the merchandise amount that is eligible for discount).

Redeeming Awards during Order Processing

To redeem the award amount applied to the order: During the final order accept process, if an award amount is defined on the order, the system:

- sends a Customer Engagement Automatic Redeem Request to Customer Engagement for the award amount applied to the order.
- Customer Engagement redeems award coupons associated with the customer's loyalty account until the award amount applied to the order has been reached.
  - Customer Engagement redeems coupons whose expiration date is closest to expiring first.
  - If the award coupon amount is greater than the amount to redeem, Customer Engagement subtracts the redeemed amount from the coupon; for example, if the award coupon amount is $100.00 and the amount to redeem is $15.00, Customer Engagement updates the award coupon amount to $85.00.
  - Customer Engagement subtracts the amount to redeem from the customer's award balance.
- Customer Engagement sends a Customer Engagement Automatic Redeem Response to Order Administration.
- Order Administration creates a record in the Order Transaction History table for the order indicating the award amount that was redeemed. For example:

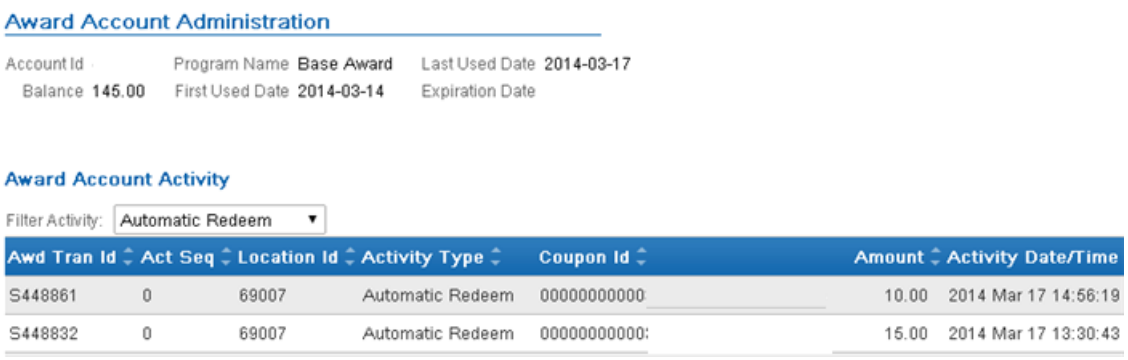
Date	Type	Transaction Note	Amount	User
3/06	UPSELL PROMO	Total Prorated Order Level Discount	10.00	SFLYE
3/06	UPSELL PROMO	Award Redeemed-ID: S444399	10.00	SFLYE

You can display order history by selecting Order History in standard order inquiry or at the Work with Order Lines screen in Order Maintenance, or by selecting History in streamlined order inquiry. See the Display Order Line History Screen for more information.

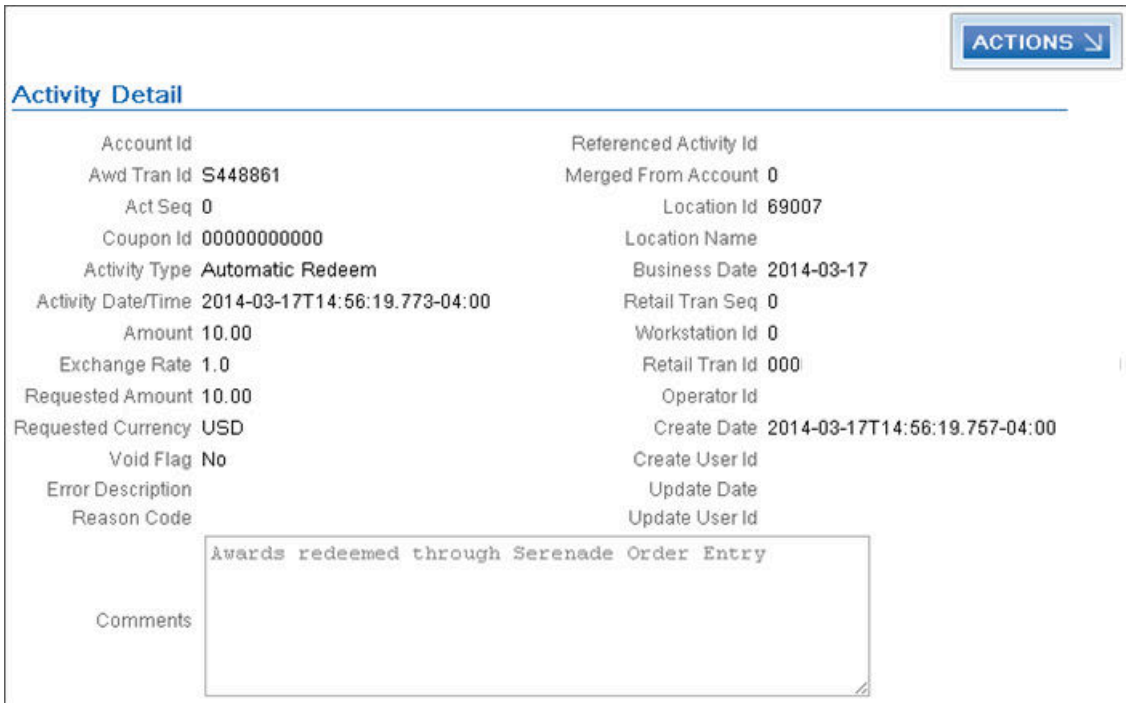
- updates the *Award Amount* in the Order Ship To table with the award amount applied to the order.

If communication fails: See If Communication Fails during Coupon Redemption.

Reviewing the automatic redeem transaction in Customer Engagement: You can review the automatic redeem transaction in Customer Engagement by selecting the Award account on the Card / Account Association screen; activity for the award program associated with the card displays at the bottom of the screen.



Click on the automatic redeem transaction to advance to the Activity Detail window where you can review the details of the transaction.



If Communication Fails during Coupon Redemption

If Order Administration cannot connect with Customer Engagement to redeem the award amount applied to an order, the system places the order on RL ORCE Communication Failure hold and writes an order transaction history message indicating the award amount was not automatically redeemed: `SYSTEM UPDATE ORCE Loyalty Award Redemption Failed 20.00`, where `20.00` is the award amount applied to the order.

In this situation, you can either:

- log in to Customer Engagement and void coupons until the award amount applied to the order is covered. If the amount voided is greater than the amount needed for redemption (for example, the amount applied to the order was $20.00 and you voided a $25.00 award coupon), you can issue a new award coupon for the difference (in this example, $5.00).
- cancel the order and create a new order with the award amount, making sure communication with Customer Engagement during the redemption process is successful.

Oracle Retail Customer Engagement APIs used in the Loyalty Integration

The following Customer Engagement APIs are used to communicate with Customer Engagement during the Customer Engagement Loyalty integration:

- Customer Engagement Customer Services API v2.3: used to interactively create and update customer information between Customer Engagement and Order Administration; see the Customer Engagement Customer Integration for more information.
- Customer Engagement Stored Value Card Transaction Services API v3.1: used to generate a new loyalty card and assigns it to a customer.

> **Note**
>
> In order for transactions to process correctly, the Franchisee feature must be disabled in Customer Engagement.

- Customer Engagement Card Services v2.1 API: used to retrieve loyalty and award summary information for all accounts attached to the specified loyalty card number.
- Customer Engagement Loyalty Account Services v1.2 API: used to:
  - issue points to the loyalty account specified.
  - retrieve all of the loyalty points account activity for the loyalty account specified.
- Customer Engagement Award Account Services v1.2 API: used to:
  - issue an award coupon to the loyalty account specified.
  - automatically redeem award coupons for the specified amount.
  - retrieve all of the award coupon account activity for the loyalty account specified.

ORCE log: Order Administration logs the loyalty transactions passed between Order Administration and Customer Engagement in the ORCE (Oracle Retail Customer Engagement) Log.

Web service authentication? If the web services used to process inbound messages to Customer Engagement require web service authentication, you must provide a valid web service authentication user and password in Working with Web Service Authentication (WWSA), or client ID and secret if using OAuth. In this situation, when Oracle Retail Order Administration generates a message to send to Customer Engagement it includes the web service authentication information in the HTTP header of the message. See Oracle Retail Omnichannel Web Service Authentication Configuration Guide on My Oracle Support (2728265.1) for more information.

For more information: See the Customer Engagement Batch Processing and Web Services Guide for more information on the Customer Engagement API interface.

Customer Engagement Stored Value Card Transaction Services API v3.1

Order Administration calls the Customer Engagement Stored Value Card Transaction Services API version 3.1 to generate the Customer Engagement generateCard Method.

The system uses the value in the ORCE Organization Descriptor (L50) along with the ORCE_CUSTOMER_SERVICE_PREFIX and ORCE_SVC_SERVICE_SUFFIX settings in Working with Customer Properties (PROP) to build the URL for communication with Customer Engagement.

> **Note**
>
> In order for transactions to process correctly, the Franchisee feature must be disabled in Customer Engagement.

Customer Engagement generateCard Method

The generateCard method generates a new loyalty card and assigns it to a customer.

When called? The system calls this method when you select **Yes** on the Customer Loyalty Registration Window, or when you enroll a customer in loyalty in Modern View.

Customer Engagement Loyalty Generate Card Request

Order Administration sends the following information to Customer Engagement.

Information	Description
card Prefix	The card prefix associated with the Loyalty Card Definition in Customer Engagement; this is the card prefix defined in the ORCE Loyalty Card Prefix (M08) system control value.
card Series Sequence	The card series sequence number associated with the Loyalty Card Definition in Customer Engagement; this is the card series sequence number defined in the ORCE Loyalty Card Series Sequence Number (M09) system control value.
location Id	The location ID associated with the loyalty program; this is the location defined in the Default Location for ORCE Integration (K69) system control value. If you do not define a location in the *Default Location for Sales Download (K69)* system control value, Customer Engagement uses the location defined in the *Default Location ID* system configuration setting.
currency Id	The currency code defined in the Local Currency Code (A55) system control value. This system control value must be set to a valid currency code. This system control value must be set to a valid currency code.
customer ID	The Customer Engagement customer ID to assign to the loyalty card; this is the *Relate ID* defined for the customer in the Customer Sold To table.
security User ID	The user ID defined in the ORCE_SECURITY_USER_ID property

Customer Engagement Loyalty Generate Card Response

The generateCard method returns a GenCardResponseContainerType element. Customer Engagement sends the following information to Order Administration.

Information	Description
dateTime	The date and time when the response was generated.
cardSeries	
CardPrefix	The card prefix associated with the Loyalty Card Definition in Customer Engagement.
CardSeriesSequence	The card series sequence number associated with the Loyalty Card Definition in Customer Engagement.
Instrument	
CardName	The name of the Loyalty Card Definition in Customer Engagement.
CardNumber	The loyalty card number assigned to the customer in Customer Engagement.
BatchNumber	The batch number associated with the loyalty card in Customer Engagement.
Customer	
CustomerID	The Customer Engagement customer ID assigned to the loyalty card.

Customer Engagement Card Services

Order Administration calls the Customer Engagement Card Services to generate the Customer Engagement getCardInquiryData Method.

The system uses the value in the ORCE Organization Descriptor (L50) along with the ORCE_CUSTOMER_SERVICE_PREFIX and ORCE_CARD_SERVICE_SUFFIX settings in Working with Customer Properties (PROP) to build the URL for communication with Customer Engagement.

Customer Engagement getCardInquiryData Method

The getCardInquiryData method retrieves loyalty and award summary information for all accounts attached to the specified loyalty card number.

When called? The system calls this method when you:

- advance to the Display Loyalty Account Screen to review the customer's loyalty points and award coupons.
- advance to the Customer Selection Screen; this screen displays the customer's loyalty card number, current earned points, and current awards balance.
- Open the Account Details panel at the Customer Loyalty List page in Modern View; this page displays the customer's cards and the programs for each, as well as the program types, account numbers, levels, and current balances for each program.
- View loyalty cards and awards in Contact Center Order Entry, and redeem awards in Contact Center Order Entry.

Customer Engagement Loyalty Card Request

The information that Order Administration sends to Customer Engagement includes the following:

Variable	Description
cardNumber	The loyalty card number assigned to the customer whose loyalty and award information is retrieved from Customer Engagement.
currencyCode	The default currency defined in the Local Currency Code (A55) system control value. This system control value must be set to a valid currency code..
transactionStoreId	The store ID associated with the loyalty program; this is the location defined in the Default Location for ORCE Integration (K69) system control value. If you do not define a location in the *Default Location for Sales Download (K69)* system control value, Customer Engagement uses the location defined in the *Default Location ID* system configuration setting.

Customer Engagement Loyalty Card Response

The getCardInquiry method returns a CardInquiryResponse class object. Customer Engagement sends the following information to Order Administration.

Element	Description
ResponseStatus	
date/time	The date and time of the inquiry.
Instrument	

The Instrument element contains card information.

Element	Description
card number	The loyalty card number assigned to the customer whose loyalty and award information you wish to review.
card serial number	The serial number assigned to the loyalty card in Customer Engagement.
card expiration date	The date the card expires, if any.
Loyalty Account	
The LoyaltyAccount element contains the loyalty accounts associated with the card.	
loyalty account ID	The ID for the loyalty account in Customer Engagement.
loyalty program	The ID and name of the loyalty program associated with the account in Customer Engagement.
loyalty program level	The ID and name of the current level of the loyalty program to which the loyalty account belongs.
points balance	The current points balance for the loyalty account.
card inquiry points entry	The current points for the loyalty card for the following types of points: • `EARNED`: The amount of points earned. • `ESCROW`: The amount of escrow points. • `BONUS`: The amount of bonus points. • `TYD`: The total year to date points. • `LTD`: The total life to date points.
AwardAccount	
The AwardAccount element contains the award accounts associated with the card.	
award account ID	The award account ID associated with the loyalty card in Customer Engagement.
award program	The ID and name of the award program in Customer Engagement.
coupon list	The award coupons associated with the loyalty card in Customer Engagement. For each coupon: • **Amount**: Th ce amount of the coupon. • **ID**: The coupon ID. • **ExpirationDate**: The date when the coupon expires, if any.
Customer	
customer ID	The Customer Engagement customer ID associated with the loyalty card.

Customer Engagement Loyalty Account Services v3.4 API

Order Administration calls the Customer Engagement Loyalty Account Services version 3.4 API to generate the following methods:

- Customer Engagement issuePoints Method
- Customer Engagement getLoyaltyAccountHistory Method

The system uses the value in the *ORCE Organization Descriptor (L50)* along with the ORCE_CUSTOMER_SERVICE_PREFIX and ORCE_LOYALTY_SERVICE_SUFFIX settings in Working with Customer Properties (PROP) to build the URL for communication with Customer Engagement.

Customer Engagement issuePoints Method

The issuePoints method issues points to the loyalty account specified and creates a retail transaction ID for the transaction.

When called? The system calls this method when you click OK on the Issue Loyalty Points Window.

Customer Engagement Issue Points Request

Order Administration sends the following information to Customer Engagement.

Information	Description
loyalty account Id	The loyalty account ID associated with the issued points.
transaction store Id	The store ID where the transaction was performed; this is the location defined in the *Default Location for ORCE Integration (K69)* system control value. If you do not define a location in the *Default Location for Sales Download (K69)* system control value, Customer Engagement uses the location defined in the *Default Location ID* system configuration setting.
points amount	The number of points being issued.
client comments	Informational comments associated with the issue points transaction.

Customer Engagement Issue Points Response

The issuePoints method returns a loyaltyActivity class object. Customer Engagement sends the following information to Order Administration.

Element	Description
account activity Id	The Customer Engagement activity transaction number for issuing points to the loyalty card.
account Id	The loyalty account ID associated with the issued points.
activity date/time	The date and time when the activity occurred.
activity typecode	`Issue` defaults.
bonus points balance	The bonus points balance at the time of the issue points transaction.
earned points balance	The earned points balance at the time of the issue points transaction.
escrow points balance	The escrow points balance at the time of the issue points transaction.
escrow transferred flag	Indicates whether escrow points were transferred as part of the issue points transaction.
loyalty rule Id	The ID for the loyalty rule used in the issue points transaction.
LTD points balance	The current life to date points balance for the account at the time of the issue points transaction.
points amount	The confirmed points amount issued to the loyalty card.
points method typecode	The code indicating the method uses for points calculations.
points originally requested	The number of points that were defined in the issue points transaction.
retail transaction business date	The business date when the issue points transaction occurred.

Element	Description
YTD points balance	The current year to date points balance for the account at the time of the issue points transaction.

Customer Engagement getLoyaltyAccountHistory Method

The getLoyaltyAccountHistory method retrieves all of the loyalty points account activity for the loyalty account specified. This method is specific to the loyalty points transactions associated with the loyalty card and does not include award coupons.

When called? The system calls this method when you select Loyalty History on the Display Loyalty Account panel for a program in Modern View. All loyalty points activity returned in the Customer Engagement Loyalty Account History Response except `Inquiry` activity displays on the Display Loyalty Account History Screen.

> **Note**
>
> If the number of records available in the Customer Engagement Award Account Services v3.1 API exceeds the maximum setting in Customer Engagement, a *relateExceptionCode* will be in the response with a value of `MAXIMUM_LOOKUP_RESULTS_ERROR` and the response will not include any history. If this occurs, Order Administration displays a message similar to the following, where `400` is the maximum setting defined in Customer Engagement: `Max results exceeded of: 400`.

Customer Engagement Loyalty Account History Request

Order Administration sends the following information to Customer Engagement.

Variable	Description
card number	The loyalty card number whose loyalty points account activity you wish to review.
currency code	The default currency defined in the *Local Currency Code (A55)* system control value. This system control value must be set to a valid currency code.
history start date	The start date of the loyalty points account activity to return in the Customer Engagement Loyalty Account History Response. The start date defaults to the current date minus 2 years in order to get 2 year's worth of loyalty points account activity; for example, if the current date is 3/4/2024, the start date will be 3/4/2022.
history end date	The end date of the loyalty points account activity to return in the Customer Engagement Loyalty Account History Response. The end date defaults to the current date.

Customer Engagement Loyalty Account History Response

The getLoyaltyAccountHistory method returns a CardInquiryResponse class object. Customer Engagement sends the following information to Order Administration.

Element	Description
CardInqResponseStatus	
The status of the inquiry response.	
date/time	The date and time of the inquiry.
status	`OK` defaults if there are no problems with the records in the response.
CardInqInstrument	
Card information.	
card number	The loyalty card number associated with the loyalty points account activity.
card serial number	The serial number assigned to the loyalty card in Customer Engagement.
card expiration date	The date the card expires, if any.
CardInqLoyaltyAccount	
loyalty account ID	The ID for the loyalty account in Customer Engagement.
loyalty program	The ID and name of the loyalty program associated with the account.
loyalty program level	The ID and name of the current level of the loyalty program to which the loyalty account belongs.
points balance	The current points balance for the account.
card inquiry points entry	The current points for the loyalty card for the following types of points: • `EARNED`: The amount of points earned. • `ESCROW`: The amount of escrow points. • `BONUS`: The amount of bonus points. • `TYD`: The total year to date points. • `LTD`: The total life to date points.
LoyaltyActivityList	
A list of loyalty account activities performed.	
transaction type	The type of transaction activity performed. The Display Loyalty Account History Screen displays all types of activity except `Inquiry`.
number of points	The amount of points that were applied as a negative or positive to the loyalty card.
pending flag	`true` defaults if the points are pending being issued; otherwise, `false` defaults.
account activity ID	The Customer Engagement assigned activity transaction number for the record.
location ID	The location ID where the transaction was performed.
create user	The ID of the user who performed the activity.
update user	The ID of the user who updated the activity.
void flag	`true` defaults if the activity has been voided; otherwise, `false` defaults.
escrow points balance	Escrow points balance for the account at the time of the activity.
earned points balance	Earned points balance for the account at the time of the activity.
bonus points balance	Bonus points balance for the account at the time of the activity.

Element	Description
comments	Informational comments associated with the activity.
business date	The business date on which the activity occurred.
rule name	The rule that governed the points in the activity.
reference transaction ID	The ID for the transaction referred to by the activity.
retail transaction ID	The retail transaction ID associated with the activity.
CardInqCustomer	
The customer associated with the card.	
customer ID	The Customer Engagement customer ID associated with the loyalty card.

Customer Engagement Award Account Services v3.1 API

Order Administration calls the Customer Engagement Award Account Services version 1.2 API to generate the following methods:

- Customer Engagement issueCoupon Method
- Customer Engagement automaticRedeem Method
- Customer Engagement getAwardAccountHistory Method

The system uses the value in the *ORCE Organization Descriptor (L50)* along with the ORCE_CUSTOMER_SERVICE_PREFIX and ORCE_LOYALTY_AWARD_SERVICE_SUFFIX settings in Working with Customer Properties (PROP) to build the URL for communication with Customer Engagement.

Customer Engagement issueCoupon Method

The issueCoupon method issues an award coupon to the loyalty account specified and creates a retail transaction ID for the transaction.

When called? The system calls this method when you click **OK** on the Issue Loyalty Coupon Window or when you issue an award coupon in Modern View.

Customer Engagement Issue Coupon Request

Order Administration sends the following information to Customer Engagement.

Information	Description
award account ID	The award account ID associated with the loyalty card.
store ID	The store ID where the transaction was performed; this is the location defined in the Default Location for ORCE Integration (K69) system control value. If you do not define a location in the *Default Location for Sales Download (K69)* system control value, Customer Engagement uses the location defined in the *Default Location ID* system configuration setting.
user ID	`OROMS` + the user ID of the Order Administration user that issued the coupon; for example, `OROMS-KBROWN`.
card number	The loyalty card number associated with the award coupon.
currency ID	The default currency defined in the A55 system control value. This system control value must be set to a valid currency code.
amount	The amount of the award coupon to issue to the loyalty card.

Information	Description
expiration date	The date the award coupon expires.
comments	Informational comments about the issued award coupon.

Customer Engagement Issue Coupon Response

The issueCoupon method returns an awardTransactionResult class object. Customer Engagement sends the following information to Order Administration.

Information	Description
award transaction ID	The Customer Engagement activity transaction number for issuing an award coupon to the loyalty card.
account ID	The award account ID associated with the award coupon.
amount	The confirmed award coupon amount issued to the loyalty card.
coupon ID	The award coupon ID generated by Customer Engagement for the issued award coupon.
expiration date	The date when the award coupon expires.

Customer Engagement automaticRedeem Method

The automaticRedeem method automatically redeems award coupons for the specified amount and creates a retail transaction ID for the transaction. Award coupons with the closet expiration date are redeemed first.

When called? The system calls this method during the final order accept for an order that contains a loyalty award coupon discount in Classic View Order Entry or in Contact Center Order Entry; see Applying and Redeeming Customer Engagement Awards during Order Processing.

Customer Engagement Automatic Redeem Request

Order Administration sends the following information to Customer Engagement.

Information	Description
award account ID	The award account ID associated with the loyalty card.
store ID	The store ID where the transaction was performed; this is the location defined in the *Default Location for ORCE Integration (K69)* system control value. If you do not define a location in the *Default Location for Sales Download (K69)* system control value, Customer Engagement uses the location defined in the *Default Location ID* system configuration setting.
user ID	`OROMS` + the user ID of the Order Administration user that issued the coupon; for example, `OROMS-USERNAME`.
card number	The loyalty card number to redeem the award coupon against.
currency ID	The default currency defined in the A55 system control value. This system control value must be set to a valid currency code.
amount	The amount of the award coupon to redeem against the loyalty card.

Information	Description
comments	Informational comments about the redeemed award coupon. A message similar to the following defaults if the award coupon was redeemed through the Order API: `Awards redeemed through OROMS Order API`. A message similar to the following defaults if the award coupon was redeemed through interactive Order Entry: `Awards redeemed through OROMS Order Entry`.

Customer Engagement Automatic Redeem Response

The automaticRedeem method returns a CardInquiryResponse class object. Customer Engagement sends the following information to Order Administration.

Information	Description
card number	The loyalty card number redeemed against.
card serial number	The serial number assigned to the loyalty card in Customer Engagement.
loyalty account ID	The ID for the loyalty account in Customer Engagement.
loyalty program	The ID and name of the loyalty program associated with the account in Customer Engagement.
loyalty program level	The ID and name of the current level of the loyalty program to which the loyalty account belongs.
points balance	The current points balance for the account.
card inquiry points entry	The current points for the loyalty card for the following types of points: • `EARNED`: The amount of points earned. • `ESCROW`: The amount of escrow points. • `BONUS`: The amount of bonus points. • `TYD`: The total year to date points. • `LTD`: The total life to date points.
award account ID	The ID for the award account in Customer Engagement.
award program	The ID and name of the award program associated with the account in Customer Engagement.
coupon amount	The amount of awards that were applied as a negative or positive to the loyalty card.
coupon ID	The ID of the coupon associated with the award coupon activity.
customerID	The Customer Engagement customer ID associated with the loyalty card.

Customer Engagement getAwardAccountHistory Method

The getAwardAccountHistory method retrieves all of the award coupon account activity for the loyalty account specified. This method is specific to the award coupon transactions associated with the loyalty card and does not include loyalty points.

When called? The system calls this method when you;

- Select **Loyalty History** on the Display Loyalty Account Screen.

- Open the Account Details panel at the Customer Loyalty List page in Modern View; this page displays the customer's cards and the programs for each, as well as the program types, account numbers, levels, and current balances for each program.

> **Note**
>
> If the number of records available in the Customer Engagement Award Account History Response exceeds the maximum setting in Customer Engagement, a *relateExceptionCode* will be in the response with a value of `MAXIMUM_LOOKUP_RESULTS_ERROR` and the response will not include any history. If this occurs, Order Administration displays a message similar to the following, where `400` is the maximum setting defined in Customer Engagement: `Max results exceeded of: 400`.

Customer Engagement Award Account History Request

Order Administration sends the following information to Customer Engagement.

Information	Description
card number	The loyalty card number whose loyalty award coupon account activity you wish to review.
currency code	The default currency defined in the *Local Currency Code (A55)* system control value. This system control value must be set to a valid currency code.
history start date	The start date of the loyalty award coupon account activity to return in the Customer Engagement Loyalty Account History Response. The start date defaults to the current date minus 2 years in order to get 2 year's worth of loyalty points account activity; for example, if the current date is 3/4/2014, the start date will be 3/4/2012.
history end date	The end date of the loyalty award coupon account activity to return in the Customer Engagement Loyalty Account History Response. The end date defaults to the current date.

Customer Engagement Award Account History Response

The getAwardAccountHistory method returns a CardInquiryResponse. Customer Engagement sends the following information to Order Administration.

Information	Description
status	`OK` defaults if there are no problems with the records in the reponse.
card number	The loyalty card number associated with the loyalty award coupon account activity.
card serial number	The serial number assigned to the loyalty card in Customer Engagement.
award account ID	The ID for the award account in Customer Engagement.
award program	The ID and name of the award program associated with the account in Customer Engagement.
coupon amount	The amount of awards that were applied as a negative or positive to the loyalty card.

Information	Description
ID	The ID of the coupon associated with the award coupon activity.
transaction type	The type of transaction activity performed. The Display Loyalty Account History Screen displays all types of activity except `Inquiry`.
award transaction ID	The Customer Engagement assigned activity transaction number for the record.
location ID	The location ID where the transaction was performed.
create user	The ID of the user that performed the activity.
void flag	`true` defaults if the activity has been voided; otherwise, `false` defaults.
retail transaction ID	The retail transaction ID associated with the activity.
activity date/time	The date when the activity occurred.
activity amount	The amount of awards that were applied as a negative or positive to the loyalty card.
requested amount	The amount of awards that were applied as a negative or positive to the loyalty card.

Customer Engagement Purchase History Integration

Purpose: The Customer Engagement Purchase History integration allows you to review a customer's completed sales and return transactions across multiple channels, such as retail, call center, and e-commerce using the *Display Purchase History Screen* in Order Administration. When you advance to this screen, the system retrieves the sold to customer's purchase history information from Oracle Retail Customer Engagement to display on the screen.

In this topic:

For more information: See:

- the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details on web service messages.
- *Customer Engagement Customer Integration* for more information on interactively communicating with Oracle Retail Customer Engagement to keep customer information in Order Administration in sync with Oracle Retail Customer Engagement when Oracle Retail Customer Engagement is the system of record for customer information.
- *Customer Engagement Batch Customer and Sales Integration* for more information on sending merchandise hierarchy, item, customer, sales and return information from Order Administration to Oracle Retail Customer Engagement using a batch process. This section also includes *Customer Engagement Integration Setup (Sales and Customer)*.
- The *Oracle Retail Customer Engagement Implementation Guide (Installer Version)* for more information on the procedures and instructions required to install and configure the Oracle Retail Customer Engagement application and database.

- The *Oracle Retail Customer Engagement Implementation Guide* for more information on configuration settings for Oracle Retail Customer Engagement that are defined using in system configuration properties.
- The *Oracle Retail Customer Engagement Batch Processing and Web Services Guide* for more information on the Oracle Retail Customer Engagement API interface.
- The *Oracle Retail Customer Engagement Database Dictionary* for more information on the tables in the Oracle Retail Customer Engagement database.
- The *Oracle Retail Customer Engagement User Guide* for more information on using the Oracle Retail Customer Engagement application.
- The *Oracle Retail Omnichannel Web Service Authentication Configuration Guide* on My Oracle Support (2728265.1).

Customer Engagement Purchase History Integration Setup

Before you can review purchase history from Oracle Retail Customer Engagement, you must complete the required setup.

Required versions: To review purchase history from Oracle Retail Customer Engagement, you must be on these versions:

- Order Management System version 5.0 or higher, or Order Administration.
- Oracle Retail Customer Engagement version 10.5 or higher.

In addition retrieving purchase history from Oracle Retail Customer Engagement uses version 2.3 of the Oracle Retail Customer Engagement Customer API.

Setup is required in both Order Administration and Oracle Retail Customer Engagement.

For more information: See:

- *Customer Engagement Batch Customer and Sales Integration* for more information on the setup required to use the *Customer Engagement Sales Feed*, , and *Customer Engagement Customer Integration*.
- *Customer Engagement Loyalty Integration* for more information on the setup required to use the Oracle Retail Customer Engagement loyalty program.

Setup in Order Administration for Customer Engagement Purchase History

- *System Control Values for Oracle Retail Customer Engagement Purchase History*
- *Web Service Authentication for Oracle Retail Customer Engagement*
- *Oracle Retail Customer Engagement Property Settings for Purchase History*

System Control Values for Oracle Retail Customer Engagement Purchase History

System Control Value	Description
Use the ORCE Integration Values (L52) umbrella screen to set the following values.	
ORCE Customer Integration (L37)	Enter *INTERACT* to send information on new and updated customers to Oracle Retail Customer Engagement interactively. See *Customer Engagement Customer Integration* for more information.

System Control Value	Description
Default Location for ORCE Integration (K69)	Defines the store ID associated with a sale or return transaction in Oracle Retail Customer Engagement. This value is used to determine the channel where the sales or return transaction took place. **Note** The location cannot be greater than 8 positions, and should not be greater than the length specified in the Retail Transaction Location ID Length specified in Customer Engagement. Also, the location code must be numeric to prevent any possible issues displaying a customer's purchase history in Xstore. • `Web` displays if the retail store ID in the *Customer Engagement Get Transaction History Response* matches the value in the *Default Location for ORCE Integration (K69)* system control value and the POS transaction property value for the POS transaction property code channel is `ECOMM`. • `Call Center` displays if the retail store ID in the *Customer Engagement Get Transaction History Response* matches the value in the *Default Location for ORCE Integration (K69)* system control value and the POS transaction property value for the POS transaction property code channel is `CATALOG`. • `Store-CODE`, where `CODE` is the store code, displays if a retail store ID is defined in the *Customer Engagement Get Transaction History Response* and the transaction does not meet the `Web` or `Call Center` qualifications.

System Control Value	Description
ORCE Integration Item ID (L38)	Defines how Order Administration identifies items/SKUs returned in the *Customer Engagement Get Transaction History Response*. *ITEM* = Order Administration uses the Item code and SKU code. *XREF* = Order Administration uses the Retail reference number. Order Administration determines the item and SKU using the itemID with ItemType *Stock* for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return line type transaction: • If the ORCE Integration Item ID (L38) system control value is set to *ITEM*, the system replaces any dashes that separate the item and SKU in the ItemID with spaces. For example, if the ItemID in the Oracle Retail Customer Engagement Get Transaction History Response is `ITM1-RED-XSML-WMNS`, the Item/SKU field on the Display Purchase History Screen displays `ITM1 RED XSML WMNS`. • If the ORCE Integration Item ID (L38) system control value is set to *XREF*, the system uses the Retail reference number passed in the ItemID in the Oracle Retail Customer Engagement Get Transaction History Response to find the item number and SKU code in Order Administration. • If the item and SKU is not found in Order Administration, the Item/SKU field on the Display Purchase History Screen displays the item and SKU in the format passed from Oracle Retail Customer Engagement.

Web Service Authentication for Oracle Retail Customer Engagement

If the web services used to process inbound messages to Oracle Retail Customer Engagement require web service authentication, you must provide a valid web service authentication user and password or client ID and client secret in Working with Web Service Authentication (WWSA). In this situation, when Oracle Retail Order Administration generates a message to send to Oracle Retail Customer Engagement it includes the web service authentication user and password or client ID and token in the HTTP header of the message. See the Oracle Retail Omnichannel Web Service Authentication Configuration Guide on My Oracle Support (2728265.1).

Oracle Retail Customer Engagement Property Settings for Purchase History

The Working with Customer Properties (PROP) menu option contains settings required for integration with Oracle Retail Customer Engagement.

Setting	Description	Setting
ORCE_CUSTOMER_SERVICE_PREFIX	The system uses this property to build the URL for communication with Oracle Retail Customer Engagement.	**http://server:8084/ soap** where: **server** = the name of your Oracle Retail Customer Engagement server **8084** = the port to use on the Oracle Retail Customer Engagement server
ORCE_CUSTOMER_SERVICE_SUFFIX	The system uses this property, along with the `ORCE_CUSTOMER_SERVICE_PREFIX` and the value in the *ORCE Organization Descriptor (L50)* to build the URL for communication with Oracle Retail Customer Engagement using the Customer Services API.	**/v2_3/CustomerServices?wsdl** where **2_3** is the version of the Customer Services API
ORCE_SECURITY_USER_ID	The Oracle Retail Customer Engagement user ID with Security Group permission included in the Oracle Retail Customer Engagement API messages.	Must be a valid user ID in Oracle Retail Customer Engagement that has Security Group permission

Setup in Oracle Retail Customer Engagement for Purchase History

Order Management System Company > Oracle Retail Customer Engagement Organization

An organization in Oracle Retail Customer Engagement corresponds to a company in Order Administration. You associate a Oracle Retail Customer Engagement organization with an Order Administration company through the *ORCE Organization Descriptor (L50)* system control value.

Use system configuration options to define settings for the Oracle Retail Customer Engagement organization that integrates with Order Administration. See the *Oracle Retail Customer Engagement Configuration Guide* for more information on how to define configuration settings for Oracle Retail Customer Engagement using the system configuration options.

Configuration Settings Required for the Loyalty Integration with Oracle Retail Customer Engagement

Use system configuration options to define these settings for the organization that integrates with Order Administration.

Configuration Option	Setting
Default Location ID	Enter a default location ID of up to 12 positions.
Transaction Search Limit	Enter the maximum number of transaction records that can be returned in the *Customer Engagement Get Transaction History Response* when making a purchase history lookup request to the Oracle Retail Customer Engagement server. The default value is 50, indicating the 50 most recent transactions will be returned in the results.

Note: Whenever you makes changes to an organization's configuration settings, you must stop Oracle Retail Customer Engagement, deploy the configuration settings to Customer Engagement, and restart Oracle Retail Customer Engagement. See:

- **Shut Down Services** in the **Add New Organization** section of the *Customer Engagement Implementation Guide (Installer Version)* for more information on how to stop Customer Engagement.
- the *Customer Engagement Configuration Guide* for more information on deploying configuration settings to Oracle Retail Customer Engagement.
- **Restart Services** in the **Add New Organization** section of the *Customer Engagement Implementation Guide (Installer Version)* for more information on how to restart Customer Engagement.

Display Purchase History Screen

Use this screen to review a customer's purchase history from Oracle Retail Customer Engagement, specifically:

- sales transactions of type:
  - *CustomerOrderForDelivery:* This sales transaction typically occurs when a customer purchases an item that is not located in the store or the item is out of stock. In this situation, the item is purchased to ship directly to the customer's home from another location.
  - *CustomerOrderForPickup:* This sales transaction typically occurs when a customer purchases an item that is not located in the store or the item is out of stock. When the item arrives at the store, the customer picks up the item and a previous customer order is processed to close the transaction.
  - *SaleForDelivery:* This sales transaction typically occurs when the item is not in stock. In this situation, the item is delivered to an address specified by the customer.
- return transactions.

A separate row displays on this screen for each individual item on a sales or return transaction.

When you advance to this screen:

1. Order Administration sends a *Customer Engagement Retrieve Customer Request* to Oracle Retail Customer Engagement containing the customer's Relate ID from the Customer Sold To table.
2. Oracle Retail Customer Engagement uses the Relate ID in the *Customer Engagement Retrieve Customer Request* to find the customer and returns the *Customer Engagement Retrieve Customer Response* containing the customer's information.
3. Order Administration sends a *Customer Engagement Get Transaction History Request* to Oracle Retail Customer Engagement.
4. Oracle Retail Customer Engagement uses the customer information in the *Customer Engagement Get Transaction History Request* to retrieve the customer's purchase history.
5. Oracle Retail Customer Engagement returns the *Customer Engagement Get Transaction History Response* to Order Administration, containing the customer's purchase history.
6. Order Administration displays the purchase history information returned from Oracle Retail Customer Engagement on the Display Purchase History screen.

How to display this screen: This screen is available when the *ORCE Customer Integration (L37)* system control value is set to *INTERACT* and you:

- Select *Purch Hist* from the Action drop-down menu on the *Customer Scan Screen* in Work with Customers (WCST) or Order Entry (OEOM).
- Select *Purchase History* on the *Customer Scan Screen* after selecting a sold to customer.
- Select *Purchase History* on the *Display More Options Screen*.
- Select *Purchase History* on the *More Customer Sold To Options Screen*.

When you select the Purchase History option, the system retrieves the sold to customer's purchase history information from Oracle Retail Customer Engagement to display on the Display Purchase History screen.

The message `No purchase history found` displays if no purchase history was returned from Oracle Retail Customer Engagement.

Column sort: You can sort on the Purchase Date, Transaction ID, Item/SKU, Description, Channel, Transaction Type, Associate ID, Quantity, and Extended Price columns on this screen by clicking the column name. An arrow pointing up displays next to the field when the values for the field display in ascending sequence; an arrow pointing down displays next to the field when the values for the field display in descending sequence.

When you first advance to this screen, purchase history records display in descending Purchase Date sequence.

> **Note**
>
> The information that displays on this screen is from Oracle Retail Customer Engagement and is not stored in Order Administration.

For more information: See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details on the Customer Engagement request and response messages.

Field	Description
Customer #	The number, company name, last name, and first name of the sold to customer whose purchase history you are reviewing. Customer number: Numeric, 9 positions; display-only. Customer name: Alphanumeric, 40 positions; display-only.
Purchase History	A separate row displays on this screen for each individual item on a sales or return transaction.
Purchase Date	The date of the sales or return transaction. From the information in the *Customer Engagement Get Transaction History Response*. See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details.
Trans ID	The transaction ID assigned to the sales or return transaction. If the transaction originated in Order Administration, this is the Order Administration invoice number. From the sequence number for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return line type transaction in the *Customer Engagement Get Transaction History Response*. See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details.

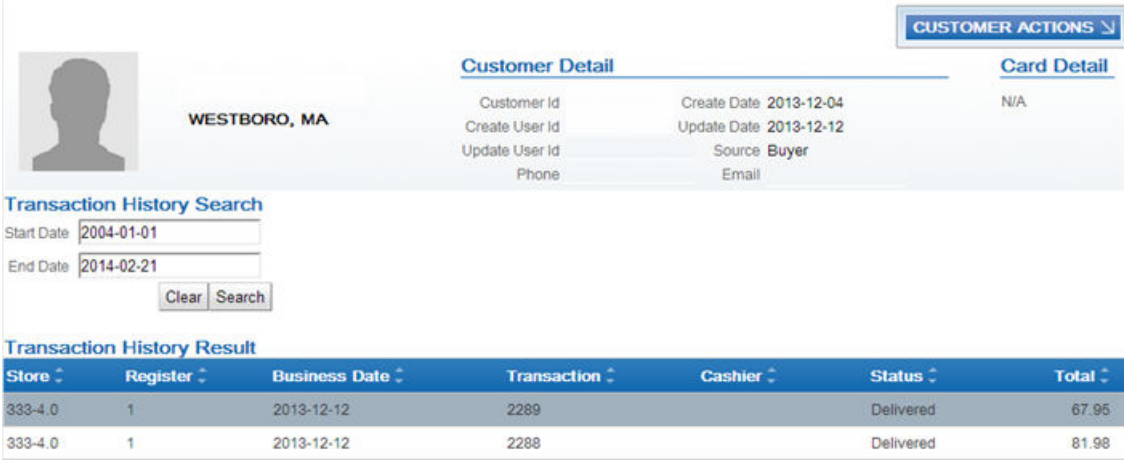
Field	Description
Item/SKU	The item number and SKU code of the item that was purchased or returned. The system uses the itemID with an item type of Stick for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return line type transaction in the *Customer Engagement Get Transaction History Response* to determine the item and SKU: • If the *ORCE Integration Item ID (L38)* system control value is set to *ITEM*, the system replaces any dashes that separate the item and SKU in the ItemID with spaces. For example, if the ItemID in the Oracle Retail Customer Engagement Get Transaction History Response is `ITM1-RED-XSML-WMNS`, the Item/SKU field on the *Display Purchase History Screen* displays `ITM1 RED XSML WMNS`. • If the *ORCE Integration Item ID (L38)* system control value is set to *XREF*, the system uses the Retail reference number passed in the ItemID in the Oracle Retail Customer Engagement Get Transaction History Response to find the item number and SKU code in Order Administration. • If the item and SKU is not found in Order Administration, the Item/SKU field displays the item and SKU in the format passed from Oracle Retail Customer Engagement.
Description	A description of the item. If the item contains SKUs, this is the SKU description. If the item is found in Order Administration, from Description in the SKU or Item table. If the item and SKU is not found in Order Administration, the system defaults `Store Only Product` to the Description field.
Channel	The channel where the sales or return transaction took place. • `Web` displays if the retail store ID in the *Customer Engagement Get Transaction History Response* matches the value in the *Default Location for ORCE Integration (K69)* system control value and the channel for the transaction is `ECOMM`. • `Call Center` displays if the Retail store ID in the *Customer Engagement Get Transaction History Response* matches the value in the *Default Location for ORCE Integration (K69)* system control value and the channel for the transaction is `CATALOG`. • `Store-CODE`, where `CODE` is the store code, displays if a retail store ID is defined in the *Customer Engagement Get Transaction History Response* and the transaction does not meet the `Web` or `Call Center` qualifications.
Trans Type	Defines whether the transaction was a sale or return. • `Sale` displays if the Line Type Element in the *Customer Engagement Get Transaction History Response* indicates a sale, customer order for delivery, customer order for pickup, or sale for delivery. • `Return` displays if the Line Type Element in the *Customer Engagement Get Transaction History Response* indicates a return.

Field	Description
Associate ID	The ID for the user that completed the transaction. **Note** This does not have to be a valid user in Order Administration. From operator ID passed in the *Customer Engagement Get Transaction History Response* for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return transaction.
Qty	The quantity of the item associated with the transaction. From Quantity in the *Customer Engagement Get Transaction History Response* for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return line type transaction.
Ext Price	The extended merchandise price of the transaction. From ExtendedAmount in the *Customer Engagement Get Transaction History Response* for a sale, customer order for delivery, customer order for pickup, sale for delivery, or return line type transaction.
Lifetime to Date Sales Amount	The total life to date sales amount for the customer. From total sales amount in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Returns Amount	The total life to date return amount for the customer. From total returns amount in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Net Amount	The lifetime to date net purchase amount for the customer. The system uses the following calculation to determine the customer's lifetime net amount: `Lifetime to Date Sales Amount - Lifetime to Date Returns Amount = Lifetime to Date Net Amount` From the total sales amount and total returns amount in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Sales Items	The total life to date items sold for the customer. From total items sold count in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Returns Items	The total life to date items returned for the customer. From total items and returned count in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Net Items	The lifetime to date net item count for the customer. The system uses the following calculation to determine the customer's lifetime net item count: `Lifetime to Date Sales Items - Lifetime to Date Returns Items = Lifetime to Date Net Items` From the total items sold count and total items returned count in the *LifetimeActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Year to Date	

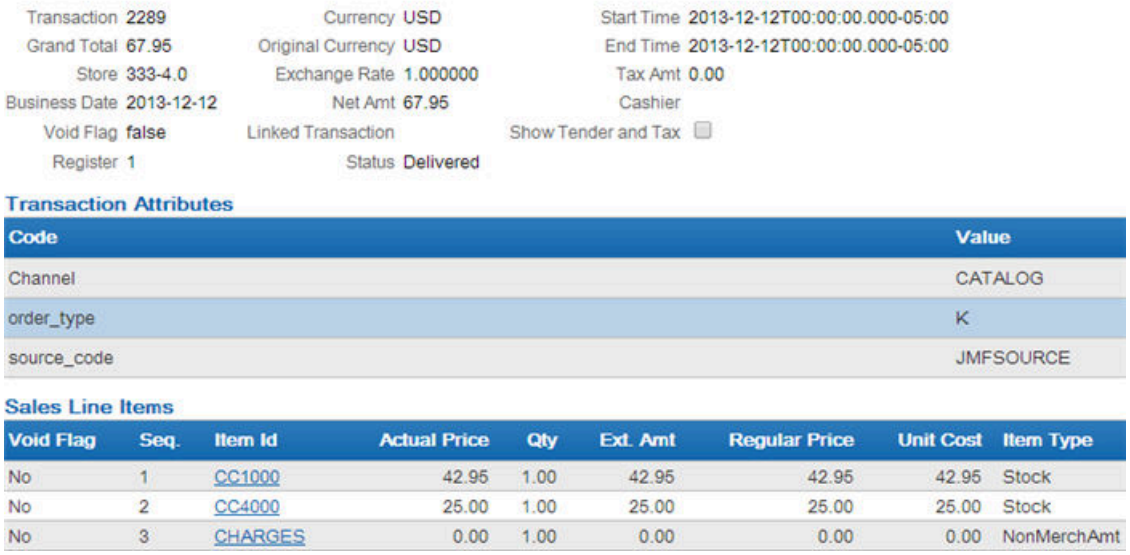
Field	Description
Sales Amount	The total year to date sales amount for the customer. From the year-to-date sales amount in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Returns Amount	The total year to date return amount for the customer. From year-to-date returns amount in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Net Amount	The year to date net purchase amount for the customer. The system uses the following calculation to determine the customer's year to date net amount: `Year to Date Sales Amount - Year to Date Returns Amount = Year to Date Net Amount` From the year-to-date sales amount and the year-to-date returns amount in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Sales Items	The total year to date items sold for the customer. From year-to-date items sold count in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Returns Items	The total year to date items returned for the customer. From the year-to-date items returned count in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.
Net Items	The year to date net item count for the customer. The system uses the following calculation to determine the customer's year to date net item count: `Year to Date Sales Items - Year to Date Returns Items = Year to Date Net Items` From the year-to-date items sold count and year-to-date items returned count in the *YearToDateActivitySummary* class of the *Customer Engagement Retrieve Customer Response*.

Reviewing Purchase History in Oracle Retail Customer Engagement

You can view transactions on the **Transaction History** screen for a customer. To view the details for a transaction, click the transaction to open the **Transaction Detail** window. See **Transaction History Screen** in the Oracle Retail Customer Engagement *User Guide* for screen details.



To view the details for a transaction, click the transaction to open the **Transaction Detail** window. See **Transaction Detail Window** in the Oracle Retail Customer Engagement *User Guide* for screen details.



Transaction 2289 | Currency USD | Start Time 2013-12-12T00:00:00.000-05:00
Grand Total 67.95 | Original Currency USD | End Time 2013-12-12T00:00:00.000-05:00
Store 333-4.0 | Exchange Rate 1.000000 | Tax Amt 0.00
Business Date 2013-12-12 | Net Amt 67.95 | Cashier
Void Flag false | Linked Transaction | Show Tender and Tax
Register 1 | Status Delivered

Transaction Attributes

Code	Value
Channel	CATALOG
order_type	K
source_code	JMFSOURCE

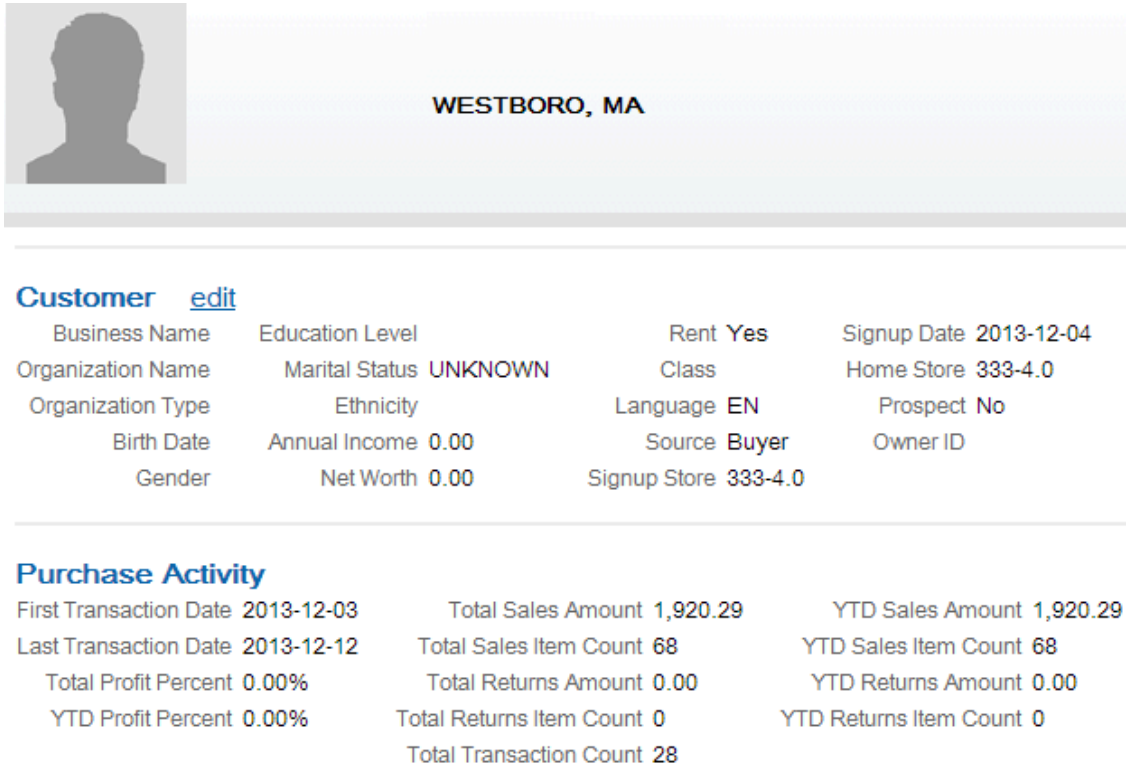
Sales Line Items

Void Flag	Seq.	Item Id	Actual Price	Qty	Ext. Amt	Regular Price	Unit Cost	Item Type
No	1	CC1000	42.95	1.00	42.95	42.95	42.95	Stock
No	2	CC4000	25.00	1.00	25.00	25.00	25.00	Stock
No	3	CHARGES	0.00	1.00	0.00	0.00	0.00	NonMerchAmt

The **Purchase Activity** section of the **Customer Dashboard** also provides a summary of the transactions associated with a customer, including:

1. Total Sales Amount, Total Sales Item Count, Total Returns Amount, and Total Returns Item Count.
2. Year To Date Sales Amount, Year To Date Sales Item Count, Year To Date Returns Amount, and Year To Date Returns Item Count.

See **Customer Dashboard** in the Oracle Retail Customer Engagement *User Guide* for screen details.



WESTBORO, MA

Customer edit

Business Name | Education Level | Rent Yes | Signup Date 2013-12-04
Organization Name | Marital Status UNKNOWN | Class | Home Store 333-4.0
Organization Type | Ethnicity | Language EN | Prospect No
Birth Date | Annual Income 0.00 | Source Buyer | Owner ID
Gender | Net Worth 0.00 | Signup Store 333-4.0

Purchase Activity

First Transaction Date 2013-12-03 | Total Sales Amount 1,920.29 | YTD Sales Amount 1,920.29
Last Transaction Date 2013-12-12 | Total Sales Item Count 68 | YTD Sales Item Count 68
Total Profit Percent 0.00% | Total Returns Amount 0.00 | YTD Returns Amount 0.00
YTD Profit Percent 0.00% | Total Returns Item Count 0 | YTD Returns Item Count 0
Total Transaction Count 28

For more information: See the **Customer Lookup / Edit** section of the Oracle Retail Customer Engagement *User Guide* for more information on reviewing sales and return transactions for a customer.

Customer Engagement Stored Value Card Integration

Customer Engagement Stored Value Card integration allows you to process stored value cards between Order Administration and Oracle Retail Customer Engagement using point-to-point communication. Processing of stored value cards remains the same in Order Administration; however, in this integration, Order Administration uses Oracle Retail Customer Engagement APIs to send the stored value card transactions directly to the Oracle Retail Customer Engagement system for processing.

Required versions: To use the Oracle Retail Customer Engagement stored value card integration with Order Administration, you must be on version 16.0 or later of Oracle Retail Customer Engagement and Order Management System version 17.0 or later, or Order Administration.

In this topic:

For more information: See Stored Value Card Overview and Setup for an overview of stored value card processing, and see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details on messages and mapping.

Transactions Processed Between Order Administration and Oracle Retail Customer Engagement

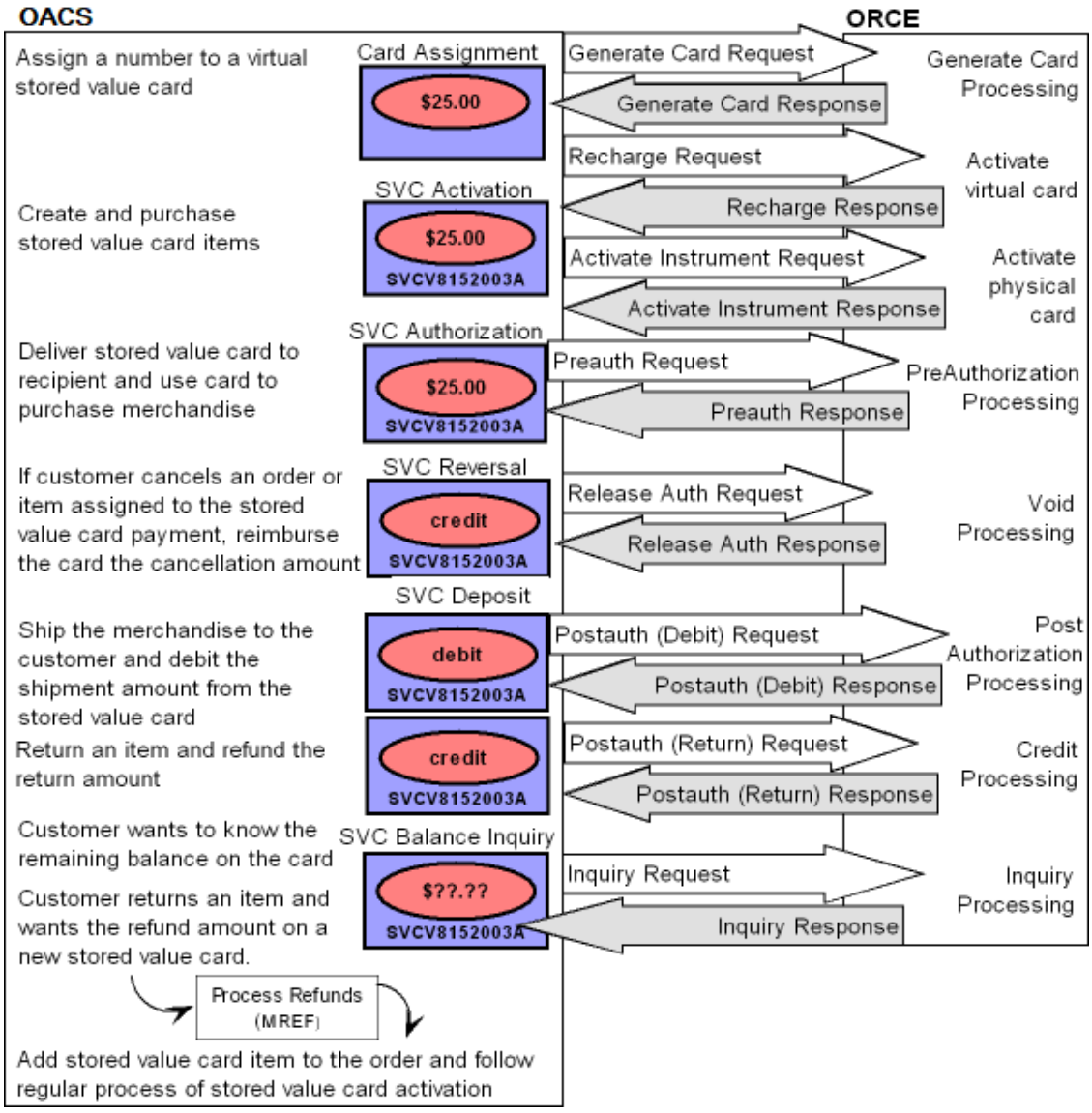
You can process the following transactions for the Oracle Retail Customer Engagement integration with Order Administration:

OACS	ORCE	See:
Activation **Virtual card assignment:** To assign a number to a virtual card Order Administration sends a Generate Card Request to Oracle Retail Customer Engagement. See Assigning Numbers to Virtual Stored Value Cards. **Stored value card refunds:** If you process a return against a stored value card pay type that has an alternate pay type or alternate refund category of stored value card defined, the system generates a new stored value card to send to the customer when you process a refund. The card is issued for the refund amount. When you process stored value card refunds, the system adds a stored value card item to the order at no charge and performs pick slip preparation. You can then follow the normal process of generating a pick slip for the stored value card item so that the card can be picked, activated, billed, and shipped to the customer.	Generate Card (virtual card number assignment) • Customer Engagement Generate Card Request • Customer Engagement Generate Card Response Recharge (virtual card activation) • Customer Engagement Recharge (Activate Virtual Card) Request • Customer Engagement Recharge Response Activate Instrument (physical card activation) • Customer Engagement Activate Instrument Request • Customer Engagement Activate Instrument Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Stored Value Card Purchase and Activation Generating Stored Value Card Refunds
Authorization (both online and batch)	Preauthorization • Customer Engagement PreAuthorization Request • Customer Engagement PreAuthorization Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Processing Authorizations and Deposits Using Point-to-Point Communication

OACS	ORCE	See:
Deposit **Authorization amount mismatch:** The deposit request might fail if the amount is different from the original authorization amount. This situation might occur if, for example, the order includes multiple stored value cards and items that were added to the order and billed in a different sequence. To correct: • In Customer Engagement, void the original authorization(s) and then create a new preauthorization record for the correct amount. • Use Manage Rejected Deposits in Modern View to change the rejected deposit and enter the new Activity ID from Customer Engagement. • Resubmit the deposit through Manage Rejected Deposits in Modern View.	Post Auth (Deposit) • Customer Engagement Post Auth (Deposit) Request • Customer Engagement Post Auth (Deposit) Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Processing Authorizations and Deposits Using Point-to-Point Communication
Credit **Stored value card refunds:** If you process a return against a stored value card pay type that does not have an alternate pay type or alternate refund category defined, the system generates a credit card credit refund against the original stored value card pay type, allowing you to reimburse the refund amount to the original stored value card instead of sending a new stored value card to the customer.	Recharge (Reload) • Customer Engagement Recharge (Reload) Reques • Customer Engagement Recharge (Reload) Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Generating Stored Value Card Refunds Processing Authorizations and Deposits Using Point-to-Point Communication
Balance Inquiry	Inquiry • Customer Engagement Inquiry Request • Customer Engagement Inquiry Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Stored Value Card Balance Inquiry (MSVB)

OACS	ORCE	See:
Authorization Reversal	Release Auth • Customer Engagement Release Auth Request • Customer Engagement Release Auth Response See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for message details.	Stored Value Card Authorization Reversal

Oracle Retail Customer Engagement integration stored value card process flow:



Oracle Retail Customer Engagement Integration Setup in Order Administration

- Oracle Retail Customer Engagement Service Bureau Setup
- Web Service Authentication for Oracle Retail Customer Engagement
- Work with Pay Types (WPAY)
- System Control Values

For more information: See Stored Value Card Setup for more information on the setup required to process stored value cards in Order Administration.

Oracle Retail Customer Engagement Service Bureau Setup

Use Defining Authorization Services (WASV) to create the RLT service bureau for the Oracle Retail Customer Engagement system, taking note of these settings:

- *Service code:* Must be RLT.
- *Presenter's ID:* The card prefix assigned to virtual stored value cards in Oracle Retail Customer Engagement.

> **Important**
>
> When you create virtual card numbers in Oracle Retail Customer Engagement, you must create the numbers using this card prefix number.

- *Submitter's ID:* The card series sequence number assigned to virtual stored value cards in Oracle Retail Customer Engagement.

> **Important**
>
> When you create virtual card numbers in Oracle Retail Customer Engagement, you must create the numbers using this card series sequence number.

- *Send reversal:* Select this field to perform authorization reversal processing.
- *Integration layer processes:* Leave these fields blank.
- *Batch/online:* Select Online or Batch.
- *Immediate response:* Must be selected.
- *Selected for deposit:* Select this field to include the RLT service bureau in the next deposit run.
- *Primary authorization service:* Must be .IL.
- *Communication type:* Select Payment Link. to indicate messages sent to and from the service bureau are processed directly.

Response codes: When the *Service code* is RLT, the system displays the *ORCE response* field on the Create, Change, and Display Vendor Response screens. This field allows you to map a response from Oracle Retail Customer Engagement to a vendor response code. Use this field to enter the code assigned by the Oracle Retail Customer Engagement service bureau to identify whether the stored value card transaction was approved or declined.

> **Note**
>
> The INSUFFICIENT_FUNDS response code for the RLT authorization service must be assigned a hold reason code of SV.

.IL Service Bureau Setup

To send transactions to the service bureau using Point-to-Point communication, create a service bureau using the service code.IL and enter a value in the following fields:

- *Application:* ATDP (authorization and deposit)
- *Merchant ID:* INTEGRATION LAYER
- *Charge description:* Integration Layer
- *Media type:* C (communications)

Enter the .IL service bureau in the *Primary authorization service* field for the RLT service bureau.

Web Service Authentication for Oracle Retail Customer Engagement

If the web services used to process messages to Oracle Retail Customer Engagement require web service authentication, you must provide a valid web service authentication user and password in Working with Web Service Authentication (WWSA), or client ID and client secret if using OAuth. In this situation, when Oracle Retail Order Administration generates a message to send to Oracle Retail Customer Engagement it includes the web service authentication information in the HTTP header of the message. See Oracle Retail Omnichannel Web Service Authentication Configuration Guide on My Oracle Support (2728265.1) for more information.

Work with Pay Types (WPAY)

Use Working with Pay Types (WPAY) to create a stored value card pay type to send to Oracle Retail Customer Engagement. Enter RLT as the authorization and deposit service for the stored value card pay type.

Enter 7 in the *Reauthorization days* for the stored value card pay type used for the Oracle Retail Customer Engagement stored value card integration.

System Control Values

- Enter RLT in the Stored Value Card Activation Authorization Service (I26) system control value.
- Leave the Stored Value Card Modulus Checking Method (I24) system control value blank since Oracle Retail Customer Engagement does not perform modulus checking against the digits of a stored value card number.
- Deselect the Perform Authorization Reversal during Deposit Processing (J20) system control value since this option is not available for the Oracle Retail Customer Engagement stored value card integration.
- Select the Perform Balance Inquiry during Batch Authorizations (J19) system control value since Oracle Retail Customer Engagement will approve an authorization for an amount that is less than the required authorization amount on the order. If you do not select this system control value, you must require another credit card payment on the order.
- Select the Retain Unused Stored Value Card Authorization After Deposit (J21) to retain a stored value card authorization after it has been partially deposited.
- Enter the code that identifies the Oracle Retail Customer Engagement organization that maps to your Order Administration company. The system uses this value when communicating with Oracle Retail Customer Engagement.

Stored Value Card Integration Setup in Oracle Retail Customer Engagement

- Card Number Length
- Card Number Prefix

- Minimum Activation Amount and Balance
- Allow Partial Redemption Setting
- Pin

For more information: See the Oracle Retail Customer Engagement Configuration Guide for more information on the setup required for gift card processing in Oracle Retail Customer Engagement.

Card Number Length

The *Card Number Length* property defines the number of digits used in a card number. This setting applies to all cards generated in Oracle Retail Customer Engagement, regardless of card type. Once an organization has generated card numbers, the *Card Number Length* setting cannot be changed. Enter a number between 10 and 16. The card number length must match the Order Administration *Credit card length* in Work with Pay Types (WPAY) for the stored value card pay type you send to Oracle Retail Customer Engagement.

Card Number Prefix

The *Card Number Prefix* property specifies the card number prefix character for a card number. Only one character can be used and is counted as part of the card length. This setting applies to all cards generated in Oracle Retail Customer Engagement, regardless of card type. The card number prefix must match the Order Administration *Leading digits* in Work with Pay Types (WPAY) for the stored value card pay type you send to Oracle Retail Customer Engagement.

Minimum Activation Amount and Balance

Set the minimum activation amount and balance to 0.00 indicating the amount cannot be a negative amount.

Allow Partial Redemption Setting

Set the *Allow Partial Redemption* setting for the tender program to No.

Pin

The *PIN Required* setting for a card definition indicates whether a pin if required for a stored value card.

- On physical cards, the pin is located on the card. For virtual cards, the pin is provided in the Stored Value Card Notification Email if the program defined in the Stored Value Card Email Notification Program (I30) system control value supports it.
- If a pin is required, you must provide the pin when using the stored value card as a form of payment. The *Pin Length* defines the length of the pin.

Oracle Retail Customer Engagement APIs used in the Stored Value Card Integration

The Stored Value Card Transaction Services API v3.1 is used to communicate with Oracle Retail Customer Engagement during the Customer Engagement Stored Value Card integration.

The system uses the value in the ORCE Organization Descriptor (L50) system control value along with the ORCE_CUSTOMER_SERVICE_PREFIX and ORCE_SVC_SERVICE_SUFFIX settings in Work with Customer Properties (PROP) to build the URL for communication with Oracle Retail Customer Engagement.

> **Note**
>
> In order for transactions to process correctly, the Franchisee feature must be disabled in Oracle Retail Customer Engagement.

Reviewing messages for the Oracle Retail Customer Engagement stored value card integration: You can review the messages passed between Order Administration and Oracle Retail Customer Engagement in the ORCE (Oracle Retail Customer Engagement) Log if its Logging Level is set to DEBUG or ALL. Use this log to help troubleshoot the Oracle Retail Customer Engagement integration.

Web service authentication? If the web services used to process inbound messages to Oracle Retail Customer Engagement require web service authentication, you must provide a valid web service authentication user and password in Working with Web Service Authentication (WWSA), or client ID and client secret if using OAuth. In this situation, when Oracle Retail Order Administration generates a message to send to Oracle Retail Customer Engagement it includes the web service authentication information in the HTTP header of the message. See Oracle Retail Omnichannel Web Service Authentication Configuration Guide on My Oracle Support (2728265.1) for more information.

Oracle Retail Customer Engagement message formats: For a complete description and message layout of the messages used to communicate with the Oracle Retail Customer Engagement system, see the Oracle Retail Customer Engagement **Web Services Guide**. Also, see Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for more information on mapping and messages samples.

Data security: Order Administration masks the stored value card number in the Oracle Retail Customer Engagement stored value card messages; for example, **********1111 displays instead of the full stored value card number.

Communication failure: If Order Administration is unable to connect to Oracle Retail Customer Engagement, the response message includes the reason code SU RELATE SERVICE IS UNAVAILABLE.

Error mapping: Regardless of the type of transaction processed, the information returned in the response message if a transaction is declined is the same. Order Administration maps the error code to the ORCE response field in Defining Vendor Response Codes.

Enterprise Order Integration (Future Receipts and Active PO/Pre Order Processing)

Purpose: The enterprise order integration uses enterprise foundation inventory data that originates in Oracle Retail Merchandising Foundation Cloud Service (RMFCS) to support creating orders for items on active purchase orders, and submitting the orders to Order Orchestration for fulfillment as these items become available.

In this topic:

Enterprise Order Flow Overview

The order flow described below takes place if:

- The Use OROB for Fulfillment Assignment (M31) and Send B/O to OROB (K08) system control values are set to Y, the other system control values at the Order Broker Values (K15) and Order Broker Fulfillment Values are set, and all other related setup for integration with Order Orchestration is completed.
- You import enterprise data from Omnichannel Cloud Data Service (OCDS), as described below (Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS)).
- Order Orchestration also integrates with OCDS. Order Broker release 18.1 or higher, or Order Orchestration, is required.

> **Important**
>
> The flow described here typically takes place for brokered backorders, but can also support releasing ship-for-pickup orders to Order Orchestration, provided that the fulfilling system supports this order type.

See Future Receipts and Active PO Order Processing Configuration for more configuration requirements.

With this setup:

- Order Administration submits orders to Order Orchestration for fulfillment rather than reserving the inventory in the warehouse.
- Certain items are flagged as active PO orders, indicating that:
  - Customers can order these items before you have them in inventory.
  - A limited quantity of each item will be ordered on an active purchase order, and then received in a fulfilling location in Order Orchestration.
  - Optionally, once the full quantity of the item has been received on purchase orders, any additional quantity on orders can be sold out.

See below for more discussion.

About Active PO Items

You can take orders for an item that is not currently available, but that you anticipate will be available in the future through an active purchase order. These orders can then be fulfilled through submission to Order Orchestration as the inventory on active purchase orders is received into fulfilling locations and becomes available. The process flows described in this topic provide a means to take orders for these items in advance without selling them out prematurely, in anticipation of the time when they will be in stock in a location where Order Orchestration can assign them for fulfillment.

Order Administration relies on the purchase order information in OCDS to determine when these items can be fulfilled. Only the quantity that has been received on purchase orders is actively eligible for fulfillment; however, Order Administration uses the open quantity on purchase orders (future available quantity) to determine the quantity of each item that it can take in advance.

When an item is flagged as an active PO item:

- The system does not submit it to Order Orchestration as it normally does. Since the inventory across the enterprise is synchronized, there would be no point to submitting items to Order Orchestration prematurely, because Order Orchestration would not have the inventory to fulfill them, and would respond to Order Administration indicating the order was unfulfillable. Instead, Order Administration uses the processes described below to determine when to submit order lines to Order Orchestration for processing based on the inventory as it becomes available.
- The item sells out automatically when the order line is created if the active PO calculation indicates that there will not be sufficient inventory to fulfill it based on the on-order quantity, and if a soldout control code is assigned to the item.

Processing takes place through:

- Importing Future Available Information (OCDSFA Periodic Function)
- Releasing Eligible Orders to Order Orchestration and Submitting the Backorder Quantity Update Notification

Importing Future Available Information (OCDSFA Periodic Function)

Tracking the future availability of active PO items enables Order Administration to determine how many units it will be able to fulfill. In order to track the future availability of pre-order/active PO items, Order Administration communicates with Omnichannel Cloud Data Service (OCDS) to determine:

- The total quantity of the item that is on order in Oracle Retail Merchandising Foundation Cloud Service (RMFCS), and,
- The total quantity of the item that has been received through RMFCS.

Periodic function: The future availability and active PO updates take place through the OCDSFA periodic function, which receives future availability information from OCDS and updates inventory records in Order Administration.

The periodic function receives information on quantities from OCDS and processes the updates described in the table below to manage active PO items that will be fulfilled through the Order Orchestration, and makes the following updates:

Item Warehouse updates based on the quantity information sent from OCDS: The periodic function:

- Updates:
  - PO On Order: The total quantity on purchase orders for the item. From the on-order quantity sent by OCDS.

– PO Receipts: The total quantity that has been received against purchase orders, indicating the total quantity on active PO orders that Order Administration can submit to Order Orchestration for fulfillment. A cumulative total, from the received quantity sent by OCDS.

> **Note**
>
> If the *PO On Order* quantity is the same as the *PO receipts* quantity, the periodic function does not make any additional updates. This situation might occur if active PO processing has already taken place, but the records in OCDS were not yet purged at the time the periodic function ran. Otherwise, the periodic function:

- Selects the Active PO flag, if it is not already set, to indicate that the item has an active purchase order for which you can accept orders before you expect to have inventory to fulfill. This flag indicates that the system should release units of the item to Order Orchestration for fulfillment as purchase orders are received.
- Sets the item warehouse on-order quantity to the *PO On Order* quantity minus the item warehouse Released Qty (the total quantity of the active PO item that has been released to Order Orchestration for fulfillment).
- Sets the Reservation freeze flag for the item warehouse to N, if it is not already set to N.
- Updates the PO Updated date.

The function also updates the item/SKU:

- Sets the soldout control value for the item to the Default Soldout Control Code (D72), if it is not set already.
- If the *PO On Order* quantity increases, sets the *Active PO* flag for the item/SKU to Y if it is not already selected. This is a display-only field on the Create Item (Base Information) Screen and Create SKU 1 of 2 (With Overrides) Screen, as well as the change and display screens.

About increases to PO On Order quantity: Typically, an increase in *PO On Order* quantity occurs for a new active PO (pre-order) item, although it can also occur for an existing active PO item.

Example: If the *PO On Order* quantity is 30, Order Administration can take active PO orders for a total of up to 30 units. The *Active PO* flag for the item is set to Y, indicating that Order Administration should retain orders for up to 30 units, releasing them to Order Orchestration as the purchase orders are received.

If the *PO On Order* quantity decreases, or stays the same, no additional updates take place besides those described above.

> **Note**
>
> Active PO order lines are not sold out as a result of OCDSFA processing, regardless of whether there was a decrease in *PO On Order* quantity or the soldout control code currently assigned to the item.

When is Released quantity updated? The PREORDER or ACTPO periodic function updates the *Released qty*; see the related periodic function under Releasing Eligible Orders to Order Orchestration and Submitting the Backorder Quantity Update Notification for more information. This quantity is 0 for a new active PO item, but the periodic function also accounts for existing

active PO items that have had a quantity released to Order Orchestration for fulfillment based on a receipt quantity.

Setup Requirements for the OCDSFA Periodic Function

Required setup for the OCDSFA periodic function includes the following.

- *URL*: From the OCDS Future Available URL (M49) system control value.
- *Authentication*: From the OCDS Service web service authentication. See Working with Web Service Authentication (WWSA).
- *Item number*: The Reference # (Reference number)) specified for the item in the SKU table identifies the item warehouse record to update. The retail reference number is set to the same value as the item code when you import items through OCDS, and should not be changed.
- *Warehouse*: The Default Warehouse (A04) system control value identifies the item warehouse record to update.
- *Company*: From the company submitting the periodic function.
- *Periodic function*: Create the OCDSFA (Program name = PFR0203) periodic function and assign it to a periodic process.

Use Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS) to create the item warehouse records.

For more information: See Future Receipts and Active PO Order Processing Configuration for full configuration requirements.

Additional Things to Note about the OCDSFA Periodic Function

When to run: This function should be run after the OCDSITM function described in Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS). Also, it should typically run more often than the OCDSITM function in order to capture frequent inventory updates as they are posted to OCDS.

Errors might occur if:

- The OCDS Future Available URL (M49) is not correct.
- The OCDS Service authentication set up through Working with Web Service Authentication (WWSA) is not correct.
- The Default Warehouse (A04) is not set.
- The item warehouse record does not exist. This situation might occur if the OCDSITM function did not run before the OCDSFA periodic function.

The OCDSFA periodic function also creates Enterprise Data Import History records. You can review these records, with an *Import Type* of FUTUREAVAILABLE, at the **Enterprise Data Import History** page in Modern View.

For more information: See Troubleshooting the Enterprise Order Integration for more troubleshooting information.

Releasing Eligible Orders to Order Orchestration and Submitting the Backorder Quantity Update Notification

There are two existing periodic functions that release eligible active PO orders to Order Orchestration:

- PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2)
- ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration)

Both the PREORDER periodic function and the ACTPO periodic function also generate the backorder quantity update notification to RMFCS, if needed. See Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function).

PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2)

When to use the PREORDER periodic function: Use this periodic function for integration with Order Broker releases earlier than 20.2. For integration with Order Broker 20.2 or higher, or Order Orchestration, use the ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration).

PREORDER Processing Steps

Based on the updates made by the OCDSFA periodic function, the PREORDER periodic function performs the following steps.

- Determining the quantity available to submit to Order Orchestration.
- Releasing eligible orders to Order Orchestration.
- Updating Item Warehouse records.
- Submitting the Backorder Quantity Notification update message to Retail Integration Cloud Service.

Each is described below.

Submits active PO orders to Order Orchestration: Submits eligible active PO orders to the BROKER_ORD process for submission to Order Orchestration for fulfillment, determined by subtracting the released quantity from the *PO receipts* quantity.

Example: The *PO receipts* quantity is now set to 15 units, and 10 units have already been released to Order Orchestration. If there are 6 remaining units of the active PO item on open orders that have not yet been submitted to Order Orchestration for fulfillment, the periodic function releases up to 5 units, provided that it would not need to submit a partial quantity of an order line to Order Orchestration. If, for example, the remaining order line quantities are 4 on the oldest order and 2 on a more recent order, only the order line with the quantity of 4 is released.

> **Note**
>
> - The order lines are submitted in first-in, first-out order (oldest first).
> - Partial order line quantities are not submitted to Order Orchestration. If the next eligible line would exceed the quantity available to release, it is skipped.
> - The order submission uses the same steps and applies the same updates as the BROKER periodic function.
> - Orders in Error status or Suspended status are not eligible to be submitted. Also, locked orders are not submitted.
> - Each order line for an active PO item is evaluated separately.

The Send Held Orders to OROB (M18) system control value controls whether the PREORDER periodic function includes held orders.

Item warehouse quantity updates: The function:

- Increases the *Released qty* for the item warehouse by the quantity of active PO order lines submitted to Order Orchestration.

- Sets the item warehouse *On-order quantity* to the *PO on-order* quantity minus the *Released qty*. For example, if a total of 30 units are on purchase orders, and 12 units have been released to the Order Orchestration for fulfillment, the item warehouse On-order quantity is set to 18.

Is the item still an active PO item? The following updates take place if the *PO On Order* quantity is now less than or equal to the *PO receipts* quantity, indicating that all anticipated units on purchase orders have been received. When this occurs, the item is no longer eligible for active PO processing, so that any additional units ordered can sell out, based on the assigned soldout control code.

Example: If the *PO On Order* quantity is 30, and the *PO Receipts* quantity is 25, the *Active PO* flag remains set to Y, because an additional 5 units can be received and used to fulfill active PO orders. However, if the *PO Receipts* quantity is 30 or higher, the *Active PO* flag changes to N, because no additional receipts are expected.

If the item is no longer an active PO item, the periodic process:

- Sets the *Active PO* flag for the item to N.
- Sells out any remaining open lines beyond the *PO On Order* quantity in last-in, first-out order (sell out the newest first). If the entire line cannot be submitted to Order Orchestration, the entire line sells out.

  Example: If the *PO On Order* quantity and the *PO Receipts* quantity are both 30, and there are active PO order lines for a total quantity of 35, the additional 5 units sell out. Also, if the newest order line is for a quantity of 6, all 6 units on that line sell out, because order lines are not partially sold out.
- Sets the *PO On Order* quantity, *PO Receipts* quantity, *Released qty*, and Item Warehouse *On-order quantity* to 0.

Otherwise, if the item is still an active PO item, the PREORDER function does not update the *Active PO* flag or sell out any units of the item.

Example: If the *PO On Order* quantity is 30, there are 29 units on order lines, and the *PO Receipts* quantity is 15, Order Administration can release up to 15 units to Order Orchestration for fulfillment. The remaining 14 units remain as active PO order lines in Order Administration.

Backorder quantity update notification? If the backorder quantity is not equal to the *PO pre-order quantity sent*, this means that the backorder quantity has changed, and that RMFCS needs to be notified. In this case, the periodic function submits the backorder quantity update notification message to notify RMFCS of any increase or decrease to the active PO backorder quantity. See Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function) for information on the backorder quantity update notification generated through the PREORDER periodic function.

> **Note**
>
> The *PO pre-order quantity sent* is not displayed on any screen; it is just the current backorder quantity at the time the backorder quantity update notification is generated, and is used only to determine the quantity to send the next time the notification is generated.

Setup Requirements for the PREORDER Periodic Function

In addition to the configuration described under Setup Requirements for the OCDSFA Periodic Function, the PREORDER periodic function requires the following:

- *URL*: From the *OCDS Future Available URL (M49)* system control value.
- *Authentication*: From the OCDS Service web service authentication. See Working with Web Service Authentication (WWSA).
- *Periodic function*: Create the PREORDER (Program name = PFR0204) periodic function and assign it to a periodic process.

Additional Things to Note about the PREORDER Periodic Function

When to run: This function should be run after the OCDSFA periodic function, described above under Importing Future Available Information (OCDSFA Periodic Function).

> **Note**
>
> The PREORDER function needs to run after Order Orchestration receives inventory updates. Otherwise, it is possible for the ACTPO function to submit order lines to Order Orchestration before Order Orchestration recognizes that the location can fulfill orders based on inventory receipts. In this situation, Order Orchestration returns the orders to Order Administration as unfulfillable.

Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function)

Both the PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2) and the ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration) generate the backorder quantity update notification message to RMFCS. This message indicates the net increase or decrease to the backorder quantity for an active PO item, so that RMFCS is aware of the current backorder quantity of the item. The PREORDER periodic function calculates the quantity to send by comparing the current backorder quantity of the active PO item with the current *PO pre-order quantity sent* that is stored in the Item Warehouse table.

The message does not simply send the current backorder quantity; instead, it indicates the amount of increase or decrease to the backorder quantity.

Backorder update examples:

Description	Last Backorder Quantity Sent	Current Backorder Quantity	Quantity Sent in Message	New PO Pre-Order Quantity Sent
Backorder quantity increases from 4 to 6 through new order of 2 units.	4	6	2	6
Backorder quantity decreases from 5 to 2 through order line cancellation.	5	2	-3	2
Backorder quantity decreases from 10 to 4 through *PO receipts quantity* of 6, and 6 units submitted to Order Orchestration.	10	4	-6	4
Backorder quantity of 10 has a net decrease of 6 units: • 2 units canceled (-2) • 5 units received (-5) • 1 unit ordered (+1)	10	4	-6	4

Description	Last Backorder Quantity Sent	Current Backorder Quantity	Quantity Sent in Message	New PO Pre-Order Quantity Sent
Backorder quantity has not changed, either because there was no activity, or activity did not result in a net increase or decrease	10	10	No message sent	No change

The periodic functions submit the backorder quantity update notification to Retail Integration Cloud Service through the RICS Outbound Service URL (M50).

What information is included in the backorder quantity update notification? The information in the notification includes the following:

- *Item*: The item's *Retail reference number* identifies the item. The retail reference number is set to the item code when Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS), and if the retail reference number is changed in any way, then the pre-order notification process does not succeed.
- *Location type*: The message always passes a location type of W (warehouse).
- *Location*: The message always passes the Default Warehouse (A04) as the location.
- *Backorder quantity*: Calculated as described above.
- *Unit of measure*: Set to EA (each).

No other fields are mapped.

ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration)

When to use the ACTPO periodic function: Use this periodic function for integration with Order Broker releases 20.2 or higher, or Order Orchestration. For integration with Order Broker updates earlier than 20.2, use the PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2).

The steps completed by this periodic function are:

- Checking current availability in Order Orchestration through the inventory availability request.
- Determining the quantity available to submit to Order Orchestration.
- Releasing eligible orders to Order Orchestration.
- Updating Item Warehouse records.
- Submitting the Backorder Quantity Notification update message to Retail Integration Cloud Service.

Checking Current Availability in Order Orchestration

Overview: The ACTPO periodic function submits the inventory availability request to Order Orchestration to check availability for backordered items whose *Active PO* flag is selected, as described above under Importing Future Available Information (OCDSFA Periodic Function).

Purpose: The purpose of the inventory availability request is to determine the quantity of each item that should be available to fulfill the backorders in Order Administration. The response from Order Orchestration indicates the *Available to Promise* quantity for each of the requested items, broken out by the quantity in locations that support:

- Delivery orders (brokered backorders in Order Administration).

- Ship-for-pickup orders (included only if the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS).

Note that there can be overlap; some locations can support both delivery and ship-for-pickup orders, while others might support just one order type.

Available to Promise quantity calculation: In Order Orchestration, the *Available to Promise* quantity is the on-hand quantity minus the reserved quantity and any fulfilled quantity.

The response message includes the *Available to Promise* quantity for each requested item in two ways:

- Across all product locations (*distinct inventory*), and
- For locations that support a requested *fulfillment type* (either brokered backorders (DELIVERY) or ship-for-pickup orders).

Example: If a location has the item in stock but does not support fulfilling brokered backorders, the inventory total is included in `distinctInventory` but not in the DELIVERY `fulfillmentType`.

Used how? The *Available to Promise Quantity* (`availableToPromiseQty`) for the DELIVERY fulfillment type is used to calculate the quantity for brokered backorders, and the `availableToPromiseQty` for the SHIPFORPICKUP fulfillment type is used to calculate the quantity for ship-for-pickup orders.

Other quantities passed in response not used: The response also includes other quantities, but the *Available to Promise Quantity* by fulfillment type is the only quantity in the response message that the ACTPO function uses to calculate the quantity available to submit to Order Orchestration.

Which items are included in the request message? Only items whose *Active PO* flags are selected and that have a backorder quantity in the *Default Warehouse (A04)* are included in the request. The OROB_INVENTORY_AVAILABILITY_SKU_LIMIT defines the maximum number of items to include in the request message. This limit is set to 500 by default, and cannot be greater than 500, although it can be set to a lower number.

Sample request message:

```
"messageHeader":

{"datetime": "2021-05-07T13:42:12","source":"OMS"},

"systemCd" : "6",

"fulfillmentTypes":

   [

{"fulfillmentType":"DELIVERY"},

{"fulfillmentType":"SHIPFORPICKUP"}

   ],

"systemProducts":

   [

{"systemProduct":"1234567"},

{"systemProduct":"2345678"}

   ]
```

```
}
```


Sample response message:


```
{
"messageHeader":    {
"datetime": "2021-05-07T20:54:09.259",
"source": "OMS"
},
"itemsProcessed": 1,
"processingTime": 31,
"responseCode": "0",
"responseDescription": "Success",
"systemCd": "6",
"systemProducts": [   {
"systemProduct": "1234567
"distinctInventory":  {  "availableToPromiseQty": 37, "fulfilledQty": 11,
"onHandQty": 235,   "reservedQty": 187  },
"fulfillmentTypes": [
   { "fulfillmentType": "DELIVERY", "availableToPromiseQty": 37, "fulfilledQty":
11, "onHandQty": 235, "reservedQty": 187
}],
}
```


For more information: See Setup Requirements for the ACTPO Periodic Function, below, for setup requirements and troubleshooting information, and see the Inventory Availability Request JSON Message and the Inventory Availability Response JSON Message in the *Order Orchestration Web Services Guide* on My Oracle Support (2953017.1) for message details and troubleshooting.

Releasing Eligible Orders to Order Orchestration

Based on the updates made by the OCDSFA periodic function and the available to promise quantity for the order type returned in the inventory availability response, described above, the ACTPO periodic function performs the following steps.

Evaluates the active PO order lines based on date and order (fulfillment) type. The function determines which orders can be submitted to Order Orchestration for fulfillment for each order type:

- The order lines are submitted in first-in, first-out order (oldest first).
- Partial order line quantities are not submitted to Order Orchestration. If the next eligible line would exceed the quantity available to release, it is skipped.
- The order submission uses the same steps and applies the same updates as the BROKER periodic function.
- Orders in Error status or Suspended status are not eligible to be submitted.

- Each order line for an active PO item is evaluated separately.

The *Send Held Orders to OROB (M18)* system control value controls whether the ACTPO periodic function includes held orders.

Example of orders released based on available to promise quantity, order type, order line quantity, and date:

There are 9 units on active PO order lines, in ascending (oldest to newest) order date:

- Order 1: brokered backorder: 3 units
- Order 2: ship-for-pickup: 5 units
- Order 3: ship-for-pickup: 3 units
- Order 4: brokered backorder: 2 units
- Order 5: brokered backorder 1 unit

The available to promise quantity for the two fulfillment types returned in the response message indicates:

- 4 units available to promise in locations that support delivery orders (brokered backorders).
- 4 units available to promise in locations that support ship-for-pickup orders.

> **Note**
>
> The distinct available to promise quantity (across all eligible locations) is actually 7 rather than 8, because one location has a single unit of the item, and supports both delivery orders and ship-for-pickup orders.

The following orders are released to Order Orchestration:

- Order 1: 3 units
- Order 3: 3 units
- Order 5: 1 unit

The remaining orders remain on backorder:

- Order 2 remains on backorder because there are not enough units available in locations that support ship-for-pickup.
- Order 4 remains on backorder because the full quantity of 2 is not available in any locations that support brokered backorders after allocating 3 units for order 1.

Item warehouse quantity updates: The function then:

- Increases the *Released qty* for the item warehouse by the quantity of active PO order lines being released to Order Orchestration, but not to exceed the *PO Receipts* quantity.
- Sets the item warehouse *On-order quantity* to the *PO On Order* quantity minus the *Released qty*. For example, if a total of 30 units are on purchase orders, and 12 units have been released to the Order Orchestration for fulfillment, the item warehouse *On-order quantity* is set to 18.

Is the item still an active PO item? The following updates take place if the *PO On Order* quantity is now less than or equal to the *PO Receipts* quantity, indicating that all anticipated units on purchase orders have been received. When this occurs, the item is no longer eligible for active PO processing, so that any additional units ordered are eligible to sell out.

Example: If the *PO On Order* quantity is 30, and the *PO Receipts* quantity is 25, the *Active PO* flag remains set to Y, because an additional 5 units can be received and used to fulfill orders. However, if the *PO Receipts* quantity is 30 or higher, the *Active PO* flag changes to N, because no additional receipts are expected.

If the item is no longer an active PO item, the periodic process:

- Sets the *Active PO* flag for the item to N.
- If a soldout control code is assigned to the item, sells out any remaining open lines beyond the *PO On Order* quantity in last-in, first-out order (sell out the newest first). If the entire line cannot be submitted to Order Orchestration, the entire line sells out.

  Example: If the *PO On Order* quantity and the *PO Receipts* quantity are both 30, and there are active PO order lines for a total quantity of 35, the additional 5 units can sell out. Also, if the newest order line is for a quantity of 6, all 6 units on that line sell out, because order lines are not partially sold out.
- If no soldout control code is assigned to the item, the remaining backordered lines are queued for submission to Order Orchestration. If Order Orchestration cannot find a location to fulfill a submitted order line, it closes the order line as unfulfillable.
- Regardless of whether the remaining lines are sold out, sets the *PO On Order* quantity, *PO Receipts* quantity, *Released qty*, and Item Warehouse *On-order quantity* to 0.

Otherwise, if the item is still a an active PO item, the ACTPO function does not update the *Active PO* flag or sell out any units of the item. The item is eligible to be included in the inventory availability request the next time the ACTPO function runs.

Example: If the *PO On Order* quantity is 30, there are 29 units on active PO order lines, and the *PO receipts quantity* is 15, Order Administration can release up to 15 units to Order Orchestration for fulfillment. The remaining 14 units remain as active PO items in Order Administration.

Backorder quantity update notification? If the backorder quantity is not equal to the *PO pre-order quantity sent*, this means that the backorder quantity has changed, and that RMFCS needs to be notified. In this case, the periodic function submits the backorder quantity update notification message to notify RMFCS of any increase or decrease to the active PO backorder quantity. See Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function) for information on the backorder quantity update notification generated through the ACTPO periodic function.

> **Note**
>
> The *PO pre-order quantity sent* is not displayed on any screen; it is just the current backorder quantity at the time the backorder quantity update notification is generated, and is used only to determine the quantity to send the next time the notification is generated.

Setup Requirements for the ACTPO Periodic Function

In addition to the configuration described under Setup Requirements for the OCDSFA Periodic Function, the ACTPO periodic function requires the following:

- *Order Broker URL*: From the OROB_INVENTORY_AVAILABILITY_URL.
- *Order Broker Authentication*: Set up outbound OAuth authentication for OOCS Locate web service. See Setting Up Web Service Authentication for background.

- *SKU Limit for Inventory Availability Request*: From the OROB_INVENTORY_AVAILABILITY_SKU_LIMIT. Defaults to 500, and should not be set higher.
- *Periodic function*: Assign the ACTPO (Program name = PFR0205) to a periodic process.

> **Note**
>
> The inventory availability web service request is supported only in Order Broker 20.2 or higher, or Order Orchestration.

Additional Things to Note about the ACTPO Periodic Function

When to schedule:

- This function should be run after the OCDSFA periodic function, described above under Importing Future Available Information (OCDSFA Periodic Function).
- The BROKER_ORD job needs to be active while you are using the ACTPO function in order for the available to promise quantity returned in the inventory availability response to be accurate. As the BROKER_ORD job submits new orders to Order Orchestration, Order Orchestration updates the available quantities for the assigned locations. If the BROKER_ORD job is not active, there is an increased chance of the available to promise quantities returned in the inventory availability response being overstated.

Reviewing Active PO Status and Quantities

You can use the Display Item/Warehouse Information Screen in Using Inventory Inquiry (DINI) to review the following information:

- *Active PO flag*: Selected if the item is currently a pre-order. The OCDSFA periodic function selects this flag, and the PREORDER or ACTPO periodic function clears it if the *PO receipts quantity* is greater than or equal to the *PO on-order quantity*.
- *PO on order quantity*: The total quantity on purchase orders for an active PO item. From the *RMS on-order quantity* in the Item Warehouse table. The OCDSFA periodic function updates this quantity, and the PREORDER or ACTPO periodic function uses it in its calculations.
- *PO receipts quantity*: The total quantity received on purchase orders for an active purchase order item. From the *RMS receipt quantity* in the Item Warehouse table. The OCDSFA and PREORDER periodic functions update this quantity to 0 when the purchase order is closed, and use this quantity it in their calculations.
- *Released qty*: The total order quantity that has been released to Order Orchestration for fulfillment. The PREORDER or ACTPO periodic function update this field when they release the pre-orders lines to Order Orchestration.
- *PO updated*: The last date when the OCDSFA, PREORDER, or ACTPO periodic function updated the Item Warehouse record.
- *On order*: The total quantity of this item in this warehouse that is due to be received on open purchase orders. Equal to the *PO on order quantity* - the *PO receipts quantity*.

> **Note**
>
> The *PO pre-order quantity sent* is also used for active PO calculations, but this quantity is not displayed on any screen; it is just the current backorder quantity at the time the backorder quantity update notification is generated, and is used only to determine the quantity to send the next time the backorder notification is generated.

Troubleshooting: See Troubleshooting the Enterprise Order Integration for examples of log entries for the backorder quantity update notification.

Future Receipts and Active PO Order Processing Configuration

A summary of required configuration for enterprise future receipts and active PO processing includes:

- System Control Values
- Periodic Functions
- Web Service Authentication
- Properties

System Control Values

Set the following system control values:

- Included in Enterprise Integration Values (M41):
  - OCDS Future Available URL (M49): Used by the OCDSFA periodic function.
  - RICS Outbound Service URL (M50): Used by the PREORDER periodic function.
- Use OROB for Fulfillment Assignment (M31) and Send B/O to OROB (K08) must be selected.
- Order Broker Values (K15) and Order Broker Fulfillment Values must be set.
- Default Warehouse (A04) must be set.
- Default Soldout Control Code (D72) If you are using the PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2), must be set to a soldout control code with a value of 2, indicating to include the on-order quantity when determining whether to sell out an item; otherwise, if you are using the ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration), optional.

Periodic Functions

The periodic functions supporting enterprise order integration are:

- OCDSFA (Program name = PFR0203). See Importing Future Available Information (OCDSFA Periodic Function) for background.
- PREORDER (Program name = PFR0204). See PREORDER Periodic Function for (Order Broker Releases Earlier than 20.2) and Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function) for background.
- ACTPO (Program name = PFR0205). See ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration) and Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function) for background.

Scheduling: You can assign these periodic functions to a periodic process or to separate periodic processes; however, the OCDSFA function needs to run before the PREORDER

function, and both functions need to run after the OCDSITM periodic function, described in Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS).

> **Note**
>
> You should not run both the PREORDER and the ACTPO periodic functions.

See Additional Things to Note about the ACTPO Periodic Function for additional notes on scheduling.

Web Service Authentication

- RICS Service authentication for your company. Required for Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function).
- OCDS Service authentication. Required for Importing Future Available Information (OCDSFA Periodic Function).
- OACS Locate authentication. OAuth is supported. Required for ACTPO Periodic Function for (Order Broker 20.2 or Higher, or Order Orchestration).

For more information: See Working with Web Service Authentication (WWSA) for background.

Properties

Use Working with Admin Properties (CPRP) to set up the following properties related to logging for the Pre-order (backorder quantity update) notification:

The following properties are used for the ACTPO periodic function:

- OROB_INVENTORY_AVAILABILITY_URL
- OROB_INVENTORY_AVAILABILITY_SKU_LIMIT

Troubleshooting the Enterprise Order Integration

Order Orchestration product locations must be updated: If the PREORDER periodic function runs before Order Orchestration receives inventory updates through OCDS, then Order Administration might submit orders to Order Orchestration for fulfillment before Order Orchestration determines that it has the required inventory to fulfill the orders. In this situation, Order Orchestration returns the orders to Order Administration as unfulfillable.

Do not update items received from OCDS: If you use Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS) as well as Enterprise Order Integration (Future Receipts and Active PO/Pre-Order Processing), it is important not to update the items manually. For example, if the item's retail reference number is set to the item code. It is important that you do not change the retail reference number to anything other than the item code, or the integration processes, including Generating the Backorder Quantity Update Notification Message (PREORDER or ACTPO Periodic Function), will fail.

Supported Order Orchestration order type: Although Order Administration supports releasing both brokered backorders and ship-for-pickup orders to Order Orchestration in active PO processing, not all fulfilling systems in Order Orchestration support the ship-for-pickup order type.

If the system does not support ship-for-pickup orders, the *Ship For Pickup Sourcing Available* and *Ship For Pickup Receiving/Pickup Available* flags should both be set to No at the **Preferences** screen in Order Orchestration for all of the system's locations.

Store pickup orders for active PO items: Order Administration does not prevent you from submitting a store pickup order to Order Orchestration for an item currently flagged as an active PO item; however, the active PO functionality does not apply to store pickup orders.

Items must be flagged as OROB eligible: Only items flagged as OROB eligible are submitted to Order Orchestration.

Held orders? If the *Send Held Orders to OROB (M18)* system control value is selected, it is possible that the sequence in which orders are released to Order Orchestration changes if, for example, a held order does not have a valid authorization, so the next eligible order is released instead.

Enterprise Data Import History: The INT_OCDS_STATUS table tracks activity for both the OCDSFA periodic function and the OCDSITM Periodic Function. You can review this activity, including the FUTUREAVAILABLE records created by the OCDSFA periodic function, at the **Enterprise Data Import History** page in Modern View.

The OCDSITM periodic function purges records based on the OCDS_JOB_HISTORY_RETENTION_DAYS property; for example, if this property is set to 25 days, each time the OCDSITM function runs, it purges records older than 25 days.

See Additional Things to Note about the OCDSFA Periodic Function for more troubleshooting information.

OCDSFA activity logging: Various messages are written to the OCDS (Omnichannel Cloud Data Service) Log based on the future data import:

- If the *OCDS Future Available URL (M49)* system control value is blank:

  ```
  ERROR com.mr.interfaces.ocds.DataImportConfig - OCDS Import - Valid REST
  Service Endpoint not configured for SCV: M49.
  ```

- If the *OCDS Future Available URL (M49)* system control value specifies an invalid URL:

  ```
  ERROR com.mr.interfaces.ocds.DataRetriever - Exception response code
  InboundJaxrsResponse{context=ClientResponse{method=GET, uri=https://
  SERVER.com:PORT/ords/ocds/omnichannel/v1/inventory/futurexyz?
  nodelevel=STORE&nodeid=2019&limit=1000, status=404, reason=Not Found}} from
  service call {}
  ```

- Additional log entries: Samples of additional possible log entries for OCDSFA include:

  ```
  16:31:13,108 INFO  com.mr.interfaces.ocds.impl.FutureAvailDataProcessor -
  Performing PreOrder quantity Calculation for SKU 123456

  16:31:13,109 INFO  com.mr.interfaces.ocds.impl.FutureAvailDataProcessor - No
  change - onOrder Qty equals OnReceived Qty and preOrder is N for SKU 123456

  16:31:13,110 ERROR com.mr.interfaces.ocds.impl.FutureAvailDataProcessor - SKU
  123456 does not exists in company 123

  14:55:18,887 INFO  com.mr.interfaces.ocds.impl.FutureAvailDataProcessor -
  Performing sell out process for Order#1234
  ```

Support notification: The system generates a support notification if a submitted periodic function ends in error or goes into message status. See Order Administration Support Notifications for more information.

Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS)

Overview: Use the integration with Omnichannel Cloud Data Service (OCDS) to import information and create or update records, including items, item warehouses and locations, prices, and item images, that have been added to the OCDS database from Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS).

About OCDS: Oracle Omnichannel Cloud Data Service (OCDS) is a data hub, enabling Oracle Retail Merchandising and Pricing applications to share foundation data with Oracle Retail omnichannel applications through the use of RESTful web services.

OCDS contains the following components:

- *BDI Batch Job Admin:* Enables in-bound data flow into OCDS using Oracle Bulk Data Integration (BDI) technology. Job Admin has a User Interface (UI) to support the management of BDI batch Jobs. Handles the initial load into OCDS.
- *RIB Injector:* Enables inbound data flow into OCDS from the Oracle Retail Integration Bus (RIB).
- *ORDS:* Enables outbound data flow from the OCDS database to omnichannel applications, such as Order Administration, Order Orchestration, and Oracle Retail Customer Engagement, and Xstore.

Enterprise order integration: You can use the data imported from OCDS to support enterprise order integration, including the use of purchase order information originating in RMFCS to control when orders can be fulfilled through submission to Order Orchestration. See Enterprise Order Integration (Future Receipts and Active PO/Pre-Order Processing) for more information.

In this topic:

Data Flow from OCDS to Order Administration

If your company is configured for enterprise foundation data integration, processing takes place as follows:

1. When the OCDSITM Periodic Function runs, it uses the system control values listed below to generates a RESTful request for various types of information that is available in OCDS. This information was previously sent to OCDS by enterprise applications, including Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS).

- Merchandise hierarchy: Requested if the OCDS Merchandise Hierarchy URL (M43) is specified. See Merchandise Hierarchy Import and Mapping for details.
- Item information: Requested if the OCDS Item URL (M45) is specified. This information updates the item, SKU, item warehouse, and item location tables. See Item-Related Import and Mapping for details.
- Item image information: Requested if the OCDS Item Image URL (M47) is specified. This information updates the item table. See Item Image Import and Mapping for details.
- Item location attribute information: Requested if the OCDS Item Location Attributes URL (M46) is specified. This information updates the item and SKU tables. See Item Location Attributes Import and Mapping for details.
- Pricing information: Requested if the OCDS Initial Item Price URL (M48) is specified. This information updates the item offer and item price tables. See Item Price Import and Mapping for details.

> **Note**
>
> You need to run the full import before attempting an incremental import. See the OCDSITM Periodic Function for background.

GZIP compression: The generated request message indicates that gzip encoding is accepted, and OCDS sends the data in GZIP compression format.

2. The OCDSITM periodic function uses the data in the response messages from OCDS to create or update records in the target tables, as mentioned above. It creates a record if it does not exist; otherwise, it updates the record. However, some fields are never updated for existing records. See Mapping Information into Order Administration for details.

> **Note**
>
> The periodic function does not delete records. If OCDS passes a delete request, it is ignored.

Logging and import history: See Troubleshooting Information for OCDS for a discussion.

Configuration for OCDS Integration

The configuration required in Order Administration to support importing information through OCDS is described below.

System Control Values

The following system control values must be selected:

- Use Retail Integration (H26)

> **Important**
>
> See Retail Integration (External System into Order Administration) Overview and Setup for background on the additional setup required to support retail item integration. If you do not complete this setup, the import will not be successful.

- Require Long SKU Division with Long SKU Department (E85)

The following system control values must be unselected:

- Require Item Class in Work with Items (F06)
- Require Sort Sequence Number in the SKU File (F23)
- Require Entity in Item File (G44)

Enterprise Integration Values: Use the Enterprise Integration Values (M41) screen to define additional values required for integration with OCDS, including URLs and default values for mapping.

Supporting values: Several of these system control values require additional setup of supporting values. For example, you need to configure warehouse and location records in order to specify the defaults to use for the integration. See each system control value for more information.

When you run the import, each type of data is imported only if the related URL is specified at this screen. For example, merchandise hierarchy information is imported only if the OCDS Merchandise Hierarchy URL (M43) system control value specifies a valid URL. See that screen for more information.

Properties

Use the OCDS_JOB_HISTORY_RETENTION_DAYS property to control the number of days to retain records in Enterprise Data Imports History (the INT_OCDS_STATUS table) before thee OCDSITM periodic function automatically deletes them.

Web Service Authentication

Use the Work with Outbound Web Service Authentication Screen to set up authentication for the OCDS Service.

Since the OCDS Service uses basic authentication, only the initial item price is requested.

OCDSITM Periodic Function

Use Working with Periodic Functions (WPER) to set up the periodic function. When setting up the function:

- Set the *Program name* to PFR0202.
- Set the *Parameter* to:
  - FULL or leave it blank to perform a full load of each type of item-related data.
  - INCREMENTAL to perform a load of new or changed information since the last time you imported data for the company.
  - INCREMENTAL plus a date and time to perform a load of new or changed information since the specified date and time, based on the OCDS server's local date and time. The date format is based on the locale of the user who configures the periodic function. If the user's *Date Format* is set to:

* DDMMYY, format as INCREMENTAL 31/12/2020 23:59
* MMDDYY, format as INCREMENTAL 12/31/2020 23:59
* YYMMDD, format as INCREMENTAL 2020/12/31 23:59

> **Note**
>
> You need to perform a full load for a company before you can perform an incremental load.

- Select the *Company Parameter* flag.

Creation and update only: The periodic function creates new records and updates existing records. It does not delete records.

Periodic Process

Use Working with Periodic Processes (WPPR) to assign the periodic function described above to a periodic process. The *Company* parameter is required to indicate the company where the records should be created or updated.

Additional Considerations for OCDS Integration

Does not support SKUs: Since RMFCS does not support SKU's, all items imported from RMFCS are non-SKU'd items.

Using RMFCS Item Level and Tran Level to determine whether to create or update an item: RMFCS uses a different hierarchy than Order Administration for multi-level items. The RMFCS hierarchy supports:

- A level 1 item: For example, a picture frame that comes in only one finish and size.
- A level 2 item: For example, an item group that includes a novelty tee shirt in sizes small, medium, and large. Level 1 is the tee shirt, while level 2 includes the sizes.
- A level 3 item: For example, an item group that includes a polo shirt in red, blue, and yellow, and sizes small, medium, and large. Level 1 is the polo shirt, level 2 is the sizes, and level 3 is the colors.

The records in the `itemhdr` file that map to items in Order Administration are identifiable by the fact that the ItemLevel passed in the file is the same as the TranLevel. If the ItemLevel and the TranLevel are different, the record is not used to update the item record in Order Administration.

Troubleshooting Information for OCDS

If the OCDS process ends without successfully importing data, possible explanations include:

- You submitted an incremental import without first submitting a full import. See OCDSITM Periodic Function for more information.
- The web service authentication failed. Check that the OCDS Service web service user and password set up through the Work with Outbound Web Service Authentication Screen matches a valid OCDS user.

Enterprise Data Import History: Activity for the OCDSITM periodic function, as well as the OCDSFA periodic function, is also recorded in the INT_OCDS_STATUS table. You can review this data at the **Enterprise Data Import History** page in Modern View. The periodic function writes a record in this table each time:

- The import for a feed type begins. The periodic function attempts each import feed type of the system control value defining the feed's URL is populated. Possible import feed types are:
  - MERCHHEIR: Merchandise hierarchy. See Merchandise Hierarchy Import and Mapping.
  - ITEMSKU: Item and SKU information. See Item-Related Import and Mapping.
  - ITEMIMAGE: Item image information. See Item Image Import and Mapping.
  - ITEMLOCATION: Additional item and SKU information defined in the OCDS ITEM_LOC table. See Item Location Attributes Import and Mapping.
- Item price: Item offer and price information.See Item Price Import and Mapping. The feed requests different price types separately, as follows:
  - ITEMPRICEINI: The initial item price.
  - ITEMPRICEREG: The regular item price.
  - ITEMPRICECLR: The clearance price.

  The OCDSFA periodic function creates FUTUREAVAILABLE records.
- The result of each attempted import feed, including:
  - *Execution time:* The total number of seconds that elapsed while executing the feed.
  - *Total rows count:* The total number of records that met the selection criteria for the import feed.
  - *Updated rows count:* The total number of existing records that were updated through the import feed.

    > **Note**
    >
    > The updated row count might not match the actual number of records changed.

  - *Inserted rows count:* The total number of new records that were created through the import feed.

The OCDSITM periodic function clears all outdated Enterprise Data Import History records based on the number of days specified in the OCDS_JOB_HISTORY_RETENTION_DAYS property.

- When it purges records, it writes an entry in the OCDS (Omnichannel Cloud Data Service) Log: `Purged successfully`.
- When there are no eligible records to purge, it writes a log entry: `No Records Available to Purge`.

Mapping Information into Order Administration

Mapping details are provided below:

- Merchandise Hierarchy Import and Mapping
- Item-Related Import and Mapping
- Item Image Import and Mapping
- Item Location Attributes Import and Mapping
- Item Price Import and Mapping

Merchandise Hierarchy Import and Mapping

About merchandise hierarchy: Merchandise hierarchy information in OCDS originates in RMFCS. If the *OCDS Merchandise Hierarchy URL (M43)* specifies a valid URL, the OCDSITM Periodic Function imports the item hierarchy information. The information that maps to Order Administration through the item hierarchy import is described in the following table.

> **Note**
>
> The import process creates or updates records. It does not delete item hierarchy records that already exist.

RMFCS Hierarchy Level	Order Administration Hierarchy Level	Menu Option
Division	Not imported	N/A
Group	**Long SKU Division**	Creating and Maintaining Long SKU Divisions (WLDV)
Department	**Long SKU Department**	Working with Long SKU Departments (WLSD)
Class	**Retail Class**	Working with Long SKU Departments (WLSD)
Subclass	Not imported as part of item hierarchy.	N/A

> **Note**
>
> The subclass is included in the item import; see Item-Related Import and Mapping.

Mapping: The item hierarchy information is mapped as follows:

Target Field	Attributes	Description	Notes
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	This company code applies to each of the mapped records.

Target Field	Attributes	Description	Notes
Long SKU Division records			See Creating and Maintaining Long SKU Divisions (WLDV). Long SKU division records are created where OCDS passes a `hierarchylevel` of `GROUP` and a `parentlevel` of `DIVISION`.
Long SKU Division	*Numeric, 4 positions.*	From the *NodeID* identifying the group.	If the long SKU division already exists, the description is updated. **Note** Although the long SKU division code is alphanumeric in Order Administration, the division code created through the import is always numeric.
Long SKU Division Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the group.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Long SKU Department records			See Working with Long SKU Departments (WLSD). Long SKU department records are created where OCDS passes a *hierarchylevel* of `DEPARTMENT` and a *parentlevel* of `GROUP`.

Target Field	Attributes	Description	Notes
Long SKU Department	*Numeric, 4 positions.*	From the *NodeID* identifying the department.	If the long SKU department already exists, the description is updated.
Long SKU Department Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the department.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Retail Class			Use Working with Long SKU Departments (WLSD) to review retail classes that are assigned to long SKU departments. Retail class records are created where OCDS passes a *hierarchylevel* of `CLASS` and a *parentlevel* of `DEPARTMENT`.
Retail Class	*Numeric, 4 positions.*	From the *NodeID* identifying the class.	If the retail class already exists, the description is updated.
Retail Class Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the class.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Long SKU Department	*Numeric, 4 positions.*	From the *parentnodeid* identifying the long SKU department.	Identifies the long SKU department to be assigned the retail class.

Item-Related Import and Mapping

About item, SKU, item warehouse, and item location mapping: Item information in OCDS originates in RMFCS, and additional information in Order Administration, such as SKU, item warehouse, and item location records, is built during the import process using predefined defaults. If the *OCDS Item URL (M45)* specifies a valid URL, the OCDSITM Periodic Function imports the item information and creates the related records. The information that maps to Order Administration through the item import is described in the following table.

You need to run a full import of the periodic function before you can run an incremental import.

Additional item and SKU information: The ITEMLOCATION feed imports additional item and SKU information that is defined in the ITEM_LOC table in OCDS. See Item Location Attributes Import and Mapping for more information.

- Item Mapping and Defaults
- SKU Mapping and Defaults

- Item Warehouse Mapping and Defaults
- Item Location Mapping and Defaults

> **Note**
>
> **About unmapped fields:** Any item, SKU, item warehouse, and item location fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. Y/N fields are set to N; otherwise, fields are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

> **Note**
>
> The import process creates or updates records. It does not delete records that already exist.

Target Field		Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	**Note** This company code applies to each of the mapped records. See Item Mapping and Defaults, SKU Mapping and Defaults, Item Warehouse Mapping and Defaults, and Item Location Mapping and Defaults. Not updated after initial record creation in Order Administration.
Item Mapping and Defaults			
Item	*Alphanumeric, 12 positions.*	*Item* passed.	Rather than using the item and SKU fields in the same way as Order Administration, RMFCS uses a hierarchical system to identify the relationships between individual items. An item code in the import table creates or updates an item in Order Administration only if the item's *ItemLevel* and *TranLevel* in RMFCS are the same. See Additional Considerations for OCDS Integration for a discussion. Applies to SKU, item warehouse, and item location records. See SKU Mapping and Defaults, Item Warehouse Mapping and Defaults, and Item Location Mapping and Defaults. Not updated after initial record creation in Order Administration.

Target Field		Value Used	Description/ Comments
Allow SKUs	N/A	Set to N.	Only non-SKU'd items are created. See Additional Considerations for OCDS Integration for a discussion.
Non-Inventory	*Y/N*	Based on *Inventoryind*.	RMFCS uses an *Inventoryind* of Y to identify an inventoried item, while Order Administration uses a Non-Inventory setting of Y to identify a non-inventoried item. As a result, the Non-Inventory flag is set to N when the *Inventoryind* flag passed is set to Y, and vice versa.
Ship Alone	*Alphanumeric, 1 position.*	*ShipAloneInd* passed.	Set to S if the *ShipAloneInd* is set to Y; otherwise, blank.
Description	*Alphanumeric, 120 positions.*	*Description* passed.	Truncated if it exceeds the maximum field length in Order Administration.
Create Date	*Date*	Date when record is first created.	Not updated after initial record creation in Order Administration.
Last Change Date	*Date*	Most recent create or change date in Order Administration.	
Retail Style #	*Alphanumeric, 20 positions.*	*Item* or *ItemParent* passed.	If no *ItemParent* is passed, then set to the Item.
Class (Long SKU Class)	*Numeric, 4 positions.*	*Class* passed.	Not updated after initial record creation in Order Administration. **Valid?** If the import passes a long SKU class code that has not been set up through Working with Long SKU Classes (WLSC), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Department (Long SKU Department)	*Numeric, 4 positions.*	*Dept* passed.	Not updated after initial record creation in Order Administration. **Valid?** If the import passes a long SKU department code that has not been set up through Working with Long SKU Departments (WLSD), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Long SKU Style	*Alphanumeric, 20 positions.*	*ItemParent* passed, of any; otherwise, *Item* passed.	
Whs (Warehouse)	*Numeric, 3 positions.*	From the Default Warehouse (A04); otherwise, set to 0.	Not updated after initial record creation in Order Administration.

Target Field		Value Used	Description/ Comments
UOM (Unit of Measure)	*Alphanumeric, 3 positions.*	Default Item Unit of Measure (B33).	Not updated after initial record creation in Order Administration, except through Item Location Attributes Import and Mapping.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	
Created by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	Not updated after initial record creation in Order Administration.
OROB Eligible	*Y/N*	Y	Not updated after initial record creation in Order Administration.
Retail Subclass	*Alphanumeric, 4 positions.*	*Subclass* passed.	
SKU Mapping and Defaults			A single SKU record is created for each item record with the same company and item code.
Collating Sequence #	*Numeric, 5 positions.*	1	Not updated after initial record creation in Order Administration.
Retail Reference #	*Numeric, 15 positions.*	*Item* passed.	Not updated after initial record creation in Order Administration.
Short SKU	*Numeric, 7 positions.*	Unique number assigned by Order Administration.	Not updated after initial record creation in Order Administration.
Last Change Date	*Date*	Most recent create or change date in Order Administration.	
Create Date	*Date*	Date when record is first created.	Not updated after initial record creation in Order Administration.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.

> **Note**
>
> The retail reference number needs to match the item code, so you should not change it after the SKU record is created.

Target Field		Value Used	Description/ Comments
Location	*Alphanumeric, 7 positions.*	From the OMS Default Primary Location (M51); otherwise, blank.	Not updated after initial record creation in Order Administration.
Soldout Control Code	*Alphanumeric, 2 positions.*	Defaults from the Default Soldout Control Code (D72).	Not updated after initial record creation in Order Administration.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	
Created by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	Not updated after initial record creation in Order Administration.
Item Warehouse Mapping and Defaults			An item warehouse record is created for each item record with the same company, item code, and SKU.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.
Item Location Mapping and Defaults			An item location record is created for each item record with the same company, item code, SKU, and warehouse if the *OMS Default Primary Location (M51)* system control value specifies a value; otherwise, the record is not created. Certain fields, such as the *Type*, default from the *OMS Default Primary Location (M51)*.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.
Location	*Alphanumeric, 7 positions.*	From the *OMS Default Primary Location (M51)*.	Not updated after initial record creation in Order Administration.

Item Image Import and Mapping

Item image import: Item image URL information in OCDS originates in RMFCS. If the OCDS Item Image URL (M47) system control value specifies a valid URL and the item has been imported from OCDS, the OCDSITM Periodic Function imports the links to item images from OCDS and updates the corresponding field in the item table. The import takes place regardless of the setting of the Use External Item Image (L55) system control value.

The import process updates the item's image link only when the response from OCDS indicates that it is flagged as the primary.

- Company: The code identifying the company selected when running the OCDSITM Periodic Function.

- Item: The code identifying an item in the OCDS database. If the item does not exist in the specified company in Order Administration, no update takes place.
- Image link: The image link for the item. See the Item Image/Info Link Screen for more information.

> **Note**
>
> The import process does not delete item image links that already exist.

Item Location Attributes Import and Mapping

Purpose: The item location attributes import through the OCDSITM Periodic Function actually updates certain fields in existing Item and SKU records based on the information in the ITEM_LOC table in OCDS; it does not create or update item location records. These updates take place only if the *OCDS Item Location Attributes URL (M46)* specifies a valid URL. The information in the Item and SKU tables that the function updates in Order Administration is described in the following table:

- Item Fields Updated through the Item Location Attributes Import
- SKU Fields Updated through the Item Location Attributes Import

Identifying the items to update: The OCDSITM Periodic Function uses the *OCDS RMS Location Identifier (M52)* system control value to determine which records to update with item location attributes. Only OCDS ITEM_LOC records with a LOCATION that matches the system control value are used to update the Order Administration item and SKU records.

How are item locations updated? The OCDSITM Periodic Function creates and updates item location records through the Item and SKU import. See Item-Related Import and Mapping, including Item Location Mapping and Defaults, above, for more information.

> **Important**
>
> **About unmapped fields:** Any item, SKU, item warehouse, and item location fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. Y/N fields are set to N; otherwise, fields are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

> **Note**
>
> The import process updates existing item and SKU records. It does not delete records that already exist.

Target Field	Attributes	Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	The company code used to identify the item and SKU records to update.

Target Field	Attributes	Value Used	Description/ Comments
Item	*Alphanumeric, 12 positions.*	*Item* passed	The item code used to identify the item and SKU records to update.
Item Fields Updated through the Item Location Attributes Import			
Item Status	*Alphanumeric, 1 position.*	The *status* passed.	A code that represents an item's status, such as obsolete, discontinued, etc. This information is used for inventory reporting purposes; also, items that are assigned the Item Status for Suppressing Item During Item Selection (L21) at the item level are not listed at the Item Selection screen. **Valid?** If the import passes a status code that has not been set up through Working with Item Status (WIST), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Unit of Measure	*Alphanumeric, 3 positions.*	The *sellinguom* passed.	A standard by which an item/SKU is sold. Typical units of measure include: • EA = each • IN = inches • C12 = case of 12 Also updates the SKU record; see below. **Valid?** If the import passes a unit of measure code that has not been set up through Working with Units of Measure (WUOM), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration	
Last Change Date	*Date*	Most recent create or change date in Order Administration.	

Target Field	Attributes	Value Used	Description/ Comments
SKU Fields Updated through the Item Location Attributes Import			
Restrict	*Y/N*	From the *stopsaleind* passed.	Indicates whether this item can be ordered. • selected = You cannot add this item to an order, and demand is not captured. • unselected = You can add this item to an order, and demand is captured. Any existing orders before the item becomes restricted are processed normally.
Unit of Measure	*Alphanumeric, 3 positions.*	The *sellinguom* passed.	A standard by which an item/SKU is sold. Typical units of measure include: • EA = each • IN = inches • C12 = case of 12 Also updates the item record; see above. **Valid?** If the import passes a unit of measure code that has not been set up through Working with Units of Measure (WUOM), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration	
Last Change Date	*Date*	Most recent create or change date in Order Administration.	

Item Price Import and Mapping

Purpose: The item offer and item price import through the OCDSITM Periodic Function creates or updates item offer and item price records for the Current Offer (A33). These updates take place only if the OCDS Initial Item Price URL (M48) specifies a valid URL. The information in the item offer and item price tables that the function updates in Order Administration is described in the following table:

- Item Offer Field Updated through the Price Import
- Item Price Fields Updated through the Price Import

Identifying the items to update: The OCDSITM Periodic Function uses:

- The OCDS RMS Location Identifier (M52) system control value to determine which items are eligible to have item offer and item price records created or updated. Only OCDS ITEM_LOC records with a LOCATION that matches the system control value are used to update the Order Administration item offer and item price records.
- The retail reference number in Order Administration, which needs to match the *Item* passed from OCDS. Ordinarily, the retail reference number and the item code in Order Administration are the same, as the periodic function sets them both to the same *Item* code.

Default offer: The periodic function creates item offer and item price records using the Current Offer (A33) system control value. This system control value must be set to a valid, current offer in order to create the item offer and item price records correctly.

Important

About unmapped fields: Any item offer or item price fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. They are set to N if a Y/N value; otherwise, they are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

Note

The import process updates existing item offer and item price records. It does not delete records that already exist.

Target Field	Properties	Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	The company code used to identify the item and SKU records to update.

Target Field	Properties	Value Used	Description/ Comments
Item	*Alphanumeric, 12 positions.*	*Item* passed	The item code used to identify the record to update. **Matched based on retail reference number:** The periodic function uses the retail reference number for the item to determine whether the item matches a record received from OCDS. The function sets the retail reference number to the same value as the item code, so ordinarily they are the same. The periodic function creates item offer and item price records only for items that exist in OCDS and have been imported into Order Administration. Also, the item price is updated only if the retail reference number is numeric, because a non-numeric reference number indicates that the item is not sellable.
Item Offer Field Updated through the Price Import			Any additional item offer fields in Order Administration besides the item and offer are not mapped through the OCDSITM Periodic Function. They are set to N if a Y/N value; otherwise, they are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.
Offer	*Alphanumeric, 3 positions.*	From the *Current Offer (A33)*.	**Valid?** If the system control value is not set to a valid offer, the item offer and item price records are not created correctly.
Item Price Fields Updated through the Price Import			In addition to the company, item, and offer, described above, the following Item Price fields are created as follows. If the periodic function retrieves updated price information for an item with a different effective date, a new item price record is created.
Effective Date	*Date*	From the *effective date* passed.	If no effective date is passed, the date is set to January 1 2000. Ordinarily, an effective date is passed only when there was an item price change recorded in OCDS. In that case, there are records in the CLEARANCE and PRICE_CHANGE tables.

Target Field	Properties	Value Used	Description/ Comments
Quantity	*Numeric, 7 positions.*	Set to 1.	
Price	*Numeric, 13 positions with a 2-place decimal.*	From the *price* passed.	If multiple prices are passed with the same effective date, the last price passed is used. If the price passed is not greater than zero, it is ignored. The item price record is not created or updated.

Importing Enterprise Foundation Data through Merchandising Omnichannel Web Services

Overview: Use the integration with *Merchandising Omnichannel Web Services* to import information and create or update records, including items, item warehouses and locations, prices, and item images, that are in Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS).

Enterprise order integration: You can use the data imported to support enterprise order integration, including the use of purchase order information originating in RMFCS to control when orders can be fulfilled through submission to Order Orchestration. See Enterprise Order Integration (Future Receipts and Active PO/Pre-Order Processing) for more information.

Data Flow from Merchandising Cloud Services to Order Administration

If your company is configured for enterprise foundation data integration, processing takes place as follows:

1. When the OCDSITM Periodic Function runs, it uses the system control values listed below to generates a RESTful request for various types of information from Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS).
    - Merchandise hierarchy: Requested if the OCDS Merchandise Hierarchy URL (M43) is specified. See Merchandise Hierarchy Import and Mapping for details.
    - Item information: Requested if the OCDS Item URL (M45) is specified. This information updates the item, SKU, item warehouse, and item location tables. See Item-Related Import and Mapping for details.
    - Item image information: Requested if the OCDS Item Image URL (M47) is specified. This information updates the item table. See Item Image Import and Mapping for details.
    - Item location attribute information: Requested if the OCDS Item Location Attributes URL (M46) is specified. This information updates the item and SKU tables. See Item Location Attributes Import and Mapping for details.
    - Pricing information: Requested if the OCDS Initial Item Price URL (M48) is specified. OCDS Regular Item Price URL (M68) and OCDS Clearance Item Price URL (M69) are used instead if the OCDS Service is set to OAuth. This information updates the item offer and item price tables. See Item Price Import and Mapping for details.

> **Note**
>
> You need to run the full import before attempting an incremental import. See the OCDSITM Periodic Function for background.

2. The OCDSITM periodic function uses the data in the response messages to create or update records in the target tables, as mentioned above. It creates a record if it does not exist; otherwise, it updates the record. However, some fields are never updated for existing records. See Mapping Information into Order Administration for details.

Logging and import history: See Troubleshooting Information for Merchandising Omnichannel Web Services for a discussion.

Configuration for Merchandising Omnichannel Web Services Integration

The configuration required in Order Administration to support importing information through Merchandising Omnichannel Web Services is described below.

System Control Values

The following system control values must be selected:

- Use Retail Integration (H26)

> **Important**
>
> See Retail Integration (External System into Order Administration) Overview and Setup for background on the additional setup required to support retail item integration. If you do not complete this setup, the import will not be successful.

- Require Long SKU Division with Long SKU Department (E85)

The following system control values must be unselected:

- Require Item Class in Work with Items (F06)
- Require Sort Sequence Number in the SKU File (F23)
- Require Entity in Item File (G44)

Enterprise Integration Values: Use the Enterprise Integration Values (M41) screen to define additional values required for integration with Merchandising Omnichannel Web Services, including URLs and default values for mapping.

Supporting values: Several of these system control values require additional setup of supporting values. For example, you need to configure warehouse and location records in order to specify the defaults to use for the integration. See each system control value for more information.

When you run the import, each type of data is imported only if the related URL is specified at this screen. For example, merchandise hierarchy information is imported only if the OCDS Merchandise Hierarchy URL (M43) system control value specifies a valid URL. See that screen for more information.

Properties

Use the OCDS_JOB_HISTORY_RETENTION_DAYS property to control the number of days to retain records in Enterprise Data Imports History (the INT_OCDS_STATUS table) before thee OCDSITM periodic function automatically deletes them.

Web Service Authentication

Use the Work with Outbound Web Service Authentication Screen to set up authentication for the Merchandising Omnichannel Web Services.

Since the Merchandising Omnichannel Web Services are configured to use OAuth for authentication, the OCDSITM periodic function requests not only the initial item price, but also the regular item price and the clearance item price, using the URLs specified in the related system control values at the *Enterprise Integration Values (M41)* screen.

OCDSITM Periodic Function

Use Working with Periodic Functions (WPER) to set up the periodic function. When setting up the function:

- Set the *Program name* to PFR0202.
- Set the *Parameter* to:
  - FULL or leave it blank to perform a full load of each type of item-related data.
  - INCREMENTAL to perform a load of new or changed information since the last time you imported data for the company.
  - INCREMENTAL plus a date and time to perform a load of new or changed information since the specified date and time, based on the Merchandising Omnichannel Web Services server's local date and time. The date format is based on the locale of the user who configures the periodic function. If the user's *Date Format* is set to:
    - DDMMYY, format as INCREMENTAL 31/12/2020 23:59
    - MMDDYY, format as INCREMENTAL 12/31/2020 23:59
    - YYMMDD, format as INCREMENTAL 2020/12/31 23:59

> **Note**
>
> You need to perform a full load for a company before you can perform an incremental load.

- Select the *Company Parameter* flag.

Creation and update only: The periodic function creates new records and updates existing records. It does not delete records.

Periodic Process

Use Working with Periodic Processes (WPPR) to assign the periodic function described above to a periodic process. The *Company* parameter is required to indicate the company where the records should be created or updated.

Additional Considerations for Merchandising Omnichannel Web Services Integration

Does not support SKUs: Since RMFCS does not support SKU's, all items imported from RMFCS are non-SKU'd items.

Using RMFCS Item Level and Tran Level to determine whether to create or update an item: RMFCS uses a different hierarchy than Order Administration for multi-level items. The RMFCS hierarchy supports:

- A level 1 item: For example, a picture frame that comes in only one finish and size.

- A level 2 item: For example, an item group that includes a novelty tee shirt in sizes small, medium, and large. Level 1 is the tee shirt, while level 2 includes the sizes.
- A level 3 item: For example, an item group that includes a polo shirt in red, blue, and yellow, and sizes small, medium, and large. Level 1 is the polo shirt, level 2 is the sizes, and level 3 is the colors.

The records in the `itemhdr` file that map to items in Order Administration are identifiable by the fact that the ItemLevel passed in the file is the same as the TranLevel. If the ItemLevel and the TranLevel are different, the record is not used to update the item record in Order Administration.

Troubleshooting Information for Merchandising Omnichannel Web Services

If the Merchandising Omnichannel Web Services process ends without successfully importing data, possible explanations include:

- You submitted an incremental import without first submitting a full import. See OCDSITM Periodic Function for more information.
- The web service authentication failed. Check that the Merchandising Omnichannel Web Services user and password set up through the Work with Outbound Web Service Authentication Screen matches a valid Merchandising Omnichannel Web Services user.

Enterprise Data Import History: Activity for the OCDSITM periodic function, as well as the OCDSFA periodic function, is also recorded in the INT_OCDS_STATUS table. You can review this data at the **Enterprise Data Import History** page in Modern View. The periodic function writes a record in this table each time:

- The import for a feed type begins. The periodic function attempts each import feed type of the system control value defining the feed's URL is populated. Possible import feed types are:
  - MERCHHEIR: Merchandise hierarchy. See Merchandise Hierarchy Import and Mapping.
  - ITEMSKU: Item and SKU information. See Item-Related Import and Mapping.
  - ITEMIMAGE: Item image information. See Item Image Import and Mapping.
  - ITEMLOCATION: Additional item and SKU information defined in the Merchandising Omnichannel Web Services ITEM_LOC table. See Item Location Attributes Import and Mapping.
- Item price: Item offer and price information. See Item Price Import and Mapping. The feed requests different price types separately, as follows:
  - ITEMPRICEINI: The initial item price.
  - ITEMPRICEREG: The regular item price.
  - ITEMPRICECLR: The clearance price.

  The OCDSFA periodic function creates FUTUREAVAILABLE records.
- The result of each attempted import feed, including:
  - *Execution time:* The total number of seconds that elapsed while executing the feed.
  - *Total rows count:* The total number of records that met the selection criteria for the import feed.
  - *Updated rows count:* The total number of existing records that were updated through the import feed.

> **Note**
>
> The updated row count might not match the actual number of records changed.

- *Inserted rows count:* The total number of new records that were created through the import feed.

The OCDSITM periodic function clears all outdated Enterprise Data Import History records based on the number of days specified in the OCDS_JOB_HISTORY_RETENTION_DAYS property.

- When it purges records, it writes an entry in the OCDS (Omnichannel Cloud Data Service) Log: `Purged successfully`.
- When there are no eligible records to purge, it writes a log entry: `No Records Available to Purge`.

Mapping Information into Order Administration

Mapping details are provided below:

- Merchandise Hierarchy Import and Mapping
- Item-Related Import and Mapping
- Item Image Import and Mapping
- Item Location Attributes Import and Mapping
- Item Price Import and Mapping

Merchandise Hierarchy Import and Mapping

About merchandise hierarchy: If the *OCDS Merchandise Hierarchy URL (M43)* specifies a valid URL, the OCDSITM Periodic Function imports the item hierarchy information. The information that maps to Order Administration through the item hierarchy import is described in the following table.

> **Note**
>
> The import process creates or updates records. It does not delete item hierarchy records that already exist.

RMFCS Hierarchy Level	Order Administration Hierarchy Level	Menu Option
Division	Not imported	N/A
Group	**Long SKU Division**	Creating and Maintaining Long SKU Divisions (WLDV)
Department	**Long SKU Department**	Working with Long SKU Departments (WLSD)
Class	**Retail Class**	Working with Long SKU Departments (WLSD)

RMFCS Hierarchy Level	Order Administration Hierarchy Level	Menu Option
Subclass	Not imported as part of item hierarchy. **Note** The subclass is included in the item import; see Item-Related Import and Mapping.	N/A

Mapping: The item hierarchy information is mapped as follows:

Target Field	Attributes	Description	Notes
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	This company code applies to each of the mapped records.
Long SKU Division records			See Creating and Maintaining Long SKU Divisions (WLDV). Long SKU division records are created where RMFCS passes a `hierarchylevel` of `GROUP` and a `parentlevel` of `DIVISION`.

Target Field	Attributes	Description	Notes
Long SKU Division	*Numeric, 4 positions.*	From the *NodeID* identifying the group.	If the long SKU division already exists, the description is updated. **Note** Although the long SKU division code is alphanumeric in Order Administration, the division code created through the import is always numeric.
Long SKU Division Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the group.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Long SKU Department records			See Working with Long SKU Departments (WLSD). Long SKU department records are created where RMFCS passes a *hierarchylevel* of `DEPARTMENT` and a *parentlevel* of `GROUP`.
Long SKU Department	*Numeric, 4 positions.*	From the *NodeID* identifying the department.	If the long SKU department already exists, the description is updated.

Target Field	Attributes	Description	Notes
Long SKU Department Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the department.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Retail Class			Use Working with Long SKU Departments (WLSD) to review retail classes that are assigned to long SKU departments. Retail class records are created where RMFCS passes a *hierarchylevel* of `CLASS` and a *parentlevel* of `DEPARTMENT`.
Retail Class	*Numeric, 4 positions.*	From the *NodeID* identifying the class.	If the retail class already exists, the description is updated.
Retail Class Description	*Alphanumeric, 30 positions.*	From the *nodename* describing the class.	If no *nodename* is passed, the description is automatically set to `Auto Created 1234` where `1234` is the *NodeId*. If the *nodename* exceeds 30 positions, it is truncated. The *nodename* is converted to all uppercase.
Long SKU Department	*Numeric, 4 positions.*	From the *parentnodeid* identifying the long SKU department.	Identifies the long SKU department to be assigned the retail class.

Item-Related Import and Mapping

About item, SKU, item warehouse, and item location mapping: Item information in Merchandising Omnichannel Web Services originates in RMFCS, and additional information in Order Administration, such as SKU, item warehouse, and item location records, is built during the import process using predefined defaults. If the *OCDS Item URL (M45)* specifies a valid URL, the OCDSITM Periodic Function imports the item information and creates the related records. The information that maps to Order Administration through the item import is described in the following table.

You need to run a full import of the periodic function before you can run an incremental import.

Additional item and SKU information: The ITEMLOCATION feed imports additional item and SKU information that is defined in the ITEM_LOC table in Merchandising Omnichannel Web Services. See Item Location Attributes Import and Mapping for more information.

- Item Mapping and Defaults
- SKU Mapping and Defaults
- Item Warehouse Mapping and Defaults
- Item Location Mapping and Defaults

> **Note**
>
> **About unmapped fields:** Any item, SKU, item warehouse, and item location fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. Y/N fields are set to N; otherwise, fields are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

> **Note**
>
> The import process creates or updates records. It does not delete records that already exist.

Target Field		Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	**Note** This company code applies to each of the mapped records. See Item Mapping and Defaults, SKU Mapping and Defaults, Item Warehouse Mapping and Defaults, and Item Location Mapping and Defaults. Not updated after initial record creation in Order Administration.
Item Mapping and Defaults			
Item	*Alphanumeric, 12 positions.*	*Item* passed.	Rather than using the item and SKU fields in the same way as Order Administration, RMFCS uses a hierarchical system to identify the relationships between individual items. An item code in the import table creates or updates an item in Order Administration only if the item's *ItemLevel* and *TranLevel* in RMFCS are the same. See Additional Considerations for Merchandising Omnichannel Web Services Integration for a discussion. Applies to SKU, item warehouse, and item location records. See SKU Mapping and Defaults, Item Warehouse Mapping and Defaults, and Item Location Mapping and Defaults. Not updated after initial record creation in Order Administration.

Target Field		Value Used	Description/ Comments
Allow SKUs	N/A	Set to N.	Only non-SKU'd items are created. See Additional Considerations for Merchandising Omnichannel Web Services Integration for a discussion.
Non-Inventory	*Y/N*	Based on *Inventoryind*.	RMFCS uses an *Inventoryind* of Y to identify an inventoried item, while Order Administration uses a Non-Inventory setting of Y to identify a non-inventoried item. As a result, the Non-Inventory flag is set to N when the *Inventoryind* flag passed is set to Y, and vice versa.
Ship Alone	*Alphanumeric, 1 position.*	*ShipAloneInd* passed.	Set to S if the *ShipAloneInd* is set to Y; otherwise, blank.
Description	*Alphanumeric, 120 positions.*	*Description* passed.	Truncated if it exceeds the maximum field length in Order Administration.
Create Date	*Date*	Date when record is first created.	Not updated after initial record creation in Order Administration.
Last Change Date	*Date*	Most recent create or change date in Order Administration.	
Retail Style #	*Alphanumeric, 20 positions.*	*Item* or *ItemParent* passed.	If no *ItemParent* is passed, then set to the Item.
Class (Long SKU Class)	*Numeric, 4 positions.*	*Class* passed.	Not updated after initial record creation in Order Administration. **Valid?** If the import passes a long SKU class code that has not been set up through Working with Long SKU Classes (WLSC), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Department (Long SKU Department)	*Numeric, 4 positions.*	*Dept* passed.	Not updated after initial record creation in Order Administration. **Valid?** If the import passes a long SKU department code that has not been set up through Working with Long SKU Departments (WLSD), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Long SKU Style	*Alphanumeric, 20 positions.*	*ItemParent* passed, of any; otherwise, *Item* passed.	
Whs (Warehouse)	*Numeric, 3 positions.*	From the Default Warehouse (A04); otherwise, set to 0.	Not updated after initial record creation in Order Administration.

Target Field		Value Used	Description/ Comments
UOM (Unit of Measure)	*Alphanumeric, 3 positions.*	Default Item Unit of Measure (B33).	Not updated after initial record creation in Order Administration, except through Item Location Attributes Import and Mapping.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	
Created by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	Not updated after initial record creation in Order Administration.
OROB Eligible	*Y/N*	Y	Not updated after initial record creation in Order Administration.
Retail Subclass	*Alphanumeric, 4 positions.*	*Subclass* passed.	
SKU Mapping and Defaults			A single SKU record is created for each item record with the same company and item code.
Collating Sequence #	*Numeric, 5 positions.*	1	Not updated after initial record creation in Order Administration.
Retail Reference #	*Numeric, 15 positions.*	*Item* passed.	Not updated after initial record creation in Order Administration.
Short SKU	*Numeric, 7 positions.*	Unique number assigned by Order Administration.	Not updated after initial record creation in Order Administration.
Last Change Date	*Date*	Most recent create or change date in Order Administration.	
Create Date	*Date*	Date when record is first created.	Not updated after initial record creation in Order Administration.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.

Note

The retail reference number needs to match the item code, so you should not change it after the SKU record is created.

Target Field		Value Used	Description/ Comments
Location	*Alphanumeric, 7 positions.*	From the OMS Default Primary Location (M51); otherwise, blank.	Not updated after initial record creation in Order Administration.
Soldout Control Code	*Alphanumeric, 2 positions.*	Defaults from the Default Soldout Control Code (D72).	Not updated after initial record creation in Order Administration.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	
Created by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration.	Not updated after initial record creation in Order Administration.
Item Warehouse Mapping and Defaults			An item warehouse record is created for each item record with the same company, item code, and SKU.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.
Item Location Mapping and Defaults			An item location record is created for each item record with the same company, item code, SKU, and warehouse if the *OMS Default Primary Location (M51)* system control value specifies a value; otherwise, the record is not created. Certain fields, such as the *Type*, default from the *OMS Default Primary Location (M51)*.
Whs (Warehouse)	*Numeric, 3 positions.*	From the *Default Warehouse (A04)*; otherwise, set to 0.	Not updated after initial record creation in Order Administration.
Location	*Alphanumeric, 7 positions.*	From the *OMS Default Primary Location (M51)*.	Not updated after initial record creation in Order Administration.

Item Image Import and Mapping

Item image import: Item image URL information in Merchandising Omnichannel Web Services originates in RMFCS. If the OCDS Item Image URL (M47) system control value specifies a valid URL and the item has been imported from Merchandising Omnichannel Web Services, the OCDSITM Periodic Function imports the links to item images from Merchandising Omnichannel Web Services and updates the corresponding field in the item table. The import takes place regardless of the setting of the Use External Item Image (L55) system control value.

The import process updates the item's image link only when the response from Merchandising Omnichannel Web Services indicates that it is flagged as the primary.

- Company: The code identifying the company selected when running the OCDSITM Periodic Function.
- Item: The code identifying an item in the Merchandising Omnichannel Web Services database. If the item does not exist in the specified company in Order Administration, no update takes place.
- Image link: The image link for the item. See the Item Image/Info Link Screen for more information.

> **Note**
>
> The import process does not delete item image links that already exist.

Item Location Attributes Import and Mapping

Purpose: Item Location Attributes URL information in Merchandising Omnichannel Web Services originates in RMFCS. The item location attributes import through the OCDSITM Periodic Function actually updates certain fields in existing Item and SKU records based on the information in the ITEM_LOC table in Merchandising Omnichannel Web Services; it does not create or update item location records. These updates take place only if the *OCDS Item Location Attributes URL (M46)* specifies a valid URL. The information in the Item and SKU tables that the function updates in Order Administration is described in the following table:

- Item Fields Updated through the Item Location Attributes Import
- SKU Fields Updated through the Item Location Attributes Import

Identifying the items to update: The OCDSITM Periodic Function uses the *OCDS RMS Location Identifier (M52)* system control value to determine which records to update with item location attributes. Only Merchandising Omnichannel Web Services ITEM_LOC records with a LOCATION that matches the system control value are used to update the Order Administration item and SKU records.

How are item locations updated? The OCDSITM Periodic Function creates and updates item location records through the Item and SKU import. See Item-Related Import and Mapping, including Item Location Mapping and Defaults, above, for more information.

> **Important**
>
> **About unmapped fields:** Any item, SKU, item warehouse, and item location fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. Y/N fields are set to N; otherwise, fields are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

> **Note**
>
> The import process updates existing item and SKU records. It does not delete records that already exist.

Target Field	Attributes	Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	The company code used to identify the item and SKU records to update.
Item	*Alphanumeric, 12 positions.*	*Item* passed	The item code used to identify the item and SKU records to update.
Item Fields Updated through the Item Location Attributes Import			
Item Status	*Alphanumeric, 1 position.*	The *status* passed.	A code that represents an item's status, such as obsolete, discontinued, etc. This information is used for inventory reporting purposes; also, items that are assigned the Item Status for Suppressing Item During Item Selection (L21) at the item level are not listed at the Item Selection screen. **Valid?** If the import passes a status code that has not been set up through Working with Item Status (WIST), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Unit of Measure	*Alphanumeric, 3 positions.*	The *sellinguom* passed.	A standard by which an item/SKU is sold. Typical units of measure include: • EA = each • IN = inches • C12 = case of 12 Also updates the SKU record; see below. **Valid?** If the import passes a unit of measure code that has not been set up through Working with Units of Measure (WUOM), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration	

Target Field	Attributes	Value Used	Description/ Comments
Last Change Date	*Date*	Most recent create or change date in Order Administration.	
SKU Fields Updated through the Item Location Attributes Import			
Restrict	*Y/N*	From the *stopsaleind* passed.	Indicates whether this item can be ordered. • selected = You cannot add this item to an order, and demand is not captured. • unselected = You can add this item to an order, and demand is captured. Any existing orders before the item becomes restricted are processed normally.
Unit of Measure	*Alphanumeric, 3 positions.*	The *sellinguom* passed.	A standard by which an item/SKU is sold. Typical units of measure include: • EA = each • IN = inches • C12 = case of 12 Also updates the item record; see above. **Valid?** If the import passes a unit of measure code that has not been set up through Working with Units of Measure (WUOM), it is still written to the item record; however, the Change Item screen displays an error. See Performing Initial Item Entry (MITM) for background.
Updated by User	*Alphanumeric, 10 positions.*	User ID flagged as the Default User during system configuration	
Last Change Date	*Date*	Most recent create or change date in Order Administration.	

Item Price Import and Mapping

Purpose: Item Price Import and Mapping URL information in Merchandising Omnichannel Web Services originates in RMFCS. The item offer and item price import through the OCDSITM Periodic Function creates or updates item offer and item price records for the Current Offer (A33). These updates take place only if the OCDS Initial Item Price URL (M48) specifies a valid URL. Regular and clearance price updates also take place if the OCDS Regular Item Price URL (M68) and OCDS Clearance Item Price URL (M69) are specified. The

information in the item offer and item price tables that the function updates in Order Administration is described in the following table:

- Item Offer Field Updated through the Price Import
- Item Price Fields Updated through the Price Import

Identifying the items to update: The OCDSITM Periodic Function uses:

- The OCDS RMS Location Identifier (M52) system control value to determine which items are eligible to have item offer and item price records created or updated. Only Merchandising Omnichannel Web Services ITEM_LOC records with a LOCATION that matches the system control value are used to update the Order Administration item offer and item price records.
- The retail reference number in Order Administration, which needs to match the *Item* passed from Merchandising Omnichannel Web Services. Ordinarily, the retail reference number and the item code in Order Administration are the same, as the periodic function sets them both to the same *Item* code.

Default offer: The periodic function creates item offer and item price records using the Current Offer (A33) system control value. This system control value must be set to a valid, current offer in order to create the item offer and item price records correctly.

Important

About unmapped fields: Any item offer or item price fields in Order Administration that are not listed below are not mapped through the OCDSITM Periodic Function. They are set to N if a Y/N value; otherwise, they are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.

Note

The import process updates existing item offer and item price records. It does not delete records that already exist.

Target Field	Properties	Value Used	Description/ Comments
Company	*Numeric, 3 positions.*	The code identifying the company selected when running the OCDSITM Periodic Function.	The company code used to identify the item and SKU records to update.

Target Field	Properties	Value Used	Description/ Comments
Item	*Alphanumeric, 12 positions.*	*Item* passed	The item code used to identify the record to update. **Matched based on retail reference number:** The periodic function uses the retail reference number for the item to determine whether the item matches a record received from Merchandising Omnichannel Web Services. The function sets the retail reference number to the same value as the item code, so ordinarily they are the same. The periodic function creates item offer and item price records only for items that exist in Merchandising Omnichannel Web Services and have been imported into Order Administration. Also, the item price is updated only if the retail reference number is numeric, because a non-numeric reference number indicates that the item is not sellable.
Item Offer Field Updated through the Price Import			Any additional item offer fields in Order Administration besides the item and offer are not mapped through the OCDSITM Periodic Function. They are set to N if a Y/N value; otherwise, they are left blank if alphanumeric, or set to 0 if numeric. Also, these fields are not updated after initial record creation.
Offer	*Alphanumeric, 3 positions.*	From the *Current Offer (A33)*.	**Valid?** If the system control value is not set to a valid offer, the item offer and item price records are not created correctly.
Item Price Fields Updated through the Price Import			In addition to the company, item, and offer, described above, the following Item Price fields are created as follows. If the periodic function retrieves updated price information for an item with a different effective date, a new item price record is created.

Target Field	Properties	Value Used	Description/ Comments
Effective Date	*Date*	From the *effective date* passed.	If no effective date is passed, the date is set to January 1 2000. Ordinarily, an effective date is passed only when there was an item price change recorded in Merchandising Omnichannel Web Services. In that case, there are records in the CLEARANCE and PRICE_CHANGE tables.
Quantity	*Numeric, 7 positions.*	Set to 1.	
Price	*Numeric, 13 positions with a 2-place decimal.*	From the *price* passed.	If multiple prices are passed with the same effective date, the last price passed is used. If the price passed is not greater than zero, it is ignored. The item price record is not created or updated.

Integration with the Sales Audit Module of the Oracle Retail Merchandising Foundation Cloud Service

Overview: Use the integration with Sales Audit module of the Oracle Retail Merchandising Foundation Cloud Service (Sales Audit module) to export information on sales and returns.

Types of information sent for transactions: The following information is included:

- transaction header
- customer
- items
- discounts
- tax
- payment
- tenders
- transaction tail

The file also includes transaction open and close records, and file header and trail records.

Tracking shipments and credits: If you enable the Sales Audit module sales audit integration in Order Administration, the system writes records in the INT_RESALOG table in the database, and updates the table with records as shipments and order credits bill throughout the day.

Packaging the DAT file into a ZIP file: On a daily basis, you use a periodic process to add file header and trailer records to “wrap” the transaction information, and convert the contents of the INT_RESALOG table into a DAT file that is ready for Sales Audit module to retrieve and process. This file is named RTLOG_6_20190721145902950.DAT, where 6 is the company number or the store number, and 20190721145902950 is the date and time stamp. The DAT file is then packaged into a ZIP file of the same name, for example, RTLOG_6_20190721145902950.ZIP.

In this topic:

Data Flow from Order Administration to Sales Audit Module

If your company is configured for Sales Audit module integration, processing takes place as follows:

- Sale or credit invoices are created through the day and are processed by the billing async job in Background Job Control (MBJC).
- Outbound Interface Transaction trigger records with a *File* setting of IHD are created based on the invoices. You can review these trigger records in Working with Outbound Interface Transactions (WOIT).
- The INVOIC_OUT process in Working with Integration Layer Processes (IJCT) works through the IHD trigger records to collect the required information for each invoice, and creates records in the INT_RESALOG database table for transactions in each company that is configured for the Sales Audit module integration.
- When the RTLOG periodic function runs, it:
  - Consolidates multiple records for the same invoice found in the INT_RESALOG table. This can occur if, for example, you ship multiple ship-alone items on a single order and you have the Consolidated Invoice (B49) system control value selected.

    > **Note**
    >
    > In Order Management System 21.0 or higher, or Order Administration, you cannot select the Consolidated Invoice system control value if it is not already selected. If the system control value is currently selected (set to Y) and you deselect it (change it to N or blank), you cannot then change it back to selected. The option to consolidate invoices will be removed at a later date.

  - Uses the records in the INT_RESALOG table to create a DAT file that contains the transaction data from the temporary file for the company specified for the function, as well as the header, close store, and footer records. The DAT file name is `RTLOG_1234_20190621140400561.DAT`, where:
    - `1234` is the *Parameter* specified for the periodic function. This needs to be the store number assigned by the Sales Audit module. If no store number is specified as the parameter, the company number is used.
    - `20190621140400561` is the date and time.
  - Creates a compressed ZIP file containing the DAT file, using the same naming convention as described above the for DAT file and places the ZIP file in the CWDIRECTCP_FTP_FOLDER.

Transmitting the RTLOG File to Object Storage

Use the following process to transmit the RTLOG file to object storage.

> **Note**
>
> Object storage is supported in Sales Audit module version 21.0 and later.

Run the RTLOG periodic function, as described above, to create the RTLOG file and place it in the CWDIRECTCP_FTP_FOLDER.

Run the SNDRTLG periodic function. If there is an RTLOG file in the CWDIRECTCP_FTP_FOLDER, and if the Sales Audit File Service URL (M64) and Sales Audit Import Folder Path (M65) are populated, this function:

- Sends a POST request message for each RTLOG file to the Sales Audit module, using the authentication set up for the Sales Audit File Service through the Work with Outbound Web Service Authentication Screen.
- If the Sales Audit module returns a response indicating that the pre-authentication request (PAR) was successful, the periodic function processes a PUT to the URL that was returned in the Sales Audit module response.
- After processing the PUT, the periodic function:
  - Removes the RTLOG file from the CWDIRECTCP_FTP_FOLDER.
  - Saves a copy of the RTLOG zip file in the OMS-SALES-AUDIT container of the FILE_STORAGE table. This copy is available in case there was an issue with the Sales Audit module receiving the file, so it will be available to be resent, if necessary, through the RCVRTLG periodic function, described below.
- If no pre-authentication response is received, the Order Administration Support Notification is generated. Possible reasons for an unsuccessful process include an invalid setting for any of the Additional System Control Values Related to Transmitting to Object Storage.

Resending the RTLOG file: If the pre-authentication response was received during SNDRTLG processing, but the Sales Audit module did not actually receive the RTLOG file, you can use the RCVRTLG periodic function to resend the file.

For example, Sales Audit module staff indicate the date and time when the RTLOG file was expected but not received. In this case:

- Use the `getFiles` file storage request to obtain a list of files in the OMS-SALES-AUDIT container of the FILE_STORAGE table. See File Storage API for information on the file storage API and the FILE_STORAGE table.
- Based on the date and time when the missing RTLOG file was generated, obtain the exact file name to send.
- Enter the exact RTLOG file name as the *Parameter* for the RCVRTLG periodic function, and run the function.

> **Note**
>
> The records in the OMS-SALES-AUDIT container of the FILE_STORAGE table are not purged automatically. You can use the `deleteFile` file storage request to delete these records.

Configuration for the Sales Audit Module Integration

Configuration within Order Administration

The configuration required in Order Administration to support the integration with Sales Audit module includes the following.

System Control Values

Set the following system control values:

- ReSA RTLOG Format (M39): Must be set to RTLOG or RTLOGQ.
- Consolidated Invoice (B49): Needs to be unselected. Otherwise, if this system control value is selected, it is possible to generate multiple transaction heads with the transaction numbers, as individual lines on the order are billed. The items that bill first could then accumulate and repeat on each subsequent transaction: for example, if 3 items ship separately, invoice 1 contains item 1; invoice 2 contains items 1 and 2; invoice 3 contains invoice 1, 2, and 3.

  > **Note**
  >
  > In Order Management System 21.0 or higher, or Order Administration, you cannot select the Consolidated Invoice system control value if it is not already selected. If the system control value is currently selected (set to Y) and you deselect it (change it to N or blank), you cannot then change it back to selected. The option to consolidate invoices will be removed at a later date.

- Create Generic Invoice Download Trigger Records (I17): Must be selected in order to create the IHD trigger records for processing.
- Use Async Start Date for Billing Transactions (E95): Oracle recommends leaving this system control value unselected.
- Item for Non-Merchandise Amounts (L39): Used as the non-merchandise item (NMITEM) in the DAT file for Sales Audit module.
- ReSA Warehouse for Non-Inventory Returns (M56): Used as the return warehouse for a credit invoice for a return that does not affect inventory. Must map to a Physical Warehouse defined in the Sales Audit module.
- Default Warehouse (A04): Used as the return warehouse for a credit invoice for a return that does not affect inventory, if no ReSA Warehouse for Non-Inventory Returns (M56) is specified.

Additional System Control Values Related to Transmitting to Object Storage

Set the following additional required system control values for Transmitting the RTLOG File to Object Storage:

- Sales Audit File Service URL (M64): Defines the endpoint for the SNDRTLG periodic function to use when submitting the RTLOG file to object storage. Order Administration supports multiple File Transfer methods with ReSA. The endpoint configured in this system control value determines which method is used.
  - If '/RmsReSTServices/' is in the URL, the RMFCS exposed FTS Service URL is used.
  - If '/RmsPlatformServices/' is in the URL, the Platform FTS Service URL is used.

  Note: Retail Merchandising Foundation Cloud Service announced the deprecation of the RMFCS exposed FTS Service URL in version 23.0.101.0. If using this URL, it is recommended that you move to the Platform FTS Service URL.

- Sales Audit Import Folder Path (M65): Defines the folder where RTLOG files should be placed when you are using object storage.
- IDCS Enterprise Endpoint Scope (M66): Defines the limits that control where the OAuth token can be used to support posting to object storage.
- IDCS Enterprise Endpoint URL (M67): Defines the endpoint to use for OAuth authentication to support posting to object storage.

Property

The process uses the CWDIRECTCP_FTP_FOLDER, displayed in Working with Admin Properties (CPRP), for the RTLOG function to place the ZIP file for the Sales Audit module.

Periodic Functions and Processes

Use Working with Periodic Functions (WPER) to set up:

- The RTLOG periodic function. If the function needs to run in more than one company, mapping to more than one store in the Sales Audit module, you can name the function RTLOGN, where N is a unique number. When setting up the function:
  - Set the *Program name* to PFR0201
  - Set the *Parameter* to the store number assigned by the Sales Audit module, but if not passed, uses company number
- The SNDRTLG periodic function for Transmitting the RTLOG File to Object Storage. When setting up the function:
  - Set the *Program name* to PFR0206
  - Set the *Parameter* to the store number assigned by the Sales Audit module, but if not passed, uses company number
- The RCVRTLG periodic function for Transmitting the RTLOG File to Object Storage. When setting up the function:
  - Set the *Program name* to PFR0208
  - Set the *Parameter* to the name of the RTLOG file that you are resubmitting to object storage, but if not passed, uses company number. See Transmitting the RTLOG File to Object Storage for more information

Use Working with Periodic Processes (WPPR) to assign each periodic function to a periodic process. The RTLOG and SNDRTLG processes should run at the end of day, because records accumulate in a temporary file until the function runs.

Authentication

In order to use the process described under Transmitting the RTLOG File to Object Storage, you need to use the Work with Web Service Authentication screen (WWSA) to set up authentication for the Sales Audit File Service, using an authentication type of OAuth. See the Work with Outbound Web Service Authentication Screen for background.

Miscellaneous Setup

Do not set Trigger Rules or XML Inclusion rules for the INVOIC_OUT job in Working with Integration Layer Processes (IJCT).

Mapping Configuration between Order Administration and the Sales Audit Module

In addition to the Configuration within Order Administration, described above, you need to map the following information from the Sales Audit module:

- **Store number:** Specify as the *Parameter* for the RTLOG periodic function. This store number is used as part of the DAT file name, as described above, and also populates the *Location Number* in the FHEAD record. If no *Parameter* is specified for the periodic function, the company number is used.
- **Return Reason Codes:** The return reason codes used must map to SARR codes defined in the Sales Audit module.
- **Return Warehouse Codes:** Any warehouse codes that might be passed as return warehouses must map to Physical Warehouses defined in the Sales Audit module.
- **Pay Types:** Each pay type sent must map to a Pay Type in the Sales Audit module.
- **Items:** The *Reference* # for the item must map to an item in the Sales Audit module. Items are ordinarily imported from Oracle Retail Merchandising Foundation Cloud Service (RMFCS) into the Sales Audit module and Order Administration, and the *Reference* # is set to the same value as the item code. The *Reference* # should not be changed.

Considerations for the Sales Audit module Integration

Cross-channel orders are not excluded from the RTLOG file for the Sales Audit module, and as a result can be submitted by multiple systems that integrate with the Sales Audit module.

Example: Xstore submits an order to Order Orchestration, and the order is fulfilled through assignment to Order Administration; in this case, both Xstore and Order Administration submit the order to the Sales Audit module. Similarly, if the Use OROB for Fulfillment Assignment (M31) system control value is selected, Order Administration sends invoices for both the originating order and fulfilling order, or there could be multiple transactions sent for same order if a line splits in Order Orchestration.

The Cross Channel Orders to Exclude in Sales Feed (L35) does not affect the selection of orders to include in the export file.

If the Consolidated Invoice (B49) system control value is selected, the RTLOG periodic function consolidates the records for an invoice into a single record in the RTLOG file.

> **Important**
>
> In Order Management System 21.0 or higher, or Order Administration, you cannot select the Consolidated Invoice system control value if it is not already selected. If the system control value is currently selected (set to Y) and you deselect it (change it to N or blank), you cannot then change it back to selected. The option to consolidate invoices will be removed at a later date.

Additional Things to Note

It is not necessary to create queues for the INVOIC_OUT job in Working with Integration Layer Processes (IJCT) if the trigger records are required only for the Sales Audit module integration. In this case, you should set the ReSA RTLOG Format (M39) to RTLOG, and no invoice out message is generated or logged. If you set the ReSA RTLOG Format (M39) to RTLOGQ rather than RTLOG, errors will be logged if no queues have been created.

The invoice amount passed in the RTLOG file may not be the same as the paid amount in the case of an underpayment, overpayment, or canceled return.

Invoice to RTLog Mapping

The file type record descriptors for each record type included in the RTLog file, and a brief summary of their contents:

- FHEAD: The header for the file, indicating basic information such as the originating system, the store number, and the file creation date and time. Added through the RTLOG periodic function. One header per file.
- THEAD (SALE or RETURN transaction): This *File Type Descriptor* contains the header for each transaction, indicating the date and time generated, the invoice (transaction) number, and whether the transaction was a shipment (SALE) or refund (RETURN).
- The first THEAD record in the file is the THEAD (OPEN transaction) following the initial FHEAD, and the last THEAD record is the THEAD (CLOSE transaction) at the end of the transactions. Unlike the OPEN transaction, the CLOSE transaction is created through the RTLOG periodic function.
- TCUST: Information about the customer, including customer number and name and address.
- TITEM: Information about each item sold or returned, including item number, quantity, and pricing, as well as the order number and invoice number.
- IDISC: Discount line information for sales transactions.
- IGTAX: Item-level tax amounts.
- TTAX: Tax amounts.
- TPYMT: Payment amounts for sales, exclusive of tax.
- TTEND: Tender information for each transaction.
- TTAIL: Indicates the total number of lines in the transaction.
- FTAIL: The total number of lines in the file. The last entry in the file. Added through the RTLOG periodic function.

The following table describes the fields that are mapped into the RTLog file, or that are hard-coded.

> **Note**
>
> Fields that are left blank are not included in the following table.

Field	Data Type and Length	Value Passed	Description/ Comments
FHEAD			This *File Type Descriptor* identifies a single record at the beginning of the file. Created by the RTLog periodic function, and not found in the temporary file.
File Line Identifier	Number (10)	0000000001	Identifies the line number in the file. Zero-padded. Set to 0000000001 for the FHEAD.
File Type Definition	Character (4)	RTLG	Hard-coded.
File Create Date	Character (14)	System date and time	The date and time when the file was created. Example: 20190621140400, where 2019 is the year, 06 is the month, 21 is the date, and 140400 is the time.
Business Date	Character (8)	System date	The date when the file was created. Example: 20190621, where 2019 is the year, 06 is the month, and 21 is the date.

Field	Data Type and Length	Value Passed	Description/ Comments
Location Number	Character (10)	Location ID	The location ID assigned in the Sales Audit module. From the Parameter defined for the RTLOG periodic function. If no Parameter was defined, this is the company number.
RTLOG Originating System	Character (3)	OMS	Hard-coded.
THEAD (OPEN transaction)			The first record in the file with a *File Type Descriptor* of THEAD is an OPEN transaction, and follows the initial FHEAD record in the DAT file created by the RTLOG periodic function.
File Line Identifier	Number (10)	Next sequential number in the file.	Identifies the line number in the file. Ordinarily set to 0000000002, since this line follows the FHEAD record. Zero-padded.
Register	Character (5)	01	Hard-coded.
Transaction Date	Character (14)	System date and time	The date and time when the record was created. Example: 20190621140400, where 2019 is the year, 06 is the month, 21 is the date, and 140400 is the time.
Transaction Number	Number (10)	Next transaction number in the file.	Zero-padded. Ordinarily set to 0000000002 for the OPEN transaction type.
Transaction Type	Character (6)	OPEN	Hard-coded.
Sub-transaction Type	Character (6)	OSTORE	Hard-coded.
THEAD (SALE or RETURN transaction)			Records with this *File Type Descriptor* contains the header for each transaction, indicating the date and time generated, the invoice (transaction) number, and whether the transaction was a shipment (SALE) or refund (RETURN). The first THEAD record in the file is an OPEN transaction following the initial FHEAD, and the last THEAD record is a CLOSE transaction at the end of the transactions.
File Line Identifier	Number (10)	Next sequential number	Identifies the line number in the file. Zero-padded.
Register	Character (5)	01	Hard-coded.
Transaction Date	Character (14)	System date and time	The date and time when the INVOIC_OUT job processed the transaction record. Example: 20190621140400, where 2019 is the year, 06 is the month, 21 is the date, and 140400 is the time.
Transaction Number	Number (10)	Invoice number	The unique number identifying the invoice in Order Administration.

Field	Data Type and Length	Value Passed	Description/ Comments
Cashier	Character (10)	Salesman number	The unique number identifying the salesman, if any, associated with the order.
Salesperson	Character (10)	Salesman number	The unique number identifying the salesman, if any, associated with the order.
Transaction Type	Character (6)	SALE or RETURN	Set to SALE if the merchandise was shipped; otherwise, set to RETURN if the merchandise was returned, or if a negative additional charge was applied and express-billed. **NOTE:** Typically, if the merchandise was shipped, the invoice type is I, but it is possible that negative additional charges, applied through the non-inventory item, could exceed the value of the shipped items. Similarly, if the merchandise is returned, the invoice type is C, but it is possible that positive additional charges could exceed the value of the returned items.
Value Sign	Character (1)	P	Set to P for both sales and credit invoices.
Rounded Amount Sign	Character (1)	P	Set to P for both sales and credit invoices.
Rounded Off Sign	Character (1)	P	Set to P for both sales and credit invoices.
Transaction Processing System	Character (3)	POS or OMS	Passes POS: • For a debit invoice, the delivery type for the Order Ship To is P (store pickup) or R (retail pickup), or • For a debit invoice, the delivery type is S (ship-for-pickup) and the Payment at POS for Ship for Pickup Orders (L60) SCV is set to Y, or • For a credit invoice, the return disposition value matches the Return Disposition Code to Exclude in ORCE Sales Feed (M22), and *Suppress Refund* = Y. Otherwise, passes OMS.
TCUST			Records with this *File Type Descriptor* contains information about the sold-to customer, including customer number and name and address. TCUST records follow THEAD records with *File Type Descriptors* of SALE or RETURN. The information in this record type is primarily from the Sold To Customer record.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Customer ID	Character (16)	Sold-to customer number.	The sold-to customer on the order.
Customer Type ID	Character (6)	CUSTID	Hard-coded.

Field	Data Type and Length	Value Passed	Description/ Comments
Customer Name	Character (120)	Customer first name, last name, and company.	Values are concatenated, with spaces between each.
Address 1	Character (240)	First address line	All address and phone number information is for the sold-to customer.
Address 2	Character (240)	Second address line	Blank if no second address line exists. Apartment number is not passed.
City	Character (120)	City	
State	Character (12)	State or province code	If blank, spaces are passed.
Zip Code	Character (30)	Zip or postal code	If blank, spaces are passed.
Country	Character (3)	Country code	Two positions.
Home Phone	Character (20)	Day phone	
Work Phone	Character (20)	Evening phone	
E-mail	Character (100)	Email address	The sold-to customer's primary email address.
TITEM			Records with this *File Type Descriptor* contains information about each item sold or returned, including item number, quantity, and pricing, as well as the order number and invoice number. The information for this record type is primarily from the Invoice Detail table.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Item Status	Character (6)	ORD or C	Set to ORD if the invoice is for a shipment; otherwise, set to R if the invoice is for a return, or for a negative additional charge that was express-billed.
Item Type	Character (6)	ITEM or NMITEM	Set to NMITEM for the Item for Non-Merchandise Amounts (L39); otherwise, set to ITEM.
Item Number Type	Character (6)	ITEM	Hard-coded.
Item	Character (25)	Item code	The item's *Reference #* (retail reference number) from the SKU table. The *Reference #* is automatically populated with the item number through Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS). If for any reason the *Reference #* is blank, the base item code is passed instead. The item code passed does not include a SKU. SKUs are not supported in the Sales Audit module. **NOTE**: Each item must map to an item in the Sales Audit module.

Field	Data Type and Length	Value Passed	Description/ Comments
Non-Merchandise Item	Character (25)	Non-merchandise item code	From the Item for Non-Merchandise Amounts (L39) system control value. This must be a valid item code in the Sales Audit module.
Quantity Sign	Character (1)	P or N	Typically set to P for a sale invoice; otherwise, set to N for a credit invoice. However, if this is the NMITEM, the Quantity Sign indicates the effect of the charge, for example: • If a negative additional charge applies to a sale invoice, the Quantity Sign is set to N. • If a positive additional charge applies to a credit invoice, the Quantity Sign is set to P.
Quantity	Number (12)	Shipped or returned unit quantity	Zero-padded with a 4-position implied decimal; for example, a quantity of 2 is passed as 000000020000. Absolute value. Quantity of 1 is passed for the *Item for Non-Merchandise Amounts*.
Selling Unit of Measure	Character (4)	EA	Hard-coded.
Unit Retail	Number (20)	Pre-discount price	Zero-padded with a 4-position implied decimal; for example, a price of 1.50 is passed as 00000000000000015000. Absolute value. If the selling price is less than the offer price on a sales transaction, an IDISC record provides details on the discount. **NOTE** Ordinarily the same as the Original Unit Retail, except for the following scenarios. • When the selling price exceeds the offer price, this is the selling price. • When this is a return, this is the actual price credited. • When the record is for the *Item for Non-Merchandise Amounts*, then this field is the net total of the additional charge amount, freight amount, and the handling charge amount.
Override Reason	Character (6)	OMS	Hard-coded.
Original Unit Retail	Number (20)	Offer price from the Order Detail record	The original offer price. Set to 0.00 if no offer price is defined. See Overriding the Item/SKU Offer Price for a discussion of how the offer price for an Order Detail record is determined when offers are not set up, and a price override reason code is used to set the price for the order line. If the selling price is lower than the original offer price, the *Unit Discount Amount* specified in the IDISC record indicates the unit amount of the discount.

Field	Data Type and Length	Value Passed	Description/ Comments
Taxable Indicator	Character (1)	Y or N	Set to Y, unless: • The item is tax exempt; see Working with Item Tax Exemptions (WITX), or • This is the *Item for Non-Merchandise Amounts*.
Item_swiped_ind	Character (1)	N	Hard-coded.
Return Reason Code	Character (6)	Return reason code	The return reason code used for a return of an order line. See Establishing Return Reason Codes (WRTR) for background. **NOTE** The return reason codes used MUST map to SARR codes defined in the Sales Audit module
Salesperson	Character (10)	Salesman number	The unique number identifying the salesman, if any, associated with the order.
Drop Ship Ind	Character (1)	Y or N	Set to Y for a drop ship item on a sale transaction; otherwise, set to N. Set to N for a return.
Uom_qty	Number (12)	Shipped quantity	The shipped quantity on the invoice detail. Zero-padded with a 4-position implied decimal; for example, a quantity of 2 is passed as 000000020000. Absolute value. Quantity of 1 passed for the *Item for Non-Merchandise Amounts*.
Catchweight_ind	Character (1)	N	Hard-coded.
Total_igtax_amount	Number (21)	Invoice detail tax amount	The total tax for the invoice detail line.
Selling item	Character (25)	Item code	The base item code. Does not include a SKU. SKUs are not supported in the Sales Audit module.
Customer Order Number	Character (48)	Order number	The Order Administration order number. Does not include the ship-to suffix.
Customer Order Date	Character (14)	Order date	The order date from the Order Header. YYYYMMDD format.
Fulfillment Order Number	Character (48)	Invoice number	Included only for sales transactions. Not included for returns.
No Inventory Return	Character (1)	Y or N	Used only for credit invoice records. Set to Y when inventory was not updated for the transaction creating the invoice detail record (there is no Item Transaction History record, as indicated in Display Inventory Transaction History (DITH)). For example, this flag is selected when a negative additional charge express bills against a closed order. Otherwise, set to N if inventory was updated, or if this is a non-merchandise item (NMITEM).
Sales Type	Character (1)	E	Hard-coded.

Field	Data Type and Length	Value Passed	Description/ Comments
Return Warehouse	Character (10)	Warehouse code	Used only for return records that are not for the non-merchandise item (NMITEM): • If inventory updated: If *No Inventory Return* is set to N and this is a return that affected inventory (that is, not for the NMITEM), the Return Warehouse is the warehouse code from the inventory transaction history record. • If inventory not updated: If *No Inventory Return* is set to Y and this is not for the NMITEM, this is the warehouse defined in the: – ReSA Warehouse for Non-Inventory Returns (M56) system control value. If this system control value is blank, – Default Warehouse (A04) system control value. Otherwise, – Hard-coded to 1. **Note** Any warehouse codes that might be passed MUST map to Physical Warehouse defined in the Sales Audit module.
Return Disposition	Character (10)	COR	Sent only when *No Inventory Return* is set to N, or the record is for the NMITEM.
Location Type	Character (2)	Location type identifier	• ST for a store pickup, retail pickup, or ship-for-pickup order. • WH for a delivery order. • Blank for any other order type. Not passed for returns.
Location Number	Character (10)	Code identifying fulfilling or pickup location	• The pickup location code from the Order Orchestration record for a store pickup, retail pickup, or ship-for-pickup order. • The fulfilling location code from the Order Orchestration record, for a brokered backorder, if specified. • Otherwise, the OCDS RMS Location Identifier (M52). Not passed for returns.

Field	Data Type and Length	Value Passed	Description/ Comments
IDISC			Records with this *File Type Descriptor* contain discount line information for sales transactions when the selling price is lower than the offer price. These records are not created for returns. Also, if the offer price is lower than the selling price, such as when the offer price is zero, no discount record is created. This record follows the TITEM record for the discounted item. The information for this record type is primarily from the Invoice Detail table.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
RMFCS Promotion Number	Character (6)	2000	Hard-coded.
Discount Type	Character (6)	ITEM	Hard-coded.
Quantity Sign	Character (1)	P	Hard-coded. A quantity sign of N is not used, since only sales transactions create these records.
Quantity	Number (12)	Shipped quantity	The shipped quantity on the invoice detail. Zero-padded with a 4-position implied decimal; for example, a quantity of 2 is passed as 000000020000.
Unit Discount Amount	Number (20)	Discount amount divided by shipped quantity	The discount amount shipped quantity on the invoice detail. Zero-padded with a 4-position implied decimal; for example, a unit discount amount of 2.5 is passed as 000000025000.
Uom_qty	Number (12)	Shipped quantity	The shipped quantity on the invoice detail. Zero-padded with a 4-position implied decimal; for example, a quantity of 2 is passed as 000000020000.
Catchweight_ind	Character (1)	N	Hard-coded.
IGTAX			Records with this *File Type Descriptor* contain item-level tax amounts. This record type follows the IDISC, if any; otherwise, follows the TITEM. **NOTE** VAT amounts are not passed in this record type, since they are included in item prices.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Tax Authority	Character (10)	TOTALTAX	Hard-coded.
Igtax Code	Character (6)	TOTAX	Hard-coded.
Igtax Amount Sign	Character (1)	P or N	Set to P for a sale invoice; otherwise, set to N for a credit invoice.

Field	Data Type and Length	Value Passed	Description/ Comments
Igtax Amount	Number (21)	Tax amount	The total tax amount for the invoice detail line, including any GST or PST as well as tax on any special handling or gift wrap for the item. For the NMITEM, includes the total order-level freight tax from the Invoice Payment Method record for all payment methods. Zero-padded with a 5-position implied decimal; for example, a tax amount of 2.38 is passed as 000000000000000238000. Absolute value.
TTAX			Records with this *File Type Descriptor* contain tax amounts. **NOTE** VAT amounts are not passed in this record type, since they are included in item prices.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Tax Code	Character (6)	TOTAX	Hard-coded.
Tax Sign	Character (1)	P or N	Set to P for a sale invoice; otherwise, set to N for a credit invoice.
Tax Amount	Number (20)	Tax amount	The total tax amount for the invoice, including any GST or PST. Zero-padded with a 4-position implied decimal; for example, a tax amount of 2.38 is passed as 00000000000000023800. Absolute value.
TPYMT			Records with this *File Type Descriptor* contain payment amounts for sales, exclusive of tax, although VAT is not subtracted if the order is subject to VAT. These records are not created for return or credit transactions.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Payment Sign	Character (1)	P	Hard-coded. A payment sign of N is not used, since only sales transactions create these records.
Payment Amount	Number (20)	Deposit amount minus tax	The deposit amount for the invoice payment method, exclusive of tax. Zero-padded with a 4-position implied decimal; for example, a payment amount of 37.60 is passed as 00000000000000376000.
TTEND			Records with this *File Type Descriptor* contain tender information for each transaction.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.

Field	Data Type and Length	Value Passed	Description/ Comments
Tender Type Group	Character (6)	CHECK, CCARD, or VOUCH	Set to: • CHECK if the payment method is a check pay category. • CCARD if the payment method is a credit card. • VOUCH if the payment method is a stored value card when the *Send Payment Card Data in ReSA RTLOG (M74)* system control value is selected.
Tender Type ID	Number (6)	Pay type code	The pay type code, as set up in Work with Pay Types (WPAY). **NOTE** Each pay type must map to a Pay Type in the Sales Audit module.
Tender Sign	Character (1)	P or N	Set to P for a sale invoice; otherwise, set to N for a credit invoice.
Tender Amount	Number (20)	Deposit amount	The deposit amount for the invoice payment method, including tax. Zero-padded with a 4-position implied decimal; for example, a payment amount of 39.98 is passed as 00000000000000399800.
CC_no	Character (40)	Last 4 positions of the credit card number	The last 4 positions of the credit card or stored value card. From the Order Payment Method table. Included only if the Send Payment Card Data in ReSA RTLOG (M74) system control value is selected, and only if numeric; otherwise, blank.
cc_token	Character (40)	Character (40)	The tokenized credit card number, if any, from the Invoice Payment Method table. A stored value card or gift card number is not passed in this field. Included only if the order payment method is a credit card and is tokenized, and if the Send Payment Card Data in ReSA RTLOG (M74) system control value is selected; otherwise, blank.
Voucher_no	Character (25)	Gift card number or stored value card number	The stored value card number from the Invoice Payment Method table. Included only for a gift card or stored value card, and if the Send Payment Card Data in ReSA RTLOG (M74) system control value is selected; otherwise, blank.
TTAIL			A *Type Record Descriptor* for the transaction trailer record following each transaction, including an OPEN or CLOSE transaction.
File Line Identifier	Number (10)	Line number	Identifies the line number in the file. Zero-padded.
Transaction Record Counter	Number (10)	Number of records in the transaction	Set to 0000000000 for an OPEN or CLOSE transaction. Zero-padded.

Field	Data Type and Length	Value Passed	Description/ Comments
THEAD (CLOSE transaction)			The last record in the file with a *File Type Descriptor* of THEAD is a CLOSE transaction. This record is followed by the TTAIL and FTAIL records. Created by the RTLog periodic function, and not found in the temporary file. The CLOSE THEAD record is followed by a TTAIL record, and then the FTAIL record.
File Line Identifier	Number (10)	Next sequential number in the file.	Identifies the line number in the file. Zero-padded.
Register	Character (5)	01	Hard-coded.
Transaction Date	Character (14)	Date and time	The date and time when the RTLOG function created the DAT file.
Transaction Number	Number (10)	Next transaction number in the file.	Identifies the transaction number in the file. Zero-padded.
Transaction Type	Character (6)	DCLOSE	Hard-coded.
Sub-transaction Type	Character (6)	DSTORE	Hard-coded.
FTAIL			The total number of lines in the file. The last entry in the file. Added through the RTLOG periodic function.
File Line Identifier	Number (10)	Next sequential number in the file	Identifies the line number in the file. Zero-padded.
File Record Counter	Number (10)	Next sequential number in the file	Identifies the transaction number in the file. Zero-padded.

File Storage API

File Storage API

File storage for imports: You can use the file storage API to:

- upload files for import
- obtain a list of files that have been uploaded, or that are in error
- download a file, such as an error file (does not automatically delete the file)
- delete files

> **Note**
>
> Use of the file storage API is required for new installations of Order Administration 17.x and later.

File storage for exports: Use the file storage API to:

- obtain a list of export files that have been generated
- download an export file
- delete files

Use of the FILE_STORAGE table: The FILE_STORAGE table stores data on import files and export files, as well as errors that occur during import or export processing. The web service requests files from, deletes files in, and puts files in this table.

Import processing example: To import Catalog Requests through the file storage API:

1. Create or obtain the Catalog Request file named IXCRIN.txt. See the Sample Catalog Requests Upload Data for sample contents.
2. Use the putFile web service request to place the IXCRIN.txt file data in the OMS-IMPORTS container of the FILE_STORAGE table.
3. Run the UPCATRQ Upload Catalog Request File (Program name PFR0134, Parameter IXCRIN) periodic function to use the contents of the FILE_STORAGE record to populate the Catalog Request Interface table (IXCRIN).
4. This deletes the record from the FILE_STORAGE table. Also, the system creates a file upload record, viewable at the Work with File Upload Screen.
5. Use the Work with Catalog Request Interface (WCRU) menu option to process the records in the Catalog Request Interface table; see Working with the Catalog Request Interface (WCRU).

When the uploaded file record is processed by the related import function, the record is deleted. It is not archived in the FILE_STORAGE folder.

Export processing example: To export marketing download data through the file storage API:

1. The system creates records in the Marketing Download Trigger table as a result of certain actions in Order Administration.
2. Run the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function to extract order and customer-related records in the Marketing Download Trigger table to the appropriate Marketing Download table.
3. Run the MDEXPRT Marketing Download Export (PFR0130) periodic function to extract the data in the Marketing Download tables to a pipe delimited text file that is included in a zip file, which is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file has the same name as the text file, except for the .zip extension.
4. Use the getFiles web service request to determine the names of the zip files that are in the OMS-MARKETING container.
5. Use the getFile web service request to download one or more marketing download files from the FILE_STORAGE table.
6. Use the deleteFile web service request to delete the files from the FILE_STORAGE table once they are downloaded.

Web service requests: Requests supported by the file storage API and their purposes are:

- getFile: Download an error or export file that has been generated by Order Administration.
- deleteFile: Delete a file record, such as an error file or export file that has already been downloaded.
- putFile: Upload an import file to Order Administration. The file format can be text (.TXT file extension) or compressed (.zip file extension, or the .MOMZIP file extension for the Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS) Integration). If the file is compressed, Order Administration extracts the information from the zip file when processing the import. No other file extensions are supported.

  > **Note**
  >
  > If you are uploading a zip file, then it must contain a text file of the same name as the zip file, which be in the base level of the zip file, with no subfolders. For example, the EXAMPLE123.ZIP file contains a single EXAMPLE123.TXT file.
  >
  > The file storage API returns an error if there is already an existing file in the table with the same name, regardless of whether the suffix is different. For example, the API returns an error if you attempt to upload a file named VENDORS.ZIP if there is currently a FILE_STORAGE record named VENDORS.TXT.

- getFiles: Request a list of file records in the FILE_STORAGE table.

URL: The URL is http://server:port/oms/sxrs/SerenadeREST/FileStorage, where server:port identifies the application server where the RESTful service is located.

Every web service request needs to specify a container. The types of containers are:

- OMS-IMPORTS: Contains import file records from the integrating system that can be processed by the appropriate Order Administration function. For example, use the putFile request to create an OMS-IMPORTS record so that Order Administration can import the data.
- OMS-ERRORS: Contains error file records that resulted from a process through the file storage API. For example, use the getFiles request to retrieve a list of error files that have been created.
- OMS-MARKETING: Contains zip file records, each containing a single text file of marketing download data. See Working with the Marketing Download Extract.
- OMS-ECOMMERCE: Contains zip file records, each including a single text file of ecommerce-related data. The following options create records in this container:
  - Downloading E-Commerce Offer Files (EOFR): Contains the E-Commerce Product Web XML File (ProductWeb).
  - Working with Merge/Purge Sold-to Names (MMCS): Contains the E-Commerce Customer Merge Web XML File (CustomerMergeWeb).
  - *E-Commerce Availability Web Request XML Message (AvailabilityWebRequest)*.

  For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).
- OMS-POSLOG: Contains zip file records, each containing a single text file of POSLog data for Xlink generated through the POSLOGX periodic function.
- OMS-SALES-AUDIT: Contains RTLOG zip file records that the SNDRTLG periodic function copied to file storage after sending the files to the Sales Audit module of Oracle Retail Merchandising Foundation Cloud Service. These files are retained in the FILE_STORAGE

table in case you need to resend a file through the RCVRLG periodic function. See Data Flow from Order Administration to Sales Audit Module for an overview of the data flow, and see Transmitting the RTLOG File to Object Storage for information on how the records are written to the FILE_STORAGE table and used.

Web authorization required: All request messages also need to use a valid Storage web service user ID with a valid password. See Working with Web Service Authentication (WWSA).

File cleanup:

- Import file records: The import process removes records from the OMS-IMPORTS container when populating the staging or destination database table.
- Error records: The integrating system is responsible for deleting error records.
- Export records: The integrating system is responsible for deleting export records, including the OMS-MARKETING, OMS-ECOMMERCE, OMS-POSLOG, and OMS-SALES-AUDIT containers.

Summary of file storage API responses: The response codes that might be returned to file storage requests include:

- 200 = The getFile or getFiles request was successful.
- 204 = The putFile or deleteFile request was successful.
- 401 = The request failed because the web service user and password were not correct.
- 403 = The putFile request included a file that exceeded the FILE_STORAGE_MAX_SIZE property, or that was empty.
- 404 = The request failed for other reasons.
- 409 = A putFile failed because a file with the same name already exists in the FILE_STORAGE table.
- 500 = Server error.

Maximum file size for uploads: The FILE_STORAGE_MAX_SIZE property defines the maximum file size that you can upload through the file storage API. This property should not be set larger than 1G.

Uploading multiple files: If the amount of data for a particular upload exceeds the maximum size defined in the FILE_STORAGE_MAX_SIZE property, you can break the data out into multiple files. To upload multiple files of the same type, append a unique sequence number, such as a date/time suffix, to the file name, preceded by an underscore. The date/time suffix indicates the sequence in which to upload the contents of each file.

Example: To upload more than one file containing vendor data, you can create and upload a file named VNDUPL_20180702010203.ZIP and another named VNDUPL_20180702010204.ZIP. When the vendor upload program runs, the contents of both files will be extracted and loaded into the Vendor Upload table. Each zip file must include a single file using the same name, but with the TXT extension.

> **Note**
>
> When an upload uses multiple files, the file names **MUST** include a unique sequence number suffix, such as a date/time stamp, preceded by an underscore. If the file names do not follow this convention, the upload will fail, and no subsequent uploads for the same file type will succeed until the incorrectly named files are removed from the CWDIRECTCP_UPLOAD_ DIRECTORY.

Upload directories: If the file storage API is enabled for imports, files that are placed in the CWDIRECTCP_UPLOAD_ DIRECTORY, or the other directories that are used for the are not processed by the related function; however, you can still upload a file for processing through the Work with File Uploads (WUPL) option.

Even though the system does not retrieve import files from the upload directories such as the CWDIRECTCP_UPLOAD_ DIRECTORY, import functions still use these directories for certain processing steps.

Merchandising Integration

Topics in this part: The following topics describe the integration between Order Administration and Oracle Retail merchandising applications.

- Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and Oracle Retail Pricing Cloud Service (RPCS) Integration: Provides information on importing items and pricing from Oracle Retail Merchandising Foundation Cloud Service (RMFCS) and from Oracle Retail Pricing Cloud Service (RPCS).

  > **Note**
  >
  > This integration will be deprecated in a future release. Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS) can be used instead to import items and pricing.

- Integration with the Sales Audit Module of the Oracle Retail Merchandising Foundation Cloud Service; Provides information on transmitting sales and returns information to the Sales Audit module of the Oracle Retail Merchandising Foundation Cloud Service, details on the information mapped, and the setup required to support the integration.
- Importing Enterprise Foundation Data through Omnichannel Cloud Data Service (OCDS): Provides information on importing enterprise foundation data, including items, prices, merchandise hierarchy, and item images from other retail applications through Oracle Omnichannel Cloud Data Service (OCDS).
- Enterprise Order Integration (Future Receipts and Active PO/Pre-Order Processing): Provides information on importing future availability information for pre-orders, processing updates as pre-order items become available, and controlling the submission of these orders to Order Orchestration.

Order Orchestration Integration

Topics in this part: This part describes integration between Order Administration and Order Orchestration.

- Order Orchestration Integration Overview describes the components of the integration between Order Orchestration and Order Administration, including the extract processes that occur automatically as well as the Order Orchestration and Merchandise Locator API's, and describes required setup.
- Order Orchestration Integration provides details on how the integration with Order Orchestration handles each order type.
- Merchandise Locator API describes how to search for a store location where the customer can pick up an item.

Order Orchestration Integration

Order Orchestration: Integration with the Routing Engine module in Order Orchestration supports fulfilling orders across the enterprise.

Use the Order Orchestration integration for the following:

- brokered backorders: Automatically send backordered lines to the Routing Engine module in Order Orchestration, so the orders can be assigned to locations for fulfillment.
  - If the Use OROB for Fulfillment Assignment (M31) system control value is selected, the system bypasses reservation in order to send all eligible items to Order Orchestration for fulfillment assignment, even if the item is available in the warehouse. In this situation, the fulfilling location may be a store location or an Order Administration warehouse.
  - If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS, the system bypasses reservation in order to send eligible items on a ship-for-pickup order to Order Orchestration for fulfillment assignment. In this situation, the fulfilling location may be a store location or an Order Administration warehouse.
- receive retail pickup (including ship-for-pickup) or delivery orders from Order Orchestration: Receive and fulfill orders in Order Administration. If the order is a retail pickup order, Order Administration sends the merchandise to the customer's selected store for pickup. If the order is a delivery order, Order Administration ships the merchandise to the customer's ship-to address. Typically, retail pickup and delivery orders originated in an external retail location. In addition:
  - If the Use OROB for Fulfillment Assignment (M31) system control value is selected, Order Orchestration may send a delivery order to Order Administration that originated as a brokered backorder in Order Administration. In this situation, Order Orchestration determined that an Order Administration warehouse was the best location to fulfill the order.
  - If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS, Order Orchestration may send a retail pickup order to Order Administration that originated as a ship-for-pickup order in Order Administration. In this situation, Order Orchestration determined that an Order Administration warehouse was the best location to fulfill the order.
- send ship-for-pickup orders during pick slip generation/drop ship processing to Order Orchestration: If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to NEVER, ship orders to an external retail location for customer pickup if the merchandise is not already available at that location.
- send store pickup orders to Order Orchestration: Notify an external retail location that has inventory available that a customer will pick up an order.

Version compatibility: Fulfillment assignment and ship-for-pickup functionality is available in release 16.0 or higher of Order Management System, or Order Administration, and release 16.0 or higher of Order Broker, or Order Orchestration. Also, in order to use ship-for-pickup processing, you must select the Enable Ship For Pickup option on the Organization window in Order Orchestration. Once you enable ship for pickup, the Organization window in Order Orchestration displays the *Ship for Pickup Enabled Date*, and you cannot deselect this option.

An OROB_MESSAGE_VERSION of 16.0 or higher is required to use the Ship-for-Pickup Orders integration with Order Orchestration.

A message version of 19.0 or higher is required to include the shipment_date tag in the status inquiry response message from Order Orchestration. This date indicates the actual date when the order line was shipped by the fulfilling location, provided the fulfilling system passed this date when it submitted the status update to Order Orchestration when reporting the fulfillment. The shipment date is available to include in shipment notifications to the customer; see Outbound Email API in the Web Services Guide on My Oracle Support (ID 2953017.1) for more information.

> **Note**
>
> Up to version 21.1 of OROB_MESSAGE_VERSION is supported. but this property cannot be set higher than 19.9 for integration with Order Broker 19.x, or higher than 21.1 for integration with Order Orchestration 22.2.301.0 or higher.

For more information: See:

- Order Orchestration Integration Overview for general background on integration between Order Orchestration and Order Administration.
- Order Orchestration Configuration for required setup in Order Administration.
- the Order Orchestration Operations Guide for details on each request and response message, as well as details on logging and troubleshooting in Order Orchestration.
- the Order Orchestration online help for step-by-step instructions on populating the Order Orchestration database and on scheduling item and inventory imports.

For information on Order Orchestration processing in Order Administration, see:

- Brokered Backorders
- Ship-for-Pickup Orders
- Retail Pickup (including Ship-for-Pickup) or Delivery Orders
- Store Pickup Orders
- Troubleshooting the Order Orchestration Integration
- Sample Order Orchestration Messages
- Order Orchestration Status Summary Table
- Order Orchestration Originating Location, Fulfilling Location, and Pickup Location
- Working with Order Broker (WOBR)

Order Orchestration Integration Overview

Purpose: The integration between Order Orchestration and Order Administration enables you to share information on items' availability and create orders across the enterprise, including:

- providing periodic item and inventory import from Order Administration to Order Orchestration.
- providing real-time, on-demand inventory availability information for specific items from the Order Administration warehouse to the point of sale or the web storefront, and vice versa.
- using Order Orchestration's routing engine to automatically assign backordered items to one or more locations for fulfillment. In addition:

  - If the Use OROB for Fulfillment Assignment (M31) system control value is selected, you can use the Order Orchestration routing engine to determine the fulfilling location for all eligible items.
  - If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS and the Send B/O to OROB (K08) system control value is selected, you can use the Order Orchestration routing engine to determine the fulfilling location for eligible items on a ship-for-pickup order.

- searching for store locations that stock a requested item so that the customer can pick up the item at the store.
- using Order Administration to fulfill ship-for-pickup, retail pickup, or delivery orders that originated in a retail store location or in Order Administration.
- creating ship-for-pickup orders in Order Administration during pick slip generation/drop ship processing and shipping the merchandise to a retail store location for customer pickup.
- creating store pickup orders so the customer can pick up the order at a retail store location where the merchandise is already in stock.

Partial brokered line quantity updates are supported in the integration between Order Administration and Order Orchestration.

Lines that are split in Order Orchestration by a store performing a partial quantity update or partially re-shopping to another location are now handled by Order Administration when the real-time inbound status updates are received. The ORDER_BROKER table within Order Administration will have a separate record to match each Order Orchestration line so that it can track the status per line quantity and location.

> **Note**
>
> Order Administration has known limitations when partially updating a line quantity. Evaluate if this will impact your business before enabling partial quantity updates in Order Orchestration.
>
> - When partially updating a line as unfulfillable and the remainder has not been shipped or canceled on Brokered Backorder (Direct Delivery) and Ship for Pickup (M34=ALWAYS) order types.
> - When partially picking a line on a Ship to Store for Pickup (M34=NEVER) order, the amounts sent to Order Orchestration, for use in a store during pickup, may not reflect the proper merchandise amount. It is recommended to pick and ship the full order line quantity together if the order totals are used by the store to print on receipts.
> - When partially shipping a line on a Delivery or Retail Pickup order, the full line quantity will be sent as intransit to Order Orchestration. Partial line quantity updates are not supported.
> - When partially canceling a line on a Brokered Backorder or Ship for Pickup order through the cancelOutOrderDetail web service, updates are not passed to Order Orchestration.

Integrated systems: Order Orchestration provides visibility into items and inventory across all integrated systems. Typically, you would integrate Order Orchestration with Order Administration and a POS system, such as Xstore.

Setting up the integration: See Order Orchestration Configuration.

Version compatibility: Fulfillment assignment and ship-for-pickup functionality is available in release 16.0 or higher of Order Management System, or Order Administration, and release 16.0 or higher of Order Broker, or Order Orchestration. Also, in order to use ship-for-pickup processing, you must select the *Enable Ship For Pickup* option on the Organization window in Order Orchestration. Once you enable ship for pickup, the *Ship for Pickup Enabled Date* displays on the Organization window and this option cannot be changed.

Integration with releases of Order Broker earlier than 5.0 is not supported.

In this topic:

Order Orchestration's Product, Product Location, and Incremental Inventory Import Process

Overview: The Order Orchestration product import process allows you to extract and import item and inventory information from Order Administration to Order Orchestration.

How does the import work? The following periodic functions allow you to generate output files to import into Order Orchestration.

- The OBPROD OB Product Output File (program name PFR0127) periodic function allows you to generate a Product output file for import into Order Orchestration. This file contains product information for a specified company. See Order Orchestration Product Output File for details.
- The OBPRLOC OB Product Location Output File (program name PFR0128) periodic function allows you to generate a Product Location output file for import into Order Orchestration. This file contains product location and availability information for a specified company. See Order Orchestration Product Location Output File for details.
- The OBINCIN OB Incremental Inventory Output File (program name PFR0129) periodic function allows you to generate an Incremental Inventory output file for import into Order Orchestration. This file contains inventory updates for a specified company. See Oracle Retail Order Orchestration Incremental Inventory Output File for details.

Only items and SKU's whose OROB eligible flags are selected are eligible for extract. This flag is selected by default.

Required setup: See Order Orchestration Configuration.

For more information: See the Order Orchestration online help and the Order Orchestration Operations Guide.

Location of files: The OROB_DIRECTORY_PATH in Working with Admin Properties (CPRP) defines the location where the system creates the output files.

Import process: When running an Order Orchestration import, the system

- deletes any matching import file in the OROB-Imports location in Order Orchestration.
- creates a zip file for the import text file in the OROB_DIRECTORY_PATH and then deletes the text file in the OROB_DIRECTORY_PATH.
- calls the OACS Import RESTful web service using the setting in the OROB_IMPORTS_URL and the authentication defined for the OACS Imports web service, to automatically upload the import file to the OROB-Imports location in Order Orchestration.
- deletes the zip file in the OROB_DIRECTORY_PATH.

Application log: The system writes any messages related to the Order Orchestration import process to the application log.

Scheduling the import or running it on demand:

- In Order Administration, you can use the job scheduler to schedule when a periodic process runs. See Scheduling Jobs for instructions.
- In Order Orchestration, you use the Schedule Import Process screen in Order Orchestration to set up a schedule for importing item and inventory information from Order Administration. You can also run the import on demand from this screen.

Before you can run the import, you need to complete the required setup in Order Orchestration as well as the Order Orchestration Configuration.

Mapping the Order Administration item and SKU code to the Order Orchestration product or system product code:

- The Order Administration item and SKU maps to the Order Orchestration system product code. The system maps the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
- The setting of the OROB Product Code ID (K66) system control value defines which field in Order Administration is used as the product code in Order Orchestration. You can map the item and SKU, reference number, or UPC code to the product code.

Order Orchestration Product Output File

Use the OBPROD OB Product Output File (program name PFR0127) periodic function to generate the Order Orchestration Product Output file. This file contains product information for a specified company to import into Order Orchestration. See Order Orchestration's Product, Product Location, and Incremental Inventory Import Process for processing details.

Location of file: The OROB_DIRECTORY_PATH in Working with Admin Properties (CPRP) defines the location where the system creates the output file. See Order Orchestration's Product, Product Location, and Incremental Inventory Import Process for processing details.

Name of file: The system names the file `PRODUCT_SYS.TXT`, where `SYS` is the company code where you submitted the periodic function.

Sample file:

```
system_cd|department|class|sub_class|system_product|product_cd|
product_description|master_style

7|7777 LONG SKU DEPARTMENT|7777 LONG SKU CLASS|777 LONG SKU DIVISION|SKU
        YELW SML  WMNS|SKU         YELW SML  WMNS|SKU ITEM DESCRIPTION|SKU
```

The system includes empty pipes in the file for data that is not included.

Field	Description
system_cd	The company code where the periodic function was submitted. Maps to the Order Orchestration *system code*.
department	The code and description of the long SKU department assigned to the item. Maps to the Order Orchestration *Department* field if the Order Administration company is the default system.
class	The code and description of the long SKU class assigned to the item. Maps to the Order Orchestration *Class* field if the Order Administration company is the default system.
subclass	Depending on the setting of the OROB Item Category Value (M54) system control value: • LSDIVISION or blank: The code of the long SKU division assigned to the item. Derived from the long SKU department. • CATEGORY: The code of the Item category assigned to the item or SKU. Maps to the Order Orchestration *Category* field if the Order Administration company is the default system.
system_product	The item and SKU. The system includes the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
product_cd	The item's product code in Order Orchestration. The setting of the OROB Product Code ID (K66) system control value defines which field in Order Administration is used as the product code in Order Orchestration. **Note** When mapping the item and SKU, the system includes the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
product_description	A description of the item. Maps to the product description if the Order Administration company is the default system.
master_style	The item code if the item contains SKUs. Maps to the Order Orchestration master style code if the item has SKU's.

Order Orchestration Product Location Output File

Use the OBPRLOC OB Product Location Output File (program name PFR0128) periodic function to generate the Order Orchestration Product Location Output file. This file contains product location, attribute, and availability information for a specified company to import into Order Orchestration. See Order Orchestration's Product, Product Location, and Incremental Inventory Import Process for processing details.

Location of file: The OROB_DIRECTORY_PATH in Working with Admin Properties (CPRP) defines the location where the system creates the output file. See Order Orchestration's Product, Product Location, and Incremental Inventory Import Process for processing details.

Name of file: The system names the file `PRODUCT_LOCATION_SYS.TXT`, where `SYS` is the company code where you submitted the periodic function.

> **Note**
>
> It is important to use Purchase Order Layering to update the PO Layering table before running the import; otherwise, the *Next PO date* and *Next PO quantity* sent to Order Orchestration will not be up to date.

Send inventory by warehouse? You can either map inventory information for individual item warehouses to the related locations in Order Orchestration, or aggregate item warehouse totals across all allocatable warehouses for an item or SKU into a default location representing your distribution center.

If the Send Inventory by Warehouse to OROB (L06) system control value is:

- selected: the import process includes each Item Warehouse record for items flagged *OROB eligible* if the warehouse has an *OROB location* specified and the warehouse is flagged as *Allocatable*. Any purchase order information is related to that warehouse only.
- unselected: the import process sends the total available quantity for the item in all allocatable warehouses, regardless of whether the warehouse has an *OROB location* specified, and updates the product location in Order Orchestration using the OROB Default Location (K51). Any purchase order information is the earliest eligible purchase order across all allocatable warehouses.

Example:

Item AB100 is stocked in:

- Warehouse 1 (allocatable, *OROB location* = DC1)
  - Available quantity = 100
  - Next purchase order date = 6/30
  - Next purchase order quantity = 15
- Warehouse 2 (allocatable, *OROB location* = S2)
  - Available quantity = -10
  - No open purchase orders
- Warehouse 3 (allocatable, no *OROB location*)
  - Available quantity = 5
  - Next purchase order date = 6/28
  - Next purchase order quantity = 50

OROB Default Location (K51) is set to DC.

Results when sending by warehouse:

If Send Inventory by Warehouse to OROB (L06) is selected, update:

OROB location DC1:

- Available quantity = 100
- Next purchase order date = 6/30
- Next purchase order quantity = 15

OROB location S2:

- Available quantity = -10
- No purchase order information is included

Warehouse 3 is not included because there is no OROB location.

Results when sending sum:

If Send Inventory by Warehouse to OROB (L06) is unselected, update:

OROB location DC:

- Available quantity = 95 (warehouse 1 + warehouse 2 + warehouse 3)
- Next purchase order date = 6/28
- Next purchase order quantity = 50

Availability for Drop Ship and Non-Inventory Items, including Main Set Items

- Drop ship items: If an item is flagged as *Drop ship*, the available quantity passed to Order Orchestration is 9999, unless you actually have an available quantity of the drop ship item in the warehouse; in this case, the available quantity sent to Order Orchestration is based on the standard availability calculation described above. Also, in this case, if there are any open purchase orders for the drop ship item tracked in the Purchase Order Layering table, then the next PO date and quantity from the first Purchase Order Layering record is also passed to Order Orchestration. (Purchase orders for drop ship items are in the Purchase Order Layering table only if they are not generated through customer orders, but are requesting shipment to the warehouse.)

Example:

12 units in warehouse 2 (*OROB location* = 2)

0 units in warehouse 3 (*OROB location* = DC; this is the OROB Default Location (K51))

If the Send Inventory by Warehouse to OROB (L06) system control value is:

- selected: the available quantity reported for each *OROB location*:
  - 2 = 12
  - DC = 9999
- unselected: the available quantity reported for *OROB location* DC = 12

> **Note**
>
> If there is a quantity on-hand in the warehouse, but it is not currently available (for example, because it is reserved against an order), then the available quantity reported is 9999.

- Main set items and other non-inventory items: The available quantity reported for the main set item is typically 0; however, if you actually have an available quantity of the item in the warehouse, this quantity is used. To determine the true availability of a set, check the set

components and the set quantity of each component required to make up a set, or look up the main set item in Entering Set Information (WSET).

Sample file:

```
system_cd|location_cd|product_cd|available_qty|next_po_qty|next_po_date|
daily_sell_through_qty|sell_qty_multiple|minimum_sell_qty|shrink_rate|
sales_velocity

7|1|SKU         YELW SML  WMNS|1000|200|2015-12-07||1|||
```

The system includes empty pipes in the file for data that is not included.

Field	Description
system_cd	The company code where the periodic function was submitted. Maps to the Order Orchestration *system code*.
location_cd	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is from the OROB Default Location (K51), even if the item is not stored in this warehouse, but is stored in another allocatable warehouse; otherwise, this is the OROB location specified for the warehouse. If the Send Inventory by Warehouse to OROB (L06) is selected and the warehouse does not have a *OROB location*, the information is not sent to Order Orchestration. Maps to a Order Orchestration *location*.
product_cd	The item and SKU. The system includes the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
available_qty	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the total quantity available across all allocatable warehouses; otherwise, this is the total quantity available for the warehouse. Calculated as: `On hand - Protected - Reserved - Reserve Transfer - Backordered = Quantity available`. See Availability for Drop Ship and Non-Inventory Items, including Main Set Items for a discussion on drop ship and non-inventory items, such as main set items.
next_po_qty	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the quantity expected on the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the quantity expected on the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.
next_po_date	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the date of the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the date of the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.
daily_sell_through_qty	This value is not populated.
sell_qty_multiple	The *Sell Quantity* defined for the item.
minimum_sell_qty	This value is not populated.
shrink_rate	This value is not populated.
sales_velocity	This value is not populated.

Item Availability Updates

The Order Orchestration item availability update process allows Order Orchestration to obtain up-to-date inventory information from Order Administration.

How does the update work?

- The OBINCIN OB Incremental Inventory Output File (program name PFR0129) periodic function allows you to generate an Incremental Inventory output file for import into Order Orchestration. This file contains inventory updates for a specified company since the last time the periodic function was run. See Oracle Retail Order Orchestration Incremental Inventory Output File for details.
- The Order Orchestration Product Inventory Availability API returns location availability information for a specific product, based on a request from Order Orchestration.

Oracle Retail Order Orchestration Incremental Inventory Output File

Use the OBINCIN OB Incremental Inventory Output File (program name PFR0129) periodic function to generate an Incremental Inventory output file to send to Order Orchestration. This file contains inventory updates for a specified company to send to Order Orchestration.

Include only items with changed availability: When you run this periodic function, the system calculates the quantity currently available and updates the *Virtual current available* field in the Item Warehouse table. If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the total quantity available across all allocatable warehouses; otherwise, this is the total quantity available for the warehouse. Calculated as: `On hand - Protected - Reserved - Reserve Transfer - Backordered = Quantity available`. See Availability for Drop Ship and Non-Inventory Items, including Main Set Items for a discussion on drop ship and non-inventory items, such as main set items.

The system compares the quantity in the *Virtual current available* to the quantity in the *Last available sent* field in the Item Warehouse table. If the quantities do not match, the system:

- includes the item in the incremental inventory output file, updating the *available_qty* in the file with the *Virtual current available* quantity.
- updates the *Last available sent* field with the quantity defined in the *Virtual current available* field.

> **Note**
>
> If the quantities in the *Virtual current available* and *Last available sent* match, the system does not include the item in the incremental inventory output file.

Send inventory by warehouse? You can either map inventory information for individual item warehouses to the related locations in Order Orchestration, or aggregate item warehouse totals across all allocatable warehouses for an item or SKU into a default location representing your distribution center.

If the Send Inventory by Warehouse to OROB (L06) system control value is:

- selected: the import process includes availability for items flagged *OROB eligible* if the warehouse has an *OROB location* specified and the warehouse is flagged as *Allocatable*. Any purchase order information is related to that warehouse only. Only warehouses whose available quantity has changed are included.
- unselected: the import process sends the total available quantity for the item in all allocatable warehouses, regardless of whether the warehouse has an *OROB location* specified, and updates the product location in Order Orchestration using the

OROB Default Location (K51). Any purchase order information is the earliest eligible purchase order across all allocatable warehouses.

Example:

Item AB100 is stocked in:

- Warehouse 1 (allocatable, *OROB location* = DC1)
  - Available quantity = 100
  - Next purchase order date = 6/30
  - Next purchase order quantity = 15
- Warehouse 2 (allocatable, *OROB location* = S2)
  - Available quantity = -10
  - No open purchase orders
- Warehouse 3 (allocatable, no *OROB location*)
  - Available quantity = 5
  - Next purchase order date = 6/28
  - Next purchase order quantity = 50

OROB Default Location (K51) is set to DC.

Results when sending by warehouse:

If Send Inventory by Warehouse to OROB (L06) is selected, update:

OROB location DC1:

- Available quantity = 100
- Next purchase order date = 6/30
- Next purchase order quantity = 15

OROB location S2:

- Available quantity = -10
- No purchase order information is included

Warehouse 3 is not included because there is no *OROB location*.

Results when sending sum:

If Send Inventory by Warehouse to OROB (L06) is unselected, update:

OROB location DC:

- Available quantity = 95 (warehouse 1 + warehouse 2 + warehouse 3)
- Next purchase order date = 6/28
- Next purchase order quantity = 50

See Availability for Drop Ship and Non-Inventory Items, including Main Set Items for more information on how the system determines the available quantity for drop ship items, non-inventory items, and main set items.

Location of file: The OROB_DIRECTORY_PATH in Working with Admin Properties (CPRP) defines the location where the system downloads the Incremental Inventory output file. See

Order Orchestration's Product, Product Location, and Incremental Inventory Import Process for processing details.

Name of file: The system names the file INCREMENTAL_INVENTORY_999_YYMMDDHHMMSS.TXT, where `999` is the company code where you submitted the periodic function and `YYMMDDHHMMSS` is the date and time when the download occurred. The file has a .tmp suffix while it is being generated.

Application log: The system writes any messages related to the download to the application log.

Sample file:

```
system_cd|location_cd|product_cd|available_qty|next_po_qty|next_po_date

9|1|2006        PINK S    REG|10|20|2015-10-31
```

The system includes empty pipes in the file for data that is not included.

Field	Description
system_cd	The company code where the periodic function was submitted. Maps to the Order Orchestration *system code*.
location_cd	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is from the OROB Default Location (K51), even if the item is not stored in this warehouse, but is stored in another allocatable warehouse; otherwise, this is the *OROB location* specified for the warehouse. If the Send Inventory by Warehouse to OROB (L06) is selected and the warehouse does not have a *OROB location*, the information is not sent to Order Orchestration. Maps to a Order Orchestration *location*.
product_cd	The item and SKU. The system includes the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
available_qty	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the total quantity available across all allocatable warehouses; otherwise, this is the total quantity available for the warehouse. Calculated as: `On hand - Protected - Reserved - Reserve Transfer - Backordered = Quantity available`. See Availability for Drop Ship and Non-Inventory Items, including Main Set Items for a discussion on drop ship and non-inventory items, such as main set items.
next_po_qty	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the quantity expected on the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the quantity expected on the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.
next_po_date	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the date of the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the date of the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.

Order Orchestration Product Inventory Availability API

Use the Order Orchestration Product Inventory Availability API to return location availability information for a specific product, based on a request from Order Orchestration.

Process overview: When a remote system requests inventory information, Order Orchestration checks for current inventory information from Order Administration if:

- the system representing Order Administration is configured in Order Orchestration as an online system, and
- there is a product location record in Order Orchestration indicating that the item is stocked in a Order Administration warehouse. This record is normally created automatically through Order Orchestration's Product, Product Location, and Incremental Inventory Import Process.

If the above conditions are true, Order Orchestration automatically checks the item's inventory information in Order Administration, and updates the product location record for the product in the OROB Default Location (K51) if the Send Inventory by Warehouse to OROB (L06) system control value is unselected; otherwise, it updates the location matching the warehouse's *OROB location*. The rules used to update the product location's *Available quantity*, *Next PO quantity*, and *Next PO date* are the same as those used for Order Orchestration's Product, Product Location, and Incremental Inventory Import Process.

Setup:

- Complete all the setup required for Order Orchestration's Product, Product Location, and Incremental Inventory Import Process.
- Flag the Order Administration system in Order Orchestration as *Online*.
- Complete the setup required for the Order Orchestration Availability API.

Order Orchestration Availability API setup: The CWServiceIn Web Service allows an external system to post the Order Orchestration Product Inventory Availability Request directly to Order Administration.

Web service authentication? Use the Work with Web Service Authentication (WWSA) menu option to define a valid user and password for basic web service authentication, or client ID and client secret if using OAuth.

Web service type? You can use the CWServiceIn RESTful web service for the Order Orchestration Product Inventory Availability API. You POST the Order Orchestration Product Inventory Availability Request to the web service's URL, or endpoint, of the RESTful service. The web service routes the messages sent to the endpoint and dispatches them to the Item Availability Update process. When the Item Availability Update process generates an Order Orchestration Product Inventory Availability Response, the CWServiceIn web service routes the response.

Determine the endpoint: The individual URL for the CWServiceIn RESTful service used for the Order Orchestration Product Inventory Availability API uses the following format: `http://server/oms/sxrs/Inventory`, where `server` identifies the application server where the RESTful service is located.

Errors: If the Order Orchestration Product Inventory Availability Request fails, the response returns with an error message. Possible errors are:

Error Message	Reason
Message is Invalid	The message is not in the correct JSON format.
Product Code in Invalid	The product code must be a valid item in Order Administration.

Error Message	Reason
System Code in Invalid	The system code must be a valid company code in Order Administration.

Order Orchestration Product Inventory Availability Request

See Order Orchestration Product Inventory Availability: Sample Messages for sample messages.

Name	Type	Length	Comments
urlString			Identifies the URL for the Order Administration web service. The individual URL for the CWServiceIn RESTful service uses the following format: `http://server/oms/sxrs/Inventory`, where `server` identifies the application server where the RESTful service is located.
productCd	alpha	12	The Order Administration item number and SKU.
systemCd	numeric	3	The Order Administration company code.
Response			Not used.
systemId			Not used.
timeOut			Not used.

Order Orchestration Product Inventory Availability Response

See Order Orchestration Product Inventory Availability: Sample Messages for sample messages.

Name	Type	Length	Comments
ProductCode	alpha	12	The item and SKU. The system includes the full 12 positions for the item and the full 14 positions for the SKU; for example: `SKU YELW SML WMNS`.
LocationCode	numeric	3	If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is from the OROB Default Location (K51), even if the item is not stored in this warehouse, but is stored in another allocatable warehouse; otherwise, this is the *OROB location* specified for the warehouse. If the Send Inventory by Warehouse to OROB (L06) is selected and the warehouse does not have a *OROB location*, the information is not sent to Order Orchestration. Maps to a Order Orchestration location.

Name	Type	Length	Comments
AvailableQuantity			If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the total quantity available across all allocatable warehouses; otherwise, this is the total quantity available for the warehouse. Calculated as: `On hand - Protected - Reserved - Reserve Transfer - Backordered = Quantity available`. A negative quantity indicates the item in on backorder. See Availability for Drop Ship and Non-Inventory Items, including Main Set Items for a discussion on drop ship and non-inventory items, such as main set items.
NextPOQuantity			If the Send Inventory by Warehouse to OROB (L06)system control value is unselected, this is the quantity expected on the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the quantity expected on the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.
NextPODate			If the Send Inventory by Warehouse to OROB (L06) system control value is unselected, this is the date and time, in YYYY-MM-DD HH:MM:SS format, of the next open purchase order that might be able to fulfill a new backorder; otherwise, this is the date of the next eligible open purchase order for that warehouse only. From the Purchase Order Layering table.

Order Orchestration Product Inventory Availability: Sample Messages

Samples of the Order Orchestration Availability messages are presented below.

Successful Order Orchestration Availability Request:

```
{"urlString":"https://wbooms55app2/oms/sxrs/
Inventory","productCd":"LOCATE","systemCd":"7","response":"-1","systemId":425430,
"timeOut":30000}
```

Order Orchestration Availability Response:

```
[
     {
     "ProductCode": "LOCATE",
     "LocationCode": "S2",
     "AvailableQuantity": -10,
     "NextPOQuantity": 0,
     "NextPODate": ""
  },
```

```
    {
    "ProductCode": "LOCATE",
    "LocationCode": "1",
    "AvailableQuantity": 100,
    "NextPOQuantity": 15,
    "NextPODate": "2016-01-30 12:00:00 AM"
  }
]
```

Unsuccessful Order Orchestration Availability Request:

```
{"urlString":"https://wbooms55app2/oms/sxrs/
Inventory","productCd":"ITM","systemCd":"7","response":"-1","systemId":425430,"ti
meOut":30000}
```

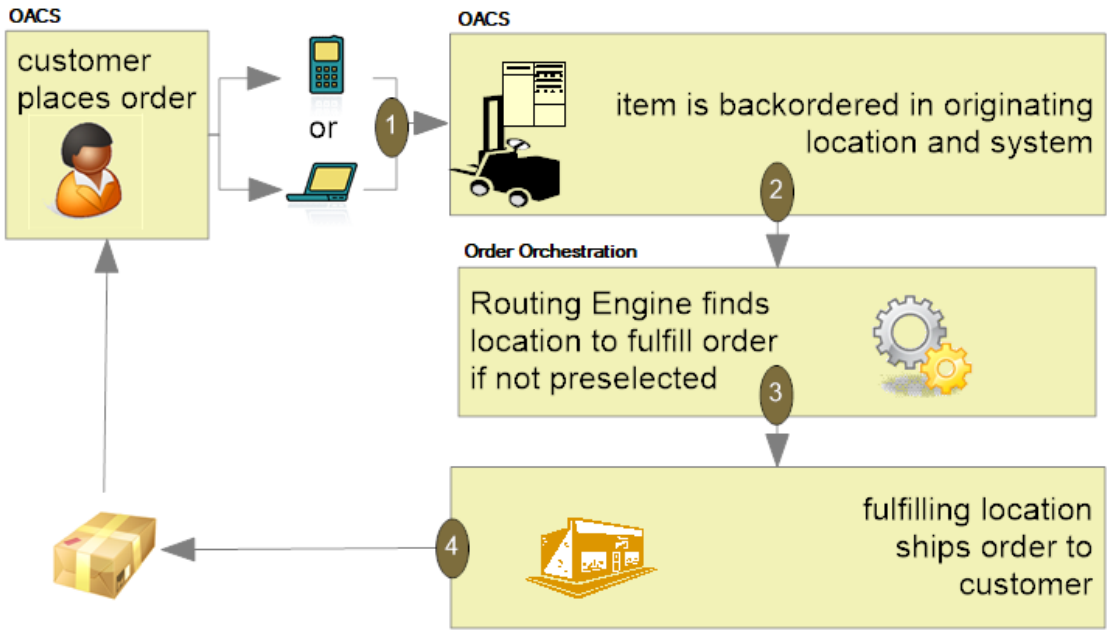
Order Orchestration Availability Response:

```
{"error": "Product Code is Invalid"}
```

Brokered Backorder Integration with Order Broker

Brokered backorder: Use the brokered backorder integration with Order Orchestration to automatically send backordered lines to the Order Broker module in Order Orchestration for fulfillment.

- If the Use OROB for Fulfillment Assignment (M31) system control value is unselected, the system sends eligible backordered items to the Order Broker for fulfillment. The Order Broker will choose the best store location to fulfill and ship the item to the customer. Items that are in stock follow normal reservation and fulfillment processing.
- If the Use OROB for Fulfillment Assignment (M31) system control value is selected, the system bypasses reservation and places all eligible items on backorder, even if the item is available in an Order Administration warehouse. The Order Broker will choose the best store location or Order Administration location to fulfill and ship the item to the customer.
- If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS, the system bypasses reservation in order to send eligible items on a ship-for-pickup order to the Order Broker for fulfillment assignment. In this situation, the fulfilling location may be a store location or an Order Administration warehouse and the merchandise is shipped to the customer's selected store for pickup.



When using Order Orchestration for fulfillment assignment, the fulfilling location can be a store location or an OACS warehouse location. In addition, for ship-for-pickup orders, the fulfilling location ships the order to the customer's selected store for pickup.

Unlike the merchandise locator API, the brokered backorder integration with Order Orchestration enables you to fulfill these orders automatically "behind the scenes" using business rules you have configured in Order Orchestration and Order Administration, without the need to select a fulfilling location; the Order Broker selects the location for you.

For more information: See Order Orchestration Configuration and Brokered Backorders.

Ship-for-Pickup Orders

Ship-for-pickup order: Use the ship-for-pickup integration with Order Orchestration to send the merchandise for an order to a designated store, where the customer can pick it up. The Order Orchestration integration facilitates communication between Order Administration and the designated store location, so the store receives notification that the order is in transit, and sends notification back to Order Administration after the merchandise is received and when the customer picks up the order.

The items on the order do not need to be stocked in the store. In addition, the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value controls whether Order Administration fulfills the order or whether the order is sent to Order Orchestration for fulfillment assignment.

- If this system control value is set to NEVER, Order Administration fulfills the order and sends the items on the order to the store selected for customer pick up during pick slip generation and/or drop ship processing. In this situation, if an item on the order is not in stock, the item is placed on backorder until it can be fulfilled by Order Administration. The order can include up to two locations for processing:
  - the originating, or placed, location that creates the order. For ship-for-pickup orders, the originating location is always an Order Administration warehouse.
  - the fulfilling, or sourcing, location that provides the inventory for the order. If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to NEVER, this is always an Order Administration warehouse.

  - the pickup location where the customer picks up the items on the order. For ship-for-pickup orders, this is always the store location the customer selected for pickup.

- If this system control value is set to ALWAYS, the system sends the order to Order Orchestration for fulfillment assignment after the order is created. In this situation, Order Orchestration determines the best location to fulfill the order and the order can include up to three locations for processing:
  - the originating, or placed, location that creates the order. For ship-for-pickup orders, the originating location is always an Order Administration warehouse.
  - the fulfilling, or sourcing, location that provides the inventory for the order. If the Use OROB for Ship for Pickup Fulfillment Assignment (M34) system control value is set to ALWAYS, this is the location the Order Broker selected for fulfillment of the order. This location can be a store location or an Order Administration warehouse.
  - the pickup location where the customer picks up the items on the order. For ship-for-pickup orders, this is always the store location the customer selected for pickup.

If Order Orchestration determines that Order Administration is the best location to fulfill the order, the system creates a new retail pickup order in Order Administration to fulfill the ship-for-pickup order.

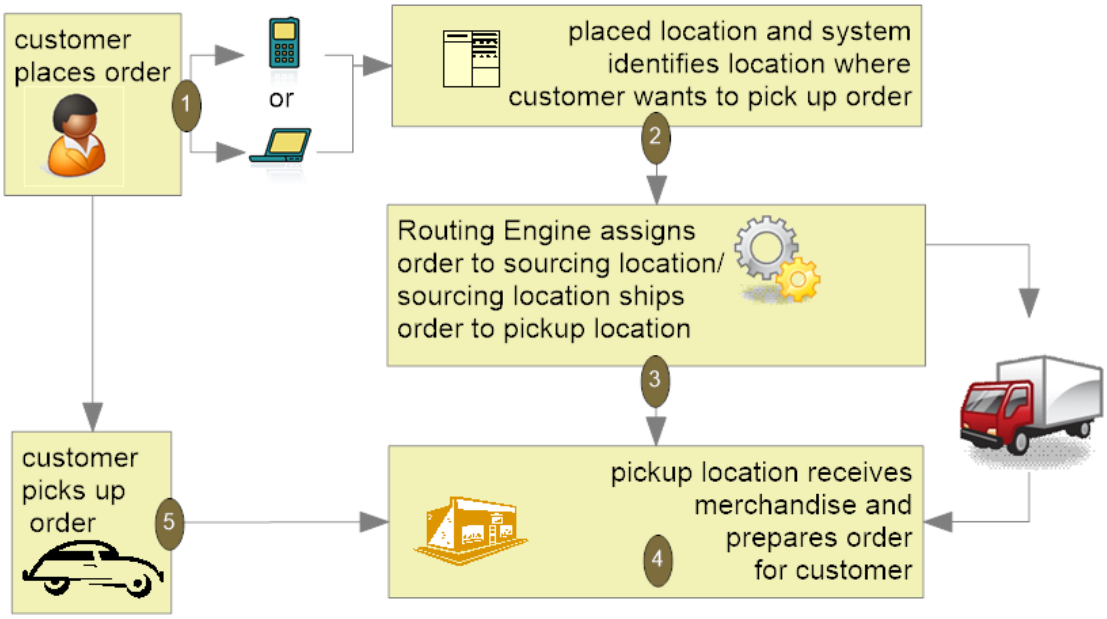
Important

Regardless of when you send ship-for-pickup orders to Order Orchestration, in order to use ship-for-pickup processing, you must select the *Enable Ship For Pickup* option on the Organization window in Order Orchestration. Once you enable ship for pickup, the *Ship for Pickup Enabled Date* displays on the Organization window and cannot be changed.

Examples: Examples of ship-for-pickup include the following.

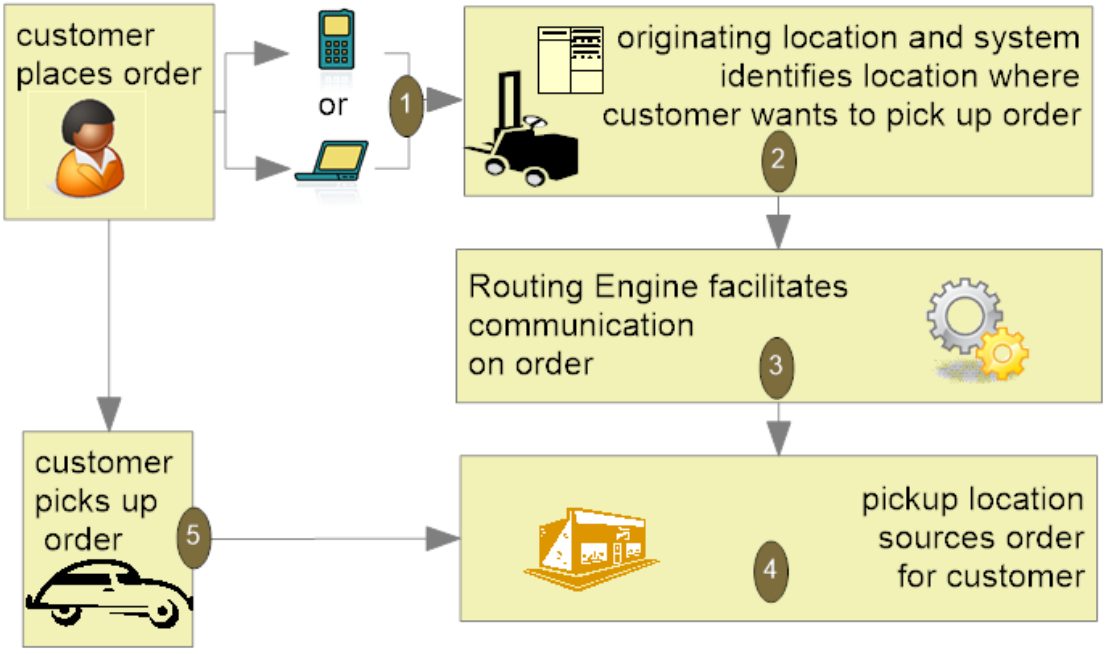
Example 1 (three different locations; Order Orchestration determines fulfilling location):

The customer places an order on the web site (originating location A, Order Administration) and wants to pick the order up at store location B. Order Orchestration selects store location C as the fulfilling, or sourcing, location. Store location C ships the inventory to store location B, where the customer can pick it up.



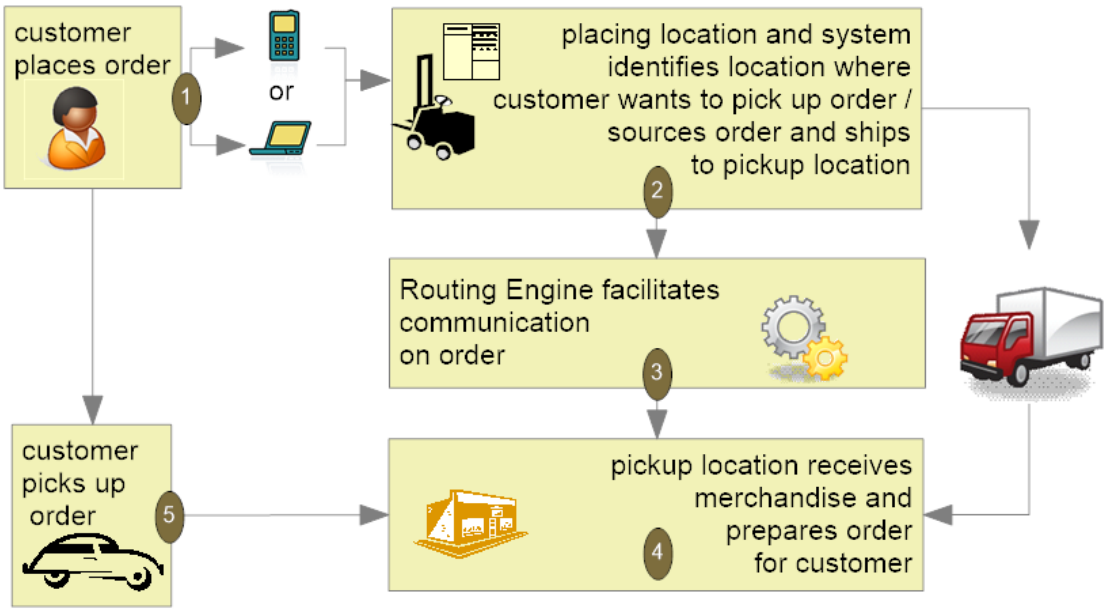
Example 2 (fulfillment location and pickup location are the same; Order Orchestration determines fulfilling location):

The customer places an order on the web site (originating location A, Order Administration) and wants to pick the order up at store location B. Order Orchestration selects store location B as the fulfilling, or sourcing, location. Once the order is ready at store location B, the customer can pick it up.



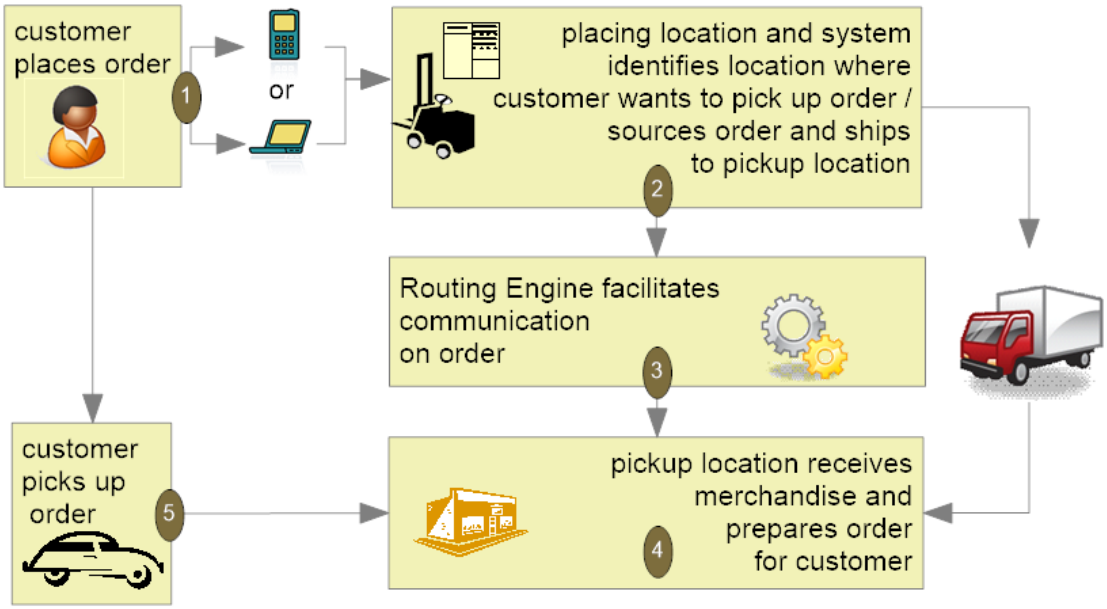
Example 3 (originating location and fulfillment location are the same); Order Orchestration determines fulfilling location:

The customer places an order on the web site (originating location A, Order Administration) and wants to pick the order up at store location B. Order Orchestration selects warehouse location A, Order Administration, as the fulfilling, or sourcing, location. Order Administration ships the items on the order to store location B. Once the order is ready at store location B, the customer can pick it up.



Example 4 (originating location and fulfillment location are the same; items on the order are shipped to the store during pick slip generation/drop ship processing):

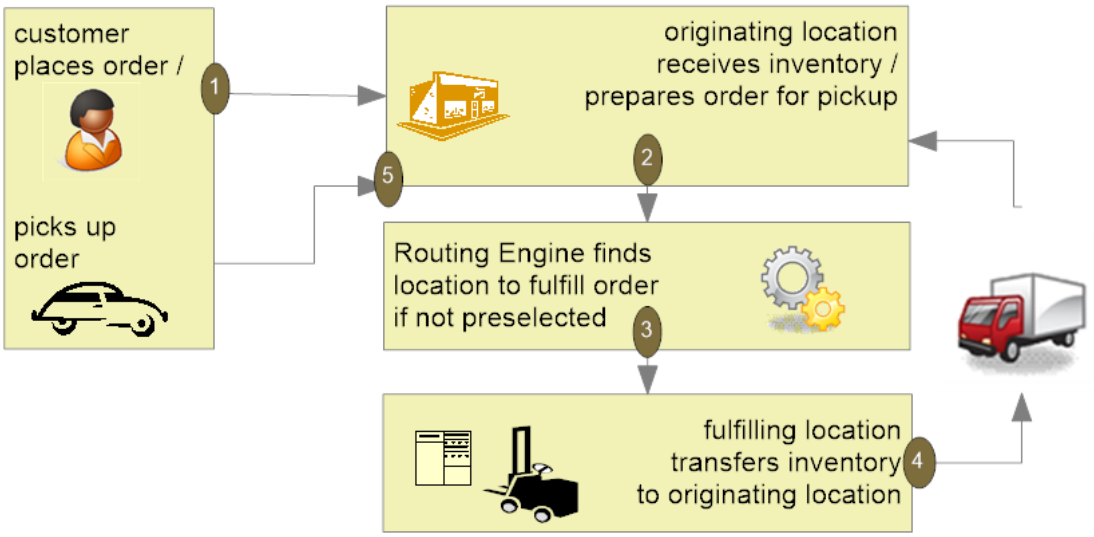
The customer places an order on the web site (originating location A, Order Administration) and wants to pick the order up at store location B. Order Administration fulfills the items on the order and during pick slip generation, ships the items on the order to store location B. Order Orchestration manages communication between Order Administration and store location B. Once the order is ready at store location B, the customer can pick it up.



For more information: See Order Orchestration Configuration and Ship-for-Pickup Orders.

Retail Pickup (including Ship-for-Pickup) and Delivery Orders from Order Orchestration

Purpose: Use the retail pickup and delivery order integration with Order Orchestration to fulfill orders received from Order Orchestration. The originating location may be a store location or an Order Administration order.



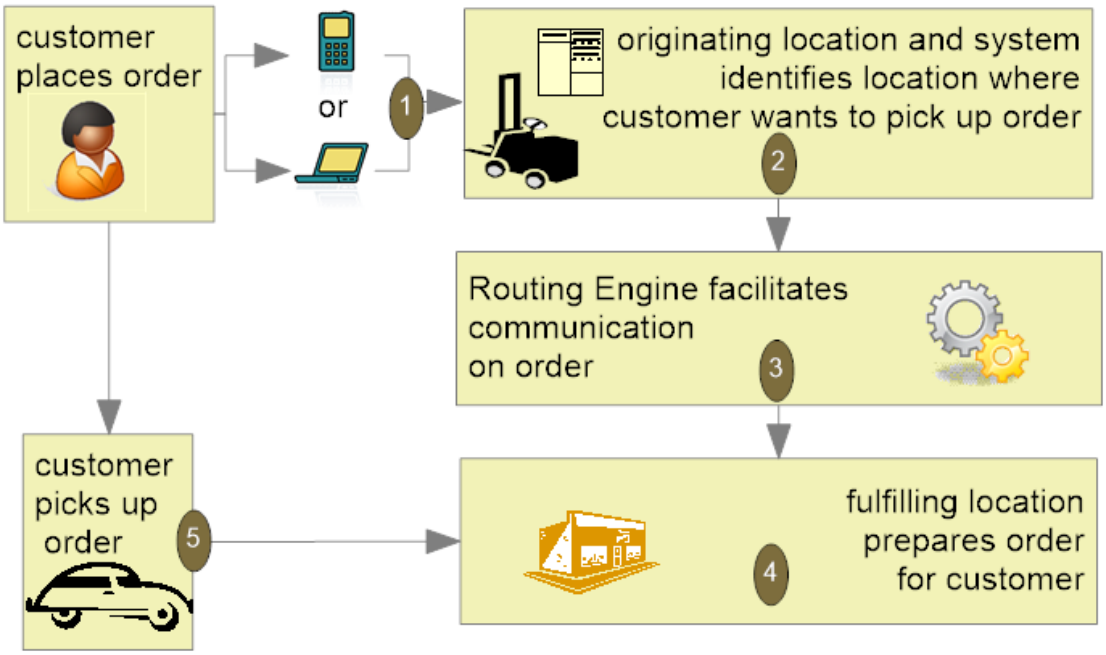
Retail pickup or ship-for-pickup order: The Order Broker sends a retail pickup order or ship-for-pickup order to Order Administration for fulfillment when the customer would like to pick up the order at a retail location. The ship-to address on the order sent to Order Administration for fulfilment is the name and address of the pickup store location. If Order Orchestration sends a ship-for-pickup order to Order Administration for fulfillment, the system treats the ship-for-pickup order the same as a retail pickup order.

Delivery order: The Order Broker sends a delivery order to Order Administration for fulfillment when the customer would like the order shipped to his or her address. The ship-to address on a delivery order is the name and address of the customer.

For more information: See Order Orchestration Configuration and Retail Pickup (including Ship-for-Pickup) or Delivery Orders.

Store Pickup Orders

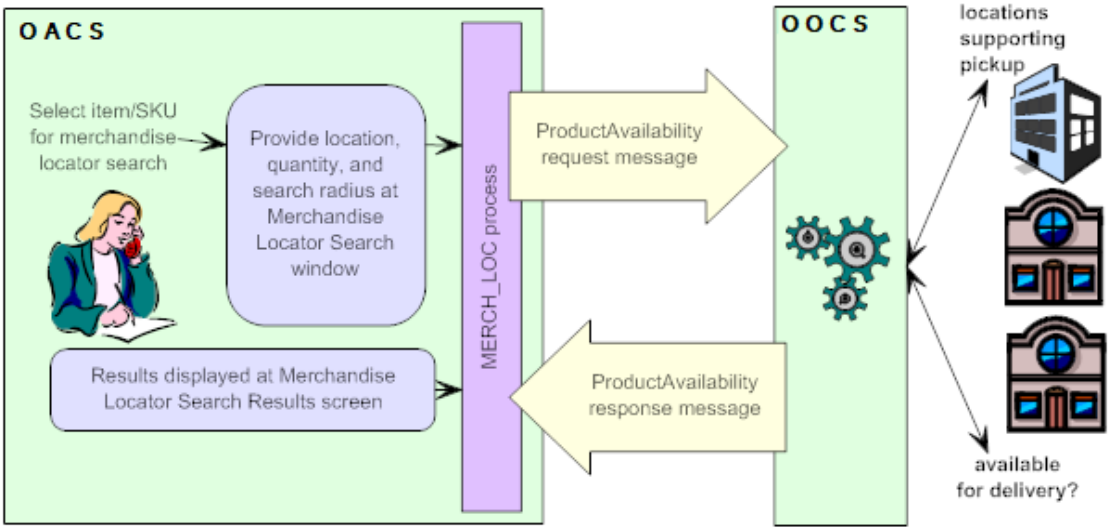
Store pickup order: Use the store pickup integration with Order Orchestration to send orders to an external retail location where the merchandise is already available for pickup. Unlike a ship-for-pickup order, a store pickup order does not require Order Administration to transfer the inventory to the store. The ship-to address on a store pickup order sent from Order Administration to the Order Broker is the name and address of the originating store location.



For more information: See Order Orchestration Configuration and Store Pickup Orders.

Merchandise Locator Searching

Merchandise locator searching: This integration with Order Orchestration provides a way to search for a location across the enterprise where the customer can pick up an item. This option is available in item availability, order entry, and order maintenance. The results are informational only.



For more information: See Order Orchestration Configuration, and the Merchandise Locator API.

Store Connect

Overview: Store Connect is a module of Order Orchestration that provides store associates with a suite of screens to process delivery orders (brokered backorders from Order Administration) or store pickup orders. Store Connect is represented in Order Orchestration as a separate integrated system, and stores using Store Connect identified as locations; however, the Order Broker assigns and tracks orders assigned to Store Connect locations as it does for any other orders.

Types of orders: When using Order Administration, only delivery orders (brokered backorders) and store pickup orders can be fulfilled through Store Connect:

- Brokered backorders (delivery orders): When Order Orchestration receives a brokered backorder from Order Administration, it assigns the order to a fulfilling location using standard Order Orchestration rules. If the selected location is part of the Store Connect system, the associates use Store Connect to accept, print, pick, and ship the order, and Order Administration tracks the activity as with any other brokered backorder.
- Store pickup orders: Selecting a fulfilling location for a store pickup order uses standard Order Orchestration rules; however, since Store Connect is represented in Order Orchestration as a separate system, you need to associate Store Connect store locations with that system code, either through the Store Cross Reference record or through a default specified in a system control value. The store associate uses Store Connect to accept, print, and pick the order, and to confirm customer pickup.

For more information: See:

- the Order Orchestration Operations Guide and online help
- Order Orchestration Configuration
- Brokered Backorders
- Store Pickup Orders

Summary of Order Types for the Order Orchestration Integration

The different types of orders that Order Administration sends to or receives from Order Orchestration are summarized below. This summary is from the Order Administration perspective.

	Brokered Backorder	Delivery	Store Pickup	Retail Pickup	Ship-for-Pickup
used to:	Create an order in Order Administration and send backordered items to the Order Broker so that the items can be assigned to locations for fulfillment. Additional settings allow you to send all items to Order Broker to determine the fulfilling location even if the item is in stock in the warehouse.	Receive and fulfill an order from Order Orchestration and ship the order to the customer's ship to address.	Create an order in Order Administration and send the order to Order Orchestration to notify a store location that already has the inventory available that a customer will pick up the order.	Receive and fulfill an order from Order Orchestration and ship the order to the customer's selected store for pickup. Ship-for-pickup orders that originate in a store come into Order Administration as retail pickup orders.	Create an order in Order Administration and ship the order to a store location for customer pickup if the inventory is not already available at that store location. A system control value setting defines whether ship-for-pickup orders are immediately sent to Order Orchestration to determine the fulfilling location, similar to a brokered backoder, or are fulfilled by an Order Administration warehouse and then sent to Order Orchestration to complete the process.

Note

A brokered backorder type

	Brokered Backorder	Delivery	Store Pickup	Retail Pickup	Ship-for-Pickup
		does not exist in Order Orchestration.			
originating location is where the order is placed:	This is an Order Administration warehouse.	This is a store location but can be an Order Administration warehouse if the order originated in Order Administration a nd Order Orchestration assigned an Order Administration warehouse as the fulfilling location.	This is an Order Administration warehouse.	This is a store location.	This is an Order Administration warehouse.

	Brokered Backorder	Delivery	Store Pickup	Retail Pickup	Ship-for-Pickup
fulfilling location is where the order is fulfilled:	This can be a store location or an Order Administration warehouse.	This is an Order Administration warehouse.	This is a store location.	This is an Order Administration warehouse.	This can be an Order Administration warehouse or a store location.
pickup location is where the order is picked up by the customer:	Not applicable if the order is shipped to the customer.	Not applicable; the order is shipped to the customer.	This is a store location.	This is a store location.	This is a store location.
order shipped to:	Customer.	Customer.	Not applicable; the fulfilling location and pickup location are always the same.	Store location; this is typically the originating store location.	Pickup store location.

Note

- When Order Administration is the originating location of a delivery order, the order is identified as a brokered backorder in Order Administration. To Order Orchestration it is considered a delivery order.
- When Order Administration is fulfilling a delivery order, the order is identified as a delivery order in Order Administration.
- When Order Administration is the originating location of a ship-for-pickup order, the order is identified as a ship-for-pickup order. A system control value setting defines whether ship-for-pickup orders are immediately sent to Order Orchestration to determine the fulfilling location, similar to a brokered backorder, or are fulfilled by an Order Administration warehouse and then sent to Order Orchestration to complete the process.
- When Order Administration is the fulfilling location of a ship-for-pickup order, the order is identified as a retail pickup order in Order Administration.
- Order Administration can only be the fulfilling location of a retail pickup order.
- Order Administration can only be the originating location of a store pickup order.

Oracle Retail Promotion Engine Integration

Order Administration is integrated to the Oracle Retail Promotion Engine Cloud Service (ORPE) following the v23.2.401.0 update. When configured, Order Administration will bypass some of the inherent promotional pricing options during order entry, making a REST call to provide the order (cart) details for evaluation by ORPE. The promotion engine performs a

comprehensive evaluation of the cart, identifies the applicable offers, and responds with the discounted price applied for qualifying merchandise lines. If shipping rewards are included in the response, Order Administration performs additional validation and calculations before they are applied to the order.

Retailers define deals and promotions using Customer Engagement and then automatically propagate the promotion data to ORPE. This allows the retailers to submit orders (carts) from various external systems (ecommerce, point of sale, order management, and so on) to be centrally evaluated against a single source of promotion data.

The following features in Order Administration will communicate with ORPE for applying promotions:

- Modern View Order Entry
- Classic View Order Entry when editing / accepting a batch of orders in error
- CWOrderIn version 12.0 when it indicates discounts are not already applied
- Customer Membership Child Order Generation (EGMO)

The following features will not communicate with ORPE: Order Maintenance, OB Fulfillment Order Creation, and ChannelAdvisor.

> **Note**
>
> Order Administration Modern View Order Summary does NOT communicate with ORPE when an existing order is maintained. If a new line is added in maintenance, it will be priced based on the Order Administration price method hierarchy. If an existing line quantity is changed in maintenance, the price will remain unchanged. The line will not be re-evaluated by Order Administration, and it will not be sent to ORPE for evaluation.
> Order Administration Classic View does not allow the reprice function with ORPE enabled, nor does it call ORPE during interactive order entry or order maintenance. However the Edit/Accept batch process triggered from Classic View does call ORPE to evaluate orders which have corrected within the Error Batch.

All promotion details successfully applied by ORPE are stored for display within the Modern View user interface (UI) and incorporated into various outbound API's and integration files including:

- Modern View Order Summary and Invoice tabs
- CWInvoiceOut version 7.0
- CWOrderOut version 12.0
- CWEmailOut version13.0
- ReSA RTLog Output File
- ORCE POSLog Output File

ORPE Setup Requirements

Required Properties: The following properties are available to configure the integration with ORPE:

- *oms.promotion.engine.service.url (PROP):* The full URL for the promotion engine service. Provided by your Oracle representative. Defaults to blank.

- *oms.promotion.engine.service.timeout (CPRP):* The number of seconds to wait before deal requests from Order Administration to the ORPE Promotion time out. Defaults to 500 seconds.
- *oms.promotion.engine.service.token.url (CPRP):* The URL to use when requesting a token for Oauth authentication. Provided by your Oracle representative. Defaults to blank.
- *orce.coupon.service.url.suffix (PROP):* The suffix to append to the ORCE_CUSTOMER_SERVICE_PREFIX for Serialized ORCE Coupon Service for validation and redemption of a serialized coupon.

> **Note**
>
> When calling the ORCE Coupon Service, Order Administration builds the URL using the *ORCE_CUSTOMER_SERVICE_PREFIX, SCV L50* and the *orce.coupon.service.url.suffix* value.

Authentication configuration: To configure the promotion engine integration, use *ORPE Promotion* and *ORCE Coupon Service* at the Work with Outbound Web Service Authentication screen (WWSA). Only OAuth authentication is supported. Client ID and Client Secret will be delivered blank by default for each company.

Required system control value settings: Use the following system control values to enable use of ORPE:

- *Use ORPE Promotion Engine (M77):* Select this system control value to enable use of ORPE for a specific company. Required for ORPE Integration.
- *Price Override Reason for ORPE Discounts (M78):* Select the price override reason code to apply to order lines that are discounted through use of the Promotion Engine. Required for ORPE Integration.
- *Use ORCE Serialized Coupons (M79):* Select this system control value to use Serialized Coupons with ORPE.
- *ORCE Serialized Coupon Prefix Length (M80):* This system control value stores the Serialized coupon codes prefix length value. It must match the value defined in Property Configuration *Promotion Coupon Length* within ORCE.

Also, the following existing system control values are used:

- *Allow Manual Entry of Promotion Code (I63):* Must be selected to see the new **Coupons** section within in the Order Summary panel.
- *ORCE Integration Item ID (L38):* Required for ORPE Integration.
- *ORCE Organization Descriptor (L50):* Required for Serialized Coupons with ORPE.
- *Display Order Line Discount Messages (F01):* Impacts display of ORPE promotion details.
- *Display Discount On Order Recap Screen (D38):* Impacts display of ORPE promotion details.
- *Default Location for ORCE Integration (K69):* Required for integration with ORCE and ORPE.

Order API Enhancements

The Order API (CWOrderIn) now allows the ability to indicate the order should be sent to ORPE for promotions to be applied. Additionally, it includes new attributes to allow an external

merchant application to pass discount details already applied by ORPE externally. The changes include:

- The *already_eval_by_promote* attribute was renamed to *already_eval_by_promo_engine*.
- A new repeating element *(Shipping_Rewards)* was added within the ship to element, allowing retailers to include shipping award details that were already applied by an external system.

  A new repeating element *(Discount_Rewards)* was added within the item element, allowing retailers to include order line discount details that were already applied by an external system.

> **Note**
>
> The Order API does not currently support ORCE coupon codes or targeted customer promotions when passed in from an external merchant application. See the Web Services Guide on My Oracle Support (ID 2953017.1) for more information.

For more information on Order API documentation and for a comprehensive list of available attributes, sample XML messages, DTD's and XSD's, see the Web Services Guide on My Oracle Support (ID 2953017.1).

Deal Types and Promotions

The Order Administration integration now supports the ORPE deal types included below. These deal types are configured in Customer Engagement.

- BOGO: Buy X Get X and Buy X Get Y
- LINE ITEM: Line Item Discount
- GROUP PRICE: Kit
- SUBTOTAL: Transaction Discount

For each supported deal type, Order Administration will allow shipping awards to optionally apply an Override Shipping Method (Ship Via) and/or the ability to define a discount from the following options:

- an Override Price (flat shipping fee),
- an Amount Off (Order Administration deducts the value from the shipping calculation) or
- a Percent Off (Order Administration calculates the discount percentage amount then deducts the value from the shipping calculation)

> **Note**
>
> All Shipping Award discount options are applied within Order Administration as a shipping override.

The Order Administration integration currently supports product and coupon promotion types (both single-use and multi-use coupons) and incorporates cart data for evaluation of location qualifiers and promotion audience rules (exclusive and non-exclusive).

> **Note**
>
> Coupon Codes are not supported through the Order API. They are only supported when entered through Modern View Order Entry.

Coupons the integration with ORPE supports two options for coupon promotions, (Serialized and Non-Serialized).

- A Serialized Coupon allows the retailer to generate coupons, each with a unique serial number, generally for a one-time use. Depending on user authority, a contact center agent may have the ability to allow a previously redeemed serialized coupon to be submitted to ORPE. In this situation, ORPE will apply the coupon discount as long as the cart meets the coupon requirements.
  - If the Contact Center user has authority to the *Allow Redeemed ORCE Serialized Coupon to be Overridden* secured feature, they can submit a previously redeemed serialized coupon to ORPE by clicking a new **attempt Reuse** button. For example: If the coupon represented a 10% discount on handbags, it would be automatically applied as long as the cart included a handbag.
- A Non-Serialized Coupon allows a retailer to define a coupon code for the promotion which can be used multiple times. For example, the coupon code 'SHOE20' may represent a coupon code that a customer can use multiple times to receive a 20% discount on a shoe purchase.

For Failed redeems due to a communication failure with ORCE or another issue, the retailer can generate a report through Customer Reports or RDS based on the Order Transaction History record where the serialized coupon was not redeemed.

About location qualifiers: When submitting the cart information to ORPE, Order Administration includes location identifier (value from *SCV K69 – Default Location for ORCE Integration*), so that ORPE can evaluate and either qualify or exclude the cart based on location rules defined for the promotion in ORCE.
About audience rules: Audience rules can be defined within each promotion created from the ORCE UI. By default, the audience defaults to All which means that the promotion is available to anyone. (Everyone who buys the items included in the promotion, gets the offer discount.) However, the retailer can optionally define the promotion audience as Exclusive or Non-Exclusive and include additional selections options.

> **Note**
>
> To identify customers that are included in exclusive promotions, Order Administration first makes a call to ORCE using the retrieveCustomer method. Any Exclusive Promotion details included in the response are then submitted with the cart for ORPE evaluation. If the cart qualifies for the exclusive promotion, the respective discounts are applied to the order.

Targeted Customer Promotions: the integration with ORPE supports applying customer targeted promotions tied to a customer in ORCE. These promotions are set up as *Audience Rules* within the promotion in ORCE.

- Exclusive Audience: When the retailer defines the promotion audience as Exclusive, this means that only the customers identified in the target group (segment) are eligible to receive the promotion.

- Non-Exclusive Audience: When the retailer defines the promotion audience as Non-Exclusive, this means that all customers are eligible to receive the promotion.

During Modern View Order Entry, if the customer exists in ORCE and qualifies for an Exclusive Promotion, that will automatically be passed into ORPE as additional qualifiers in the cart and the respective discounts are applied to the order.

Entitlement Coupons

Order Administration supports Entitlement coupons to be included from an external system when submitting the order using the Order API as well as providing the ability to retrieve and apply available entitlement coupons based on a customer's loyalty cards during Modern View Order Entry.

Entitlements are a type of coupon code that triggers an offer/deal that is tied to a loyalty program. Entitlements are not set up the same as coupons. First the customer must be set up/enrolled in a loyalty program in Customer Engagement (ORCE), then based on points earned an entitlement coupon is issued, specific to that customer.

Entitlements are supported when:

- *ORCE Customer Integration (L37)* system control value is set to INTERACT
- *Use ORCE Loyalty (M06)* system control value is set to Yes
- *Use ORPE Promotion Engine (M77)* system control value is set to Yes
- The Source Code assigned to the Order has the Price Method set to Regular Plus Reprice
- There is at least one Entitlement coupon for the selected Loyalty Card

Within Order Entry, the number of available entitlement coupons is displayed on the Select Card window. Once a loyalty card is assigned, entitlement coupons will be retrieved from Customer Engagement (ORCE) for that specific card only. You cannot apply entitlements associated to other loyalty cards not assigned to the order.

In the Order Summary panel, if entitlement coupons are available, an Entitlement Coupons available link or edit icon will be displayed within the Customer section. Advance into the Entitlement Coupons window to select/deselect which coupons should be submitted for evaluation during the order review step.

At final order submit, each Entitlement coupon that is successfully applied by ORPE is:

- Redeemed in ORCE. An Order Activity record is written for each successful or failed redemption request.
- Stored in discount history coupon tables.
- Displayed in a tooltip for a specific order line in MV Order Summary and Invoice tabs. Additionally, is included in the merchandise and shipping discount totals within the Order Totals section of the Order Summary tab. Only displayed if *Display Order Line Discount Message (F01)* system control value is set to Y.
- Displayed in the Promotion Details drawer in MV Order Summary. Only displayed if *Display Discount on Order Recap Screen (D38)* system control value is set to Y.

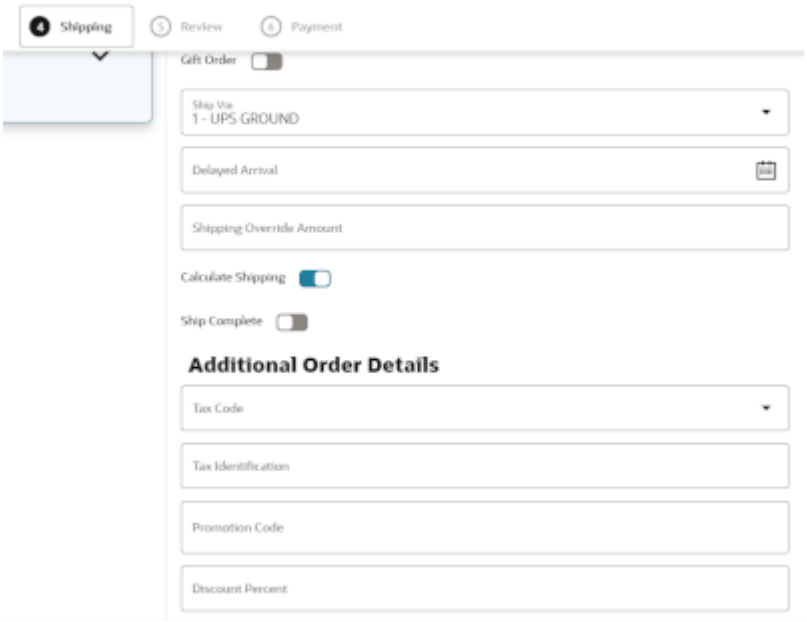
Entitlement coupons that apply merchandise and shipping discounts are included in:

- Customer Engagement POSLog within the RetailPriceModifier object.
- ReSA RTLog within the IDISC record. The Coupon Reference Number value is populated with a coupon_type of ‘entitlementCoupon’.

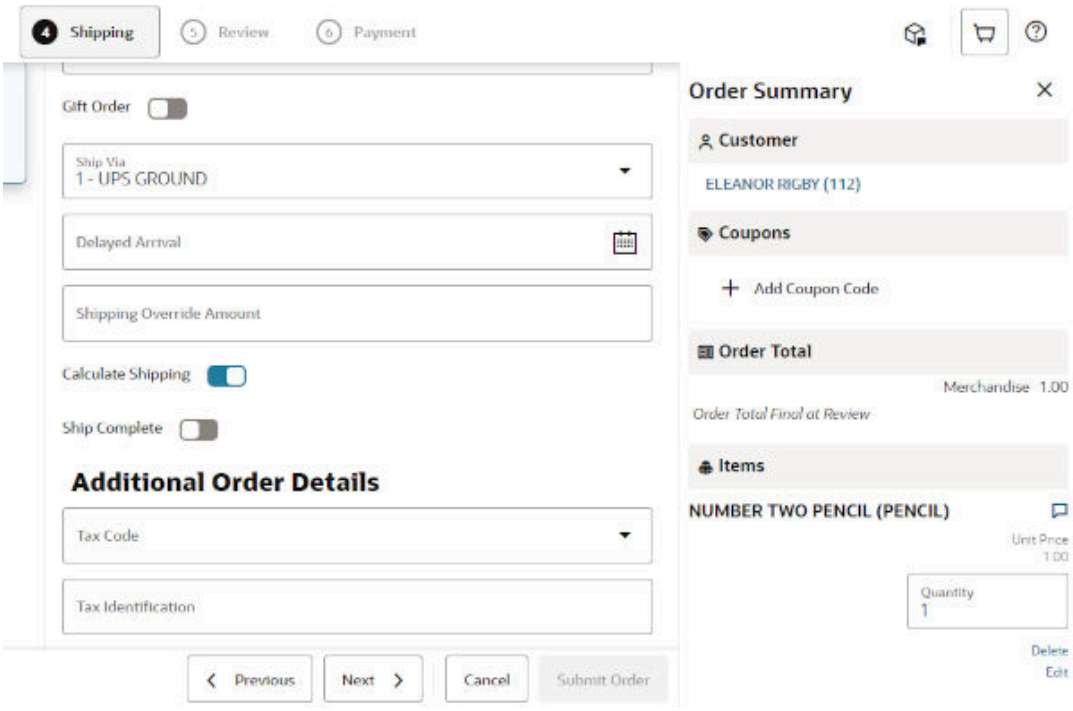
Order Entry Changes in Modern View

Modern View Order Entry has been changed when SCV *Use ORPE Promotion Engine (M77)* is enabled to support the deal types and promotions. The following now occurs:

- The **Promotion Code** and the **Discount Percent** fields are hidden from view.

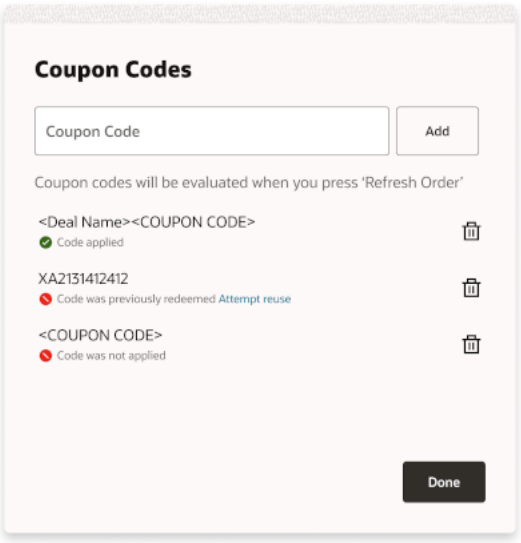


- When *Allow Manual Entry of Promotion Code (I63)* system control value is enabled there is a new **Coupons** section in the Order Summary panel.



- When using a source code with price method *Reg Plus Reprice* and the **Add Coupon Code** button is selected from the **Coupons** section of the Order Summary panel, a modal window opens so that the user can enter coupon codes. Entered coupons are evaluated

during order review, rather than immediately upon closing the modal window, since additional order changes may be incorporated.



  - If the source code used at order entry has price method other than *Reg Plus Reprice*, a warning message is displayed within the **Coupons** section advising *Source code does not support Coupons* and the **Add Coupon Code** button is not displayed.

- At the Review step, or after Refresh Order if changes were added, the **Coupons** section may display a message indicating that Codes were not applied; this occurs if any serialized coupons were previously redeemed or coupons were submitted for evaluation but were not applied.
- At the Final Submit step, a System Update entry is written in the Order Activity tab when:
  - a coupon code is entered but not successfully applied by ORPE.
  - a serialized coupon is successfully applied by ORPE and it is successfully redeemed or not.

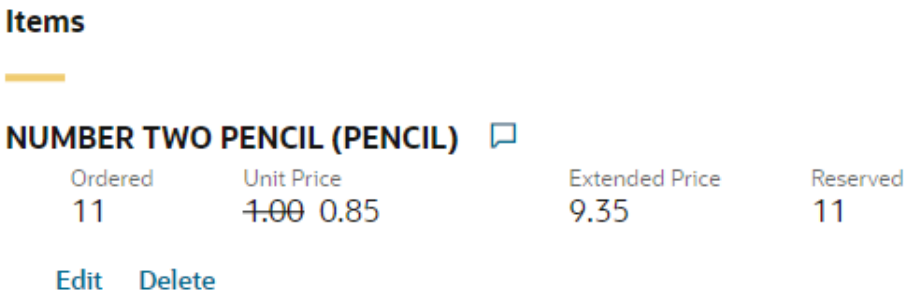
If the Contact Center user has authority to the *Allow Redeemed ORCE Serialized Coupon to be Overridden* secured feature, they can submit a previously redeemed serialized coupon to ORPE by clicking a new **Attempt Reuse** link. For example: If the coupon represented a 10% discount on handbags, it would be automatically applied as long as the cart included a handbag.

Discount Display in Modern View Order Entry and Summary

Item Level Discounts

When the offer price is greater than the unit price, the system now displays the offer price with a strike through before the discounted Unit Price. This is controlled by *Display Order Line Discount Messages (F01)* system control value.

Additionally, hovering over a new icon will display the discount details for each promotion applied, including the unit discount amount and the associated deal description. If the promotion was triggered by a coupon, the coupon code is included in parenthesis following the deal description.



Order Level Discounts

The Order Total section now displays an icon in front of each of the labels that include an ORPE discount (Merchandise and/or Shipping). This is controlled by *Display Discount On Order Recap Screen (D38)* system control value.

Additionally, an informational message will display below the totals for each ORPE discount type (Merchandise and/or Shipping) showing the total promotion discounts for the order.

> **Note**
>
> The calculated Merchandise Discounts and Shipping Discounts are limited to discounts applied by ORPE. If additional discounts were applied based on price methods, manual price overrides, and so on, those discounts would not be reflected in the Merchandise Discounts or Shipping Discounts.
> When no ORPE promotion discounts have been applied to the order, but there is a delta between the offer price and the actual selling price (due to price method discount, price overrides, and so on) an *Order Discount* informational message will display below the totals. The *Order Discount* value is a calculation of the sum of the extended offer prices for all lines, minus the total extended selling price for all lines.

Promotion Details

For orders including promotional discounts applied by ORPE (or submitted through the Order API with the *already_eval_by_promo_engine* attribute set to Y and containing reward data) a **Promotion Details** button will display within the Ship To section of Modern View Order Summary. Summary level promotion details per ship-to will be displayed in this panel.

From the Invoices tab, once an invoice has been selected the same item level and order level promotion discount data is available, however the lines displayed will be limited to those included on that specific invoice.

When there is a communication failure (error response, timeout) preventing Order Administration from successfully receiving the applyDeals response (via Modern View Order Entry, Error Batch Edit/Accept Processing or the Order API),details are written to the ORPE log.

If the error results from an order that was submitted from MV Order Entry, prior to the 'final submit', communication message advising that a communication error occurred is displayed.

If the error results from an order that was submitted from MV Order Entry, during the 'final submit', a snackbar message advising that a communication error occurred is displayed.

Discount History

When ORPE is enabled, additional order line discounts are captured and stored in the discount history tables. This includes automatic pricing/discounting as well as manual discounting performed in Modern View Order Entry and Maintenance, Classic View Order Entry and Maintenance, discounts relating to loyalty awards applied and discounts assessed on orders submitted via the CWOrderIn API. Individual discount details are displayed within Modern View Order Summary and passed in CWInvoiceOut and CWOrderOut.

The ReSA RTLog and the ORCE POSLog includes individual discount details for promotions and writes a delta record to make up the difference between the offer price and the discounted price, after the promotion discounts have been incorporated.

Pricing Upload Interface

Pricing Upload Interface allows you to upload Special Pricing by Source records and Quantity Price Matrix Detail records from an external system.

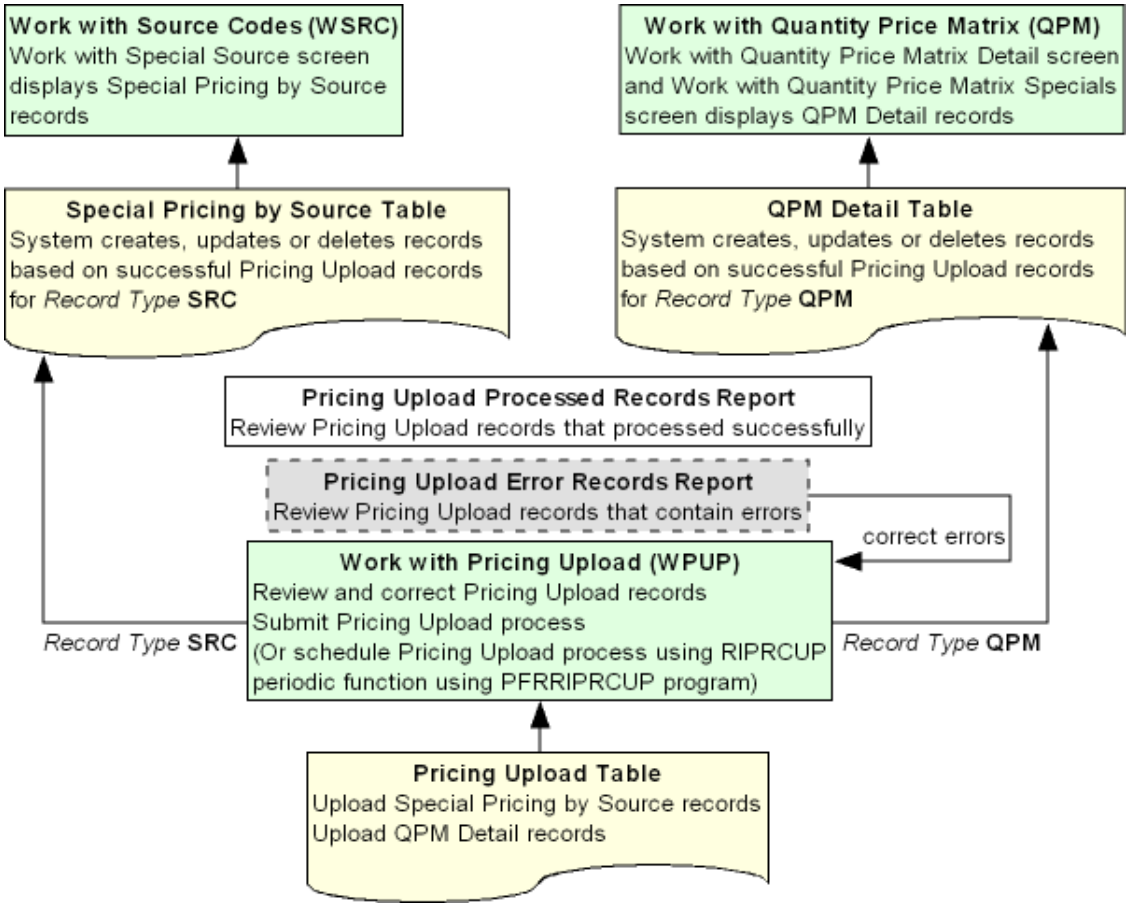
Special pricing by source allows you to define special pricing for an item that is ordered for the specified source code. The system applies the item discount automatically when the customer orders the item in the required quantity from the source code. You can define a discount price for regular customers and associate customers; the system updates the order line with **Special Source Price* as the pricing method. You can create, review, and update special pricing by source on the *Work with Special Source Price Screen* in the *Working with Source Codes (WSRC)* menu option.

Quantity price matrix pricing allows you to define special pricing for a specific item and SKU, item, or item category. You can define additional pricing for a specific sold to customer, customer price group, source code, and item category. The system updates the order line with **Qty Price Matrix* as the pricing method. You can create, review, and update quantity price matrix pricing on the *Work with Quantity Price Matrix Details Screen* and *Work with Quantity Price Matrix Specials Screen* in the *Working with Quantity Price Matrix (WQPM)* menu option.

In this topic:

For more information: See *Work with Pricing Upload (WPUP)*.

Pricing Upload Process



Use the following steps to upload Special Pricing by Source records and Quantity Price Matrix Detail records from an external system.

#	Step
1.	Populate the *Pricing Upload Table* with Special Pricing by Source and Quantity Price Matrix Detail records from an external system.
2.	Review, and optionally change, the Pricing Upload records in the *Work with Pricing Upload (WPUP)* menu option.
3.	When you are ready to upload the records from the Pricing Upload table, use the *Work with Pricing Upload Screen* to submit the Pricing Upload process. The Record Type field indicates whether the record is a Special Pricing by Source Upload record or Quantity Price Matrix Detail Upload record. • Record Type *SRC* indicates the record is a Special Pricing by Source Upload record. See *Uploading Special Pricing by Source Records* for processing details. • Record Type *QPM* indicates the record is a QPM Detail Upload record. See *Uploading Quantity Price Matrix Detail Records* for processing details. **Scheduling the Pricing Upload process:** You can also schedule the Pricing Upload process to run periodically by setting up the *RIPRCUP* periodic function using the *PFRRIPRCUP* program. See *Scheduling Jobs* for background.

Pricing Upload Table

This table contains Special Pricing by Source Upload records and QPM Detail Upload records. You need to populate this table to create, update, and delete Special Pricing by Source records and QPM Detail records through the *Pricing Upload Process*.

> **Note**
>
> It is your responsibility to populate this table with pricing information from an external system.

Field	Description
Company #	A code for the company associated with the Pricing Upload record. Company codes are defined in and validated against the Company table. **Special Pricing by Source** Corresponds to the Company field in the Special Pricing by Source table. **QPM Detail** Corresponds to the Company field in the QPM Detail table. Numeric, 3 positions; required.
Sequence #	A unique number assigned to each Pricing Upload record. Numeric, 9 positions; required.
Record Date	The date the Pricing Upload record was created. Numeric, 7 positions (CYYMMDD format); optional.
Record Type	The type of Pricing Upload record. Valid values: • *SRC* = Special Pricing by Source Upload record; this record creates, updates, or deletes a record in the Special Pricing by Source table. • *QPM* = Quantity Price Matrix Detail Upload record; this record creates, updates, or deletes a record in the QPM Detail table. Alphanumeric, 3 positions; required.
Request Type	Indicates whether the Pricing Upload record creates, updates, or deletes a record in the Special Pricing by Source table or QPM Detail table. Valid values: • *U* = Create or update a record. The system determines whether the Pricing Upload record creates or updates an existing record by comparing the information in the Pricing Upload record with the existing records in the Order Administration table. See *Uploading Special Pricing by Source Records* and *Uploading Quantity Price Matrix Detail Records* for more information on how the system determines if the Pricing Upload record creates a new record or updates an existing record. • *D* = Delete a record. The system uses the information in the Pricing Upload record to determine which record in the Special Pricing by Source table or QPM Detail table to delete. Alphanumeric, 1 position; required.

Field	Description
Item	A code for the item defined for the Pricing Upload record. Item codes are defined in and validated against the Item table. **Special Pricing by Source** The item associated with the special source price. Corresponds to the ITM Number field in the Special Pricing by Source table. **QPM Detail** The item associated with the quantity price matrix detail. You must define an item category or item for a quantity price matrix price, but not both. Corresponds to the Item field in the QPM Detail table. Alphanumeric, 12 positions; required.
SKU	The SKU of the item associated with the Pricing Upload record. SKU codes are defined in and validated against the SKU table. **Special Pricing by Source** Leave this field blank. If the item contains SKUs, the price will apply to all SKUs defined for the item. **Note** If you define a SKU for a Special Pricing by Source Upload record, the system ignores the value. **QPM Detail** Corresponds to the SKU field in the QPM Detail table. A code for the SKU of the item associated with the quantity price matrix detail. • If you define a SKU for the item, only the SKU specified qualifies for the quantity price matrix detail. • If you do not define a SKU for the item, all of the SKUs for the item qualify for the quantity price matrix detail. Alphanumeric, 14 positions; optional.
Quantity	**Special Pricing by Source** The quantity of the item that must be purchased to receive the specified price break. Corresponds to the Qty field in the Special Pricing by Source table. **QPM Detail** The quantity of the item that must be ordered to qualify for the quantity price matrix detail. The item qualifies for the quantity price matrix detail if the order line quantity is less than or equal to the quantity pice matrix detail. You cannot create more than one quantity price matrix price break for the same item category and quantity, item and quantity, or item and SKU and quantity. Corresponds to the Quantity field in the QPM Detail table. Numeric, 5 positions; required.

Field	Description
Price	The price at which the item will be sold if the pricing requirements are met. **Special Pricing by Source** Corresponds to the Price field in the Special Pricing by Source table. **Note** For Special Pricing by Source records, the price cannot be greater than 7 positions with a 2 place decimal. **QPM Detail** Corresponds to the Price field in the QPM Detail table. Numeric, 7 positions with a 2 place decimal; required for Record Type SRC.
Source	The source code associated with the pricing upload record. Source codes are defined in and validated against the Source Code table. **Special Pricing by Source** The source code associated with the Special Pricing by Source record. Corresponds to the Source Code field in the Special Pricing by Source table. **QPM Detail** The source code that must exist on the order header in order to qualify for the QPM price. Corresponds to the Source field in the QPM Detail table. Alphanumeric, 9 positions; required for Record Type SRC.
Associate price	The price at which the item will be sold to associate customers if the pricing requirements are met. **Special Pricing by Source** Corresponds to the Associate Price field in the Special Pricing by Source table. **Note** For Special Pricing by Source records, the associate price cannot be greater than 7 positions with a 2 place decimal. **QPM Detail** Leave this field blank. Numeric, 7 positions with a 2 place decimal; optional.
QPM Code	**Special Pricing by Source** Leave this field blank. **QPM Detail** The quantity price matrix code associated with the QPM Detail price. QPM codes are defined in and validated against the QPM Header table. Corresponds to the Code field in the QPM Detail table. Alphanumeric, 4 positions; required for Record Type QPM.

Field	Description
Item Category	**Special Pricing by Source** Leave this field blank. **QPM Detail** A code for the item category associated with the quantity price matrix detail. You must define an item category or item for a quantity price matrix price, but not both. Item category codes are defined in and validated against the Item Category table. Corresponds to the Item Category field in the QPM Detail table. Alphanumeric, 4 positions; optional.
Customer Sold To #	**Special Pricing by Source** Leave this field blank. **QPM Detail** The sold to customer that must exist on the order header in order to qualify for the QPM price. Customer sold to numbers are defined in and validated against the Customer Sold To table. Corresponds to the Customer field in the QPM Detail table. Numeric, 9 positions; optional.
Customer Price Group	**Special Pricing by Source** Leave this field blank. **QPM Detail** The customer price group for the sold to customer on the order header in order to qualify for the QPM price. Customer price group codes are defined in and validated against the Customer Price Group table. Corresponds to the Price Group field in the QPM Detail table. Alphanumeric, 4 positions; optional.
Expire Date	**Special Pricing by Source** Leave this field blank. **QPM Detail** The date the QPM price expires. The expiration date cannot be earlier than the current date. Corresponds to the Exp Date field in the QPM Detail table. Numeric, 7 positions (CYYMMDD format); optional.

Field	Description
Discount %	**Special Pricing by Source** Leave this field blank. **QPM Detail** The percentage of the quantity price matrix detail price when the item ordered is eligible for the quantity price matrix special. For example, *10* means the item qualifies for a 10% discount. *Example:* The % discount is based on the following criteria: • customer price group = QPM1 • item category = HG • quantity = 2 • % discount = 10 The 10% discount is based on the quantity price matrix detail defined for item category HG and quantity 2: • item category = HG • quantity = 2 • price = 10.00 In this example, the 10% discount is a 1.00 discount (10.00 QPM detail - 10% QPM special = 9.00 discount price) If a quantity price matrix detail is not defined for item category HG and quantity 2, the system uses the next lowest quantity for the item category (in this example, the system uses item category HG and quantity 1). See *Calculating the QPM Price* for more information on how the system finds the price for a quantity price matrix detail and quantity price matrix special. Corresponds to the Discount % field in the QPM Detail table. Numeric, 4 positions with a 2 place decimal; optional.
Tax Price	The price at which the item will be sold to customers if the order is subject to VAT and if the pricing requirements are met. Special Pricing by Source Corresponds to the Tax Price field in the Special Pricing by Source table. Displays on the *Work with Special Source Price Screen* only if the *Tax Included in Price (E70)* system control value is selected. **Note** For Special Pricing by Source records, the tax price cannot be greater than 7 positions with a 2 place decimal. **QPM Detail** Corresponds to the Tax Price field in the QPM Detail table. Displays on the *Work with Quantity Price Matrix Details Screen* and *Work with Quantity Price Matrix Specials Screen* only if the *Tax Included in Price (E70)* system control value is selected. Numeric, 7 positions with a 2 place decimal; optional.

Field	Description
Associate Tax Price	Special Pricing by Source The price at which the item will be sold to associate customers if the order is subject to VAT and if the pricing requirements are met. Corresponds to the Associate Tax Price field in the Special Pricing by Source table. Displays on the *Work with Special Source Price Screen* only if the *Tax Included in Price (E70)* system control value is selected. **Note** For Special Pricing by Source records, the associate tax price cannot be greater than 7 positions with a 2 place decimal. **QPM Detail** Leave this field blank. Numeric, 7 positions with a 2 place decimal; optional.
Status	The status of the Pricing Upload record. Valid values: • *U* or Blank = The Pricing Upload record has not yet been processed. • *E* = The Pricing Upload record contains errors. See *Pricing Upload Interface Errors*. Alphanumeric, 1 position; updated by the system.
Error	The reason why the Pricing Upload record has been placed in an error status. See *Pricing Upload Interface Errors*. Alphanumeric, 30 positions; updated by the system.

Pricing Upload Interface Errors

The system includes Pricing Upload records that are in error on the *Pricing Upload Error Records Report*. You can correct records that are in error using the *Work with Pricing Upload (WPUP)* menu option.

Error	Reason
General Errors	

Error	Reason
Invalid Request Type	The *Record Type* field for the record in the *Pricing Upload Table* is invalid. Valid values for Record Type are *SRC* (Special Pricing by Source upload) or *QPM* (QPM Detail upload). **Note** If the *Request Type* field for the record in the Pricing Upload Table is missing or invalid, the system looks for a match to the record in the Order Administration table and either creates a new record (no match found) or updates the existing record (match found). **To correct this error:** If the Record Type is missing or invalid, the system places the record in an error status; however, you cannot correct this error using the Change Pricing Upload screen. You must correct the error in the *Pricing Upload Table*.
Qty is required	The *Quantity* field for the record in the *Pricing Upload Table* is blank and it is a required field.
Record does not exist for Dlt	The *Request Type* field for the record in the *Pricing Upload Table* is *D* (Delete) and the system could not match the upload record to an existing record in the Order Administration database.
Item does not exist	The *Item* field for the record in the *Pricing Upload Table* is invalid. Item codes are defined in and validated against the Item table.
Source does not exist	The *Source* field for the record in the *Pricing Upload Table* is invalid. Source codes are defined in and validated against the Source Code table.
Special Pricing by Source Errors The following errors can occur if the *Record Type* for the record in the Pricing Upload table is *SRC*.	
Source is required	The *Source* field for the record in the *Pricing Upload Table* is blank and it is a required field.
Item is required	The *Item* field for the record in the *Pricing Upload Table* is blank and it is a required field.
Price is required	The *Price* field for the record in the *Pricing Upload Table* is blank and it is a required field.
Price value is too large	The entry in the *Price* field for the record in the *Pricing Upload Table* is greater than 7 positions with a 2-place decimal.
Tax Price value is too large	The entry in the *Tax Price* field for the record in the *Pricing Upload Table* is greater than 7 positions with a 2-place decimal.

Error	Reason
Quantity Price Matrix Detail Errors The following errors can occur if the *Record Type* for the record in the Pricing Upload table is *QPM*.	
QPM Code is required	The *QPM Code* field for the record in the *Pricing Upload Table* is blank and it is a required field.
QPM Code does not exist	The *QPM Code* field for the record in the *Pricing Upload Table* is invalid. QPM codes are defined in and validated against the QPM Header table.
Category or Item is required	The *Item Category* field and *Item* field for the record in the *Pricing Upload Table* are either blank or both contain a value. You must define an item category or item for a QPM Detail record, but not both.
SKU does not exist	The *SKU* field for the record in the *Pricing Upload Table* contains an invalid value. SKU codes are defined in and validated against the SKU table.
SKU requires Item	The *SKU* field for the record in the *Pricing Upload Table* contains a value and the *Item* field is blank.
Category does not exist	The *Item Category* field for the record in the *Pricing Upload Table* contains an invalid value. Item category codes are defined in and validated against the Item Category table.
Customer does not exist	The *Customer Sold To #* field for the record in the *Pricing Upload Table* contains an invalid value. Customer sold to numbers are defined in and validated against the Customer Sold To table.
Price Group does not exist	The *Customer Price Group* field for the record in the *Pricing Upload Table* contains an invalid value. Customer price group codes are defined in and validated against the Customer Price Group table.
Price or Disc % is required	The *Price* field and *Discount %* field for the record in the *Pricing Upload Table* are either blank or both contain a value. You must define a price or discount % for a QPM Detail record, but not both. Also, if you define a discount % you must also specify a *Customer Sold To #* or *Customer Price Group*, and/or *Source*.
Disc % missing Src/Cust#/CPG	The *Discount %* field for the record in the *Pricing Upload Table* contains a value and a *Customer Sold To #* or *Customer Price Group*, and/or *Source* has not been specified.
Cust# or CPG is required	The *Customer Sold To #* field and *Customer Price Group* field for the record in the *Pricing Upload Table* are either blank or both contain a value. You must define an item category or item for a QPM Detail record, but not both.
Exp Date missing Src/Cust#/CPG	The *Expire Date* field for the record in the *Pricing Upload Table* contains a value and a *Customer Sold To #* or *Customer Price Group*, and/or *Source* has not been specified.
Exp Date < today	The *Expire Date* field for the record in the *Pricing Upload Table* contains a date that is earlier than the current date.
Tax Price missing Price	The *Tax Price* field for the record in the *Pricing Upload Table* contains a value and the *Price* field is blank.

Uploading Special Pricing by Source Records

The system performs the following validation when you upload a Special Pricing by Source record (Record Type *SRC*) through the Pricing Upload Interface.

#	Step
1.	Validates that the required fields for the Special Pricing by Source upload record in the Pricing Upload table contain information and the fields that require a valid value contain a valid value. The minimum fields required for a Special Pricing by Source upload record in the *Pricing Upload Table* are: • *Company #* (validated against the Company table) • *Sequence #* (must be unique for each record) • *Record Type* (must be *SRC*) • *Request Type* (must be *U* (create or update) or *D* (delete)) • *Item* (validated against the Item table) • *Quantity* • *Price* (cannot be greater than 7 positions with a 2 place decimal) • *Source* (validated against the Source table) In addition, you can also define: • *Associate price* (cannot be greater than 7 positions with a 2 place decimal) • *Tax Price* (cannot be greater than 7 positions with a 2 place decimal) • *Associate Tax Price* (cannot be greater than 7 positions with a 2 place decimal) See *Pricing Upload Interface Errors* for more information on the validation the system performs.
2.	Determines whether the Special Pricing by Source upload record in the Pricing Upload table creates, updates, or deletes a Special Pricing by Source record in the Order Administration database. The system uses the *Company #*, *Item*, *Source*, and *Quantity* fields for the Pricing Upload record to determine if a match exists in the Special Pricing by Upload table. • If a match exists and the Request Type is *U*, the system updates the existing record. • If a match exists and the Request Type is *D*, the system deletes the existing record. • If a match does not exist and the Request Type is *U*, the system creates a new record. • If a match does not exist and the Request Type is *D*, the system places the upload record in an error status: `Record does not exist for Dlt`.
3.	**Failed Special Pricing by Source Upload** If the Special Pricing by Source Upload record in the Pricing Upload table does not pass validation, the system: • Prints the record on the *Pricing Upload Error Records Report*. • Retains the record in the *Pricing Upload Table* in an error status until the record is fixed or deleted. You can work with Pricing Upload records that are in an error status using the *Work with Pricing Upload (WPUP)* menu option.
4.	**Successful Special Pricing by Source Upload** If the Special Pricing by Source Upload record in the Pricing Upload table passes validation, the system: • Creates, updates, or deletes the Special Pricing by Source record. See *Special Pricing by Source Table Updates* for more information on how the system creates or updates a Special Pricing by Source record. • Deletes the record from the *Pricing Upload Table*. • Prints the Special Pricing by Source Upload record on the *Pricing Upload Processed Records Report*. You can review or maintain Special Pricing by Source records on the *Work with Special Source Price Screen* in the *Working with Source Codes (WSRC)* menu option.

Special Pricing by Source Table Updates

The system uses the information defined in the Pricing Upload table to create, update, or delete a record in the Special Pricing by Source table in the Order Administration database.

You can review Special Pricing by Source records on the *Work with Special Source Price Screen* in the *Working with Source Codes (WSRC)* menu option. See this screen for complete field descriptions.

Field	Description
Company	A code for the company where the special source price applies. From the *Company #* field in the *Pricing Upload Table*. Numeric, 3 positions.
Item Number	The item to which the special source price applies. From the *Item* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Source Code	The source code for which the special source price applies. From the *Source* field in the *Pricing Upload Table* Alphanumeric, 9 positions.
Quantity	The quantity of the item that must be purchased to receive the specified price break. From the *Quantity* field in the *Pricing Upload Table*. Numeric, 5 positions.
Price	The price at which the item will be sold if the pricing requirements are met. From the *Price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.
Associate Price	The price at which the item will be sold to associate customers if the pricing requirements are met. From the *Associate price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.
Tax Price	The price at which the item will be sold to customers if the order is subject to VAT and if the pricing requirements are met. **Note** Displays on the *Work with Special Source Price Screen* only if the Tax Included in Price (E70) system control value is selected. From the *Tax Price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.

Field	Description
Associate Tax Price	The price at which the item will be sold to associate customers if the order is subject to VAT and if the pricing requirements are met. **Note** Displays on the *Work with Special Source Price Screen* only if the Tax Included in Price (E70) system control value is selected. From the *Associate Tax Price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.

Uploading Quantity Price Matrix Detail Records

The system performs the following validation when you upload a Quantity Price Matrix Detail record (Record Type *QPM*) through the Pricing Upload Interface.

#	Step
1.	Validates that the required fields for the QPM Detail upload record in the Pricing Upload table contain information and the fields that require a valid value contain a valid value. The minimum fields required for a QPM Detail upload record in the *Pricing Upload Table* are: • *Company #* (validated against the Company table) • *Sequence #* (must be unique for each record) • *Record Type* (must be *QPM*) • *Request Type* (must be *U* (create or update) or *D* (delete)) • *Item* (validated against the Item table) or *Item Category* (validated against the Item Category table), but not both • *Quantity* • *Price* or *Discount %*, but not both (if you define a discount % you must also specify a *Customer Sold To #* or *Customer Price Group*, and/or *Source*) In addition, you can also define: • *SKU* (if an *Item* is defined) • *Tax Price* • *Customer Sold To #* or *Customer Price Group*, but not both • *Source* **Note** You cannot create more than one quantity price matrix detail for the same item category and quantity, item and quantity, or item and SKU and quantity. See *Pricing Upload Interface Errors* for more information on the validation the system performs.

#	Step
2.	Determines whether the QPM Detail upload record in the Pricing Upload table creates, updates, or deletes a QPM Detail record in the Order Administration database. The system uses the *Company #*, *QPM Code*, *Quantity*, *Source*, either the *Item Category* or *Item* and *SKU*, and either the *Customer Sold To #* or *Customer Price Group*, for the Pricing Upload record to determine if a match exists in the Special Pricing by Upload table. See • If a match exists and the Request Type is *U*, the system updates the existing record. • If a match exists and the Request Type is *D*, the system deletes the existing record. • If a match does not exist and the Request Type is *U*, the system creates a new record. • If a match does not exist and the Request Type is *D*, the system places the upload record in an error status: `Record does not exist for Dlt`.
3.	**Failed QPM Detail Upload** If the QPM Detail Upload record in the Pricing Upload table does not pass validation, the system: • Updates the *Status* of the record in the *Pricing Upload Table* to *E* (Error). • Prints the Pricing Upload record on the *Pricing Upload Error Records Report*. • Retains the record in the *Pricing Upload Table* in an error status until the record is fixed or deleted. You can work with Pricing Upload records that are in an error status using the *Work with Pricing Upload (WPUP)* menu option.
4.	**Successful Special Pricing by Source Upload** If the QPM Detail Upload record in the Pricing Upload table passes validation, the system: • Updates the *Status* of the record in the *Pricing Upload Table* to *P* (Processed). • Prints the Pricing Upload record on the *Pricing Upload Processed Records Report*. • Creates, updates, or deletes the QPM Detail record. See *QPM Detail Table Updates* for more information on how the system creates or updates a QPM Detail record. • Deletes the record from the *Pricing Upload Table*. You can review or maintain QPM Detail records in the *Working with Quantity Price Matrix (WQPM)* menu option. 1. Records without a *Discount %*, *Customer Sold To #*, *Customer Price Group*, and *Source* can be viewed on the *Work with Quantity Price Matrix Details Screen*. 2. Records with a *Discount %*, *Customer Sold To #*, *Customer Price Group*, or *Source* can be viewed on the *Work with Quantity Price Matrix Specials Screen*.

QPM Detail Table Updates

The system uses the information defined in the Pricing Upload table to create, update, or delete a record in the QPM Detail table in the Order Administration database.

You can review QPM Details on the *Work with Quantity Price Matrix Details Screen* and *Work with Quantity Price Matrix Specials Screen* in the *Working with Quantity Price Matrix (WQPM)* menu option. See these screens for complete field descriptions.

Field	Description
Company	A code for the company where the quantity price matrix price applies. From the *Company #* field in the *Pricing Upload Table*. Numeric, 3 positions.

Field	Description
Code	The quantity price matrix code for which the quantity price matrix price applies. From the *QPM Code* field in the *Pricing Upload Table*. Alphanumeric, 4 positions.
Item	The item to which the quantity price matrix price applies. From the *Item* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
SKU	The SKU to which the quantity price matrix price applies. From the *SKU* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Item Category	The item category code to which the quantity price matrix price applies. From the *Item Category* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Quantity	The quantity of the item that must be purchased to receive the specified price break. From the *Quantity* field in the *Pricing Upload Table*. Numeric, 5 positions.
Price	The price at which the item will be sold if the pricing requirements are met. From the *Price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.
Tax Price	The price at which the item will be sold to customers if the order is subject to VAT and if the pricing requirements are met. From the *Tax Price* field in the *Pricing Upload Table*. Numeric, 13 positions with a 2 place decimal.
Customer	The sold to customer to which the quantity price matrix price applies. From the *Customer Sold To #* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Price Group	The customer price group to which the quantity price matrix price applies. From the *Customer Price Group* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Expiration Date	The date the quantity price matrix price expires. From the *Expire Date* field in the *Pricing Upload Table*. Numeric, 7 positions (CYYMMDD format).

Field	Description
Discount %	The percentage of the quantity price matrix detail price when the item ordered is eligible for the quantity price matrix special. For example, *10* means the item qualifies for a 10% discount. *Example:* The % discount is based on the following criteria: • customer price group = QPM1 • item category = HG • quantity = 2 • % discount = 10 The 10% discount is based on the quantity price matrix detail defined for item category HG and quantity 2: • item category = HG • quantity = 2 • price = 10.00 In this example, the 10% discount is a 1.00 discount (10.00 QPM detail - 10% QPM special = 9.00 discount price) If a quantity price matrix detail is not defined for item category HG and quantity 2, the system uses the next lowest quantity for the item category (in this example, the system uses item category HG and quantity 1). See *Calculating the QPM Price* for more information on how the system finds the price for a quantity price matrix detail and quantity price matrix special. Numeric, 4 positions with a 2 place decimal.
Source	The source code to which the quantity price matrix price applies. From the *Source* field in the *Pricing Upload Table*. Alphanumeric, 12 positions.
Sort	Used to correctly display QPM detail records on the *Work with Quantity Price Matrix Specials Screen*. 1. *0* defaults if a *Customer Sold To #*, *Customer Price Group*, and *Source* are not defined. 2. *2* defaults if a *Customer Sold To #* is defined. 3. *4* defaults if a *Customer Price Group* is defined. 4. *5* defaults if a *Source* is defined. Numeric, 1 position.

Store Upload

Purpose: The Store Upload allows you to upload store information from an external system to create or update records the Store Cross Reference table.

> **Note**
>
> You cannot use the Store Upload process to delete a record from the Store Cross Reference table.

In this topic:

- Store Upload Process
- Store Update Errors Report

For more information: See Work with Store Cross Reference (WSCR) for more information on creating, updating, and deleting store cross references in Order Administration.

Store Upload Setup

The setup required to use the store upload includes:

- Store File
- Work with File Upload (WUPL)
- STRUPLD Upload Store Periodic Function

Store File

Create a Store flat file for the store information you wish to create or update.

- The fields in this flat file are fixed length, each record separated by a carriage return.
- The name of the file must start with ST and have a .TXT file extension; for example: ST99999.txt, where 99999 is a unique value for each Store file.
- Include only one record for each store you wish to upload. However, if multiple records exist for the same store number, the system creates or updates the record in the Store Cross Reference table using the information in the last record processed.
- If you wish to leave any field in the upload file blank, pass a space in the field so that the file can be processed without errors. Leaving a field with no space is interpreted as null in the database and causes errors.

File contents:

Field	Description
Store #	Updates Store# in the Store Cross Reference table. Alphanumeric, 10 positions; Required.
Store Name	Updates Description in the Store Cross Reference table. Alphanumeric, 40 positions; Required.
Store Active Indicator	Updates Active? in the Store Cross Reference table. Valid values are: • Y = The store is active. • N = The store is not active. Alphanumeric, 1 position; Required.
Address 1	Updates Address Line 1 in the Store Cross Reference table. Alphanumeric, 32 positions; Required when updating an existing record whose Ship for Pickup flag is selected.
Address 2	Updates Address Line 2 in the Store Cross Reference table. Alphanumeric, 32 positions; Optional.
Address 3	Updates Address Line 3 in the Store Cross Reference table. Alphanumeric, 32 positions; Optional.
Address 4	Updates Address Line 4 in the Store Cross Reference table. Alphanumeric, 32 positions; Optional.

Field	Description
City	Updates City in the Store Cross Reference table. Alphanumeric, 25 positions; Required when updating an existing record whose Ship for Pickup flag is selected.
State	Updates State in the Store Cross Reference table. The state code must be defined for the SCF associated with the postal code. Alphanumeric, 2 positions; Required when updating an existing record whose Ship for Pickup flag is selected.
Postal Code	Updates Postal Code in the Store Cross Reference table. The postal code must be at least 5 characters and its first three positions must exist in the SCF table. Alphanumeric, 10 positions; Required when updating an existing record whose Ship for Pickup flag is selected.
Country	Updates Country in the Store Cross Reference table. Alphanumeric, 3 positions; Required when updating an existing record whose Ship for Pickup flag is selected.
Phone	Updates Telephone # in the Store Cross Reference table. Alphanumeric, 14 positions; Optional.

Sample record in Store file:

```
STORE#777 THIS IS STORE#777 NAME/DESCRIPTION      YSTORE#777 STREET
ADDRESS LINE 1 STORE#777 STREET ADDRESS LINE 2 STORE#777 STREET
ADDRESS LINE 3  STORE#777 STREET ADDRESS LINE 4CITY
                    MA01468     USATELEPHONENUMBR
```

Work with File Upload (WUPL)

You will use the Work with File Uploads (WUPL) menu option to upload the Store file to the STORE_FILE_PATH folder (CPRP).

> **Note**
>
> Using the File Storage API to upload stores is not currently supported.

STRUPLD Upload Store Periodic Function

You will use the STRUPLD periodic function to submit the Store Upload Process.

Function Setting	How to Set
Function:	STRUPLD
Description:	UPLOAD STORES
Program name:	PFR0110
Company	The Company flag must be selected. The Store Upload process creates records in the Store Cross Reference table using the company you entered when you submitted the STRUPLD periodic function.

1. The STRUPLD periodic function is delivered with the system. Use the Working with Periodic Functions (WPER) menu option to review it.
2. Use the Working with Periodic Processes (WPPR) menu option to assign the STRUPLD periodic function to a periodic process.
3. Once you have created the periodic process, you can use the Execute Periodic Process screen (located in the Working with Periodic Processes (WPPR) or Executing Periodic Processes (EPRO)) to define a schedule for the job. See Defining the Job Schedule.

For more information: See Scheduling Jobs for more information on How to Schedule a Job.

Store Upload Process

After you use WUPL to upload the store file, then submit the STRUPLD Store Upload periodic function to have the system perform the following steps.

#	Step
1.	Looks in the directory defined in the STORE_FILE_PATH property (CPRP) for new store files to process. If a file exists in the STORE_FILE_PATH directory whose file name begins with ST and has a .TXT file extension, the syistem selects the file for processing.
2.	Validates each record in the file. • The system includes records that do not pass validation on the Store Update Errors Report. • The system continues to the next step for records that pass validation.
3.	Creates or updates records in the Store Cross Reference table for the company you entered when you submitted the STRUPLD periodic function. The system uses the Store # in the Store File to determine if the record is an add or a change. • If the Store # matches a Store # in the Store Cross Reference table, the system updates the existing record. **Note:** When updating an existing store cross reference record, the system overlays the existing values for the record with the values that are passed in the upload. For example, if the upload record does not include a Phone, the system updates the Telephone # field in the Store Cross Reference table to blank. • If the Store # does not match a Store # in the Store Cross Reference table, the system creates a new record. You can review the store cross reference records that have been created and updated in the Work with Store Cross Reference (WSCR) menu option.
4.	Once all of the records in the Store file are processed, the system changes the file extension of the file from .TXT to .PRC to indicate that the file has been processed. It is your responsibility to delete files with the .PRC file extension.

Using the Financial Data Interface

Purpose: Use the financial data interface to extract invoice information for the current date or for a range of dates.

Periodic function: To perform the extract as part of a periodic process, you must first create a periodic function for the program FNR0008. You can then assign the periodic function to a periodic process, which you can run daily to capture all invoices for that system date.
See Working with Periodic Functions (WPER) for an overview on working with periodic functions.

For more information: :

- Working with Periodic Functions (WPER)
- Working with Periodic Processes (WPPR)

Financial Sales Download Table (IXSLDL)

> **Note**
>
> Each of the fields listed below contains data only if indicated for the record type; otherwise, the field is blank.

Field	Attributes	Comments	Record Types
Company	Numeric, 3 positions	From Invoice Header table.	all
Invoice number	Numeric, 7 positions	From Invoice Header table.	all
Invoice type	Alphanumeric, 1 position	From Invoice Header table: I = invoice C = credit	all
Record type	Alphanumeric, 1 position	01 = sale (one record for each Invoice Detail record) 02 = credit (one record for each Invoice Detail record) 03 = Shipping and handling 04 = Pay type (one record for each invoice payment method) 05 = additional charges	all
Sequence number	Numeric, 4 positions	Generated by the extract; restarts at 1 with each extract.	all
Customer number	Numeric, 9 positions	From Order Header table.	all
Order number	Numeric, 8 positions	From Invoice Header table.	all
Entity	Numeric, 3 positions	From the division associated with the source code on the Order Header.	all
Internet order	Alphanumeric, 1 position	I = internet order; otherwise blank. Based on the setting of the Internet order (Future use sts 1) field in the Order Header table; if this field is set to I, then the order is considered an internet order.	all
Invoice date	Numeric, 8 positions; YYYYMMDD format	From Invoice Header table.	all
Item	Alphanumeric, 12 positions	From Order Detail table.	01 (sale) and 02 (credit)
SKU	Alphanumeric, 14 positions	Three 4-position fields, separated by blank spaces.	01 (sale) and 02 (credit)
Long SKU style	Alphanumeric, 20 positions	From the L/S style (Long SKU style) SKU table. If no long SKU style is specified for the SKU, then this field is blank.	01 (sale) and 02 (credit)

Field	Attributes	Comments	Record Types
Long SKU color	Alphanumeric, 5 positions	From the L/S color (Long SKU color) in the SKU table. If no long SKU color is specified for the SKU, then this field is set to 00000. **Note:** The L/S color in the SKU table is a numeric field.	01 (sale) and 02 (credit)
Long SKU size	Alphanumeric, 5 positions	From the L/S size (Long SKU size) in the SKU table. If no long SKU size is specified for the SKU, then this field is set to 00000. **Note:** The L/S size in the SKU table is a numeric field.	01 (sale) and 02 (credit)
Long SKU width	Alphanumeric, 5 positions	From the L/S width (Long SKU width) in the SKU table. If no long SKU width is specified for the SKU, then this field is set to 00000. **Note:** The L/S width in the SKU table is a numeric field.	01 (sale) and 02 (credit)
SKU second language description	Alphanumeric, 40 positions	From the Second language description if no second language description is specified for the SKU; otherwise, from the Second language description. If no second language description is specified for the SKU or the base item, then this field is blank.	01 (sale) and 02 (credit)
Retail style number	Alphanumeric, 20 positions	From the Rtl style (Retail Style #) in the Item table. From the base item, if specified; otherwise, this field is blank.	01 (sale) and 02 (credit)
Quantity shipped	Numeric, 4 positions	The quantity shipped or returned, from the Ship qty (Shipped quantity) in the Invoice Detail table. Absolute value (i.e., both credits and invoices have positive quantities).	01 (sale) and 02 (credit)

Field	Attributes	Comments	Record Types
Dollar amount	Numeric, 13 positions with a 2-place decimal	Depending on record type: • record types 01 and 02: extended merchandise dollar total calculated by multiplying the Ship qty (Shipped quantity) by the Price from the Invoice Detail table • record type 03: total of Freight, Handling (Handling charge), and Add'l freight (Additional freight charges) from the Invoice Header table • record type 04: total of Merchandise, Freight, Additional freight balance, Additional charges balance, Handling (Handling charge), and Tax from the Invoice Payment Method table • record type 05: total Add'l charges (Additional charges) from the Invoice Header table • **Note:** Absolute value (i.e., both credits and invoices have positive amounts).	all
Tax amount	Numeric, 13 positions with a 2-place decimal	• From the Tax in the Invoice Header table. The entire tax amount for the invoice is included in the first 01 or 02 record. **Note:** Absolute value (i.e., both credits and invoices have positive amounts).	01 (sale) and 02 (credit)
Additional charge code	Alphanumeric, 2 positions	From the Code in the Order Additional Charge table.	05 (additional charges)
Pay type	Numeric, 2 positions	From the Pay method in the Invoice Payment Method table. Not zero-filled (for example, pay type 9 is represented as 9, not 09).	04 (pay type)
Credit card number	Alphanumeric, 16 positions	From the Credit card # in the Invoice Payment Method table. Used only for credit card payment methods (payment category 2). **Note:** If you use credit card encryption, the credit card number will not be encrypted because the information in this table is extracted to an outside system.	04 (pay type)
Credit card expiration date	Alphanumeric, 4 positions	From the CC expiration date in the Invoice Payment Method table. Used only for credit card payment methods (payment category 2); otherwise, this field is set to 0000 for an 04 record.	04 (pay type)

Field	Attributes	Comments	Record Types
Credit card authorization code	Alphanumeric, 6 positions	From the Auth # in the Invoice Payment Method table. Used only for credit card payment methods (payment category 2). Included on invoice records only.	04 (pay type)

Working with the Marketing Download Extract

Purpose: The Marketing Download Extract allows you to download order and customer information from Order Administration to an external system.

To download order and customer-related data: The system creates records in the Marketing Download Trigger table as a result of certain actions in Order Administration. You can then:

- Run the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function to extract order and customer-related records in the Marketing Download Trigger table to the appropriate Marketing Download table.
- Run the MDEXPRT Marketing Download Export (PFR0130) periodic function to extract the data in the Marketing Download tables to a pipe delimited text file.

The text file is then included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table.

For more information: See Creating Marketing Download Trigger Records and Populating the Marketing Download Tables and Extract Files, and see File Storage API for background on using the file storage API.

Marketing Download reports: You can print reports to review the data in the Marketing Download tables before the data is downloaded to an external system; see Setting up the Marketing Download Extract for more information.

> **Note**
>
> Because the Marketing Download extract process clears old trigger records from the table, back up the contents of the table before running the extract if you will need the data later.

In this topic:

- Marketing Download Customer Address Change Table and Extract File
- Marketing Download Customer Ownership Table and Extract File
- Marketing Download Customer Profile Table and Extract File
- Marketing Download Order Header Interface Summary Report
- Marketing Download Order Detail Interface Summary Report
- Marketing Download Customer Status Change Interface Report
- Marketing Download Customer Inquiry Interface Report
- Marketing Download Change of Address Interface Report

Setting up the Marketing Download Extract

System control values: The following system control values control trigger creation logic:

- Populate Marketing Download Trigger File (G33): controls the type(s) of triggers to create.
- Include All Customer Inquiry Triggers for Marketing Download (I09): controls whether to create customer inquiry triggers if there are corresponding order header triggers.

Periodic functions: The Marketing Download extract uses the following periodic functions:

- MDEXTR Marketing Download Order and Customer Extract (CSX1041) populates the Marketing Download order-related and customer-related tables based on the records in the Marketing Download Trigger table.
- MDEXPRT Marketing Download Export (PFR0130) exports the data in the Marketing Download order-related and customer-related tables to pipe-delimited files and places the files in the Marketing folder of the directory defined in the CWDIRECTCP_FTP_FOLDER property (CPRP). Once the extract files are created, the system deletes the records in the associated Marketing Download tables.

How to set up: To set up the Marketing Download periodic functions for periodic processing:

- Use Working with Periodic Functions (WPER) to set up each of the required Marketing Download periodic functions (for example, enter CSR1033 as the Program name for the function that populates the Marketing Download Source Download table).
- Use Working with Periodic Processes (WPPR) to assign each of the periodic functions to a periodic process.
- Use Scheduling Jobs to indicate when and how often to run the periodic process.

Generating reports: You can also set up periodic functions for the Marketing Download reports and assign them to the Marketing Download periodic process:

- MDADRCG (CSX1069): Marketing Download Change of Address Interface Report
- MDCSCHG (CSX1061): Marketing Download Customer Status Change Interface Report
- MDINQSM (CSX1066): Marketing Download Customer Inquiry Interface Report
- MDORDHD (CSX1044): Marketing Download Order Header Interface Summary Report
- MDORDTL (CSX1058): Marketing Download Order Detail Interface Summary Report

> **Note**
>
> To make sure the report prints correctly, select an option that reduces the page or fits the content to the printer margins at the Print dialog box.

Marketing Download Extract Process

Creating Marketing Download Trigger Records

Which activity creates a trigger? The setting of the Populate Marketing Download Trigger File (G33) system control value determines which type of activity in Order Administration causes the system to populate the Marketing Download Trigger table. Valid values are:

- ORDER: order entry or maintenance
- CUSTOMER: customer maintenance or catalog requests
- ORD/CUST: order entry or maintenance, customer maintenance, or catalog requests

Marketing download trigger type: When the system creates a record in the Marketing Download Trigger table, the record is assigned a trigger type based on the type of activity that was performed. The trigger type determines which fields are populated in the Marketing Download Trigger table and which Marketing Download table is populated when you run the marketing download trigger program. The following table lists the trigger type created based on the setting of the *Populate Marketing Download Trigger File (G33)* system control value and the action you performed.

SCV value:	creates trigger type:	when you:	trigger includes:	Marketing Download table populated:
ORDER or ORD/CUST	OH (order header)	• create a new order in order entry or accept an order in batch order entry. A separate record is created for each order ship-to. • add a new ship-to address (using Accept/Add Rcp) in order maintenance.	Customer sold to # Customer ship to # (if a permanent ship-to address is used) Entity Order # Order ship-to #	Marketing Download Order Header Table and Extract File, Marketing Download Order Detail Table and Extract File Marketing Download Customer Inquiry Table and Extract File **(only for a recipient customer)**
ORDER or ORD/CUST	LH (order line history)	create order line history (for example, adding, cancelling, changing, exchanging, returning, shipping, or selling out an item on an order; or billing an order). **Note:** The system does not create an LH record if the original OH record for the order is in the Marketing Download Trigger table.	Order # Order ship-to # Order detail sequence # Order line history sequence #	Marketing Download Order Detail Table and Extract File

SCV value:	creates trigger type:	when you:	trigger includes:	Marketing Download table populated:
CUSTOMER or ORD/CUST	CI (customer inquiry)	• create a catalog request. • create a new customer in order entry, even if you don't accept the order. • create a new customer entity record, if the Track Customer History at Entity Level (F89) system control value is selected.	Customer sold to # Entity #, if the activity was associated with a specific entity (for example, creating a new customer in order entry)	Marketing Download Customer Inquiry Table and Extract File
CUSTOMER or ORD/CUST	CO (customer ownership)	create a customer ownership record.	Customer sold to #	Marketing Download Customer Ownership Table and Extract File
CUSTOMER or ORD/CUST	CS (customer status change)	change one or more of these fields for a customer sold-to: • Mail name • Customer sold-to entity mail name • Rent name • Deliverable code (not delivery code) • Hold/bypass/fraud • Customer class • Mail code • Call code • Email opt in/opt out **Note:** The system may change one of the above fields when you create a catalog request for an existing customer.	Customer sold to # Entity #, if the activity was related to a specific entity	Marketing Download Customer Status Change Table and Extract File
CUSTOMER or ORD/CUST	CA (customer address change)	change a customer sold-to or change or create a permanent customer ship-to address, including phone numbers and email address.	Customer sold to # Customer ship to, if the activity was related to a ship-to address	Marketing Download Customer Address Change Table and Extract File

SCV value:	creates trigger type:	when you:	trigger includes:	Marketing Download table populated:
CUSTOMER or ORD/CUST	CN (customer action note)	create, work with, or resolve a customer action note. **Note:** The system populates the Marketing Download Customer Inquiry table only if a reason has been defined for the customer action note.	Customer sold to # Customer action sequence #	Marketing Download Customer Inquiry Table and Extract File
CUSTOMER or ORD/CUST	CP (customer profile)	create or change a customer profile record.	Customer sold to #	Marketing Download Customer Profile Table and Extract File

In addition to the fields listed above, each marketing download trigger record also includes company number, trigger type, trigger sequence number, status, date created, and time created.

When is the trigger created? Each of the trigger record types indicated are created when the update in the system is complete. For an interactive process, such as creating or updating a customer in order entry, the trigger is created immediately. For an update that is handled by an asynchronous job, such as order creation, the trigger is not created until the job processing is complete.

Marketing Download Trigger Table

The system creates a a marketing download trigger record based on the *Populate Marketing Download Trigger File (G33)* system control value and the action you perform.

Field	Description
Company	The code for the company where you performed the action that created the marketing download trigger. OH: the company from the Order Header table. LH: the company from the Order Line History table. CI: the company from the Catalog Request processing. CN: the company from the Customer Action Note table. CO: the company from the Customer Ownership table. CP: the company from the Customer Profile table. CS: the company from the Customer Sold To table. CA: the company from the Customer Sold To table. Numeric, 3 positions; required.

Field	Description
Trigger type	The type of action that created the marketing download trigger. Valid values are: OH = order header LH = order line history CI = customer inquiry CO = customer ownership CP = customer profile CS = customer status change CA = customer address change CN = customer action note Alphanumeric, 2 positions; required.
Trigger seq #	A unique sequence number to distinguish records with the same company number and trigger type. Numeric, 7 positions; required.
Customer Sold To	The customer sold-to number associated with the activity that created the trigger. Populated for trigger types OH (order header), CS (customer status change), CI (customer inquiry), CA (customer address change), CO (customer ownership), CP (customer profile), and CN (customer action note). OH: the customer sold-to number from the Order Header table. CI: the customer sold-to number from the Catalog Request processing. CN: the customer sold-to number from the Customer Action Note table. CO: the customer sold-to number from the Customer Ownership table. CP: the customer sold-to number from the Customer Profile table. CS: the customer sold-to number from the Customer Sold To table. CA: the customer sold-to number from the Customer Sold To table. Numeric, 9 positions; optional.
Customer Ship To	The customer ship-to number associated with the activity that created the trigger. Populated only for trigger types OH (order header) and CA (customer address change). The OH trigger type includes customer ship-to only if a permanent ship-to address is used on the order. The CA trigger type includes customer ship-to only if a permanent ship-to address was created or changed. OH: The customer ship-to number from the Order Ship To table. CA: The customer ship-to number from the Customer Ship To table. Numeric, 3 positions; optional.
Customer action seq #	The sequence number associated with the activity that created the trigger. Populated for trigger type CN (customer action note). The customer action sequence number from the Customer Action table. Numeric, 2 positions; optional.

Field	Description
Entity	The entity associated with the activity that created the trigger. Populated only for trigger types OH (order header), CS (customer status change) or CI (customer inquiry). OH: The entity from the Division table for the division associated with the source code on the order header. CI: The entity from the Division table for the division associated with the source code on the catalog request. CS: The entity from the Customer Sold To Entity table. Numeric, 3 positions; optional.
Order #	The order number associated with the activity that created the trigger. Populated only for trigger types OH (order header) or LH (order line history). OH: The order number from the Order Header table. LH: The order number from the Order Line History table. Numeric, 8 positions; optional.
Order ship to #	The ship-to number on the order associated with the activity that created the trigger. Populated only for trigger types OH (order header) or LH (order line history). OH: The order ship-to number from the Order Ship To table. LH: The order ship-to number from the Order Line History table. Numeric, 3 positions; optional.
Order detail seq #	The order line associated with the activity that created the trigger. Populated only for trigger type LH (order line history). The order detail sequence number from the Order Line History table. Numeric, 5 positions; optional.
Order line hist seq #	The order line history record associated with the activity that created the trigger. Populated only for trigger type LH (order line history). The order line history sequence number from the Order Line History table. Numeric, 2 positions; optional.
Warehouse	The code for the warehouse associated with the activity that created the trigger. Not populated for any of the trigger types. Numeric, 3 positions; optional.
PO number	The purchase order number associated with the activity that created the trigger. Not populated for any of the trigger types. Numeric, 7 positions; optional.
PO detail seq #	The purchase order line number associated with the activity that created the trigger. Not populated for any of the trigger types. Numeric, 5 positions; optional.

Field	Description
Status	Indicates whether the trigger has been downloaded to the Marketing Download tables. U = unprocessed; the trigger has not been downloaded to the Marketing Download tables. P = processed; the trigger has been downloaded to the Marketing Download tables. The periodic function deletes the marketing download trigger record once it is extracted to the Marketing Download tables. Alphanumeric, 1 position; required.
Date created	The date the trigger was created; this is the date when the activity was performed that created the trigger record. Numeric, 7 positions (CYYMMDD format); required.
Time created	The time the trigger was created; this is the time when the activity was performed that created the trigger record. Numeric, 6 positions (HHMMSS format); required.
Date processed	The date the trigger was downloaded to the Marketing Download tables. Numeric, 7 positions (CYYMMDD format); required.

Populating the Marketing Download Tables and Extract Files

You can run the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function to create records in the Marketing Download tables.

You can also run the periodic function on demand through Working with Periodic Processes (WPPR).

If there is already data in the download tables: If you run the Marketing Download (CSX1041) periodic function while there are still records in the Marketing Download order or customer tables, the function writes an error to the APP.log: Data already exists in Marketing Download files. Please clear the files before running Download. See the Application Log for information on how to review this log.

You must first download or delete the records that are already in the Marketing Download order and customer tables before you can populate these tables with new information.

Order and customer-related tables: The MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function creates records in these Marketing Download tables:

- Marketing Download Order Header Table and Extract File
- Marketing Download Order Detail Table and Extract File
- Marketing Download Customer Status Change Table and Extract File
- Marketing Download Customer Inquiry Table and Extract File
- Marketing Download Customer Address Change Table and Extract File
- Marketing Download Customer Ownership Table and Extract File
- Marketing Download Customer Profile Table and Extract File

During processing, the function changes the status of each selected trigger record to P (processed). Once the Marketing Download records are created, the function deletes the processed marketing download triggers.

You can then run the MDEXPRT Marketing Download Export (PFR0130) periodic function to export the data in the Marketing Download order-related and customer-related tables to pipe-

delimited files. The text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. See File Storage API for background.

The table below indicates the validation performed for different unprocessed (status = U) trigger types in the Marketing Download Trigger table.

For trigger type:	the Marketing Download function:
OH (order header)	• retrieves the order header and order ship-to based on the trigger record's company, order number, and order ship-to number. **Note:** The system includes orders that are on hold. • creates a record in the Marketing Download Order Detail Table and Extract File for each order line associated with the retrieved order ship-to number. The function does not create a Marketing Download order detail record if the order quantity is 0 (for example, the order line has been cancelled with a reason code that reduces demand). • determines if the order ship-to is for a recipient customer. If so, the function also creates a record in the Marketing Download Customer Inquiry Table and Extract File, using the customer sold-to number for the order ship-to.
LH (order line history)	• determines if there is an OH (order header) trigger for the same company, order number, and order ship-to number for the LH (order line history) trigger. If there is an OH trigger, the function deletes the order line history trigger. • retrieves the order line history record based on the trigger's company, order number, order ship-to number, order detail sequence number, and order line history sequence number. • determines if the quantity for the order line history record is 0. If the quantity is 0, the function deletes the order line history trigger. • creates a record in the Marketing Download Order Detail Table and Extract File.
CS (customer status change)	• determines if there is an OH (order header) trigger for the same company, customer sold-to, and entity for the CS (customer status change) trigger. If so, the function deletes the customer status change trigger. • retrieves the customer sold-to and customer sold-to entity based on the trigger's company and customer sold-to. • creates a record in the Marketing Download Customer Status Change Table and Extract File.
CI (customer inquiry)	• determines if there is an OH (order header) trigger for the same company, customer sold-to, and entity for the CI (customer inquiry) trigger. If so, the function looks at the Include All Customer Inquiry Triggers for Marketing Download (I09) system control value. If this system control value is selected, the function continues processing the CI trigger; if this system control value is unselected, the function deletes the customer inquiry trigger. • retrieves the customer sold-to and customer sold-to entity based on the trigger's company and customer sold-to. • creates a record in the Marketing Download Customer Inquiry Table and Extract File.

For trigger type:	the Marketing Download function:
CN (customer action note)	• retrieves the customer action record based on the trigger's company, customer sold-to, and customer action sequence number. • determines if there is a reason code for the customer action record; if not, the function deletes the customer action note trigger. • creates a record in the Marketing Download Customer Inquiry Table and Extract File.
CO (customer ownership)	• retrieves the customer ownership records based on trigger record's company and customer sold-to. • creates a record in the Marketing Download Customer Ownership Table and Extract File.
CP (customer profile)	• retrieves the customer profile records based on trigger record's company and customer sold-to. • creates a record in the Marketing Download Customer Profile Table and Extract File.
CA (customer address change)	• determines if there is an OH (order header) trigger for the same company, customer sold-to, and customer ship-to as the CA (customer address change) trigger record. If there is a matching OH trigger, the function deletes the customer address change record. • retrieves the customer sold-to or customer ship-to based on the trigger's company, customer sold-to number, and customer ship-to number. • creates a record in the Marketing Download Customer Address Change Table and Extract File.

When you extract the records in the Marketing Download Trigger table to the Marketing Download order and customer tables, you can also print reports to review the data in the Marketing Download tables; see Setting up the Marketing Download Extract for setup information.

Marketing Download Order Header Table and Extract File

Marketing Download Order Header table: The MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function creates a record for each marketing download trigger record with a trigger type of order header (OH); see Populating the Marketing Download Tables and Extract Files for more information on how the function determines when to create a record in the Marketing Download Order Header table

> **Note**
>
> The MDEXTR periodic function also creates a record in the Marketing Download Order Detail Table and Extract File for each order detail line associated with the order ship-to in the Marketing Download Order Header table.

Marketing Download Order Header Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Order Header table.

Name of file: The name of the file is `999.ORDER_HEADER.DATETIME.TXT`, where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the

date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.ORDER_HEADER.Mon-Apr-25-11-28-03-EDT-2016.TXT.`

Location of file: The Marketing Download Order Header Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the second row contains the actual data; see the Marketing Download Order Header Table for a description of the contents of this file.

```
Company|Order#|Ship To#|Customer#|Entity|CST Prefix||CST Last Name|CST
First Name|CST Initial|CST Company Name|CST Internet Address|CST
Address Line 1|CST Address Line 2|CST Apartment|CST City|CST State|CST
Zip|CST Country|CST Phone #1 Day|CST Phone #2 Eve|CST Phone #3 Fax|
Customer Class|CST Mail name?|CSE Mail name?|CST Rent name?|CST Mail
code 1|CST Call code 1|Order Amount|Order Date|Payment Code #1|Payment
Code #2|Order Type|Offer|Source Code|Ship Via|OST Customer#|OST CSH
Ship To#|OST Recipient#|Gift Flag|Ship To Flag|Station ID|CST
Deliverable Code|FPO Type|CST Hold/Bypass/Fraud|CSH Prefix|CSH Last
Name|CSH First Name|CSH Initial|CSH Company Name|CSH Internet Address|
CSH Address Line 1|CSH Address Line 2|CSH Apartment|CSH City|CSH
State|CSH Zip|CSH Country|CSH Phone #1 Day|CSH Phone #2 Eve|CSH Phone
#3 Fax|Alternate Customer#|CSH Address line 3|CSH Address line 4|Email
Sts
```

```
7|19|1|4|777|||LAST|FIRST|R|||1234 SAMPLE STREET|||WESTBOROUGH|MA|
01581|US|5083310100|5085550101|0||Y||Y|Y||303.96|20160425|4|0|P|OFR|
SOURCE|1|0|0|0|N||0|||||||||||||||0|0|0||||O1
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Order Header Export file even if there is no data to extract from the Marketing Download Order Header table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Order Header Table

Field	Description
Company	The code for the company where the order is located. From the Company in the Order Header table. Numeric, 3 positions.
Order number	The order number associated with the order you created or for which you created a new ship-to address. From the Order number in the Order Header table. Numeric, 8 positions.
Order ship to number	The order ship-to number associated with the order you created or for which you created a new ship-to address. From the Order ship to number in the Order Ship To table. Numeric, 3 positions.

Field	Description
Customer number	The sold-to customer on the order. From the Customer number in the Order Header table. Numeric, 9 positions.
Entity	The entity associated with the order. From the Entity number in the Division table for the division associated with the source code on the order header. Numeric, 3 positions.
Name prefix	The prefix of the sold-to customer. From the Prefix in the Customer Sold To table for the customer number on the order header. Alphanumeric, 3 positions.
Gender code	Not mapped.
Last name	The last name of the sold-to customer. From the Last name in the Customer Sold To table for the customer number on the order header. Alphanumeric, 25 positions.
First name	The first name of the sold-to customer. From the First name in the Customer Sold To table for the customer number on the order header. Alphanumeric, 15 positions.
Initial	The middle initial of the sold-to customer. From the Initial in the Customer Sold To table for the customer number on the order header. Alphanumeric, 1 position.
Company name	The company name of the sold-to customer. From the Company name in the Customer Sold To table for the customer number on the order header. Alphanumeric, 30 positions.
Internet address	The email address of the sold-to customer. From the Email in the Customer Sold To table for the customer number on the order header. Alphanumeric, 50 positions.
Address line 1	The sold-to customer's street address. From the Street address in the Customer Sold To table for the customer number on the order header. Alphanumeric, 32 positions.
Address line 2	Address line 2 of the sold-to customer's address. From the Address line 2 in the Customer Sold To table for the customer number on the order header. Alphanumeric, 32 positions.
Apartment	The apartment of the sold-to customer's address. From the Apartment in the Customer Sold To table for the customer number on the order header. Alphanumeric, 10 positions.
City	The city of the sold-to customer's address. From the City in the Customer Sold To table for the customer number on the order header. Alphanumeric, 25 positions.

Field	Description
State	The state code of the sold-to customer's address. From the State in the Customer Sold To table for the customer number on the order header. Alphanumeric, 2 positions.
Zip	The postal code of the sold-to customer's address. From the Zip in the Customer Sold To table for the customer number on the order header. Alphanumeric, 10 positions.
Country	The country code of the sold-to customer's address. From the Country in the Customer Sold To table for the customer number on the order header. Alphanumeric, 3 positions.
Phone number 1 day	The sold-to customer's day phone number. From the Phone in the Customer Sold To Phone Number table for phone type D. Numeric, 10 positions.
Phone number 2 evening	The sold-to customer's evening phone number. From the Phone in the Customer Sold To Phone Number table for phone type E. Numeric, 10 positions.
Phone number 3 fax	The sold-to customer's third (fax or mobile) number. From the Phone in the Customer Sold To Phone Number table for phone type F. Alphanumeric, 10 positions.
Customer class	The class of the sold-to customer. From the Customer class in the Customer Sold To table for the customer number on the order header. Alphanumeric, 2 positions.
Mail name?	Indicates whether the sold-to customer receives future catalogs. selected = mail catalogs to the customer. unselected = Do not mail catalogs to the customer. From the Mail name in the Customer Sold To table for the customer number on the order header.
Customer entity mail name?	Indicates whether the sold-to customer receives future catalogs. This field is used if the Track Customer History at Entity Level (F89) system control value is selected. Selected = mail catalogs to the customer. Unselected = Do not mail catalogs to the customer. This field is unselected if there is no customer information at the entity level (the *Track Customer History at Entity Level (F89)* system control value is unselected). From the Mail name in the Customer Sold To Entity table for the customer number on the order header and the entity for the division associated with the source code on the order header.
Rent name?	Indicates whether you can include the customer's name in lists you sell to other companies for their own catalog mailings. Selected = Sell the customer's name to another company. Unselected = Do not sell the customer's name to another company. From the Rent name in the Customer Sold To table for the customer number on the order header.

Field	Description
Mail code	Indicates how often, and under what conditions, to send mail to the customer. From the Mail code in the Customer Sold To table for the customer number on the order header. Alphanumeric, 3 positions.
Call code	Specifies how often, and under what conditions, to call the customer. From the Call code in the Customer Sold To table for the customer number on the order header. Alphanumeric, 3 positions.
Order amount	The total merchandise amount on the order for the order ship-to, including soldout and cancelled order lines if the cancel reason code has Reduce demand unselected. The system multiplies the Quantity ordered by the Price from the Order Detail table for the order shipping address to determine the merchandise amount. Numeric, 20 positions with a 2-place decimal.
Order date	The date the order was created. From the Order date in the Order Header table. Numeric, 8 positions (YYYYMMDD format).
Payment code 1	The code identifying the first form of payment on the order, based on charge sequence. The payment method must be active. From the Pay type code in the Order Payment Method table for the payment on the order with a charge sequence of 1. Numeric, 2 positions.
Payment code 2	The code identifying the second form of payment on the order, based on charge sequence. The payment method must be active. From the Pay type code in the Order Payment Method table for the payment on the order with a charge sequence of 2. Numeric, 2 positions.
Order type	The order type of the order, such as phone or mail. From the Order type in the Order Header table. Alphanumeric, 1 position.
Offer code	The offer code associated with the source code on the order header. From the Offer in the Offer table for the source code on the order header. Alphanumeric, 3 positions.
Source code	The source code on the order header. From the Source code in the Order Header table. Alphanumeric, 9 positions.
Ship via	The ship via code on the order ship-to. From the Ship via in the Order Ship To table. Numeric, 2 positions.
Customer number	The sold-to customer number on the order. Populated only if a permanent ship-to customer has been selected for the sold-to customer on the order (the Ship To option in order entry). From the Customer number in the Order Ship To table. Numeric, 9 positions.

Field	Description
Order ship to number	The permanent ship-to customer number for the sold-to customer on the order. Populated only if a permanent ship-to customer has been selected for the sold-to customer on the order (the Ship To option in order entry). From the Ship to number in the Order Ship To table. Numeric, 3 positions.
Recipient number	The recipient customer number on the order. Populated only if a recipient customer number has been selected for the sold-to customer on the order (Sold To/Recip in order entry). From the Customer number in the Order Ship To table. Numeric, 9 positions.
Gift flag	Identifies a gift order. Selected = This is a gift order. Unselected = This is not a gift order. From the Gift order flag in the Order Ship To table.
Ship to flag	Selected indicates a permanent ship-to address is selected for the order. Populated only if a permanent ship-to customer has been selected for the sold-to customer on the order (the Ship To option in order entry).
Station ID	Blank. Numeric, 4 positions.
Deliverable code	The deliverable code for the ship-to customer. From the Deliverable code in the Customer Sold To table for the customer number on the order header. Alphanumeric, 1 position.
Flexible payment option type	The flexible payment option on the credit card on the order. The payment method must be active. D = deferred billing. I = installment billing. blank = regular billing. From the FPO payment code in the Order Payment Method table for the credit card payment on the order. Alphanumeric, 1 position.
Hold/bypass/fraud	Controls how credit checking is performed for the sold-to customer during order entry. H = Hold; place the customer's orders on hold automatically. B = Bypass; orders for the customer are not included in the credit check function in order entry; however, the customer is still subject to other fraud-checking, as described in for the Fraud Checking (A68) system control value. F = Fraud; the system places the customer's orders on fraud hold automatically. blank = normal fraud checking occurs in order entry. From the Hold/bypass/fraud flag in the Customer Sold To table for the customer number on the order header. Alphanumeric, 1 position.
Ship to name prefix	Prefix of the permanent ship-to customer on the order. From the Prefix in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 3 positions.

Field	Description
Ship to last name	Last name of the permanent ship-to customer on the order. From the Last name in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 25 positions.
Ship to first name	First name of the permanent ship-to customer on the order. From the First name in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 15 positions.
Ship to initial	Middle initial of the permanent ship-to customer on the order. From the Initial in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 1 position.
Ship to company name	Company name of the permanent ship-to customer on the order. From the Company name in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 30 positions.
Ship to internet address	Email address of the permanent ship-to customer on the order. From the Email address in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 50 positions.
Ship to address line 1	Street address of the permanent ship-to customer address. From the Street address in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 32 positions.
Ship to address line 2	Address line 2 of the permanent ship-to customer's address. From the Address line 2 in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 32 positions.
Ship to apartment	Apartment of the permanent ship-to customer's address. From the Apartment in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 10 positions.
Ship to city	City of the permanent ship-to customer's address. From the City in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 25 positions.
Ship to state	State code of the permanent ship-to customer's address. From the State in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 2 positions.
Ship to zip	Postal code of the permanent ship-to customer's address. From the Zip in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 10 positions.
Ship to country	Country code of the permanent ship-to customer's address. From the Country in the Customer Ship To table for the order ship-to on the order. Alphanumeric, 3 positions.

Field	Description
Ship to phone number day	Day phone number of the permanent ship-to customer on the order. From the Phone in the Customer Ship To Phone Number table for phone type D. Numeric, 10 positions.
Ship to phone number evening	Evening phone number of the permanent ship-to customer on the order. From the Phone in the Customer Ship To Phone Number table for phone type E. Numeric, 10 positions.
Ship to phone number fax	Third (fax or mobile) phone number of the permanent ship-to customer on the order. From the Phone in the Customer Ship To Phone Number table for phone type F. Numeric, 10 positions.
Alternate customer number	Alternate customer number of the sold-to customer. From the Interface customer code in the Customer Sold To table for the customer number on the order header. Alphanumeric, 15 positions.
Address line 3	Address line 3 of the sold-to customer's address. From the Address line 3 in the Customer Sold To Extended table for the customer number on the order header. Alphanumeric, 32 positions.
Address line 4	Address line 4 of the sold-to customer's address. From the Address line 4 in the Customer Sold To Extended table for the customer number on the order header. Alphanumeric, 32 positions.
Email status	Indicates the preferred method of correspondence. O1 (Email): Email is the preferred method of correspondence. O2 (Order-only email): Use email for order-related correspondence only; generate a document for other correspondence. O3 (No email): Do not use email for any correspondence; generate a document instead. O4 (Do not ask customer): Do not ask the customer for his/her email address; the customer has already been asked and has declined to provide it. The system does not generate any email correspondence to the customer, even if an email address is specified. From the Email status in the Customer Sold To table for the customer number on the order header. Alphanumeric, 2 positions.

Marketing Download Order Detail Table and Extract File

Marketing Download Order Detail Table: This table contains a record for each marketing download trigger with a trigger type of order header (OH) or trigger type of LH (line history); see Populating the Marketing Download Tables and Extract Files for more information on how the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function determines when to create a record in the Marketing Download Order Detail table.

> **Note**
>
> Marketing Download order detail records are associated with a record in the Marketing Download Order Detail Table and Extract File if the order is newly created; a record does not exist in the Marketing Download Order Header table for Marketing Download order detail records that are associated with a maintenance transaction that created an order line history record.

Marketing Download Order Detail Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Order Detail table.

Name of file: The name of the file is `999.ORDER_DETAIL.DATETIME.TXT,` where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.ORDER_DETAIL.Mon-Apr-25-11-28-03-EDT-2016.TXT.`

Location of file: The Marketing Download Order Detail Export file text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent rows contain the actual data; see the Marketing Download Order Detail Table for a description of the contents of this file.

```
Company|Order#|Ship To#|Line#|Customer#|Entity|Item/SKU|Qty Ordered|
Qty Shipped|Qty Returned|Qty Canceled|Qty Sold Out|Qty Exchanged|Unit
Price|Unit Offer Price|Return Reason Cd|Cancel Reason Code|Exchange
Reason Code|Item Class|Long SKU Dept|Item Categ|Backorder Flag|Order
Dt|Ship Dt|Return Dt|Cancel Dt|Sold Out Dt|Exchange Dt|Merch Loaded
Cost|Price Meth|Disc Applied|Price Override Code|Promotion Code|Source
Code|Offer

7|19|1|1|4|777|ITEM|6|0|0|0|0|0|31.66|80|000|000|000|1|7777|ICAT|N|
20160425|0|0|0|0|0|40|6|A|||SOURCE|OFR

7|19|1|2|4|777|SKU          BLUE SML  WMNS|1|0|0|0|0|0|47.5|50|000|000|
000|1|7777||N|20160425|0|0|0|0|0|0|6|A|||SOURCE|OFR

7|19|1|3|4|777|SKU          RED|1|0|0|0|0|0|66.5|70|000|000|000|1|7777|
ICAT|Y|20160425|0|0|0|0|0|45|6|A|||SOURCE|OFR
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Order Detail Export file even if there is no data to extract from the Marketing Download Order Detail table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Order Detail Table

Field	Description
Company	The code for the company where the order is located. OH: From the Company in the Order Detail table. LH: From the Company in the Order Line History table. Numeric, 3 positions.
Order number	The order number of the order you created or maintained. OH: From the Order number in the Order Detail table. LH: From the Order number in the Order Line History table. Numeric, 8 positions.
Order ship to number	The order ship-to number associated with the order you created or maintained. OH: From the Ship to number in the Order Detail table. LH: From the Ship to number in the Order Line History table. Numeric, 3 positions.
Order detail number	The order line number on the order you created or maintained. OH: From the Sequence number in the Order Detail table. LH: From the Sequence number in the Order Line History table. Numeric, 5 positions.
Customer number	The sold-to customer number on the order. From the Customer number in the Order Header table. Numeric, 9 positions.
Entity	The entity associated with the order. From the Entity number in the Division table for the division associated with the source code on the order detail; otherwise order header. Numeric, 3 positions.
Item	The item number on the order line. From the Item number in the Order Detail table. Alphanumeric, 12 positions.
SKU	The SKU code for the item on the order line. From the SKU code in the Order Detail table. Alphanumeric, 14 positions.
Qty ordered	The number of units of the item ordered. If the quantity is negative (a return), this field is blank. The Marketing Download function checks the associated order line history record to determine if the transaction was a return or exchange. • for return transactions, the function updates the Quantity returned with the negative order quantity. • for exchange transactions, the function updates the Quantity exchanged with the negative order quantity. OH: From the Quantity ordered in the Order Detail table. Order maintenance transactions The quantity ordered is populated if the order maintenance transaction increased the order quantity; in this case, the quantity ordered represents the additional amount. If the order maintenance transaction decreased the quantity ordered, the function updates the quantity cancelled. However, if the cancel reason code used has Reduce demand selected, the quantity cancelled updates the quantity ordered with a negative number. LH: From the Quantity in the Order Line History table. Numeric, 5 positions.

Field	Description
Qty shipped	The number of units of the item shipped. OH: From the Quantity shipped in the Order Detail table. LH: From the Quantity in the Order Line History table for the order line history record with an activity code of S (shipped) or B (express billed). Numeric, 5 positions.
Qty returned	The number of units of the item returned, including returns entered as a negative order quantity in order entry. OH: From the Quantity returned in the Order Detail table. LH: From the Quantity for the order line history record with an activity code of R (return). Numeric, 5 positions.
Qty cancelled	The number of units of the item cancelled. The function updates this field if the cancel reason code used has Reduce demand unselected; however, if the cancel reason code has Reduce demand selected, the quantity cancelled updates the quantity ordered with a negative number. OH: From the Quantity cancelled in the Order Detail table. LH: From the Quantity for the order line history record with an activity code of C (cancel). Numeric, 5 positions.
Qty sold out	The number of units of the item soldout. OH: From the Quantity sold out in the Order Detail table. LH: From the Quantity for the order line history record with an activity code of O (soldout). Numeric, 5 positions.
Qty exchanged	The number of units of the item exchanged. OH: From the Quantity returned in the Order Detail table. LH: From the Quantity for the order line history record with an activity code of E (exchange). Numeric, 5 positions.
Unit price	The actual selling price of a single unit of the item on this order. From the Pre-discount amount in the Order Detail table. Numeric, 13 positions with a 2-place decimal.
Unit offer price	The actual selling price of a single unit of the item, as defined in the offer. From the Price in the Item Price table for the offer associated with the order detail line. Numeric, 13 positions with a 2-place decimal.
Return reason code	The return reason code used to return a quantity of this item. From the Return reason code for the order line history record with an activity code of R (return). Alphanumeric, 3 positions.
Cancel reason code	The cancel reason code used to cancel a quantity of this item. From the Cancel reason code for the order line history record with an activity code of C (cancel). Alphanumeric, 3 positions.
Exchange reason code	The exchange reason code used to exchange a quantity of this item. From the Exchange reason code for the order line history record with an activity code of E (exchange). Alphanumeric, 3 positions.

Field	Description
Item class	The item class associated with the item. From the Item class in the Item table for the item on the order detail line. Alphanumeric, 3 positions.
Long SKU department	The long SKU department associated with the item. From the Long SKU department in the Item table for the item on the order detail line. Numeric, 4 positions.
Item category	The item category associated with the item. From the Category in the SKU table for the item on the order detail line. Alphanumeric, 4 positions.
Backorder flag	Indicates whether the item is on backorder. Selected = A quantity of the item is on backorder. Unselected = The item is not on backorder and can be reserved. Selected if there is a Backorder reason in the Order Detail table.
Order date	The date the order was created. From the Entered date in the Order Detail table. Numeric, 8 positions (YYYYMMDD format).
Ship date	The date a quantity of this item shipped. From the Date for the most recent order line history record with an activity code of S (shipped) or B (express billed). Numeric, 8 positions (YYYYMMDD format).
Return date	The date a quantity of this item was returned. From the Date for the most recent order line history record with an activity code of R (return). Numeric, 8 positions (YYYYMMDD format).
Cancel date	The date a quantity of this item was cancelled. From the Date for the most recent order line history record with an activity code of C (cancel). Numeric, 8 positions (YYYYMMDD format).
Sold out date	The date a quantity of this item was soldout. From the Date for the most recent order line history record with an activity code of O (soldout). Numeric, 8 positions (YYYYMMDD format).
Exchange date	The date a quantity of this item was exchanged. From the Date for the most recent order line history record with an activity code of E (exchange). Numeric, 8 positions (YYYYMMDD format).
Merch loaded cost	The loaded merchandise cost of this item. The function adds the vendor item cost (for the primary vendor defined for the item) to all of the vendor item additional charges associated with the vendor item to determine the loaded merchandise cost. This is the sum of Price from the Vendor Item table and the Percent or Unit amount from the Vendor Item Additional Charge table for each additional charge associated with the vendor item. The function first converts any vendor item additional charge percentages to a unit amount. Numeric, 13 positions with a 2-place decimal.

Field	Description
Price method	The price method used on the order detail line. 5 = column price 3 = contract price * = converted price 1 = coupon item price 2 = customer discount % 7 = offer price R = price override Y = price table K = price table default L = price table level override T = price table premium M = promotional item 6 = quantity break price I = repriced quantity break/item Q = repriced quantity break/offer V = repriced volume discount 4 = special source price U = upsell item N = no charge O = no charge/no cost E = price code P = regular hierarchy D = regular plus reprice C = use item cost SB = the Sale book item flag for the SKU/offer or item/offer is selected. From the Price method in the Order Detail table. Alphanumeric, 2 positions.
Discount applied	Indicates whether a discount has been applied to the order line. A = source discount B = order discount C = source and order discount blank = no discount From the Discount applied in the Order Detail table. Alphanumeric, 1 position.
Price override code	The price override reason code for the order line. From the Price override code in the Order Detail table. Alphanumeric, 1 position.
Promotion code	The promotion that applies to the order. Defaults from the Order Promotion table, where it is stored only if the Allow Manual Entry of Promotion Code (I63) system control value is selected, and the operator selected a promotion code when creating the order. If more than one Order Promotion record exists for the order, the system uses the first promotion code. If the *Allow Manual Entry of Promotion Code (I63)* system control value is unselected, this field is blank even if one or more promotions apply to the order. Alphanumeric, 7 positions.

Field	Description
Source code	The source code saved in the Order Detail table, if any. See the Default Offer Source Code to Order Detail Line (G28) system control value for a discussion of when the system saves the source code in the Order Detail table. Alphanumeric, 9 positions.
Offer	The offer associated with the order detail line. See Override Offer on Order Detail Line (D49) for a discussion on which offer is saved in the Order Detail table. Alphanumeric, 3 positions.

Marketing Download Customer Status Change Table and Extract File

Marketing Download Customer Status Change table: This table contains a record for each marketing download trigger with a trigger type of customer status change (CS); see Populating the Marketing Download Tables and Extract Files for more information on how the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function determines when to create a record in the Marketing Download Customer Status Change table.

Marketing Download Customer Status Change Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Customer Status Change table.

Name of file: The name of the file is `999.CUST_STATUS_CHANGE.DATETIME.TXT`, where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.CUST_STATUS_CHANGE.Mon-Apr-25-11-28-03-EDT-2016.TXT`.

Location of file: The Marketing Download Customer Status Change Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent row contains the actual data; see the Marketing Download Customer Status Change Table for a description of the contents of this file.

```
Company|Customer#|Entity|Trans Dt|Prefix|Last Name|First Name|Initial|
Company Name|Address Line 1|Address Line 2|Apartment|City|State|Zip|
Country|Customer Class|Mail Name?|CSE Mail Name?|Rent Name?|Mail Code|
Call Code|Deliverable Code|Hold/Bypass/Fraud|Alt Customer#|Address
Line 3|Address Line 4|Email Sts

555|122|0|20160210||BROWN|T|||1234 SAMPLE ST|ADD 2|250|NATICK|MA|
01760|US|C1|Y||Y|N|||||ADD3|ADD4|O1
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Customer Status Change Export file even if there is no data to extract from the Marketing Download Customer Status Change table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Customer Status Change Table

Field	Description
Company	The code for the company where the customer status change took place. From the Company in the Customer Sold To table. Numeric, 3 positions.
Customer number	The sold-to customer number that was changed. From the Customer number in the Customer Sold To table. Numeric, 9 positions.
Entity	The entity associated with the sold-to customer. Used only if the Mail name in the Customer Sold To Entity table changed. From the Entity in the Marketing Download Trigger table. Numeric, 3 positions.
Transaction date	The date when the customer sold-to was changed. From the Date created in the Marketing Download Trigger table. Numeric, 8 positions.
Prefix	The prefix of the sold-to customer. From the Prefix in the Customer Sold To table. Alphanumeric, 3 positions.
Last name	The last name of the sold-to customer. From the Last name in the Customer Sold To table. Alphanumeric, 25 positions.
First name	The first name of the sold-to customer. From the First name in the Customer Sold To table. Alphanumeric, 15 positions.
Initial	The middle initial of the sold-to customer. From the Initial in the Customer Sold To table. Alphanumeric, 1 position.
Company name	The company name for the sold-to customer. From the Company name in the Customer Sold To table. Alphanumeric, 30 positions.
Address line 1	The street address for the sold-to customer. From the Street address in the Customer Sold To table. Alphanumeric, 32 positions.
Address line 2	Address line 2 for the sold-to customer. From the Address line 2 in the Customer Sold To table. Alphanumeric, 32 positions.
Apartment	The apartment for the sold-to customer. From the Apartment in the Customer Sold To table. Alphanumeric, 10 positions.

Field	Description
City	The city for the sold-to customer. From the City in the Customer Sold To table. Alphanumeric, 25 positions.
State	The state code for the sold-to customer. From the State in the Customer Sold To table. Alphanumeric, 2 positions.
Zip	The postal code for the sold-to customer. From the Zip in the Customer Sold To table. Alphanumeric, 10 positions.
Country	The country code for the sold-to customer. From the Country in the Customer Sold to table. Alphanumeric, 3 positions.
Customer class	The customer class for the sold-to customer. From the Customer class in the Customer Sold To table. Alphanumeric, 2 positions.
Mail name?	Indicates whether the customer receives future catalogs. Selected = Mail catalogs to the customer. Unselected = Do not mail catalogs to the customer. From the Mail name in the Customer Sold To table.
Customer entity mail name?	Indicates whether the sold-to customer, at the entity level, receives future catalogs. Selected = mail catalogs to the customer. Unselected = Do not mail catalogs to the customer. This field is unselected if there is no customer information at the entity level (the *Track Customer History at Entity Level (F89)* system control value is unselected). From the Mail name in the Customer Sold To Entity table.
Rent name?	Indicates whether to include the customer's name in lists you sell to other companies for their own catalog mailings. Selected = Sell the customer's name to another company. Unselected = Do not sell the customer's name to another company. From the Rent name in the Customer Sold To table.
Mail code	A code that specifies how often, and under what conditions, to send mail to the customer. From the Mail code in the Customer Sold To table. Alphanumeric, 3 positions.
Call code	A code that specifies how often, and under what conditions, to call the customer. From the Call code in the Customer Sold To table. Alphanumeric, 3 positions.
Deliverable code	The deliverable code for the sold-to customer. From the Deliverable code in the Customer Sold To table. Alphanumeric, 1 position.

Field	Description
Hold/bypass/fraud	A code that controls how credit checking is performed for the customer during order entry. H = hold; the system places the customer's orders on hold automatically. B = bypass; orders for the customer are not included in the credit check function in order entry. F = fraud; the system places the customer's orders on "fraud" hold automatically. blank = normal fraud checking occurs in order entry. From the Hold/bypass/fraud in the Customer Sold To table. Alphanumeric, 1 position.
Alternate customer number	Alternate customer number for the sold-to customer. From the Interface customer code in the Customer Sold To table. Alphanumeric, 15 positions.
Address line 3	Address line 3 for the sold-to customer's address. From the Address line 3 in the Customer Sold To Extended table. Alphanumeric, 32 positions.
Address line 4	Address line 4 for the sold-to customer's address. From the Address line 4 in the Customer Sold To Extended table. Alphanumeric, 32 positions.
Email status	Indicates the preferred method of correspondence. O1 (Email): Email is the preferred method of correspondence. O2 (Order-only email): Use email for order-related correspondence only; generate a document for other correspondence. O3 (No email): Do not use email for any correspondence; generate a document instead. O4 (Do not ask customer): Do not ask the customer for his/her email address; the customer has already been asked and has declined to provide it. The system does not generate any email correspondence to the customer, even if an email address is specified. From the Email status in the Customer Sold To table. Alphanumeric, 2 positions.

Marketing Download Customer Inquiry Table and Extract File

Marketing Download Customer Inquiry table: This table contains a record for each marketing download trigger with a trigger type of customer inquiry (CI), customer action note (CN; only if a reason has been defined for the customer action), or order header (OH; only for a recipient customer); see Populating the Marketing Download Tables and Extract Files for more information on how the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function determines when to create a record in the Marketing Download Customer Inquiry table.

Marketing Download Customer Inquiry Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Customer Inquiry table.

Name of file: The name of the file is `999.CUST_INQUIRY.DATETIME.TXT`, where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.CUST_INQUIRY.Mon-Apr-25-11-28-03-EDT-2016.TXT`.

Location of file: The Marketing Download Customer Inquiry Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent row contains the actual data; see the Marketing Download Customer Inquiry Table for a description of the contents of this file.

```
Company|Customer#|Entity|CAC Seq#|Trans Dt|Prefix||Last Name|Initial|
First Name|Company Name|Address Line 1|Address Line 2|Apartment|City|
State|Zip|Country|Internet Address|Phone #1 Day|Phone # Eve|Phone #3
Fax|Customer Class|Mail Name?|CSE Mail Name?|Rent Name?|Mail Code|Mail
Type|Offer|Source Code|Station ID|Deliverable Code|Hold/Bypass/Fraud|
Action Entry Dt|Action Reason Code|Action Resolved Dt|Alt Customer#|
Address Line 3|Address Line 4|Email Sts

7|4|777|0|20160425|||BROWN|R|THOMAS||1234 SAMPLE STREET|||WESTBOROUGH|
MA|01581|US||5083310100|5083310101|0||Y||Y|Y|||||0|||0||0||||O1
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Customer Inquiry Export file even if there is no data to extract from the Marketing Download Customer Inquiry table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Customer Inquiry Table

Field	Description
Company	The company where the customer inquiry took place. From the Company in the Customer Sold To table. Numeric, 3 positions.
Customer number	The sold-to customer associated with the customer inquiry. From the Customer sold to in the Customer Sold To table. Numeric, 9 positions.
Entity	The entity associated with the sold-to customer. From the Entity in the Marketing Download Trigger table. Numeric, 3 positions.
Customer action sequence number	The customer action sequence number of the customer action note that was updated. From the Customer action sequence number in the Marketing Download Trigger table. Numeric, 2 positions.
Transaction date	The date the customer inquiry took place. From the Date created in the Marketing Download Trigger table. Numeric, 8 positions.
Prefix	The prefix of the sold-to customer. From the Prefix in the Customer Sold To table. Alphanumeric, 3 positions.
Gender code	Not mapped.

Field	Description
Last name	The last name of the sold-to customer. From the Last name in the Customer Sold To table. Alphanumeric, 25 positions.
Initial	The middle initial of the sold-to customer. From the Initial in the Customer Sold To table. Alphanumeric, 1 position.
First name	The first name of the sold-to customer. From the First name in the Customer Sold To table. Alphanumeric, 15 positions.
Company name	The company name of the sold-to customer. From the Company name in the Customer Sold To table. Alphanumeric, 30 positions.
Address line 1	The street address of the sold-to customer. From the Street address in the Customer Sold To table. Alphanumeric, 32 positions.
Address line 2	Address line 2 of the sold-to customer. From the Address line 2 in the Customer Sold To table. Alphanumeric, 32 positions.
Apartment	The apartment of the sold-to customer. From the Apartment in the Customer Sold To table. Alphanumeric, 10 positions.
City	The city of the sold-to customer. From the City in the Customer Sold To table. Alphanumeric, 25 positions.
State	The state code of the sold-to customer. From the State in the Customer Sold To table. Alphanumeric, 2 positions.
Zip	The postal code of the sold-to customer. From the Zip in the Customer Sold To table. Alphanumeric, 10 positions.
Country	The country code of the sold-to customer. From the Country in the Customer Sold To table. Alphanumeric, 3 positions.
Internet address	The email address of the sold-to customer. From the Email in the Customer Sold To table. Alphanumeric, 50 positions.
Phone number 1 day	The day phone number of the sold-to customer. From the Phone in the Customer Sold To Phone Number table for phone type D. Numeric, 10 positions.
Phone number 2 evening	The evening phone number of the sold-to customer. From the Phone in the Customer Sold To Phone Number table for phone type E. Numeric, 10 positions.
Phone number 3 fax	The third (fax or mobile) phone number of the sold-to customer. From the Phone in the Customer Sold To Phone Number table for phone type F. Numeric, 10 positions.

Field	Description
Customer class	The customer class of the sold-to customer. From the Customer class in the Customer Sold To table. Alphanumeric, 2 positions.
Mail name?	Indicates whether the customer receives future catalogs. Selected = Mail catalogs to the customer. Unselected = Do not mail catalogs to the customer. From the Mail name in the Customer Sold To table.
Customer entity mail name?	Indicates whether the sold-to customer receives future catalogs. Selected = mail catalogs to the customer. Unselected = Do not mail catalogs to the customer. This field is unselected if there is no customer information at the entity level (the *Track Customer History at Entity Level (F89)* system control value is unselected). From the Mail name in the Customer Sold To Entity table.
Rent name?	Indicates whether to include the customer's name in lists you sell to other companies for their own catalog mailings. Selected = Sell the customer's name to another company. Unselected = Do not sell the customer's name to another company. From the Rent name in the Customer Sold To table.
Mail code	A code that specifies how often, and under what conditions, to send mail to the customer. From the Mail code in the Customer Sold To table. Alphanumeric, 3 positions.
Call code	A code that specifies how often, and under what conditions, to call the customer. From the Call code in the Customer Sold To table. Alphanumeric, 3 positions.
Mail type	The code that identifies how you and the customer first established contact. B = buyer; the customer has placed an order. C = catalog requester; the customer has requested a catalog. L = list rental; the customer's name was purchased from another company. R = recipient; the customer has received an order. S = suspect; the customer's name was acquired through a telemarketing effort. Also, a customer that has placed an order, but then rejected the order. From the Current mail type in the Customer Sold To table. Alphanumeric, 1 position.
Offer	The offer associated with the current source code for the customer sold-to. From the Offer number in the Source code table for the source code for the customer sold-to. Alphanumeric, 3 positions.
Source code	The source code on the marketing download trigger record. From the Source code in the Customer Sold To table. Alphanumeric, 9 positions.
Station ID	This field is blank. Numeric, 4 positions.

Field	Description
Deliverable code	Identifies whether the address is a business (commercial) or residential address. B = business address. R = residential address. N = no distinction between business and residential address. From the Delivery code in the Customer Sold To table. Alphanumeric, 1 position.
Hold/bypass/fraud	A code that controls how credit checking is performed for the customer during order entry. H = hold; the system places the customer's orders on hold automatically. B = bypass; orders for the customer are not included in the credit check function in order entry. F = fraud; the system places the customer's orders on "fraud" hold automatically. blank = normal fraud checking occurs in order entry. From the Hold/bypass/fraud in the Customer Sold To table. Alphanumeric, 1 position.
Action entry date	The date the customer action note was created for the sold-to customer. From the Entry date in the Customer Action table. Numeric, 8 positions.
Action reason code	The reason code for the customer action note. From the Reason code in the Customer Action table. Alphanumeric, 2 positions.
Action resolved date	The date the customer action note was resolved. From the Resolved date in the Customer Action table. Numeric, 8 positions.
Alternate customer number	Alternate customer number for the sold-to customer. From the Interface customer code in the Customer Sold To table. Alphanumeric, 15 positions.
Address line 3	Address line 3 of the sold-to customer's address. From the Address line 3 in the Customer Sold To Extended table. Alphanumeric, 32 positions.
Address line 4	Address line 4 of the sold-to customer's address. From the Address line 4 in the Customer Sold To Extended table. Alphanumeric, 32 positions.
Email status	Indicates the preferred method of correspondence. O1 (Email): Email is the preferred method of correspondence. O2 (Order-only email): Use email for order-related correspondence only; generate a document for other correspondence. O3 (No email): Do not use email for any correspondence; generate a document instead. O4 (Do not ask customer): Do not ask the customer for his/her email address; the customer has already been asked and has declined to provide it. The system does not generate any email correspondence to the customer, even if an email address is specified. This is the Email status in the Customer Sold To table. Alphanumeric, 2 positions.

Marketing Download Customer Address Change Table and Extract File

Marketing Download Customer Address Change table: This table contains a record for each marketing download trigger with a trigger type of customer address change (CA); see Populating the Marketing Download Tables and Extract Files for more information on how the MDEXTR Marketing Download Order and Customer Extract (CSX1041) periodic function determines when to create a record in the Marketing Download Customer Address Change table.

Marketing Download Customer Address Change Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Customer Address Change table.

Name of file: The name of the file is `999.CUST_ADDRESS_CHANGE.DATETIME.TXT`, where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.CUST_ADDRESS_CHANGE.Mon-Apr-25-11-28-03-EDT-2016.TXT.`

Location of file: The Marketing Download Customer Address Change Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent row contains the actual data; see the Marketing Download Customer Address Change Table for a description of the contents of this file.

```
Company|Customer#|CSH Ship To#|Trans Dt|Prefix||Last Name|Initial|
First Name|Company Name|Address Line 1|Address Line 2|Apartment|City|
State|Zip|Country|Internet Address|Phone #1 Day|Phone # Eve|Phone #3
Fax|Alt Customer#|Address Line 3|Address Line 4|Email Sts

7|4|0|20160425|||BROWN|R|THOMAS||1234 SAMPLE STREET|||WESTBOROUGH|MA|
01581|US||5083310100|5083310101|0|||O1
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Customer Address Change Export file even if there is no data to extract from the Marketing Download Customer Address Change table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Customer Address Change Table

Field	Description
Company	The company where the customer address change took place. From the Company in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Numeric, 3 positions.

Field	Description
Customer number	The customer sold-to number associated with the customer address change. From the Customer Sold To in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Numeric, 9 positions.
Ship to number	The ship-to number associated with the customer address change. Included only if the address change is for the ship-to customer. From the Ship to number in the Customer Ship To table. Numeric, 3 positions.
Transaction date	The date the customer address was changed. From the Date created in the Marketing Download Trigger table. Numeric, 8 positions.
Prefix	The prefix of the sold-to customer or ship-to customer, depending on which address changed. From the Prefix in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 3 positions.
Gender code	Not mapped.
Last name	The last name of the sold-to customer or ship-to customer, depending on which address changed. From the Last name in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 25 positions.
Initial	The middle initial of the sold-to customer or ship-to customer, depending on which address changed. From the Initial in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 1 position.
First name	The first name of the sold-to customer or ship-to customer, depending on which address changed. From the First name in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 15 positions.
Company name	The company name for the sold-to customer or ship-to customer, depending on which address changed. From the Company name in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 30 positions.
Address line 1	The street address of the sold-to customer or ship-to customer, depending on which address changed. From the Street address in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 32 positions.
Address line 2	Address line 2 of the sold-to customer or ship-to customer, depending on which address changed. From the Address line 2 in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 32 positions.
Apartment	The apartment of the sold-to customer or ship-to customer, depending on which address changed. From the Apartment in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 10 positions.

Field	Description
City	The city of the sold-to customer or ship-to customer, depending on which address changed. From the City in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 25 positions.
State	The state code for the sold-to customer or ship-to customer, depending on which address changed. From the State in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 2 positions.
Zip	The postal code for the sold-to customer or ship-to customer, depending on which address changed. From the Zip in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 10 positions.
Country	The country code for the sold-to customer or ship-to customer, depending on which address changed. From the Country in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 3 positions.
Internet address	The email address for the sold-to customer or ship-to customer, depending on which address changed. From the Email in the Customer Sold To table (sold-to address change) or Customer Ship To table (ship-to address change). Alphanumeric, 50 positions.
Phone number 1 day	The day phone number for the sold-to customer or ship-to customer, depending on which address changed. From the Phone in the Customer Sold To Phone Number table (sold-to address change) or Customer Ship To Phone Number table (ship-to address change) for phone type D. Numeric, 10 positions.
Phone number 2 evening	The evening phone number for the sold-to customer or ship-to customer, depending on which address changed. From the Phone in the Customer Sold To Phone Number table (sold-to address change) or Customer Ship To Phone Number table (ship-to address change) for phone type E. Numeric, 10 positions.
Phone number 3 fax	The third (fax or mobile) phone number for the sold-to customer or ship-to customer, depending on which address changed. From the Phone in the Customer Sold To Phone Number table (sold-to address change) or Customer Ship To Phone Number table (ship-to address change) for phone type F. Numeric, 10 positions.
Alternate customer number	Alternate customer number for the sold-to customer. From the Interface customer code in the Customer Sold To table. Alphanumeric, 15 positions.
Address line 3	Address line 3 for the sold-to customer’s address.From Address line 3 in the Customer Sold To Extended table. Alphanumeric, 32 positions.
Address line 4	Address line 4 for the sold-to customer’s address. From Address line 4 in the Customer Sold To Extended table. Alphanumeric, 32 positions.

Field	Description
Email status	Indicates the preferred method of correspondence. O1 (Email): Email is the preferred method of correspondence. O2 (Order-only email): Use email for order-related correspondence only; generate a document for other correspondence. O3 (No email): Do not use email for any correspondence; generate a document instead. O4 (Do not ask customer): Do not ask the customer for his/her email address; the customer has already been asked and has declined to provide it. The system does not generate any email correspondence to the customer, even if an email address is specified. From the Email status in the Customer Sold To table. Alphanumeric, 2 positions.

Marketing Download Customer Ownership Table and Extract File

Marketing Download Customer Ownership table: This table contains a record for each marketing download trigger with a trigger type of customer ownership (CO). If a customer has more than one ownership record, the system creates an ownership trigger record each time there is a change to either ownership. See Populating the Marketing Download Tables and Extract Files for more information on how the periodic function determines when to create a record in the Marketing Download Customer Ownership table.

Marketing Download Customer Ownership Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Customer Ownership table.

Name of file: The name of the file is `999.CUST_OWNERSHIP.DATETIME.TXT`, where 999 is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.CUST_OWNERSHIP.Mon-Apr-25-11-28-03-EDT-2016.TXT.`

Location of file: The Marketing Download Customer Ownership Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent row contains the actual data; see the Marketing Download Customer Ownership Table for a description of the contents of this file.

```
Company|Customer#|Ownership ID|Active Flag|Entry Dt|Confirm Dt|
Description

555|276|A123456789|Y|20160201|20160201|BANKER OWNERSHIP RECORDS
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Customer Ownership Export file even if there is no data to extract from the Marketing Download Customer Ownership table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Customer Ownership Table

Field	Description
Company	The company where the customer ownership record was created. From the Company in the Customer Ownership table. Numeric, 3 positions.
Customer #	The customer sold-to number associated with the customer ownership record. From the Customer # in the Customer Ownership table. Numeric, 9 positions.
Ownership ID	A code that represents a product the customer owns or previously owned. From the Ownership ID in the Customer Ownership table. Alphanumeric, 10 positions.
Act Flag	Indicates if the customer currently owns the product. Selected (default) = The customer currently owns the product. Unselected = The customer previously owned the product. From the Act in the Customer Ownership table.
Entry Date	The date the customer ownership record was created. From the Entry date in the Customer Ownership table. Numeric, 6 positions (MM/DD/YY format).
Confirm Date	The most recent date when the customer confirmed ownership of the product. From the Confirm date in the Customer Ownership table. Numeric, 6 positions (MM/DD/YY format).
Description	A description of the product the customer owns or previously owned. From the Description in the Customer Ownership table. Alphanumeric, 120 positions.

Marketing Download Customer Profile Table and Extract File

Marketing Download Customer Profile table: This table contains a record for each marketing download trigger with a trigger type of customer profile (CP). If a customer has more than one profile record, the system creates a Marketing Download Customer Profile record for each Customer Profile record defined for the sold to customer. See Populating the Marketing Download Tables and Extract Files for more information on how the periodic function determines when to create a record in the Marketing Download Customer Profile table.

Marketing Download Customer Profile Export file: The MDEXPRT Marketing Download Export (PFR0130) periodic function creates a pipe-delimited text file based on the records in the Marketing Download Customer Profile table.

Name of file: The name of the file is `999.CUST_PROFILE.DATETIME.TXT`, where `999` is the company code where you submitted the MDEXPRT periodic function and `DATETIME` is the date and time when the extract occurred, including an abbreviation, such as EDT, indicating the time zone. For example: `7.CUST_PROFILE.Mon-Apr-25-11-28-03-EDT-2016.TXT`.

Location of file: The Marketing Download Customer Profile Export text file is included in a zip file that is placed in the OMS-MARKETING container of the FILE_STORAGE table. The zip file in the FILE_STORAGE table has the same name as the text file that it contains, except for the ZIP extension.

Example of file: In this example, the first row is a header record indicating the name of each column and the subsequent row contains the actual data; see the Marketing Download Customer Profile Table for a description of the contents of this file.

```
Company|Customer#|Profile Code|Profile Code Desc|Profile Data Code|
Profile Data Code Desc

555|123456798|1|||
```

> **Note**
>
> When you run the MDEXPRT Marketing Download Export periodic function, the system creates the Marketing Download Customer Profile Export file even if there is no data to extract from the Marketing Download Customer Profile table; in this situation, the text file contains only a header record indicating the column names.

Marketing Download Customer Profile Table

Field	Description
Company	The company where the customer profile record was created. From the Company in the Customer Profile table. Numeric, 3 positions.
Customer #	The customer sold-to number associated with the customer profile record. From the Customer # in the Customer Profile table. Numeric, 9 positions.
Profile Code	A number that represents a demographic profile category. From the Profile code in the Customer Profile table. Alphanumeric, 10 positions.
Profile Code Description	The description of the demographic profile category. From the Description in the Profile table. Alphanumeric, 20 positions.
Profile Data Code	A user-defined code that represents a valid response for the profile category. From the Profile data code in the Customer Profile table. Alphanumeric, 30 positions.
Profile Data Code Description	Text that describes the profile data response. Example: For the profile category of Income level, you might have profile data codes such as the following: 1 = less than $20,000 2 = $20,000-$29,000 3 = $30,000-$39,000 4 = $40,000-$49,000 5 = more than $49,000 From the Description in the Profile Data table. Alphanumeric, 40 positions.

3

Address Standardization

Address Standardization allows you to use a third-party service (such as Experian's Data Quality Address Validate API) to provide accurate address information on customer records and orders. Two methods of address standardization are used in Order Administration Cloud Service:

- An Address Validation REST API is utilized in Classic View screens and non-interactive processing such as order API. The REST API captures, cleans, and enhances address records and validates the address data against national postal authorities, such as the U.S.

  Order Administration supports the following integrations for address validation:

  – Experian Data Quality (EDQ) Address Validate API using the RESTful format. This is also referred to as QAS.

  – Generic RESTful Address Validation API that can be leveraged to integrate to an external address verification provider.

  Address Validation is supported through the following processes when enabled for a Country:

  – Order API

  – Customer API

  – Catalog Request API

  – Classic View Customer Sold To (WCST)

  – Classic View Catalog Request Interface (WCRU)

  > ⓘ **Note**
  >
  > Address Validation is not evaluated from Modern View. Refer to the Address Lookup section for type-ahead functionality available in Modern View.

- Type-ahead address lookup is utilized in Modern View screens. Type-ahead attempts to find valid address information provided by the Address Standardization service while the user is typing the address on the screen.

  Order Administration supports the following integrations for type-ahead address:

  – Experian Data Quality (EDQ) Address Search API

  – Generic RESTful Address Search API that can be leveraged to integrate to an external address search provider.

Experian Address Validation API

Experian Address Validation API allows you to retrieve address information from Experian's Address Validation REST API to update an Order Administration address during interactive quote or order entry/maintenance, the order API, the customer API, and customer maintenance. The address service interface captures, cleans, maintains, and enhances

address records and validates the address data against national postal authorities, such as the U.S. Postal Service.

In this topic:

Experian Address Standardization Points

The system sends address information to Experian for standardization when you create or update an address.

> **Note**
>
> The Order Administration integration with Experian supports address standardization for United States and Canadian addresses; it does not support address standardization for European countries at this time.

- Interactive Address Standardization
- Remote Address Standardization

Interactive Address Standardization

Order Entry/Maintenance: The system sends address information for standardization when you create or update the sold to address, bill to address, or any type of ship to address on the order including:

- quote entry.
- regular order entry.
- customer membership orders, including the customer membership recipient address and alternate shipping address.

Sold To Customer Creation and Maintenance: The system sends address information for standardization when you create or update a sold to customer address in the Work with Customers (WCST) menu option.

Permanent Ship To Customer Creation and Maintenance: The system sends address information for standardization when you create or update a permanent ship to customer address in the Work with Customers (WCST) menu option.

Remote Address Standardization using Experian REST API

Order API: The system sends address information for standardization when you create or update the sold to address or ship to address on an order received through the Order API.

> **Note**
>
> The system will still send address information for standardization if the order contains the customer number instead of the customer name and address information, even if the existing customer address has already been previously cleansed.

Catalog Request Interface: The system sends address information for standardization when you create an address on a catalog request, including:

- catalog requests created using the E-Commerce Catalog Request Message (CWCatRequest); see E-Commerce Catalog Requests . See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1)
- catalog requests created through records that have been uploaded to the Catalog Request Interface table (IXCRIN); see Working with the Catalog Request Interface (WCRU).

> **Note**
>
> The system does not send address information for standardization when you update an address on the Change Catalog Request Screen in the Work with Catalog Request Interface (WCRU) menu option; when you submit the catalog request for processing at the Work with Catalog Request Interface Screen, the system will send the address information for cleansing.

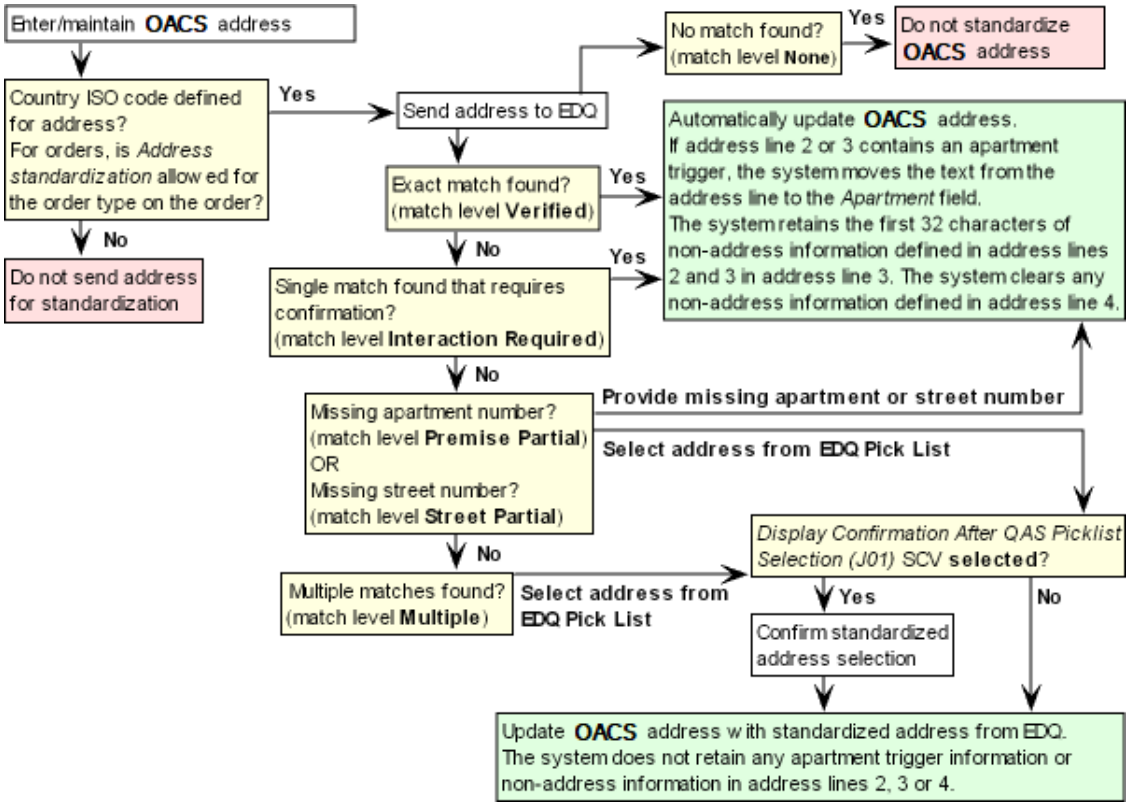
Customer API: The system sends address information when you create or change a customer record through the *Generic Customer API* if the Perform Address Standardization in Customer API (I99) system control value is selected and you are using address standardization.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

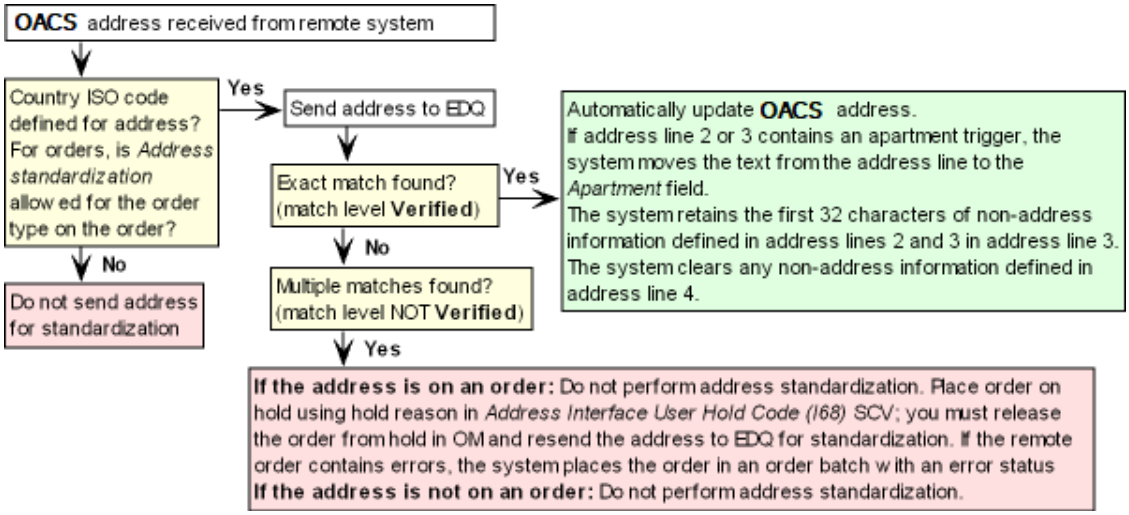
Experian Address Standardization Process when using REST API

- Interactive Address Standardization Process Illustration
- Remote Address Standardization Process Illustration
- Experian Address Standardization Process Flow

Interactive Address Standardization Process Illustration



Remote Address Standardization Process Illustration



Experian Address Standardization Process Flow

The system determines if a Order Administration address requires standardization each time you create a new address or update the following fields on an existing address:

- Street address
- Apartment/Suite
- Address lines 2-4
- City
- State/Province code
- Postal code
- Country code

Address Standardization Requirements for using the REST API

In order to send an address for standardization the following requirements must be met.

Requirement	Description
The Experian Address interface must be enabled	• If the Address Interface (I67) system control value is selected, the system uses the Experian integration. • If the *Address Interface (I67)* system control value is unselected, the system does not retrieve address information from Experian and instead, retains the Order Administration address. See Experian Setup for additional information on the required setup for the Experian integration.
A country ISO code must be defined for the address	Country ISO codes are codes representing the international standard code used to identify a country. When the system sends address information for validation and standardization, the system sends the *Country ISO code* defined for the country instead of the *Country code* as the country code defined for the address. For example, the country code for the United States may be US and the country ISO code may be USA. The country ISO codes supplied by Experian for Canada and the United States are CAN and USA. You can define a country ISO code for a country in the Work with Countries (WCTY) menu option. • If a country ISO code is defined for the address, the system sends the address for standardization. • If a country ISO code is not defined for the address, the system does not send the address for standardization.

> **Note**
>
> The Order Administration integration with Experian supports address standardization for United States and Canadian addresses; it does not support address standardization for European countries at this time.

Requirement	Description
If the address is on an order, the order type must be eligible for standardization	• If the *Address standardization* field for the order type is selected, the order is eligible for address standardization and the system sends the address for standardization. • If the *Address standardization* field for the order type is unselected, the order is not eligible for address standardization and the system retains the Order Administration address.

If the address meets the Address Standardization Requirements, the system sends the following address fields to Experian:

- Street address
- Apartment/Suite
- Address lines 2-3 (The system does not send address line 4)
- City
- State/Province code
- Postal code
- Country ISO code

Once the address search completes, Experian sends a response back to Order Administration. The Experian Address Response Match Level returned determines the action Order Administration performs; see Experian Address Response Match Level for more information.

Address map: The data map defines how the address information returned by Experian is mapped to the Order Administration address. This map also defines whether the address data is returned in upper case letters and how non-address information is retained. See Data Map for more information.

Duplicate checking: The system sends an address for standardization prior to any duplicate customer checking. Once the address has been standardized, the system then determines if a duplicate address match already exists for the address.

Retaining Non-Address Information in Address Lines 1-4

If address lines 1, 2, or 3 contains non-address information, such as `LEAVE PACKAGES ON FRONT PORCH`, the Experian Address Response Match Level determines whether Experian retains the non-address information.

> **Note**
>
> When entering non-address information for an address on an order, use the *Attention* field to retain the non-address information for the order.

Match Level	Non-Address Information Results
None	The system retains any non-address information defined in address lines 1, 2, 3 and 4.
Verified	The system retains the first 32 characters of non-address information defined in address lines 1, 2, and 3 in address line 3. The system clears any non-address information defined in address line 4.

Match Level	Non-Address Information Results
Premise Partial	
Street Partial	
Multiple	
Interaction Required	The system does not retain the non-address information defined in address lines 1, 2, 3, and 4.

See Address Examples for examples of how Experian standardizes an address and whether non-address information is retained.

Apartment Triggers

> **Note**
>
> As a best practice, you should enter apartment information in the *Apartment* field, prefaced with apartment identifier text such as APT or STE.

Certain text in address lines 2 and 3 and the Experian Address Response Match Level triggers Experian to move the text to the *Apartment* field on an address. For example, if you enter APT 3 in *Address line 2*, the system moves this text to the *Apartment* field.

The text that Experian will move from address lines 2 and 3 to the *Apartment* field is listed below. Any number that follows this text is also moved to the *Apartment* field.

- APARTMENT (the system abbreviates APARTMENT to APT)
- APT
- BLDG
- BOX
- BUILDING (the system abbreviates BULIDING to BLDG)
- DEPARTMENT (the system abbreviates DEPARTMENT to DEPT)
- DEPT
- FL
- FLOOR (the system abbreviates FLOOR to FL)
- FMT
- HNGR
- LBBY
- LOBBY (the system abbreviates LOBBY to LBBY)
- LOT
- NO
- OFC
- OFFICE (the system abbreviates OFFICE to OFC)
- PH
- PMB

- REAR
- RM
- ROOM (the system abbreviates ROOM to RM)
- RR
- SPC
- STE
- STOP
- SUITE (the system abbreviates SUITE to STE)
- TRLR
- UNIT

> **Note**
>
> **Important:** When you enter non-address information in address lines 1, 2 or 3, pay attention to the text you enter if you do NOT want Experian to recognize this text as an apartment trigger. For example, if you enter `NO SIGNATURE REQUIRED`, Experian will move the text `NO SIGNATU` to the *Apartment* field because it recognized the text `NO` as an apartment trigger.

Address Matches Containing a Company, Building or Firm Name

When you standardize an Order Administration address that contains a company, building or firm name, if Experian does not consider this information required for delivery purposes, it will not retain this information when it standardizes the address.

Example: You enter an address similar to the following:

Order Administration Address:	Example:
street address:	308 SAMPLE STREET (replace with a valid street address)
address line 2:	CITY HALL
address line 3:	CARE OF JOHN SMITH
city/state/zip/country:	STURBRIDGE MA 01566 US

As part of address standardization, CITY HALL is removed from the address:

Standardized Address:	Example:
street address:	308 SAMPLE ST
address line 3:	CARE OF JOHN SMITH
city/state/zip/country:	STURBRIDGE MA 01566-2300 US

Experian Address Response Match Level

Purpose: The address response match level returned by Experian determines the action Order Administration performs.

Match Level	Address Results
None	Experian does not update the Order Administration address because it could not find a match to the address. **Remote address standardization:** The system does not standardize the Order Administration address. If the address is on a remote order and a hold reason is defined in the Address Interface User Hold Code (I68) system control value, the system places the order on user hold. If a hold reason is not defined in the *Address Interface User Hold Code (I68)* system control value, the system does not assign a hold reason to a remote order at the user level. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status. **Interactive address standardization:** The system displays the Address Standardization: No Address Match Found Screen. At this screen you can select to return to the Order Administration screen and either: • Retain the Order Administration address without any updates from Experian. • Update the Order Administration address to resend it for standardization. **Apartment Triggers:** Experian does not apply apartment triggers when the match level is None. See Apartment Triggers. **Non-Address Information:** The system retains any non-address information defined in address lines 1, 2, and 3 in address line 3. See Retaining Non-Address Information in Address Lines 1-4. See Match Level None Example.
Verified	Experian found one address match with a high level of confidence. The system automatically updates the Order Administration address with the address returned by Experian. **Apartment Triggers:** If address lines 2 or 3 contains an apartment trigger, the system moves the text from the address line to the *Apartment* field. See Apartment Triggers. **Non-Address Information:** The system retains the first 32 characters of non-address information defined in address lines 1, 2, and 3 in address line 3. The system clears any non-address information defined in address line 4. See Retaining Non-Address Information in Address Lines 1-4. See Match Level Verified Example.

Match Level	Address Results
Interaction Required	Experian found a single match to the Order Administration address but requires you to confirm the address update. **Remote address standardization:** The system does not standardize the Order Administration address. If the address is on a remote order and a hold reason is defined in the Address Interface User Hold Code (I68) system control value, the system places the order on user hold. If a hold reason is not defined in the *Address Interface User Hold Code (I68)* system control value, the system does not assign a hold reason to a remote order at the user level. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status. **Interactive address standardization:** The system displays the Address Standardization: Verify Recommendation Screen. At this screen you can: • Retain the Order Administration address without any updates from Experian. • Update the Order Administration address with the recommended address returned by Experian. **Apartment Triggers:** If address line 2 or 3 contains an apartment trigger, the system moves the text from the address line to the *Apartment* field. See Apartment Triggers. **Non-Address Information:** The system does not retain the non-address information defined in address lines 1, 2, 3, and 4. See Match Level Interaction Required Example.

Match Level	Address Results
Premise Partial	Experian found a match to the Order Administration address, but requires you to provide the apartment number for the address or select an address from a list of valid addresses returned by Experian. **Remote address standardization:** The system does not standardize the Order Administration address. If the address is on a remote order and a hold reason is defined in the Address Interface User Hold Code (I68) system control value, the system places the order on user hold. If a hold reason is not defined in the *Address Interface User Hold Code (I68)* system control value, the system does not assign a hold reason to a remote order at the user level. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status. **Interactive address standardization:** The system displays the Address Standardization: Verify Apartment/Suite Number Screen. At this screen you can: • Retain the Order Administration address without any updates from Experian. • Provide the missing apartment number and standardize the Order Administration address. **Note** If you provide an apartment number that Experian does not recognize as a valid apartment number, the system does not update the address with the apartment number you provided. Instead, you remain on the Verify Apartment/Suite Number screen until you provide a valid apartment number; you can review the pick list returned by Experian to determine the valid apartment numbers for the address. • Display a list of possible address matches in a pick list returned by Experian and replace the Order Administration address with a standardized address selected from the pick list. **Note** The address matches in the pick list returned by Experian provide an idea of the acceptable range of apartment numbers you can define for the address. • If an address in the pick list displays as a hyperlink, you can select the address from the pick list to replace the Order Administration address with this standardized address.

Match Level	Address Results
	• If an address in the pick list does not display as a hyperlink, you can enter the apartment number defined for the address in the *Apartment number* field to standardize the Order Administration address. **Non-Address Information:** The system retains the first 32 characters of non-address information defined in address lines 1, 2, and 3 in address line 3. Address line 4 will be cleared of any non-address information. **Apartment Triggers:** • If you provide an apartment number for the address, and address line 2 or 3 contains an apartment trigger, the system moves the text from the address line to the *Apartment* field. • If you select an address from the pick list returned by Experian, Experian does not apply apartment triggers to the address. See Match Level Premise Partial Example.

Match Level	Address Results
Street Partial	Experian found a match to the Order Administration address, but requires you to provide the street number for the address or select an address from a list of valid addresses returned by Experian. **Remote address standardization:** The system does not standardize the Order Administration address. If the address is on a remote order and a hold reason is defined in the Address Interface User Hold Code (I68) system control value, the system places the order on user hold. If a hold reason is not defined in the *Address Interface User Hold Code (I68)* system control value, the system does not assign a hold reason to a remote order at the user level. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status. **Interactive address standardization:** The system displays the Address Standardization: Verify Street Number Screen. At this screen you can: • Retain the Order Administration address without any updates from Experian. • Provide the missing street number and standardize the Order Administration address. **Note** If you provide a street number that Experian does not recognize as a valid street number, the system does not update the address with the street number you provided. Instead, you remain on the Verify Street Number screen until you provide a valid street number; you can review the pick list returned by Experian to determine the valid street numbers for the address. • Display a list of possible address matches in a pick list returned by Experian and replace the Order Administration address with a standardized address selected from the pick list. **Note** The address matches in the pick list returned by Experian provide an idea of the acceptable range of street numbers you can define for the address. • If an address in the pick list displays as a hyperlink, you can select the address from the pick list to replace the Order Administration address with this standardized address returned from Experian. • If an address in the pick list does not display as a hyperlink, you can enter the street number defined for the address in the

Match Level	Address Results
	Street number field to standardize the Order Administration address. **Non-Address Information:** The system retains the first 32 characters of non-address information defined in address lines 1, 2, and 3 in address line 3. Address line 4 will be cleared of any non-address information. **Apartment Triggers:** • If you provide a street number for the address, and address line 2 or 3 contains an apartment trigger, the system moves the text from the address line to the *Apartment* field. • If you select an address from the pick list returned by Experian, Experian does not apply apartment triggers to the address. See Match Level Street Partial Example.
Multiple	Experian found multiple matches to the Order Administration address and requires you to select an address from the list of valid addresses. **Remote address standardization:** The system does not standardize the Order Administration address. If the address is on a remote order and a hold reason is defined in the Address Interface User Hold Code (I68) system control value, the system places the order on user hold. If a hold reason is not defined in the *Address Interface User Hold Code (I68)* system control value, the system does not assign a hold reason to a remote order at the user level. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status. **Interactive address standardization:** The system displays the Address Standardization: Select from Multiple Addresses Screen. At this screen you can: • Retain the Order Administration address without any updates from Experian. • Display a list of possible address matches in a pick list returned by Experian and replace the Order Administration address with a standardized address selected from the pick list. **Non-Address Information:** The system retains the first 32 characters of non-address information defined in address lines 1, 2, and 3 in address line 3. Address line 4 will be cleared of any non-address information. **Apartment Triggers:** Experian does not apply apartment triggers when the match level is Multiple. See Match Level Multiple Example.

Address Examples

Purpose: The following examples demonstrate how Experian standardizes the Order Administration address.

> **Note**
>
> **Important:** The following examples are for illustrative purposes only. To follow best address standardization practices, you should enter any apartment information in the *Apartment* field. In addition, for addresses on an order, you should enter non-address information in the *Attention* field on the order.

Match Level None Example

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	GARDEN
address line 2:	APT D
address line 3:	LEAVE PACKAGE AT FRONT DOOR
address line 4:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of None, indicating the Order Administration address will not be standardized because it could not find an address to match to the Order Administration address.

The system displays the Address Standardization: No Address Match Found Screen. At this screen you can select to return to the Order Administration screen without standardizing the address.

Retained Order Administration Address:	Example:
street address:	GARDEN
address line 2:	APT D
address line 3:	LEAVE PACKAGE AT FRONT DOOR
address line 4:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101 US

You can update the address information to resend it to Experian for standardization; otherwise, the system determines if the address requires standardization the next time you create the address or update the address; see Experian Address Standardization Process Flow.

Match Level Verified Example

- Verified Example: Retain Non-Address Information
- Verified Example: Apartment Trigger

Verified Example: Retain Non-Address Information

The following address is entered on an Order Administration screen or received through the Order API, catalog request interface or Customer API:

Order Administration Address:	Example:
street address:	1234 SAMPLE LANE (replace with a valid street address)
address line 2:	SAMPLE FARM
address line 3:	OPEN YEAR ROUND
address line 4:	SAMPLE GARDENS
city/state/zip/country:	TEMPLETON MA 01468 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Verified, indicating it found one address match with a high level of confidence.

Because an exact match was found, the system automatically updates the Order Administration address to the standardized address, without requiring any user action.

In addition, the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line 3. In this example, the system retains the non-address information: `KAT'S FRUITS AND VEGETABLES LEAV`.

Standardized Address:	Example:
street address:	1234 SAMPLE LN
address line 3:	SAMPLE FARM OPEN YEAR ROUND
city/state/zip/country:	TEMPLETON MA 01468-1566 US

Verified Example: Apartment Trigger

The following address is entered on an Order Administration screen or received through the Order API, catalog request interface or Customer API:

Order Administration Address:	Example:
street address:	1234 GARDEN (replace with a valid street number)
address line 2:	APARTMENT D
address line 3:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Verified, indicating it found one address match with a high level of confidence.

Because an exact match was found, the system automatically updates the Order Administration address to the standardized address, without requiring any user action.

In addition:

- the system recognized the text `APARTMENT` as an apartment trigger and moves this text, plus the number following it, to the *Apartment* field.
- the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line 3.

Standardized Address:	Example:
street address/apt:	1234 SAMPLE ST APT D
address line 3:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101-1367 US

Match Level Interaction Required Example

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	123 SAMPLE STREET (replace with a valid street address)
address line 2:	HUNGRY HORSE
address line 3:	CANYON CAFE
city/state/zip/country:	WESTBORO MA 01581 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Interaction Required, indicating it found a single match to the Order Administration address but requires you to confirm the address update.

The system displays the Address Standardization: Verify Recommendation Screen. At this screen, you confirm the address update:

Standardized Address:	
street address:	123 SAMPLE ST (replace with a valid street address)
city/state/zip/country:	WESTBOROUGH MA 01581-1815 US

Match Level Premise Partial Example

- Premise Partial Example: Provide Missing Apartment Number
- Premise Partial Example: Select Address from Pick List

Premise Partial Example: Provide Missing Apartment Number

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	1234 SAMPLE (replace with a valid street number)
address line 2:	LAST BUILDING
address line 3:	LEAVE PACKAGES AT BACK DOOR
address line 4:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Premise Partial, indicating it found a match to the Order Administration address, but requires you to provide the apartment number for the address or select an address from a list of valid addresses.

The system displays the Address Standardization: Verify Apartment/Suite Number Screen. At this screen, you provide the apartment number for the address.

The system standardizes the Order Administration address. In addition, the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line 3. In this example, the system retains the non-address information: `LAST BUILDING LEAVE PACKAGES AT`.

Standardized Address:	Example:
street address/apt:	1234 SAMPLE ST APT D
address line 3:	LAST BUILDING LEAVE PACKAGES AT
city/state/zip/country:	SANTA BARBARA CA 93101-1367 US

Premise Partial Example: Select Address from Pick List

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	1234 SAMPLE (replace with a valid street number)
address line 2:	LAST BUILDING
address line 3:	LEAVE PACKAGES AT BACK DOOR
address line 4:	SAMPLE GARDENS
city/state/zip/country:	SANTA BARBARA CA 93101 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Premise Partial, indicating it found a match to the Order Administration address, but requires you to provide the apartment number for the address or select an address from a list of valid addresses.

The system displays the Address Standardization: Verify Apartment/Suite Number Screen. At this screen, you review the addresses in the pick list returned by Experian.

Because the addresses in the pick list returned by Experian display as a hyperlink, you can select an address from the pick list.

Experian Address Pick List:	Example:
street address:	1234 SAMPLE ST
city/state/zip/country:	SANTA BARBARA CA 93101-1363 US
street address/apt:	1234 SAMPLE ST APT A
city/state/zip/country:	SANTA BARBARA CA 93101-1365 US
street address/apt:	1234 SAMPLE ST APT B
city/state/zip/country:	SANTA BARBARA CA 93101-1364 US
street address/apt:	1234 SAMPLE ST APT C
city/state/zip/country:	SANTA BARBARA CA 93101-1366 US
street address/apt:	1234 SAMPLE ST APT D
city/state/zip/country:	SANTA BARBARA CA 93101-1367 US

The system standardizes the Order Administration address. In addition, the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line 3. In this example, the system retains the non-address information: `LAST BUILDING LEAVE PACKAGES AT`.

Standardized Address:	Example:
street address/apt:	1234 SAMPLE ST APT D
address line 3:	LAST BUILDING LEAVE PACKAGES AT
city/state/zip/country:	SANTA BARBARA CA 93101-1367 US

Match Level Street Partial Example

- Street Partial Example: Provide Missing Street Number
- Street Partial Example: Provide Missing Street Number from Pick List
- Street Partial Example: Select Address from Pick List

Street Partial Example: Provide Missing Street Number

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	SAMPLE LANE (replace with a valid street name)
address line 2:	SAMPLE PLACE
address line 3:	LEAVE PACKAGES AT BACK DOOR
address line 4:	SAMPLE FARM STAND
city/state/zip/country:	TEMPLETON MA 01468 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Street Partial, indicating it found a match to the Order Administration address, but requires you to provide the street number for the address or select an address from a list of valid addresses.

The system displays the Address Standardization: Verify Street Number Screen. At this screen, you provide the street number for the address.

The system standardizes the Order Administration address. In addition, the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line

3. In this example, the system retains the non-address information: `SMITH PLACE LEAVE PACKAGES AT`.

Standardized Address:	Example:
street address:	99 SAMPLE LN
address line 3:	SAMPLE PLACE LEAVE PACKAGES AT BA
city/state/zip/country:	TEMPLETON MA 01468-1556 US

Street Partial Example: Provide Missing Street Number from Pick List

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	SAMPLE LANE (replace with a valid street name)
address line 2:	SAMPLE PLACE
address line 3:	LEAVE PACKAGES AT BACK DOOR
address line 4:	SAMPLE FARM STAND
city/state/zip/country:	TEMPLETON MA 01468 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Street Partial, indicating it found a match to the Order Administration address, but requires you to provide the street number for the address or select an address from a list of valid addresses.

The system displays the Address Standardization: Verify Street Number Screen. At this screen, you review the addresses in the pick list.

Experian Address Pick List:	Example:
street address:	1 ... 99 SAMPLE LN
city/state:	TEMPLETON MA (ODD)
street address/apt:	2 ... 98 SAMPLE LN
city/state:	TEMPLETON MA (EVEN)

Because the addresses in the pick list returned by Experian do not display as a hyperlink, you must enter a valid street number in the *Street number* field. According to the pick list returned by Experian, the valid street numbers are 1 - 99 (odd numbers) and 2 - 98 (even numbers).

You provide the street number for the address. The system standardizes the Order Administration address. In addition, the system retains the first 32 characters of non-address information defined in address lines 2 and 3 in address line 3. In this example, the system retains the non-address information: `SMITH PLACE LEAVE PACKAGES AT`.

Standardized Address:	Example:
street address:	99 SAMPLE LN
address line 3:	SAMPLE PLACE LEAVE PACKAGES AT
city/state/zip/country:	TEMPLETON MA 01468-1556 US

Street Partial Example: Select Address from Pick List

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	SAMPLE PARK WAY (replace with a valid street name)
address line 3:	SAMPLE PLACE
city/state/zip/country:	NATICK MA 01760 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Street Partial, indicating it found a match to the Order Administration address, but requires you to provide the street number for the address or select an address from a list of valid addresses.

The system displays the Address Standardization: Verify Street Number Screen. At this screen, you review the addresses in the pick list.

One address in the pick list displays as a hyperlink; the rest of the addresses in the pick list do not display as a hyperlink. You can either:

- Use the addresses in the pick list to determine the valid street number to enter in the *Street number* field.
- Select the address that displays as a hyperlink to standardize the Order Administration address.

Experian Address Pick List:	Examples:
street address:	1 ... 11 SAMPLE PARK WAY
city/state:	NATICK MA (ODD)
street address/apt:	2 ... 10 SAMPLE PARK WAY
city/state:	NATICK MA (EVEN)
street address/apt:	12 ... 98 SAMPLE PARK WAY
city/state:	NATICK MA (EVEN)
street address:	13 ... 99 SAMPLE PARK WAY
city/state:	NATICK MA (ODD)
street address:	24 SAMPLE PARK WAY
city/state:	NATICK MA (ODD)
street address/apt:	24 SAMPLE PARK WAY STE 101 ... 103
city/state:	NATICK MA
street address/apt:	24 SAMPLE PARK WAY STE 104 ... 503
city/state:	NATICK MA
street address/apt:	24 SAMPLE PARK WAY STE B1 ... 2
city/state:	NATICK MA

You select the address in the pick list that displays as a hyperlink to standardize the Order Administration address.

Standardized Address:	Example:
street address/apt:	24 SAMPLE WAY
address line 3:	SAMPLE PLACE
city/state/zip/country:	NATICK MA 01760-1528 US

Match Level Multiple Example

You enter the following address on an Order Administration screen:

Order Administration Address:	Example:
street address:	PO BOX 1234 (replace with a valid PO box number)
address line 2:	FAN CLUB MAIL
address line 3:	CABLE CHANNEL
address line 4:	BOX 1234
city/state/zip/country:	NEW YORK NY 10001 US

Order Administration sends the address to Experian for standardization. Experian returns a match level of Street Partial, indicating it found multiple matches to the Order Administration address and requires you to select an address from a list of valid addresses.

The system displays the Address Standardization: Select from Multiple Addresses Screen. At this screen, you select an address from the pick list.

The system standardizes the Order Administration address.

Standardized Address:	Example:
street address:	PO BOX 1234
address line 3:	FAN CLUB MAIL CABLE CHANNEL
city/state/zip/country:	NEW YORK NY 10002-0915 US

Address Standardization: No Address Match Found Screen

Purpose: This screen indicates that Experian could not find a match for the Order Administration address.

How to display this screen: This screen displays during Interactive Address Standardization when the Experian Address Response Match Level returned by Experian is None.

Screen Option	Procedure
Return to the Order Administration screen where you can either: • Retain the Order Administration address without any updates from Experian, or • Update the Order Administration address to resend it to Experian for standardization	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address. The system determines if the address requires standardization the next time you create the address or update the address; see Experian Address Standardization Process Flow.

Address Standardization: Verify Recommendation Screen

Purpose: Use this screen to confirm the address match returned by Experian.

How to display this screen: This screen displays during Interactive Address Standardization when the Experian Address Response Match Level returned by Experian is Interaction Required, indicating Experian found a single match to the Order Administration address but requires you to confirm the address update.

Screen Option	Procedure
Retain the Order Administration address without any updates from Experian	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address. The system determines if the address requires standardization the next time you create the address or update the address; see Experian Address Standardization Process Flow.
Update the Order Administration address with the recommended address returned by Experian	Select Select. The system returns you to the Order Administration screen and standardizes the address.

Address Standardization: Verify Apartment/Suite Number Screen

Purpose: Use this screen to provide the missing apartment number for the Order Administration address or select an address from the pick list returned by Experian.

How to display this screen: This screen displays during Interactive Address Standardization when the Experian Address Response Match Level returned by Experian is Premise Partial, indicating Experian found a match to the Order Administration address but the address is missing the apartment number.

Screen Option	Procedure
Retain the Order Administration address without any updates	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address. The system determines if the address requires standardization the next time you create the address or update the address; see Experian Address Standardization Process Flow.
Provide the missing apartment/suite number and update the Order Administration address with the recommendations returned by Experian	Enter the apartment/suite number in the *Apartment number* field and select OK. The system returns you to the Order Administration screen and standardizes the address. **Apartment preface:** When you enter the apartment/suite number, make sure you preface the number with apartment text, such as APT or STE; for example `APT D`. See Apartment Triggers for a list of valid apartment text that you can enter before the number.

> **Note**
>
> If you provide an apartment number that Experian does not recognize as a valid apartment number, the system does not update the address with the apartment number you provided. Instead, you remain on the Address Standardization: Verify Apartment/Suite Number Screen until you provide a valid apartment number; you can review the pick list returned by Experian to determine the valid apartment numbers for the address.

Screen Option	Procedure
Display a list of possible address matches returned by Experian	Select Matches to display a list of valid address returned by Experian. The address list indicates the valid apartment numbers available for the address. You can use this list to determine the apartment number to enter in the *Apartment number* field, or if an address displays as a hyperlink, you can select it. When you select one of these matches: • If the Address Validation Values (J01) system control value is selected, the system advances you to the Address Standardization: Verify Recommendation (from Pick List) Screen where you can confirm the address before making any updates. • If the Address Validation Values (J01) system control value is unselected, the system returns you to the Order Administration screen and standardizes the address.

Address Standardization: Verify Street Number Screen

Purpose: Use this screen to provide the missing street number for the Order Administration address or to select an address from the pick list returned by Experian.

How to display this screen: This screen displays during Interactive Address Standardization when the Experian Address Response Match Level returned by Experian is Street Partial, indicating Experian found a match to the Order Administration address but the address is missing the street number.

Screen Option	Procedure
Retain the Order Administration address without any updates from Experian	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address.
Provide the missing street number and update the Order Administration address with the recommendations returned by Experian	Enter a valid street number in the *Street number* field and select OK. The system returns you to the Order Administration screen and standardizes the address.

Note

If you provide a street number that Experian does not recognize as a valid street number, the system does not update the address with the street number you provided. Instead, you remain on the Address Standardization: Verify Street Number Screen until you provide a valid street number; you can review the pick list returned by Experian to determine the valid street numbers for the address.

Screen Option	Procedure
Display a list of possible address matches returned by Experian	Select Matches to review a list of possible address matches returned by Experian. The address list indicates the valid street numbers available for the address. You can use this list to determine the street number to enter in the *Street number* field, or if an address displays as a hyperlink, you can select it. When you select one of these matches: • If the Address Validation Values (J01) system control value is selected, the system advances you to the Address Standardization: Verify Recommendation (from Pick List) Screen where you can confirm the address before making any updates. • If the Address Validation Values (J01) system control value is unselected, the system returns you to the Order Administration screen and standardizes the address.

Address Standardization: Select from Multiple Addresses Screen

Purpose: Use this screen to select an address from the pick list returned by Experian.

How to display this screen: This screen displays during Interactive Address Standardization when the Experian Address Response Match Level returned by Experian is Multiple, indicating Experian found multiple matches to the Order Administration address and requires you to select an address from the list of valid addresses returned by Experian.

Screen Option	Procedure
Retain the Order Administration address without any updates	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address.
Select an address from a list of possible matches	Select an address from the list of valid addresses returned from Experian. When you select one of these matches: • If the Address Validation Values (J01) is selected, the system advances you to the Address Standardization: Verify Recommendation (from Pick List) Screen where you can confirm the address before making any updates. • If the Address Validation Values (J01) is unselected, the system returns you to the Order Administration screen and standardizes the address.

Address Standardization: Verify Recommendation (from Pick List) Screen

Purpose: This screen allows you to review the address you selected from the pick list returned by an address service interface such as Experian before updating the Order Administration address.

How to display this screen: This screen displays during Interactive Address Standardization when you select an address from a list of valid addresses returned by the address service interface on the following screens and the Address Validation Values (J01) system control value is selected:

- Address Standardization: Verify Apartment/Suite Number Screen
- Address Standardization: Verify Street Number Screen

- Address Standardization: Select from Multiple Addresses Screen

Screen Option	Procedure
Retain the Order Administration address without any updates	Select Select/Edit. The system returns you to the Order Administration screen and does not standardize the address.
Select the address that you have selected from the pick list returned by the address service interface.	Select Select. The system returns you to the Order Administration screen and standardizes the address.
Display a list of possible address matches returned by the address service interface and update the Order Administration address with the updates defined for one of these addresses.	Select Matches to display a list of valid address returned by the address service interface. When you select one of these matches, the system displays the address under the **Recommended Address** section of the screen for you to review.

Communication Failures

If an error occurs during processing, for example a connection could not be made with the address service interface, the system displays the Web Service Failure Screen.

To restore communication:

- Retry to make sure the connection is no longer working.
- Verify your account license information in the address service interface self service portal.
- Contact your Experian representative to make sure the Validate Address API is running correctly and that configuration settings on their end have not changed.
- Check your Order Administration configuration settings; see Experian Setup.

Web Service Failure Screen

This screen indicates a connection could not be made with Experian.

Screen Option	Procedure
Return to the Order Administration screen without updating the Order Administration address	Select Select/Edit. The system returns you to the Order Administration screen without updating the address. You will need to resend the address to Experian at a later time once the connection to Experian has been reestablished.

Experian Setup

Purpose: Before you can use Experian, you must perform the necessary setup in Order Administration.

Required setup includes:

- System Control Values
- Country ISO Codes
- Order Type
- SCF Codes
- Ship Via

- Property Settings
- Serenade Map

System Control Values

System Control Value	Description
Address Interface (I67)	Indicates which, if any, Address Service Interface is used to validate and lookup addresses. Options are: • NONE/ • QAS • GENERIC
Address Interface User Hold Code (I68)	Enter a valid hold reason code in this field that the system can assign to a remote order at the user level when the remote order fails address verification. A remote order fails address verification if Experian could not find an exact match to the Order Administration address (the Experian Address Response Match Level is not Verified). If you do not define a hold reason code in this system control value, the system does not assign a hold reason to a remote order at the user level when the remote order fails address verification. • If the remote order does not contain any errors, the system creates the order in an open status. • If the remote order contains errors, the system places the order in an order batch with an error status.
Perform Address Standardization in Customer API (I99)	Select this field if you use Experian and you would like to use the interface to verify customer addresses that you add or change through the *Generic Customer API*. In the case of an Add request, the address standardization takes place before any duplicate checking. For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1). **Note** The address standardization only occurs if there is an exact match to the address (the Experian Address Response Match Level is Verified); otherwise, the process does not update the customer's address before proceeding with regular edits.
Address Validation Values (J01)	Select field if you wish to display the Address Standardization: Verify Recommendation (from Pick List) Screen after you select an address from a list of possible address matches returned by Experian. Leave this field blank if you wish to suppress the Address Standardization: Verify Recommendation (from Pick List) Screen after you select an address from a list of possible address matches returned by Experian.
Use Zip/City/State Defaulting? (B13)	If this system control value is selected, when you enter a postal code for an address, the system defaults the associated city and state (as defined in the Postal Code/City/State file) before sending the address to Experian.

System Control Value	Description
Default Country for Customer Address (B17)	If you do not define a country code for an address, the system defaults the country code defined in this system control value to the address.

Country ISO Codes

Country ISO codes are codes representing the international standard code used to identify a country. When the system sends address information to Experian for validation and standardization, the system sends the *Country ISO code* defined for the country instead of the *Country code* as the country code defined for the address. For example, the country code for the United States may be US and the country ISO code may be USA.

The country ISO codes supplied by Experian for Canada and the United States are listed below.

Country Code	ISO Code	Country
CA	CAN	Canada
US	USA	United States of America

You can define a country ISO code for a country in the Setting Up the Country Table (WCTY) menu option. A country ISO code must be defined for the United States and Canada in order to send addresses for standardization to Experian.

> **Note**
>
> The Order Administration integration with Experian supports address standardization for United States and Canadian addresses; it does not support address standardization for European countries at this time. You should not define a country ISO code for a country other than the United States or Canada.

Order Type

The *Address standardization* field defined for an order type controls whether orders with this order type are eligible for address standardization using the Address Interface.

> **Note**
>
> This field is only used in the REST API. It is not used for Modern View type-ahead.

- If the *Address standardization* field for the order type on the order is selected, the order is eligible for address standardization using Experian.
- If the *Address standardization* field for the order type on the order is unselected, the order is not eligible for address standardization using Experian.

SCF Codes

The system uses the SCF file to validate that a customer's postal code and state are consistent. Regardless if you use Experian to validate addresses, you must still use the Working with SCF Codes (WSCF) menu option to create SCF codes and tax rates that apply to orders shipped to the SCF.

Ship Via

Regardless of whether you use Experian to validate addresses, you must define the eligible shippers for a specific postal code. You can define eligible shippers for a postal code using either:

- the Working with Zip/Ship Via (WZSV) menu option to create a zip code/ship via cross reference for each postal code.
- the Working with SCF/Ship Via Values (WSHV) menu option to create an SCF/ship via cross reference for each SCF code.

Property Settings

The following properties are used with Experian.

Property Name	Description
ADDRESS SERVICE ENDPOINT URL defined in Working with Customer Properties (PROP)	Verify the URL used to connect to Experian. This setting is delivered with the application and does not require any change unless the domain where Experian resides changes.
ADDRESS SERVICE RETURN LAYOUT defined in Working with Customer Properties (PROP)	The name of the custom layout used for data mapping. This layout resides with Experian and should be set to Serenade. Do not change this setting.
QAS ADDRESS SERVICE TOKEN defined in Working with Customer Properties (PROP)	Enter the address service token used by Experian to identify a customer; this is a token you created in the Experian self service portal.
QAS SERVICES WSDL LOCATION defined in Working with Admin Properties (CPRP)	The location of the ProOnDemandService.wsdl file. The recommended location is `file:///domain/conf/cwdirectcpproperties/ProOnDemandService.wsdl`, where `domain` is the WebLogic domain directory for Order Administration. The ProOnDemandService.wsdl is delivered with Order Administration and should not be changed.

Serenade Map

The address information and placement of the information returned from Experian is based on a layout defined in the Serenade map. For example, the address mapping details specify:

- whether the data should be returned in upper case letters.
- if non-address data such as *Leave at back door* should be retained, and if retained, in which address field the information should be stored.

> **Note**
>
> The Order Administration integration with Experian supports address standardization for United States and Canadian addresses; it does not support address standardization for European countries at this time.

Experian maps the following information to each Order Administration address field.

OACS Field	Mapping Details
Street address	Experian updates this field with the primary number and street address. Example: `1234 SAMPLE STREET` updates to `1234 SAMPLE ST`.
Address line 2	Based on the Experian Address Response Match Level, Experian may clear address line 2 of any information.

Address line 3	Based on the Experian Address Response Match Level, Experian may update this field with the first 32 characters of non-address information that was defined in address lines 1, 2, and 3 in Order Administration.
	Example: The following non-address information was defined in address lines 2 and 3 for the Order Administration address:
	`KAT'S FRUITS AND VEGETABLES`
	`LEAVE PACKAGES ON FRONT PORCH`
	Experian moves the first 32 characters of this information to address line 3:
	`KAT'S FRUITS AND VEGETABLES LEAV`
	See Retaining Non-Address Information in Address Lines 1-4 for more information.

Address line 4	Experian clears address line 4 of any information.
Apartment	Experian updates this field with a valid apartment/suite/unit number and includes an abbreviation such as APT or STE. Example: `APT 3` **Apartment Triggers** Certain text in address lines 2 and 3 and the Experian Address Response Match Level triggers Experian to move the text to the *Apartment* field on an address. For example, if you enter `NO 3` in *Address line 2*, the system moves this text to the *Apartment* field. See Apartment Triggers for a list of the text that Experian will move from address lines 2 and 3 to the *Apartment* field. Any number that follows this text is also moved to the *Apartment* field.
City	Experian updates this field with the valid city name for the address. Example: WESTBORO updates to WESTBOROUGH
State code	Experian updates this field with the valid state code for the address. Example:`MA`
Postal code	Experian updates this field with the valid zip + 4 postal code for the address. Example:`01468` updates to `01468-1566`.
Country code	Experian translates the ISO country code for the address to the associated country code defined in Order Administration. Example:`US`

Type-Ahead Address Lookup

Address Type-Ahead Lookup is supported in the following Address Form screens in Modern View Contact Center when enabled for a Country:

- Create and Edit Customer
- Customer Information in Order Entry
- Edit Sold-To and Ship-To in Order Summary
- One-Time Address in Order Entry and Order Summary
- Create and Edit Address Book in Customer, Order Entry and Order Summary
- Schedule Courier Pickup for Returns in Order Summary

To perform the address lookup, a user selects a country that is configured for address lookup and then types the address into a new *Address Lookup* field. As the user continues to type, a list of matching addresses is displayed to choose from. Continue typing the address to refine the list. Once an address is selected, that is displayed on the screen and can be manually overridden using the edit icon.

- If the selected country is not enabled for address lookup, the screen displays all standard address fields.
- The address is generally typed in the order of a standard address structure; however, different search terms or sequences may be appropriate in different countries
  - For addresses in the US, the lookup may assume the street address is the starting point so entering a postal code first would provide invalid results. Additionally, you may need to avoid using terms such as “street”, “road” or “circle” to find a match as that may be too specific.

Setup Requirements

The following needs to be configured to enable Address Validation and/or Address Type-Ahead Lookup unless indicated that it is only used for one of the integrations:

- Populate the 3-digit ISO Country Code in Work with Countries (WCTY)
  - Only countries where the region (or state code) is either empty or has a 2-character code are supported. For example: Canada (CAN), United Kingdom (GBR), United States (USA) and Australia (AUS) are all supported.
- Address Service Authorization Token (B66) system control value
  - Previously, this was configured in the QAS_ADDRESS_SERVICE_TOKEN property which is no longer supported. Upon update, if the property was populated that will be copied to B66.
- Address Validation Service Endpoint URL (B67) system control value
  - Previously, this was configured in the ADDRESS_SERVICE_ENDPOINT_URL property which is no longer supported. Upon update, if the property was populated, B67 will be updated with the REST Experian Data Quality Address Search REST URL.
  - This URL is only used for Address Validation.
- Address Type-Ahead Service Endpoint URL (B68) system control value
  - This URL is only used for Address Type-Ahead Lookup.
- Address Interface (I67) system control value
  - Must select QAS (Experian) or GENERIC to indicate the type of Address Service Interface.
  - Upon update, if I67 is set to Y, it will be set to QAS otherwise will be set to NONE.
  - Set the Address Verification flag in Work with Order Type (WOTY) to Yes.
  - This setting is only used for Address Validation.

4

External Imports and Exports

Avalara AvaTax Interface

Purpose: The Avalara AvaTax Interface provides a bridge between Order Administration and the Avalara AvaTax system to calculate the tax information on your orders at strategic points:

- order entry
- order maintenance
- pick slip preparation
- billing

Order Administration communicates with AvaTax files to determine the appropriate tax rate at each stage of the order's life cycle. AvaTax determines the appropriate tax rate based on the “ship-from” and “ship-to” addresses on the order.

The AvaTax system stores the tax rates for each taxing jurisdiction in the United States and Canada, and provides the necessary reporting for each jurisdiction in which you sell or operate.

If you use the AvaTax interface, you don't need to keep current with the tax rates and reporting requirements of each taxing jurisdiction, and you no longer have to maintain these rates on Order Administration. Also, the system does not consider any item tax exemptions set up through Working with Item Tax Exemptions (WITX) or Working with GST Tax Exemption Status (MGTX). Instead, you should use AvaTax to set up any tax exemptions for items.

> **Note**
>
> You cannot use both AvaTax and tax-inclusive pricing (VAT) in the same company; you must use separate companies for regular tax and VAT. See Tax Included in Price (E70) for more information on VAT.

Compatibility: Order Management System version 17.0 or later, or Order Administration, is compatible with Avalara AvaTax REST API v2.

For more information: See Avalara AvaTax Setup for information on setting up Order Administration to support communication with AvaTax. Also, see your AvaTax documentation for detailed information on setup requirements within AvaTax.

In this topic:

Tax Calculation Processing Overview

Overview: The AvaTax Interface passes order and tax information between Order Administration and AvaTax at various points in the order cycle (from order entry to billing).

AvaTax evaluates and calculates the tax amount on the order at each phase and updates transactions appropriately. The tax amount is provided with only 2 decimal places. Depending on the settings in the external app, they round up or not. For example, .1875 would round up to .19 and may make the amount different from the original order total.

Communication between Order Administration and AvaTax: When Order Administration needs tax information during order entry or maintenance, pick slip preparation, or billing, it sends a tax request message to AvaTax using web services. The TAX_INT integration layer job defines the wsdl (Web Services Definition Language) file that controls the integration.

For troubleshooting purposes, Order Administration writes the tax request message to the Trace Log. Additional processing is logged to the Application Log.

For more information: See Avalara AvaTax Setup for more information on configuring the integration.

What is taxed? Based on its current data on tax rules for the shipping address on the order and the additional rules that you define for customer or item exceptions, AvaTax indicates the tax amounts for merchandise, freight (order-level or line-level), handling charges, duty, shipper-item charges, and additional freight.

Tax Overrides, Customer Exemptions, and Item or Class Exceptions

Tax override: You can set the *Tax override* flag in the Order Detail table to Y when you create an order through the generic order API. If this flag is set to Y, AvaTax does not calculate the tax amount for the item at any point in the order cycle and just uses the specified tax override amount; however, if there are any line-level freight, handling, or gift wrap charges, these charges may be subject to tax even if the order detail line has a tax override.

Similarly, you can override tax on freight through the order API by specifying a `freight_tax_amount` and setting the `freight_tax_override` to Y.

> **Note**
>
> - There is no way to set the *Tax override* flag through interactive order entry.
> - The system does not set the *Tax override* flag in the Order Detail table unless there is a tax amount specified in the inbound order message. As a result, you cannot use this setting to create an order line with no tax amount in interactive order entry. The only way to exempt an order line from tax is to set up an item exception in Working with Tax Product Code Cross References (WTPC).

Send Tax to Tax Interface as Quote Not Invoice (L11)

Purpose: The system sends different request types to AvaTax based on the setting of this system control value and whether the tax is overridden. Use *Send Tax to Tax Interface as Quote Not Invoice (L11)* system control value to indicate whether the BILL_ASYNC job should send a tax interface request with a request_type of QUOTATION or INVOICE.

> **Note**
>
> Billing checks the setting of this system control value only if the Use Generic Tax XML Interface (J10) system control value is set to AVATAX or VERTEX.

Quotation vs. invoice: Until you bill a shipment or credit, the tax totals on the order might change; so, during order entry, order maintenance, and pick slip preparation, the system sends a QUOTATION request. Sending the INVOICE tax interface request indicates that the tax totals in the response message will be billed.

You might select this system control value if you use AvaTax to calculate tax for orders from multiple channels, and want all invoice request messages to flow to the tax system through a single channel for auditing purposes.

Leave this field unselected if you want to send an INVOICE tax interface request during billing, or if you do not use the generic tax interface.

Tax override? The system generates a DISTRIBUTETAX request rather than an INVOICE at billing if:

- you create an order through the order API and the CWOrderIn message specifies a tax override
- the *Send Tax to Tax Interface as Quote Not Invoice (L11)* system control value is unselected

In this situation, the system does not send a quote at order creation or pick slip generation for the tax override; however, if the system requires a tax calculation for any other items or charges on the order, it generates a QUOTE request at order creation and pick slip generation, and an INVOICE request at billing for these items or charges.

Request type summary:

Tax calculated or overridden:	Send Tax to Tax Interface as Quote Not Invoice (L11) setting:	Send Tax to Tax Interface as Quote Not Invoice (L11) setting:
	Selected:	**Unselected:**
calculated	QUOTE (order creation, pick slip generation, and billing)	QUOTE (order creation, pick slip generation) INVOICE (billing)
overridden	QUOTE (order creation, pick slip generation, and billing)	DISTRIBUTETAX (billing only)

Customer tax exemptions: If a customer is flagged as tax exempt in Order Administration and has a tax-exempt *Tax identification* number, the merchandise and charges on the customer's orders are not taxable. Order Administration passes the exemption tax identification number to AvaTax. Although Order Administration does not pass the customer's tax exempt *Expiration date*, order entry does not let you create an order flagged as tax-exempt if the customer's *Expiration date* has passed.

Item or item class exceptions: When you use AvaTax, you need to set up item exceptions in Working with Tax Product Code Cross References (WTPC). For example, if you have two item classes that are not normally taxable, you can map these item classes to tax product codes in AvaTax.

> **Note**
>
> Even if an item on an order is not subject to tax, AvaTax still calculates tax for any freight, handling charges, and gift wrap charges if the order is otherwise subject to tax.

Order Orchestration fulfilling orders: Invoice request messages are not sent to AvaTax for orders created to fulfill orders that originated in Order Administration, were submitted to Order Orchestration, and then submitted to Order Administration because Order Orchestration selected the Order Administration warehouse for fulfillment or sourcing. See Order Orchestration Integration for background.

AvaTax Processing

When Order Administration needs to calculate tax for an order and you are using the AvaTax interface, the system uses the AvaTax REST API v2 web service to communicate with the AvaTax system via HTTP POST.

1. Order Administration generates a *Tax Request Message (CWTaxRequest)*, maps the information in the Tax Request message to the AvaTax Request message, and sends the AvaTax Request message to AvaTax for tax calculation.
2. AvaTax calculates the tax and sends an AvaTax Response message to Order Administration.
3. Order Administration maps the information in the AvaTax Response message to the *Tax Response Message (CWTaxResponse)* and uses the information in the Tax Response message to apply tax to the order.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

Tax Request Maps

Order Administration maps the generic tax messages (*Tax Request Message (CWTaxRequest)* and *Tax Response Message (CWTaxResponse)*) to the AvaTax message format to pass tax information to and from AvaTax.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

Reviewing messages: You can review the messages passed between Order Administration and AvaTax in the Trace Log if its *Logging Level* is set to DEBUG or ALL. Use this log to help troubleshoot the AvaTax integration.

License key authentication: The AvaTax integration uses RESTful web services, passing the account and license defined in the AvaTax Values by Company Properties File to AvaTax.

For more information: See:

Tax Calculation Processing Overview for an overview of the AvaTax process.

Generic Tax API for more information on the generic tax API, including information on the *Tax Request Message (CWTaxRequest)* and *Tax Response Message (CWTaxResponse)*.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

ChannelAdvisor Integration

Topics in this part: The following topics describe the integration between Order Administration and ChannelAdvisor.

- ChannelAdvisor Integration Overview provides an overview of the various components of the integration.
- ChannelAdvisor Setup provides information on the setup required within Order Administration to support the integration.
- Working with ChannelAdvisor Accounts (WCAA) describes the screens you use to up accounts, marketplaces, and offers for integration with ChannelAdvisor.

ChannelAdvisor Integration Overview

Purpose: Order Administration's integration with ChannelAdvisor enables you to fulfill orders through the Amazon marketplace. This integration includes:

- Sending items/SKUs and their available quantities to ChannelAdvisor: A periodic function creates a file to send all items/SKUs in your company to ChannelAdvisor, indicating the current available quantity of each. A system control value indicates the available quantity to include for non-inventory items, drop ship items, and other items without an inventory requirement, such as virtual gift cards and memberships. Each item/SKU is identified by a cross-reference code, if you have set it up; otherwise, the short SKU code is used. See Sending Current Inventory Information to ChannelAdvisor for details.

  > **Note**
  >
  > The information sent to ChannelAdvisor includes only the short SKU or cross-reference code and the available quantity. It does not include item descriptions, images, or any other information.

- Sending current pricing to ChannelAdvisor: A periodic function creates a file to send item/SKU pricing to ChannelAdvisor. Prices are from the *Original retail $* and *List price* from the SKU record; you can also include a third price from your ChannelAdvisor offer. Only items/SKUs that are associated with your ChannelAdvisor offer are included. See Sending Current Prices to ChannelAdvisor for details.
- Receiving orders from ChannelAdvisor: A periodic function sends a message requesting a list of orders from ChannelAdvisor and then uses the information in the response message to create each order in Order Administration, using a predefined order type as well as mapped values such as source code, ship via, and pay type. See Importing Orders from ChannelAdvisor for details.
- Sending shipment confirmations to ChannelAdvisor: A periodic function sends a shipment confirmation message to ChannelAdvisor for each shipment of a ChannelAdvisor order. See Sending Shipment Confirmations to ChannelAdvisor for details.
- Sending refund notifications to ChannelAdvisor: The Process Refunds function sends a message to ChannelAdvisor for each refund generated for a ChannelAdvisor order. When the function receives a confirmation response from ChannelAdvisor, it sets the refund to a processed status but does not actually generate the refund. See Submitting Refunds for ChannelAdvisor Orders for details.

> **Note**
>
> The ChannelAdvisor integration has been designed and tested to work for the Amazon Marketplace. To use the ChannelAdvisor integration with a marketplace other than Amazon, contact your Order Administration project manager.

Troubleshooting the ChannelAdvisor integration:

- Logging: The name of the log used for all communication with ChannelAdvisor is INTEGRATIONORDER.
- Setup issues? See ChannelAdvisor Setup for details on the setup required for the integration. Also, each of the process overviews that follow include a summary of related setup.

In this topic:

See also: ChannelAdvisor Setup.

Sending Current Inventory Information to ChannelAdvisor

Purpose: You send current inventory information to ChannelAdvisor through a periodic function that generates a file and transfers it through a web service request so that the ChannelAdvisor account can apply the inventory updates. The steps are described below.

> **Note**
>
> The periodic function does not include any additional information about the items/SKUs, such as descriptions or images.

A. Run the CAINV periodic function. The CAINV periodic function:

1. Creates a file: Creates a comma-separated value file in the CA_INVENTORY_FILE_LOCAL_FOLDER on the Order Administration server, using the CA_INVENTORY_FILE_NAME.

If there is already a file of that name in the folder, the function overwrites it.

If the file size exceeds 125MB, splits the file into smaller files.

- Which items included? Includes all items and SKUs in the company, except for any items that are sold out or flagged as restricted. Items do not need to have records in your current ChannelAdvisor offer. The items are in alphanumeric order based on their original item code.
- Identifying items and SKUs: Identifies the item/SKU in the file with:
  - the SKU Cross Reference record, if any, set up through Maintaining SKU Cross Reference Codes (MSKR) for the item/SKU and the ChannelAdvisor SKU X-Ref Offer (L92); otherwise,

  - the short SKU for the item, if there is no SKU Cross Reference record for the item/SKU and *ChannelAdvisor SKU X-Ref Offer (L92)*, or if that system control value is blank. If some but not all items/SKUs in your company have SKU Cross Reference records, then the file includes a combination of cross references and short SKUs.

- **Calculating the available quantity:**
  - *Standard calculation:* Uses the standard availability calculation to determine the quantity to report to ChannelAdvisor (On hand - reserved - protected - reserve transfer quantity - backorder quantity), and indicates a quantity of zero if the result of this calculation is a negative number.
  - *Set items:* Based on the set component with the lowest availability. For example, a set includes one unit of a teapot with 75 units available, and four units of a teacup with 100 units available. The available quantity of the set is calculated as 25, since there are enough units of the teacup to make 25 tea sets.
  - *Include non-allocatable warehouses?* Uses the Include Non-Allocatable Warehouses (I34) system control value to determine whether to include inventory in warehouses that are not flagged as Allocatable when calculating the available quantity in the inventory download file.
  - *Non-inventory?* Uses the ChannelAdvisor Inventory Level Default (L91) as the available quantity for:
    * items flagged for drop ship, regardless of whether they have an available quantity in the warehouse. A drop ship item might have a quantity in the warehouse if, for example, you received a return.
    * non-inventory items, including virtual stored value cards, membership items, and subscription items

> **Note**
>
> A quantity of zero is always indicated for variable sets. As a result, you cannot sell these items through ChannelAdvisor.

Sample file contents: In the sample lines below, `1234619` is a short SKU, `CACIN12345` is a SKU cross reference set up through Maintaining SKU Cross Reference Codes (MSKR), and the `Quantity` indicated for each (the last column) is the available quantity. The text `UNSHIPPED` is included as the `Quantity Update Type` for each item/SKU in the file.

```
Inventory Number,Quantity Update Type,Quantity

1234619,UNSHIPPED,13

CACIN12345,UNSHIPPED,53
```

2. Sending the file to ChannelAdvisor: The function uses a web service request to transmit the file to ChannelAdvisor at the URL from the CA_SERVICES_URL_PREFIX concatenated with the CA_PRODUCT_SERVICE_SUFFIX.

3. Backing up successful and failed files: The function renames files using a unique sequence number, for example: `inventory_123456.txt`, where the CA_INVENTORY_FILE_NAME is `inventory` and `123456` is the job ID, and:

- If the file creation and transmission was successful, the function saves a copy of the file in the `inventory/archive` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER.

- If the file creation and transmission was unsuccessful, the function saves a copy of the file in the `inventory/failed` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER.

4. Deleting backed up files: The function deletes any existing files in the `inventory` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER that are older than the CA_MAXBACKUP_DAYS defined in Working with Admin Properties (CPRP).

Setup summary: To support the inventory upload to ChannelAdvisor, you need to complete the following setup:

- Create the CAINV periodic function and assign it to a scheduled periodic process.
- Specify the CA_INVENTORY_FILE_NAME.
- Use the Working with ChannelAdvisor Accounts (WCAA) option to specify your ChannelAdvisor account settings, including information on authentication in ChannelAdvisor.
- To identify items/SKUs using cross references rather than short SKU numbers in ChannelAdvisor:
  - Create a ChannelAdvisor offer and assign it to the *ChannelAdvisor SKU X-Ref Offer (L92)* system control value.
  - Use the Maintaining SKU Cross Reference Codes (MSKR) option to assign cross reference codes.
- To control the availability calculation:
  - Use the Include Non-Allocatable Warehouses (I34) system control value to determine whether to include inventory in warehouses that are not flagged as *Allocatable* when calculating the available quantity in the inventory download file.
  - Use the *ChannelAdvisor Inventory Level Default (L91)* as the available quantity for drop ship and non-inventory items.
- Complete inventory (pull) setup in ChannelAdvisor as described above.

For more information: See ChannelAdvisor Setup for background on setup.

Sending Current Prices to ChannelAdvisor

Purpose: You send current pricing information to ChannelAdvisor through a periodic function that generates a file and transfers it to ChannelAdvisor to apply the pricing updates. The steps are described below.

A. Run the CAPRICE periodic function. The CAPRICE periodic function:

1. Creates a file: Creates a comma-separated value file in the Local Price Folder, using the Price Filename. Both of these settings are from settings for your ChannelAdvisor account in the Working with ChannelAdvisor Accounts (WCAA) option.

If there is already a file of that name in the folder, the function overwrites it.

If the file size exceeds 125MB, splits the file into smaller files.

- Which items included? The price file includes only items and SKUs in that are included in your current ChannelAdvisor offer. If the item has SKUs, and:
  - if there is an Item Offer record and an Item Price record, but no SKU Offer or SKU Price records for any SKUs, then all SKUs are included.
  - if there are any SKU Offer and SKU Price records for any SKUs, then only the SKUs with SKU Offer and SKU Price records are included.

To prevent a situation in which some SKU's might be included in the file without prices, do not create an Item Offer without also creating an Item Price.

- Identifying items and SKUs: The function identifies the item/SKU in the file with:
  - the SKU Cross Reference record, if any, set up through the Maintaining SKU Cross Reference Codes (MSKR) for the item/SKU and the *ChannelAdvisor SKU X-Ref Offer (L92)*; otherwise,
  - the short SKU for the item, if there is no SKU Cross Reference record for the *ChannelAdvisor SKU X-Ref Offer (L92)*, or if the system control value is blank.
- Which prices are included? The file includes:
  - Buy It Now Price: from the *Original retail $* in the SKU table.
  - Retail Price: from the *List price* in the SKU table.
  - Additional price: from the most current SKU Price (based on *Effective date*), if any, for your ChannelAdvisor offer; otherwise, from the most current Item Price. The label of this price field is from the Price output name specified for the ChannelAdvisor offer through the Work with ChannelAdvisor Offers Screen option.

Sample file contents: In the sample lines below, `1234619` is a short SKU, and `CACIN12345` is a SKU cross reference set up through the Maintaining SKU Cross Reference Codes (MSKR). The prices are derived as described above.

```
Inventory Number,Buy It Now Price,Retail Price,second chance offer price

CACIN12345,11.11,13.13,7.77

1234619,1.99,1.5,1.11
```

> **Note**
>
> If you clear out one of these price fields after it was previously populated, the next time you send the price file the field is passed as blank. When this occurs, ChannelAdvisor does not clear out the current value for the price. For example, the Buy It Now Price is currently set to 12.34, and you delete the price. The next time the CAPRICE function runs, it includes a blank Buy It Now Price, but ChannelAdvisor skips this entry and leaves the Buy It Now Price set to 12.34.

2. Sending the file to ChannelAdvisor: The function uses a web service request to transmit the file to ChannelAdvisor at the URL from the CA_SERVICES_URL_PREFIX concatenated with the CA_PRODUCT_SERVICE_SUFFIX.

3. Backing up successful and failed files: The function renames files using a unique sequence number, for example: `caprice_123456.txt`, where `caprice` is the Price Filename and `123456` is the job ID, and:

- If the file creation and transmission was successful, the function saves a copy of the file in the `pricing/archive` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER.
- If the file creation and transmission was unsuccessful, the function saves a copy of the file in the `pricing/failed` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER.

4. Deleting backed up files: The function deletes any existing files in the `pricing` subfolder of the CA_INVENTORY_FILE_LOCAL_FOLDER that are older than the CA_MAXBACKUP_DAYS defined in Working with Admin Properties (CPRP).

Setup summary: To support the price upload to ChannelAdvisor, you need to complete the following setup:

- Create the CAPRICE periodic function and assign it to a scheduled periodic process.
- Use the Working with ChannelAdvisor Accounts (WCAA) option to specify your ChannelAdvisor account settings, including ChannelAdvisor authentication information.
- To identify items/SKUs using cross references rather than short SKU numbers in ChannelAdvisor:
  - Create a ChannelAdvisor offer, and assign it to the ChannelAdvisor SKU X-Ref Offer (L92) system control value.
  - Use the Maintaining SKU Cross Reference Codes (MSKR) option to assign cross reference codes.
- Use the Work with ChannelAdvisor Offers Screen option to set up your ChannelAdvisor offer, including the Price output field name.
- Specify the *Original retail $* and the *List price* in the SKU table.
- Optionally, set up Item Offer and Price Records and/or SKU Offer and Price Records for each item/SKU you sell through a ChannelAdvisor marketplace to include a third price in the price file, using the *Price output* name.
- Complete inventory (pull) setup in ChannelAdvisor as described above.

For more information: See ChannelAdvisor Setup for background on setup.

Importing Orders from ChannelAdvisor

Purpose: You can periodically request new orders from ChannelAdvisor through a periodic function, which creates the orders in Order Administration. The steps and details on data mapping are described below.

A. Run the CAORDERUP periodic function. The CAORDUP periodic function:

1. Requests new orders: The function sends the GetOrderListRequest message to ChannelAdvisor, using the CHANNELADVISOR_ORDER_URL specified in the `cwdirectcp_interface.properties` file and the account number and credentials specified through the Working with ChannelAdvisor Accounts (WCAA) option.

Maximum orders? Each batch can include a maximum of 50 orders. The CHANNELADVISOR_ PULL_ORDERS_MAX property controls how many orders the function processes. For example, set the property to 100 to have the function process a maximum of two full batches.

2. Receives and creates new orders: The function receives new orders from ChannelAdvisor in the GetOrderListResponse message, mapping data as follows:

- *company number:* From the company number specified for the CAORDUP periodic function.
- *order type:* from the ChannelAdvisor Order Type (L90).
- *source code:* from the *Source* associated with the marketplace originating the order. The function determines the marketplace from the `ItemSaleSource` passed for the order, and uses the *Source* for the matching marketplace, as set up through the Work with ChannelAdvisor Marketplaces Screen. Your marketplace needs to match a ChannelAdvisor Site Token value.
- *alternate order number:* from the `CartID`.
- *entered by user:* your default user.
- *order message lines:* from:
  - the ChannelAdvisor client order identifier, preceded by CA; for example, `CA#28839571`

  - your ChannelAdvisor account number; for example, `ACCT#cc7bab31-22cc-49d2-a833-be878721520b`
  - an additional order message line indicating `None`

  These order message lines are flagged not to print (Print Nowhere).

- *ship via:* from the ship via whose *ChannelAdvisor carrier* and *ChannelAdvisor service class* match the `ShippingCarrier` and `ShippingClass` passed for the order.
- *customer name and address:* from the `ShippingInfo` and `BillingInfo` passed for the order. If no `BillingInfo` is passed, the `ShippingInfo` is used as the sold-to customer information; otherwise, the `BillingInfo` is used as the sold-to customer information. Some marketplaces may never pass `BillingInfo`.
  - *Sold-to different from ship-to?* The system searches for a matching sold-to customer using the Include Telephone Number in Customer Search (I20) and Remote Order Values (F70) system control values. If the sold-to customer name and address are different from the ship-to name and address, the periodic function creates an order-level ship-to. The system might change the sold-to customer information to something slightly different from the ship-to name and address passed if it finds a matching customer using your customer search and selection criteria; in this case, an existing sold-to customer who differs somewhat from the ship-to information passed may be assigned to the order. See the *Include Telephone Number in Customer Search (I20)* and *Remote Order Values (F70)* system control values for background.
  - *Business or residence?* The *Delivery code* is set to B for the sold-to or ship-to address if there is a company name; otherwise, the Delivery code is set to R.
  - *Opt-in/out:* If the `EmailOptIn` from ChannelAdvisor is set to `False`, the customer's *Opt-in/out* flag is set to 03; otherwise, if the `EmailOptIn` is set to `True`, the customer's *Opt-in/out* flag is set to 01.
  - *Identifying the country:* The periodic function uses the country's two-position *ISO code* to map the customer's country.
- *email address:* from the `BuyerEmailAddress` passed for the order.
- *items:* mapped from the short SKU or the SKU cross reference, as described under Sending Current Inventory Information to ChannelAdvisor.
- *shipping and tax:* Calculated based on the amounts in the `OrderLineItemItem` element if the *CA type* for the pay type is set to Item Level (consistent with the Amazon and eBay with premium tax marketplaces); otherwise, calculated from the amounts in the `OrderLineItemInvoice` element and prorated across the lines on the order if the *CA type* for the pay type is set to Order Level (consistent with the eBay marketplace without premium tax). See Working with Pay Types (WPAY) for background.

  > **Note**
  >
  > Tax on freight is included in the line-level or order-level tax amount.

- *price override reason for each order line:* uses a reason code of W.
- *payment method:* from the *CA cross reference #* for a pay type. The function uses the `ItemSaleSource` passed for an order to identify the marketplace set up through Working with ChannelAdvisor Accounts (WCAA), and assigns the payment method whose *CA cross reference #* matches the marketplace. Your marketplace needs to match a ChannelAdvisor Site Token value.

- *suppress refund flag for the payment method:* set to N, so that refunds are not suppressed, and you can use the process described under Submitting Refunds for ChannelAdvisor Orders.

3. Notifies ChannelAdvisor that each order was received: The function sends a status export status update (SetOrderList) to ChannelAdvisor for each received order, indicating that the order was successfully created.

Error? If a new order is in error, it is assigned to the Default Batch for E-Commerce Orders in Error (G41).

Setup summary: In addition to the setup required for the inventory and price uploads, complete the following setup to support the order import:

- Create the CAORDUP periodic function and assign it to a scheduled periodic process.
- Specify the CHANNELADVISOR_ORDER_URL.
- Use the Working with ChannelAdvisor Accounts (WCAA) option to specify your ChannelAdvisor account settings, including your credentials, as well as the marketplaces and their related source codes. Your marketplace needs to match a ChannelAdvisor Site Token value.
- Use Establishing Order Types (WOTY) to set up the ChannelAdvisor order type, and assign it to the *ChannelAdvisor Order Type (L90)* system control value.
- Use Establishing Price Override Reason Codes (WPOR) to create a price override reason code of W.
- Use Setting Up the Country Table (WCTY) to specify a 2-position *ISO country code* for each country where you will ship orders.
- Use Working with Pay Types (WPAY) to create a pay type for each marketplace, and assign a *CA cross reference #* to identify the marketplace to each.
- Use Working with Ship Via Codes (WVIA) to specify the *ChannelAdvisor carrier* and *ChannelAdvisor service class* to map ship vias to carriers that might be used for ChannelAdvisor orders.

For more information: See ChannelAdvisor Setup for background on setup.

Changing orders after creation: A pop-up window opens in order maintenance if you attempt to maintain a ChannelAdvisor order, indicating that any changes must also be made in ChannelAdvisor. There is no mechanism to automatically send changes to ChannelAdvisor except for shipment confirmation or refunds.

Sending Shipment Confirmations to ChannelAdvisor

Purpose: You can periodically send order shipment notifications to ChannelAdvisor through a periodic function. described below.

A. Confirm shipment. When billing an order whose order type matches the *ChannelAdvisor Order Type (L90)*, the billing async job creates a CAS trigger record. The trigger record identifies the company, order number, and invoice number for the shipment.

B. Run the CASHIPMENT periodic function. For each unprocessed CAS trigger record, the CASHIP periodic function passes a SubmitOrderShipmentList message:

- Uses the ChannelAdvisor account number and credentials specified through the Working with ChannelAdvisor Accounts (WCAA) option.
- Passes the ChannelAdvisor `clientOrderIdentifier` to identify the order.
- Always indicates a `ShipmentType` of `Partial`.

- Maps each item using the short SKU or the SKU cross reference, as described under Sending Current Inventory Information to ChannelAdvisor, and indicates the `Quantity` shipped of each item.
- Indicates the `trackingNumber` for the shipment, if available in the Manifest Upload Audit table. If there are multiple tracking numbers for a shipment, the tracking number that billed first is included.
- Passes the *ChannelAdvisor carrier* and *ChannelAdvisor service class* from the ship via used as the `ShippingCarrier` and `ShippingClass`.
- Sends the shipment confirmations to the CHANNELADVISOR_SHIPPING_URL.

The message does not specify any shipping charges or a shipment date if different from the current date.

Setup summary: In addition to the setup required for the inventory and price uploads and order import, complete the following setup to support shipment confirmations:

- Create the CASHIP periodic function and assign it to a scheduled periodic process.
- Specify the CHANNELADVISOR_SHIPPING_URL.

For more information: See ChannelAdvisor Setup for background on setup.

Submitting Refunds for ChannelAdvisor Orders

Purpose: When you use the Processing Refunds (MREF) option, the function submits any pending refunds for ChannelAdvisor orders to ChannelAdvisor, and does not actually generate these refunds. The processing steps are described below.

> **Note**
>
> The Processing Refunds by Order Number (MRFO) option does not perform ChannelAdvisor refund processing. You need to use the Processing Refunds (MREF) option.

Identifying ChannelAdvisor orders: To be included, an order must have an order type matches the *ChannelAdvisor Order Type (L90)* system control value, and its payment method must have an *CA cross reference #* that matches a marketplace set up through Working with ChannelAdvisor Accounts (WCAA).

Which activities generate refund requests? Returns generate refund requests, while exchanges do not:

- *Returns without exchanges:* refund request is passed to ChannelAdvisor
- *Even exchanges (where the exchange item's price is the same as the returned item's price):* no refund request is passed to ChannelAdvisor
- *Uneven exchanges (where the exchange item's price is not the same as the returned item's price):* no refund request is passed to ChannelAdvisor; instead, an Order Transaction History message is written: `Refund could not be sent - Ord Has Exchg`. You can then process any refund manually through ChannelAdvisor.

> **Note**
>
> When an uneven exchange is made for an order, no subsequent refund requests are sent to ChannelAdvisor.

Item-level or order-level shipping and tax? Based on the setting of the *CA type* specified for the payment method for the marketplace, the SubmitOrderRefund message includes:

- an item-level `RefundItems` element that breaks out the `Amount`, `ShippingAmount`, and both `ShippingTaxAmount` and `TaxAmount` (both tax amounts including the full tax and tax on freight, if any) in the `request` element of the message if the *CA type* for the payment method is set to Item Level (consistent with the Amazon and eBay with premium tax marketplaces).
- an order-level `Amount`, including merchandise, tax, and shipping, in the `request` element of the message if the *CA type* for the payment method is set to Order Level (consistent with the eBay marketplace without premium tax).

See Working with Pay Types (WPAY) for background.

When you submit the Processing Refunds (MREF) function, it:

A. Submits the refund to ChannelAdvisor: The SubmitOrderRefund message is submitted to the CHANNELADVISOR_ORDER_URL, and includes:

- the ChannelAdvisor account number and credentials specified through the Working with ChannelAdvisor Accounts (WCAA) option.
- `ClientOrderIdentifier`: the ChannelAdvisor order number.
- `SellerRefundID`: identifies the refund in Order Administration; formatted as `12345-1.0-2.0` where `12345` is the Order Administration order number, `1.0` is the ship-to number, and `2.0` is the refund number.
- `AdjustmentReason`: set to `GeneralAdjustment`.
- `SKU`: the ChannelAdvisor item identifier for the returned item.
- `Quantity`: the quantity returned.
- `Amount`: the extended refund amount, if the *CA type* for the payment method is set to Order Level, or just the merchandise amount if the *CA type* for the payment method is set to Item Level. See above for a discussion.
- `ShippingAmount`: the shipping amount refunded. Included only if the *CA type* for the payment method is set to Item Level; otherwise, the shipping amount is included in the `Amount` element. See above for a discussion.
- `TaxAmount`: The tax amount refunded. Included only if the *CA type* for the payment method is set to Item Level; otherwise, the tax amount is included in the `Amount` element. See above for a discussion.

> **Note**
>
> - Each of the amounts described above is passed as an absolute value and not as a negative amount, and includes an explicit decimal
> - ChannelAdvisor passes tax on freight at the line level in the submit order list message. If the tax amount in the SubmitOrderRefund message does not include tax on freight, then this amount is not refunded.
> - A credit against an order that does not include the return of a shipped item (for example, if the order line is canceled) does not generate a refund request to ChannelAdvisor.

B. Sets the refund status to I. This status indicates ChannelAdvisor pending.

C. Updates the refund as processed: If ChannelAdvisor accepts the refund, then the system proceeds with standard refund processing and changes the refund's status to P (processed), performing each standard update, such as credit invoice creation; however, the system does not actually generate the refund, or create records in the Print Check or Bank Reconciliation tables. See Summary of Refund Processing Updates and Reports for background. Otherwise, if ChannelAdvisor does not accept the refund, then the refund status remains I.

Setup summary: See the setup required for the inventory and price uploads, order import, and shipment confirmations, described above, and see ChannelAdvisor Setup for background on setup.

Cancellations

The ChannelAdvisor integration does not currently support submitting refunds that are not associated with an item return. As a result, when you cancel an item on a ChannelAdvisor order, you cannot process the refund using the process described above. Instead, you need to cancel the orders manually in ChannelAdvisor.

To identify orders with cancellations: Query the Order Transaction History table for *Transaction note* entries that contain the text `Refund could not be sent - no items` and a *User* of `CAREFUND`. These are the orders that require manual cancellation in ChannelAdvisor.

Loading Address Updates

Purpose: This topic describes how to load customer name and address updates that originate from the National Change of Address (NCOA) Service. This function allows you to update customer addresses or identify invalid addresses. You can load address changes using either the ACS or the MBS table formats described in this topic.

This program updates names and addresses for sold-to customers only; it does not update any ship-to customer addresses.

You can update bill-to names and addresses with sold-to address changes if:

- The *Update Bill-to Address with Sold-to Address Changes (E13)* system control value is *selected*.
- The old name and address of the sold-to customer is an exact match of the old name and address of the bill-to customer.

If the bill-to customer name and address does not match the sold-to customer name and address, only the sold-to information updates.

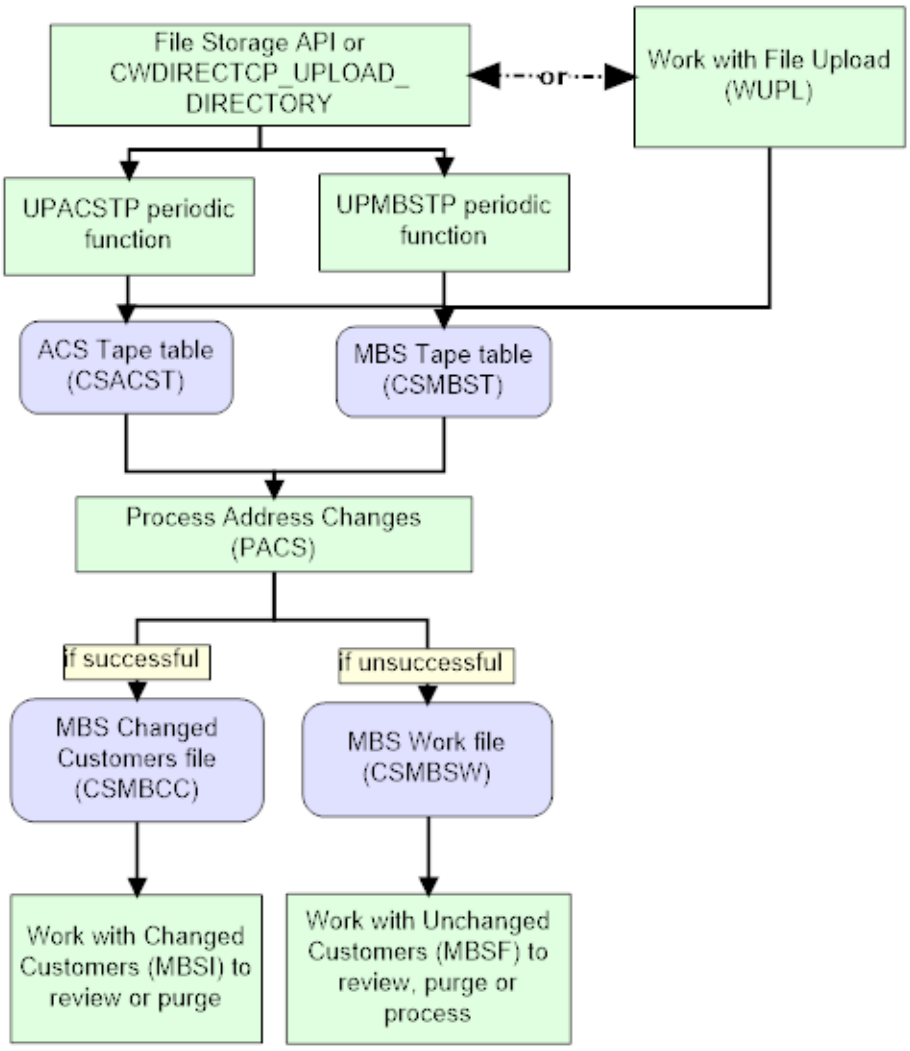
Restrictions: The customer's name and address will be updated only if:

- the Sold To Customer exists on the system
- the last change date in the Sold To Customer table is earlier than the date you enter at the Load & Process Address Changes screen
- the customer has no open (unshipped or partially shipped) orders

For more information: See:

- *Process Address Changes Screen (PACS)*
- *Work with Changed Customers Screen (MBSI)*
- *Work with Unchanged Customers Screen (MBSF)*

Process Overview



The steps you use to load address changes into Order Administration are described below.

#	Step

1	Obtain customer name and address updates from the National Change of Address (NCOA) Service that you wish to upload to the ACS Tape table or MBS Tape table in the Order Administration database.
	A sample of the data used to create a record in the ACS Tape table is provided below.
	`200000145BXBKCCJ21263204414 200206F 038ANDERSON JEN S 1234 EXAMPLE CIR HALETHORPE MD21227S 123 SAMPLE WAY CT LINTHICUM HEIGHTS MD21090-1754533453 MARY WAY CT XX0000 C`
	A sample of the data used to create a record in the MBS Tape table is provided below.
	`JOHN SMITH 1 SAMPLE DRIVE WESTBORO MA01581 B I 01581 B 1 SAMPLE DRIVE WESTBORO MA 1 SAMPLE DRIVE APT 2 WESTBORO MA01581 B 12879000|`
	Note
	If you wish to leave any field in the upload file blank, pass a space in an alphanumeric field and a 0 in a numeric field so that the file can be processed without errors. Leaving a field with no space or 0 is interpreted as null in the database and causes errors.
	See *MBS and ACS Table Formats* for the contents of the upload file.

2	To upload the records to the ACS Tape table table in the Order Administration database • Use the *File Storage API* , and run the *UPACSTP Upload ACS Tape File* (Program name *PFR0134*, Parameter *CSACST*) periodic function, or • Use the *Work with File Uploads (WUPL)* menu option. Similarly, to upload the records to the MBS Tape table in the Order Administration database: • Use the *File Storage API*, and run the *UPMBSTP Upload MBS Tape File* Program name *PFR0134*, Parameter *CSMBST*) periodic function, or • Use the *Work with File Uploads (WUPL)* menu option.
3	The system checks the ACS Tape table or the MBS Tape table, depending on your entry in the *Input file type* field at the *Work with Changed Customers Screen (MBSI)*, and uses this information to populate the MBS Work table.
4	Prior to processing the MBS Work table, the system clears any records for the company in the MBS Changed Customer table.
5	For each record in the MBS Work table, if the system is able to process the address change, it creates a record in the MBS Changed Customer table for your review. You can use the *Work with Changed Customers Screen (MBSI)* to review these changes and purge them. Otherwise,
6	If the system is unable to process the address change, the record remains in the MBS Work table. You can use the *Work with Unchanged Customers Screen (MBSF)* to review these record and resubmit or purge them.

Address change logic: The system uses this logic to analyze address changes and load the MBS Work table:

- Check the value in the Zap indicator:
- if = *Z* extract the new zip code.

- otherwise, extract the zip code and the address.
- Determine the delivery code.
- Determine if address is deliverable.
- Determine the name prefix.
- Determine the name suffix.
- Update the work table.
- Update the Sold To Customer table, if the following conditions are met; otherwise, write the error to the MBS Work table:
- the customer exists on the system.
- the last change date on the received record is greater than the last change date for the customer.
- there are no open orders for the customer (based on a value in the On order $ field in the Customer Sold To History table).
- If the address is non-deliverable, update the Mail and Rent fields in the Sold To Customer table to *unselected*.
- Create a “before” and “after” image of the Sold To Customer's address in the MBS Changed Customers table to identify what information is changed.
- If ZIP code change, update ZIP code only; otherwise, update full address and first and last name.
- Update address and change date, retaining a record in work table until you process table using the *Work with Unchanged Customers Screen (MBSF)*.

For more information: See the *MBS and ACS Table Formats* for more information on the fields described above.

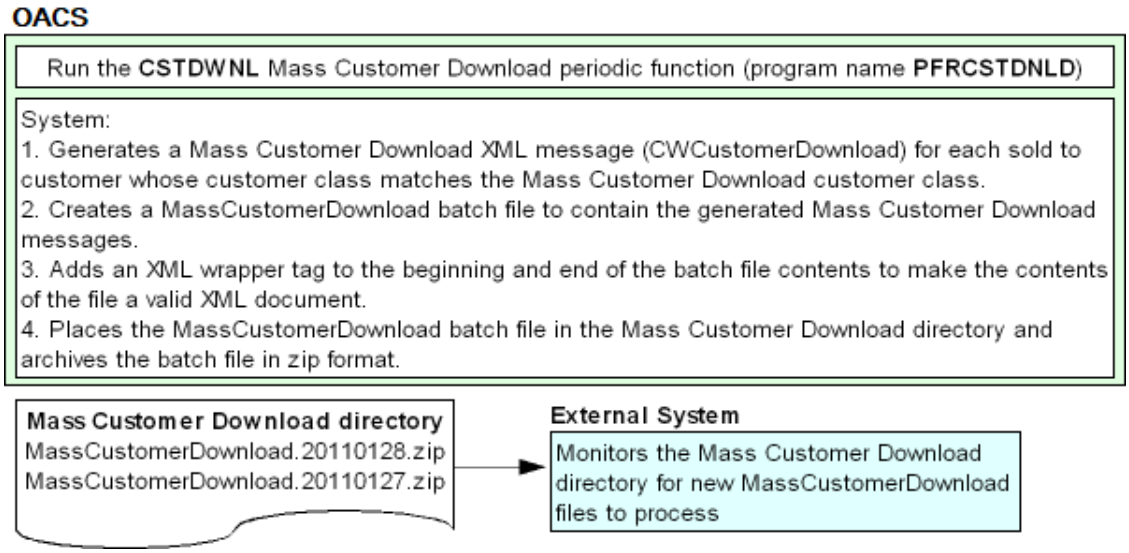
Mass Customer Download

Mass Customer Download allows you to download a batch file of new and changed customers to an external system.

> **Important**
>
> The Mass Customer Download is not currently supported. The Generic Customer Download API can be used instead. See the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for more information.

The download file contains a Mass Customer Download XML Message (CWCustomerDownload) for each sold-to customer whose customer class matches the customer class defined in the MASS_CUSTDWNLD_CUSTOMER_CLASS property.

Mass customer download process flow:



Generic customer download API: You can use the *Generic Customer Download API* to generate a Customer Download XML Message (CWCustomerDownload) interactively as you create, change or delete customer information. See Generic Customer Download API for an overview.

For more information see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

In this topic:

Mass Customer Download Process

Use the following steps to generate the Mass Customer Download file.

#	Step
1.	Run the CSTDWNL Mass Customer Download periodic function (program name PFRCSTDNLD) to submit the CUSTDWLD job.
2.	Order Administration writes any messages related to the Mass Customer Download to the Application Log. If the Mass Customer Download processes successfully, Order Administration writes a message similar to the following to the log: Mass CustomerDwnld created in folder: \ \APP1\OMSFiles\Integrations\Xlink\TEMP_MassCustomerDownload If the Mass Customer Download fails, Order Administration writes a message similar to the following to the log and does not generate a Mass Customer Download XML Message (CWCustomerDownload) or create a Mass Customer Download File. If a file name is not defined for the MASS_CUSTDWNLD_FILE_NAME property: MASS_CUSTDWNLD_FILE_NAME property not set. MassCustomerDwnld configuration error - Customer Download not processed

#	Step
3.	Order Administration looks at the setting of the MASS_CUSTDWNLD_CUSTOMER_CLASSES property to determine which customers to include in the Mass Customer Download. • If a customer class is defined, Order Administration generates a Mass Customer Download XML Message (CWCustomerDownload) for only those sold to customers whose customer class matches the customer class defined in the MASS_CUSTDWNLD_CUSTOMER_CLASSES property. • If a customer class is not defined, Order Administration generates a Mass Customer Download message for all sold to customers.
4.	Order Administration places the generated Mass Customer Download messages in a batch file. The setting of the MASS_CUSTDWNLD_FILE_NAME property determines the name of the batch file. • During processing, Order Administration adds the prefix TEMP to the name of the batch file; for example: TEMP_MassCustomerDownload • Once processing is complete, Order Administration adds a date and time stamp to the batch file name; for example: MassCustomerDownload.20110128.170150340 • Order Administration also archives the batch file in zip format; for example: MassCustomerDownload.20110128.170150340.zip See Mass Customer Download File for a sample file.
5.	If a value is defined for the MASS_CUSTDWNLD_MESSAGE_WRAPPER property, Order Administration adds this value to the beginning and end of the batch file contents to make the contents of the file a valid XML document.
6.	Order Administration places the Mass Customer Download File in the directory defined in the MASS_CUSTDWNLD_DOWNLOAD_DIRECTORY property so that it can be processed by an external system.

Mass Customer Download Setup

Before you can use the Mass Customer Download process, you must complete the required setup.

- Integration Properties
- Customer Class
- Mass Customer Download Periodic Function

Integration Properties

Use the following settings in Working with Customer Properties (PROP) to configure the Mass Customer Download.

Property	Description
MASS_CUSTDWNLD_DOWNLOAD_DIRECTORY	The directory where Order Administration places the Mass Customer Download file to be sent to an external system. This setting is defined by Oracle and cannot be changed.

Property	Description
MASS_CUSTDWNLD_FILE_NAME	Required. The name of the Mass Customer Download file. The delivered setting is MassCustomerDownload. • During processing, Order Administration adds the prefix TEMP to the name of the file; for example: TEMP_MassCustomerDownload • Once processing is complete, Order Administration adds a date and time stamp to the file name; for example: MassCustomerDownload.20110128.170150340 • Order Administration also archives the file in zip format; for example: MassCustomerDownload.20110128.170150340.zip
MASS_CUSTDWNLD_CUSTOMER_CLASSES	The customer class used to determine which sold to customers to include in the Mass Customer Download. To define more than one customer class, separate the values with a comma. Example: CL,NR **Note:** You cannot add a blank value to this setting to include sold to customers that do not have a customer class defined. For example, you cannot enter CL, ,NR or CL,",NR. Leave this setting blank if you wish to include all sold to customers, regardless of the assigned customer class, in the Mass Customer Download.
MASS_CUSTDWNLD_MESSAGE_WRAPPER	The XML root element name Order Administration adds to the beginning and end of the Mass Customer Download file to make the contents of the file a valid XML document. If you leave this setting blank, the file will not be a valid XML document; however, each message in the file will be a valid XML message.

Customer Class

If you define a customer class for the MASS_CUSTDWNLD_CUSTOMER_CLASSES property, you must define this customer class for each sold to customer that you wish to include in the Mass Customer Download. If this setting is blank, the system includes all sold to customers in the Mass Customer Download.

Mass Customer Download Periodic Function

Use the CSTDWNL Mass Customer Download (program name PFRCSTDNLD) periodic function to submit the Mass Customer Download process. See Scheduling Jobs for more information on how to assign a periodic function to a periodic process and how to schedule a periodic process to run on a scheduled basis.

Mass Customer Download File

This file contains each Mass Customer Download XML Message (CWCustomerDownload) that is generated during the Mass Customer Download Process. The setting of the MASS_CUSTDWNLD_FILE_NAME property determines the name of the batch file.

- During processing, Order Administration adds the prefix TEMP to the name of the batch file; for example: TEMP_MassCustomerDownload
- Once processing is complete, Order Administration adds a date and time stamp to the batch file name; for example: MassCustomerDownload.20110128.170150340

- Order Administration also archives the batch file in zip format; for example: MassCustomerDownload.20110128.170150340.zip

If a value is defined for the MASS_CUSTDWNLD_MESSAGE_WRAPPER property, Order Administration adds this value to the beginning and end of the generated file to make the contents of the file a valid XML document.

Order Administration places the Mass Customer Download file in the directory defined in the MASS_CUSTDWNLD_DOWNLOAD_DIRECTORY property so that it can be processed by an external system.

Narvar Integration

Purpose: You can use the integration with Narvar in order to have Narvar generate shipment confirmation and delivery update emails to customers.

In this topic:

Narvar Process Overview

Purpose: When the *Use Narvar Integration (M57)* system control value is selected, Order Administration sends an order request message to Narvar when the shipment is processed by the BILL_ASYNC job. This message includes information about:

- The sold-to customer and the shipping address.
- Each item on the order, including items that have not yet been fully shipped or that were shipped previously.
- The shipment(s) made, including the ship via and tracking number.
- The warehouse that shipped the item(s).

For more information: See the *Narvar Order Request Message* in the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1) for details.

Messages from Narvar to the customer generated when? Narvar generates notification to the customer using the information provided in the order request message based on updates from the carrier; for example, the customer might receive an email indicating that the package is on its way, or has been delivered.

Other email generation settings do not apply: When Narvar integration is in use:

- The order request messages for shipment confirmations are sent to Narvar only through billing. Other options for generating emails, such as *Sending Internet Order Ship Confirmation (ESCF)*, do not generate shipment confirmation emails, regardless of the setting of the *Send Shipment Confirmation from Billing (L98)* system control value.
- The CWEmailOut message is not generated for shipment confirmations.
- The shipment email templates set up through *Working with E-Mail Notification Templates (WEMT)* are not used.

- The settings set up for the order type through the *Order Type Email Selection Screen* and *Order Type Email Template Screen* do not apply; however, the *Email notification* flag must be selected for the order request to Narvar to be generated.

You need to use your account with Narvar to complete configuration, as well as completing the *Narvar Integration Setup* within Order Administration.

Other email notifications: Only shipment confirmation emails are generated through the Narvar integration. Other email notifications, including return confirmations, follow the standard processes described in the *Outbound Email API*.

For more information, see the Order Administration Web Services Guide on My Oracle Support (ID 2953017.1).

Things to note:

- Items included in the Narvar order message:
  - Items that are on the order but still open (that is, not yet shipped, sold out, or canceled), are included in the message with a `fulfillment_status` of NOT_SHIPPED.
  - Items that have been sold out are included with a `fulfillment_status` of CANCELED.
  - Items that have been canceled are included with a `fulfillment_status` of CANCELED, regardless of whether the cancel reason used was flagged to reduce demand.
  - Physical stored value cards: If *Use Streamlined Stored Value Card Billing (I23)* is selected, then the Narvar order message is generated when you use *Working with Physical Stored Value Card Assignment (WPSA)*; however, no carrier, carrier service, or tracking number is included in the message. However, if *Use Streamlined Stored Value Card Billing (I23)* is not selected and you confirm physical stored value cards as you do other shipments, then the carrier, carrier service, and tracking information is included.
- Items not included:
  - Main set items.
  - Non-inventory items, including virtual stored value cards.
  - Items added with a negative quantity to process a return.
  - Membership items.
  - Subscription items.
  - Express-billed items.

If the only items on the order fall into one of these categories, then no order message is sent to Narvar.

Drop ship items: When you confirm a drop ship purchase order, either within Order Administration or through integration with Order Orchestration, then order shipment detail records are not created, and as a result, the carrier, ship method, carrier service, and tracking number are not passed; however, order shipment detail records are created when you confirm a drop ship pick slip.

- If Email notification not selected: The order type must have Email notification selected for the customer to receive the email notification; otherwise, message is generated to the *Narvar Non-Deliverable Email Address for Shipment Confirmations (M59)*. However, in this case, the order transaction history message still indicates `Order sent to Narvar`.

- Order Orchestration integration:
  - Eligible to be sent to Narvar: The following types of orders *are* eligible to be sent to Narvar:
    - Brokered backorders that originated in Order Administration, submitted to Order Orchestration as a brokered backorder and fulfilled by a location in another system; also, if the order is assigned back to Order Administration as a fulfilling order, the fulfilling order is sent to Narvar.
    - Delivery orders that originated in another system and were assigned to Order Administration for fulfillment (that is, not fulfilling orders).
    - Retail pickup orders that are not fulfilling orders: Retail pickup orders that are not fulfilling orders for orders originating in Order Administration. These are orders that originated in another system, and that Order Orchestration sent to Order Administration for fulfillment.
    - Ship for pickup orders that originated in Order Administration; also, if the order is assigned back to Order Administration as a fulfilling order, the fulfilling order is sent to Narvar.
  - Not eligible to be sent to Narvar: Store pickup orders are not sent to Narvar.

The generation of order request messages to Narvar is not affected by the setting of the *Consolidated Invoice (B49)* system control value.

> **Important**
>
> In Order Management System 21.0 or higher, or Order Administration, you cannot select the Consolidated Invoice system control value if it is not already selected. If the system control value is currently selected (set to Y) and you deselect it (change it to N or blank), you cannot then change it back to selected. The option to consolidate invoices will be removed at a later date.

Email repository: Order request messages are not tracked in the *Email Repository*.

Narvar Integration Setup

The setup in Order Administration related to the Narvar integration is described below.

Contact Narvar for information on creating and configuring an account.

System Control Values

- *Use Narvar Integration (M57)*
- *Narvar Outbound Service URL (M58)*
- *Narvar Non-Deliverable Email Address for Shipment Confirmations (M59)*
- *Narvar Track URL Prefix (M60)*

For more information: See the description of each system control value.

Other Setup

Ship via configuration: Complete the following fields to configure mapping a ship via name and service type for Narvar:

- *Narvar Carrier Name*

- *Narvar Carrier Service Code*

The list of valid names and service codes are provided by Narvar.

You must complete the Narvar Carrier Name in order for the tracking number links to work correctly at the **Order Summary** page in Contact Center.

Web service authentication: Use the *Work with Outbound Web Service Authentication Screen* to review or work with web service authentication with Narvar.

> **Note**
>
> Narvar currently supports only Basic authentication.

Order type setting: The order type's the *Email notification* flag must be selected for the order request to Narvar to be generated. Also, the Shipment Confirmation must be selected at the *Order Type Email Selection Screen* for the order type, or the *Narvar Non-Deliverable Email Address for Shipment Confirmations (M59)* is included rather than the customer's actual email address.

Narvar Troubleshooting

Trouble with tracking number links:

- Once you enable Narvar and set the *Narvar Track URL Prefix (M60)*, the tracking number links created previously will not work automatically through the *Display Package Information Screen* in order inquiry, the Tracking number link in *Streamlined Order Inquiry (DORI)*, or the *Track Shipments* link at the **Order Summary** page in Contact Center.
- Tracking number links will not work correctly if you do not specify the correct *Narvar Carrier Name* for the ship via.

Valid tracking number required: If there is no tracking number sent to Narvar, or the tracking number is invalid, then the customer will not receive shipment update notifications from Narvar.

> **Note**
>
> No order shipment detail records are created, and as a result, the carrier, ship method, carrier service, and tracking number are not passed if:

- You bill by batch.
- You do not enter a tracking number,
- You use the *Working with Physical Stored Value Card Assignment (WPSA)* option for a physical stored value card.
- You confirm a drop ship purchase order, either within Order Administration or through integration with Order Orchestration; however, order shipment detail records are created when you confirm a drop ship pick slip.

> **Note**
>
> The tracking number specified for a shipment must be unique. Do not attempt to send the same tracking number for multiple shipments on the order.

Tracking number URL: The tracking number URL is stored in the ORDER_SHIPMENT_DETAILS table, composed of the *Narvar Track URL Prefix (M60)* and the tracking number identified at shipment.

The tracking number consists of `https://BASE.URL.com/CARRIER?tracking_numbers=1234&order_number=001-12345-001`, where:

- `https://BASE.URL.com/` is the *Narvar Track URL Prefix (M60)*.
- `CARRIER` is the Narvar carrier name specified for the ship via.
- `1234` is the tracking number.
- `001` is the company number.
- `12345` is the order number.
- `001` is the ship-to number.

Required for tracking: The *Narvar Track URL Prefix (M60)* is required for a valid tracking number link to be enabled in emails or on screens. If you are using the Narvar integration and submit an order request to Narvar while the tracking URL prefix is not defined, the Narvar.log file contains errors such as:

```
Shipment tracking is disable for company 123
```

```
Unable to construct shipment tracking URL for order 456
```

Where `123` is the company number and `456` is the order number.

Error displayed: Also, if the tracking URL is not defined, when you click on the tracking number link at the screens mentioned above, an error window indicates: `Tracking information not available. Check Narvar Order Error Export screen for failures`.

However, a Narvar Order Error Export record is not created because the tracking number link could not be created correctly if there are no other issues with the order request to Narvar.

Working with Narvar Errors: Use the **Narvar Order Export Errors** page in Modern View to review and work with the errors listed below. The NOEE menu option controls authority to this page.

These errors are stored in the INT_NARVAR_EXPORT_ERROR table.

Country codes: Narvar supports a two-position country code; however, the order request message does not fail if a three-position country code is passed.

Extra message? An extra order request message might be sent to Narvar if, for example, the order has shipped, and then an additional express-billed item is added. The express-billed item is not included in the order request message, so the additional message is identical to the previous message and does not affect updates generated by Narvar.

Narvar Error Summary

Issue	Narvar.log Entry	Order Transaction History Message	Response Type	Error at Narvar Order Export Errors Page
Narvar Outbound Service URL (M58) is blank	`Shipment Tracking URL or credentials cannot be found`	Failure sending order to Narvar	0	oms.app.exception Application Failure
The order message is not generated because the *Narvar Non-Deliverable Email Address for Shipment Confirmations (M59)* is blank, and the order is not eligible to have the email actually sent to the customer (see that system control value for more information)	`Missing Narvar Non-Deliverable Email Address`	Failure sending order to Narvar	0	oms.app.exception Application Failure: Missing Narvar Non-Deliverable Email Address
The user ID and password specified for Narvar Service are not valid. See *Work with Outbound Web Service Authentication Screen* for more information.	`Bad Credentials, Please provide valid acck and auth token.`	Failure sending order to Narvar	401	unauthorized.action Bad Credentials, Please provide valid acck and auth token.
Narvar Outbound Service URL (M58) is invalid	`Shipment tracking order response code 405 and message {"status":"ERROR","messages":[{"level":"ERROR","code":"method.not_allowed","message":"Request method POST not supported"}]}`	Failure sending order to Narvar	405	method.not.allowed Request method POST not supported
The shipment date specified was not formatted correctly.	`message.invalid.order.shipments.date` `Invalid ship date. Please enter UTC format 'yyyy-MM-dd'T'HH:mm"SSS.zzz' for ship date`	Failure sending order to Narvar	422	message.invalid.order. shipments.date Invalid ship date. Please enter UTC format 'yyyy-MM-dd'T'HH:mm"SSS.zzz' for ship date

Configuration issues: Check your *Narvar Integration Setup* if you see the following error codes:

- 400: BAD REQUEST
- 403: FORBIDDEN
- 404: NOT FOUND

Other errors: Contact your Oracle representative or Narvar for information on the following error codes:

- 304: NOT MODIFIED
- 409: ITEM ALREADY EXISTS
- 500: INTERNAL SERVER ERROR
- 502: INTERNAL SERVER ERROR
- 503: SERVICE UNAVAILABLE or INTERNAL ERROR

Salesman Associate Upload

Purpose: The Salesman Associate Upload allows you to upload salesman information from an external system to create or update records in the Salesman table.

You cannot use the Salesman Associate Upload process to delete a record from the Salesman table.

In this topic:

For more information: See Working with Sales Representatives (WSLS) for more information on creating, updating, and deleting sales representatives in Order Administration.

Salesman Associate Upload Setup

The setup required to use the salesman associate upload includes:

- Salesman Associate File
- Work with File Upload (WUPL)
- SLSUPLD Upload Salesman Associates Periodic Function

Salesman Associate File

Create a Salesman Associate flat file for the salesman information you wish to create or update.

- The fields in this flat file are fixed length, each record separated by a carriage return.
- The name of the file must start with SR and have a .TXT file extension; for example: SR99999.TXT, where 99999 is a unique value for each Salesman Associate file. However, you can use the file storage API to upload a zip file that contains a single text file with the same name, for example: SR00001.ZIP containing a text file named SR00001.TXT.
- Include only one record for each salesman associate you wish to upload. However, if multiple records exist for the same salesman number, the system creates or updates the record in the Salesman table using the information in the last record processed.

- In order to leave any field in the upload file blank, pass a space in the field so that the file can be processed without errors. Leaving a field with no space is interpreted as null in the database and causes errors.

Field	Description
Associate ID	Updates *SLS Salesman #* in the Salesman table. The system performs a modulus 10 check against the salesrep number during the Salesman Associate Upload Process if the Modulus 10 Check on Salesrep Number (E88) system control value is selected. *Numeric, 7 positions; Required.*
Associate Name	Updates *SLS Name* in the Salesman table. *Alphanumeric, 30 positions; Required.*
Associate Status	Updates *SLS Active Flag* in the Salesman table. Valid values are: • Y = The salesman is active. • N = The salesman is not active. *Alphanumeric, 1 position; Required.*
Home Store	Updates *SLS Store #* in the Salesman table. Validated against the Store Cross Reference table; see Work with Store Cross Reference (WSCR). *Alphanumeric, 10 positions; Optional.*
Associate Email	Updates *SLS EMail* in the Salesman table. During the Salesman Associate Upload Process, the system verifies that: • there is an @ sign and a period (.) • there is some text: – before the @ sign – between the @ sign and the period – after the period *Alphanumeric, 100 positions (however, only the first 50 positions are uploaded to the Salesman table); Optional.*
Associate Phone	Updates *SLS Phone* in the Salesman table. *Alphanumeric, 14 positions; Optional.*
Associate Ext	Updates *SLS Phone Extension* in the Salesman table. *Alphanumeric, 4 positions; Optional.*

Sample record in salesman associate file:

```
5555555SALESMAN ASSOCIATE UPLOAD NAMENHOMESTORE SalesmanAssociateEmail@email.com
PHONENUMBER EXT
```

Associate File Path Property: The upload monitors the ASSOCIATE_FILE_PATH defined in CPRP for new Salesman Associate files to process. This property is set by Oracle and cannot be changed.

The name of the file must start with SR and have a .TXT file extension; for example: SR00001.TXT and SR00002.TXT. If there are multiple eligible files, they are processed sequentially based on file name; SR00001 processes before SR00002. You can upload a zip file that contains a single text file with the same name, for example: SR00001.ZIP containing a text file named SR00001.TXT.

Work with File Upload (WUPL)

Use the Work with File Uploads (WUPL) menu option to upload the Salesman Associate flat file to the folder defined in the ASSOCIATE_FILE_PATH property.

SLSUPLD Upload Salesman Associates Periodic Function

Use the SLSUPLD periodic function to submit the Salesman Associate Upload Process.

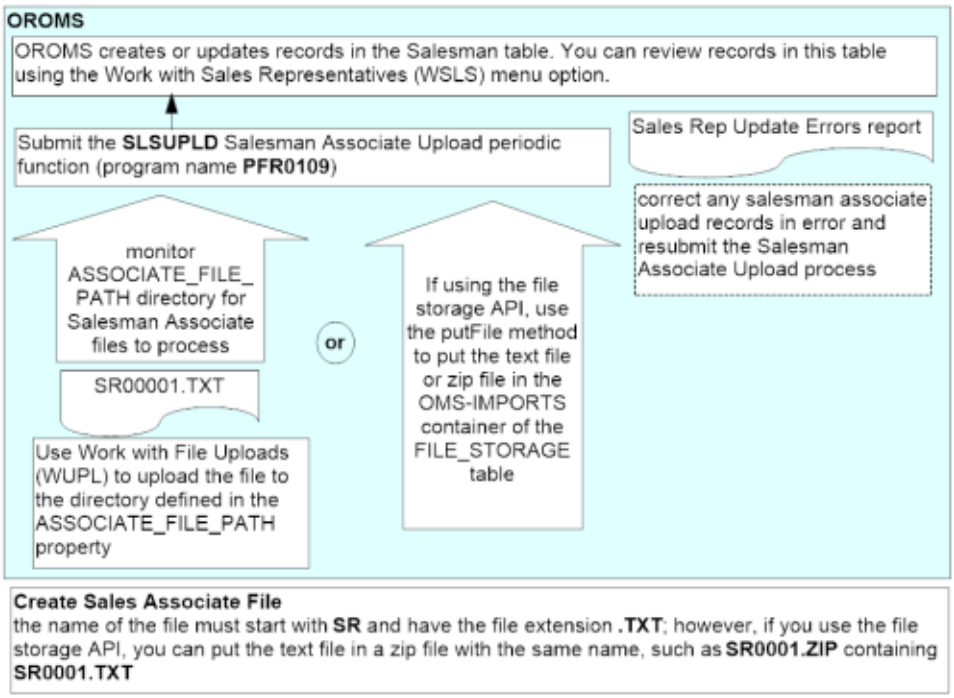
Setting	Description
Function:	**SLSUPLD**
Description:	**UPLOAD SALESMAN ASSOCIATES**
Program name:	**PFR0109**
Company:	The *Company* flag must be selected. The Salesman Associate Upload process creates and updates records in the Salesman table based on the records in the Salesman Associate File using the company you entered when you submitted the SLSUPLD periodic function.

1. The SLSUPLD periodic function is delivered with the system. Use the Working with Periodic Functions (WPER) menu option to review it.
2. Use the Working with Periodic Processes (WPPR) me menu option to assign the SLSUPLD periodic function to a periodic process.
3. Once you have created the periodic process, you can use the Execute Periodic Process screen (located in the Working with Periodic Processes (WPPR) or Executing Periodic Processes (EPRO)) to define a schedule for the job. See Defining the Job Schedule.

For more information: See Scheduling Jobs for more information on How to Schedule a Job.

Salesman Associate Upload Process

Salesman associate upload process flow:



When you submit the SLSUPLD Salesman Associate Upload periodic function, the system performs the following steps.

1. Looks in the OMS-IMPORTS container in the FILE_STORAGE table for the Salesman Associate Files to process.

   The name of the file must start with SR and have a .TXT file extension; for example: SR00001.TXT and SR00002.TXT. If there are multiple eligible files, they are processed sequentially based on file name; SR00001 processes before SR00002. You can use the file storage API to upload a zip file that contains a single text file with the same name, for example: SR00001.ZIP containing a text file named SR00001.TXT.

2. Validates each record in the file.

   - The system includes records that do not pass validation on the Sales Rep Update Errors Report.
   - The system continues to the next step for records that pass validation.

3. Creates or updates records in the Salesman table for the company you entered when you submitted the SLSUPLD periodic function.

   The system uses the Associate ID in the Salesman Associate File to determine if the record is an add or a change.

   - If the *Associate ID* matches a *SLS Salesman #* in the Salesman table, the system updates the existing record.

     > **Note**
     >
     > When updating an existing salesman record, the system overlays the existing values for the record with the values that are passed in the upload. For example, if the upload record does not include an Associate Email, the system updates the *SLS EMail* field in the Salesman table to blank.

   - If the *Associate ID* does not match a *SLS Salesman #* in the Salesman table, the system creates a new record.

   You can review the salesman records that have been created and updated in the Working with Sales Representatives (WSLS) menu option.

4. Once all of the records in the Salesman Associate file are processed, the system deletes the record from the FILE_STORAGE table; however, if there were any errors in processing, the system creates a record in the table in a container of OMS-ERRORS.

   > **Note**
   >
   > The system processes all correct records in the upload file, and creates an error file that contains only any records that could not be processed.

Vertex Interface

Purpose: The Vertex Interface provides a bridge between Order Administration and the Vertex Sales Tax system to calculate the tax information on your orders at strategic points, such as:

- order entry
- order maintenance

- pick slip preparation
- billing

Order Administration communicates with Vertex files to determine the appropriate tax rate at each stage of the order's life cycle. Vertex determines the appropriate tax rate based on the “ship-from” and “ship-to” addresses on the order.

The Vertex Sales Tax system stores the tax rates for each taxing jurisdiction in the United States and Canada and provides the necessary reporting for each jurisdiction in which you sell or operate.

In addition, Vertex supports Retail Delivery Fees (RDF). RDFs are flat taxes applicable to deliveries to a location in the respective states. See Retail Delivery Fees for additional information.

If you use the Vertex interface, you don't need to keep current with the tax rates and reporting requirements of each taxing jurisdiction, and you no longer must maintain these rates on Order Administration. Also, the system does not consider any item tax exemptions set up through Working with Item Tax Exemptions (WITX) or Working with GST Tax Exemption Status (MGTX). Instead, you should use Vertex to set up any tax exemptions for items.

> **Note**
>
> You cannot use both Vertex and tax-inclusive pricing (VAT) in the same company. See Tax Included in Price (E70) for more information on VAT.

Compatibility:

- Order Administration version 25.2.301.0 or later, is compatible with Vertex Indirect Tax O Series® On Demand 9.0 using 9.0 messages.

For more information: See:

- Vertex Setup for information on setting up Order Administration to support communication with Vertex. Also, see your Vertex documentation for detailed information on setup requirements within Vertex.
- Retail Delivery Fees
- Vertex Troubleshooting

In this topic:

External Tax Response Data

Order Administration will persist the tax response details returned from the Vertex external tax service. Given the large amount of data returned, Order Administration stores the entire response received from Vertex within a blob, rather than parsing out individual fields.

- The tax response data will be stored new ORDER_SHIP_TO_TAX_RESPONSE and INVOICE_SHIP_TO_TAX_RESPONSE tables.

- The tax response data will be included in CWOrderOut, CWInvoiceOut and CWEmailOut. This will allow retailers to consume all of the information and determine what tax jurisdiction details they want to include in customer facing communications/documents.

Order Ship To Tax Response

This table is leveraged to capture and store the tax data (jurisdiction details) returned in the quotation response messages for requests that included the ‘complete’ order ship to. Entries in this table will have a process of either Order Entry or Order Maintenance. A single quotation response entry including the most recent blob data for the *'complete'* order ship-to will be stored.

When multiple quotation requests are triggered during Order Entry (due to selecting the 'Refresh Order' one or more times or if using the Order In API 2 pass method), the quotation response entry will be updated, replacing the existing blob data with the latest blob data. The 'Updated Date/Time' will be updated to the current system date/time each time the blob data is replaced for a tax entry.

When an order is edited, that triggers a complete order ship to tax request (not to create a return or return authorization), when it is unlocked, a new quotation request will be initiated that includes all order charges (except canceled/soldout lines). The quotation response entry for that order ship-to will be updated, replacing the prior blob data.

When a quotation request is initiated by pick generation, broker processing or drop ship processing, the request could potentially be a partial snapshot of the order. Quotation requests initiated by these processes will NOT update the entry, replacing the existing blob for the order ship to since it may not reflect the 'complete' order ship to.

The data from this table will be included in the CWOrderOut and the CWEmailOut outbound XML messages.

Invoice Ship To Tax Response table

This table is leveraged to capture and store the tax data (jurisdiction details) returned in the tax response messages, triggered from billing. Response types that can be found in this table include, Invoice Response messages, DistributeTax Response messages and when *Send Tax to Tax Interface as Quote not Invoice (L11) system control value* is selected, Quotation Response messages.

This table structure supports multiple tax entries for a single invoice, which would be possible when *Consolidated Invoice (B49) system control value* is selected. When Consolidated invoicing is enabled, there may be multiple tax response entries with different blob data for a single invoice, since the invoice will be appended with each shipment that occurs in the same day. Subsequent shipments will trigger a tax request *limited to the charges associated with that shipment* (not the full invoice). The subsequent tax response blobs will be stored as individual entries associated with the same invoice.

The data from this table will be included in the CWInvoiceOut and the CWEmailOut outbound XML messages.

> **Note**
>
> When an order is submitted via the Order In API with Tax override values, Order Administration will not trigger quotation requests; therefore, no quotation response data blobs will be stored at the Order Ship To level. When the tax override order is billed, the corresponding distribute tax response blob data will be stored at the Invoice level.

Tax Calculation Processing Overview

Overview: The Vertex Interface passes order and tax information between Order Administration and Vertex at various points in the order cycle (from order entry to billing).

Vertex evaluates and calculates the tax amount on the order at each phase and updates transactions appropriately. The tax amount is provided with only 2 decimal places. Depending on the settings in the external app, they round up or not. For example, .1875 would round up to .19 and may make the amount different from the original order total.

Communication between Order Administration and Vertex: When Order Administration needs tax information during order entry or maintenance, pick slip preparation, or billing, it sends a tax request message to Vertex using web services. The TAX_INT integration layer job defines the wsdl (Web Services Definition Language) file that controls the integration.

For troubleshooting purposes, Order Administration writes the tax request message to the Trace Log, masking the vertex user ID and password passed in the request. Additional processing is logged to the Application Log.

For more information: See Vertex Setup for more information on configuring the integration.

What is taxed? Based on its current data on tax rules for the shipping address on the order and the additional rules that you define for customer or item exceptions, Vertex indicates the tax amounts for merchandise, freight (order-level or line-level), handling charges, duty, shipper-item charges, and additional freight.

Tax Overrides, Customer Exemptions, and Item or Class Exceptions

Tax override: You can set the *Tax override* flag in the Order Detail table to Y when you create an order through the generic order API. If this flag is set to Y, Vertex does not calculate the tax amount for the item at any point in the order cycle and just uses the specified tax override amount; however, if there are any line-level freight, handling, or gift wrap charges, these charges may be subject to tax even if the order detail line has a tax override.

Similarly, you can override tax on freight through the order API by specifying a `freight_tax_amount` and setting the `freight_tax_override` to Y.

> **Note**
>
> - There is no way to set the *Tax override* flag through interactive order entry.
> - The system does not set the *Tax override* flag in the Order Detail table unless there is a tax amount specified in the inbound order message. As a result, you cannot use this setting to create an order line with no tax amount in interactive order entry. The only way to exempt an order line from tax is to set up an item or product class exception in Vertex.

Send Tax to Tax Interface as Quote Not Invoice (L11)

Purpose: The system sends different request types to Vertex based on the setting of this system control value and whether the tax is overridden. Use *Send Tax to Tax Interface as Quote Not Invoice (L11)* system control value to indicate whether the BILL_ASYNC job should send a tax interface request with a request_type of QUOTATION or INVOICE.

> **Note**
>
> Billing checks the setting of this system control value only if the Use Generic Tax XML Interface (J10) system control value is set to AVATAX or VERTEX.

Quotation vs. invoice: Until you bill a shipment or credit, the tax totals on the order might change; so, during order entry, order maintenance, and pick slip preparation, the system sends a QUOTATION request. Sending the INVOICE tax interface request indicates that the tax totals in the response message will be billed.

You might select this system control value if you use Vertex to calculate tax for orders from multiple channels and want all invoice request messages to flow to the tax system through a single channel for auditing purposes.

Leave this field unselected if you want to send an INVOICE tax interface request during billing, or if you do not use the generic tax interface.

Tax override? The system generates a DISTRIBUTETAX request rather than an INVOICE at billing if:

- you create an order through the order API and the CWOrderIn message specifies a tax override
- the *Send Tax to Tax Interface as Quote Not Invoice (L11)* system control value is unselected

In this situation, the system does not send a quote at order creation or pick slip generation for the tax override; however, if the system requires a tax calculation for any other items or charges on the order, it generates a QUOTE request at order creation and pick slip generation, and an INVOICE request at billing for these items or charges.

Request type summary:

Tax calculated or overridden:	Send Tax to Tax Interface as Quote Not Invoice (L11) setting:	Send Tax to Tax Interface as Quote Not Invoice (L11) setting:
	Selected:	**Unselected:**
calculated	QUOTE (order creation, pick slip generation, and billing)	QUOTE (order creation, pick slip generation) INVOICE (billing)
overridden	QUOTE (order creation, pick slip generation, and billing)	DISTRIBUTETAX (billing only)

Customer tax exemptions: If a customer is flagged as tax exempt in Order Administration and has a tax identification number, the merchandise and charges on the customer's orders are not taxable. Order Administration passes the exemption number to Vertex. Although Order Administration does not pass the customer's tax-exempt expiration date, order entry does not let you create an order flagged as tax-exempt if the customer's expiration date has passed.

Item or item class exceptions: When you use Vertex, you need to set up item and product class exceptions in Vertex rather than in Order Administration. For example, if you have two item classes that are not normally taxable, you can map these item classes to product classes in Vertex. See Creating the Product Class under Vertex Setup for more information on mapping this information.

> **Note**
>
> Even if an item on an order is not subject to tax, Vertex still calculates tax for any freight, handling charges, and gift wrap charges if the order is otherwise subject to tax.

Retail Delivery Fees

The Vertex Integration supports Retail Delivery Fees (RDF) that have been implemented for Colorado and Minnesota. RDFs are flat taxes applicable to deliveries to a location in the respective states. It does not apply to items that are picked up at a retailer location, therefore Ship for Pickup and Pickup orders will not assess the flat tax. Proper assessment of the RDF flat tax requires coordination and configuration within Order Administration and Vertex applications.

> **Note**
>
> Retail Delivery Fee eligibility from Order Administration is limited to orders that are being delivered to the end customer where Order Administration is responsible for billing the end customer. This includes direct delivery from a Warehouse or Store. Retail Delivery Fees do not apply to orders that Order Administration is fulfilling from Order as the originating system should assess and bill the RDFs.

> **Note**
>
> When an order qualifies for a Retail Delivery Fee, it is assessed on the first freight record included in the quotation request and the first freight record included in the first invoice request. If the order has line level freight and results in a split shipment, the RDF flat tax may be assessed against a different order detail line on the invoice than it was originally in the quotation request.

Colorado

Colorado's RDF legislative requirement is to charge a one-time predefined RDF flat tax for all orders shipping to Colorado regardless of shipping charges or number of shipments. Vertex automatically assesses the fee based on the 'OF' record which Order Administration includes for shipping charges in the request message.

Since Vertex automatically assesses the RDFs for all orders with a Colorado ship to destination, Order Administration must include an RDF exemption indicator in the tax request message whenever a transaction should not assess the RDF flat tax. (In a multi-ship to order, each Ship To will be submitted in a separate tax request which includes all charges for the individual order Ship To). A Flexible Code Field with a hardcoded value of RDFEXEMPT is included in quotation, invoice and distribute tax requests when:

- the OST_OBR_DELIVERY_TYPE field of the Order Ship To table in populated.
- a subsequent invoice for split shipments occurs as the flat tax would have already been assessed on the initial invoice.

When a CWOrderIn request includes order line tax overrides but does not include a freight override tax value, or includes a freight override tax value that is less than the RDF Flat Tax

Value (currently 0.29 for CO), Vertex will return an error response when the DistributeTax Request is received and the tax request will not be recorded for that transaction/invoice.

See RDF Setup in Order Administration for more information on Flexible Code Field configuration.

> **Note**
>
> Order Administration supports the RDF flat tax for Colorado irrespective of the ship to location. Vertex will ignore the RDF exemption indicator when it is not mapped to a taxability category applicable for the ship to location. Refer to RDF Setup in Vertex for setup information.

Reference the following link to learn more about the Colorado Retail Delivery Fee: https://tax.colorado.gov/retail-delivery-fee

Minnesota

Minnesota's RDF legislative requirement is to charge a one-time predefined RDF flat tax for all orders shipping to Minnesota regardless of shipping charges or number of shipments, only IF the retailer meets the criteria to pay the flat tax and IF the order meets specific eligibility requirements based on the merchandise items and their dollar value. The order must total $100 or more of *qualifying merchandise + shipping* for the fee to be assessed.

> **Note**
>
> Not all merchandise qualifies toward the order threshold value of $100. Certain items are excluded when calculating the threshold, such as drugs, medical devices/accessories/supplies, food, food ingredients, prepared food, certain baby products, electronics deliveries (such as computer software), utilities delivered thru pipes or wires (natural gas, electricity, etc.) and items purchased for the purpose of resale.

Vertex requires that Order Administration include an RDF flat tax indicator in the tax request message whenever a transaction should assess the RDF flat tax for Minnesota. (In a multi-ship to order, each Ship To will be submitted in a separate tax request which includes all charges for the individual order Ship To). When configured in Order Administration, a Flexible Code Field with a hardcoded value of 'DFP' will be included in all quotation requests for delivery orders.

When Vertex reviews the quotation request that includes the Flexible Code Field with a value of 'DFP' it will evaluate the order, and if it qualifies, the flat tax will be returned in the quotation response. Order Administration evaluates the quotation response data and when an RDF flat tax is present, the Order Ship To table is updated identifying that RDF was assessed. At billing, Order Administration checks the Order Ship To and includes a Flexible Code Field with a hardcoded value of 'RDFTAX' with the first invoice request. The Flexible Code Field value of 'RDFTAX' does not evaluate if the transaction qualifies, instead it automatically adds the RDF fee to the tax response to account for a split shipment scenario where the order threshold is not met within the first invoice.

See RDF Setup in Order Administration for more information on Flexible Code Field configuration.

To identify when the RDF fee was included within a freight tax override value, the rdf_flat_tax attribute will be used in the ShipTo element of the CWOrderIn 14.0 message. This field should

be used in conjunction with a freight tax override to indicate whether the Retail Delivery Fee has been included within the freight tax amount.

- When a CWOrderIn request has the RDF Flat Tax field set to Y but does not include a freight override tax value, or includes a freight override tax value that is less than the RDF Flat Tax Value (currently 0.50 for MN), Vertex will return an error response when the DistributeTax Request is received and the tax request will not be recorded for that transaction/invoice.

> **Note**
>
> This field is currently only applicable for freight tax override Ship To destinations where Vertex does not automatically assess the Retail Delivery Fee. For example, setting this value to N or Blank will not prevent the Colorado RDF from being assessed since there are no qualifying conditions to exclude it for a delivery order.

- Set to Y to indicate a tax override is on the order and the RDF flat tax amount has been included within the freight tax amount.
  - The Order Ship To record will track that RDF was assessed.
  - At billing the *distribute tax request will include the RDF tax indicator* with the first invoice request. In this scenario, Vertex will include the *RDF flat tax when dividing the freight tax override amount across all applicable jurisdictions.*
  - *For Example, if the freight tax override amount was 5.00, Vertex will allocate 0.50 to the RDF flat Tax fee first and then divide the remaining 4.50 across the applicable jurisdictions.*
- Set to N (blank or not included) to indicate the RDF Flat Tax is NOT included within the freight tax override amount.
  - At billing the *distribute tax request will not include the RDF tax indicator* with the first invoice request *and Vertex will NOT include the RDF flat tax when dividing the freight tax override amount across all applicable jurisdictions.*
  - *For Example, if the freight tax override amount was 5.00, Vertex will divide the full 5.00 across the applicable jurisdictions.*

> **Note**
>
> Order Administration supports the RDF flat tax for Minnesota irrespective of the ship to location. Vertex will ignore the RDF tax indicators when they are not mapped to a taxability category applicable for the ship to location. Refer to RDF Setup in Vertex for setup information.

Reference the following link to learn more about the Minnesota Retail Delivery Fee: https://www.revenue.state.mn.us/retail-delivery-fee

Vertex Troubleshooting

Purpose: Troubleshooting information includes:

- Processing Errors
- Tax Calculation Rules

Error in order entry: The message `Error calling Tax Interface, check configuration` in order entry indicates that one or more of the required files were not found. See Configuration Files for more information.

Processing Errors

Troubleshooting for the integration between Order Administration and Vertex begins with checking the `TRACE.log` and `CWDirect.log` files.

- The `TRACE.log` file is typically located under `/domain/conf/OMSFiles/Logs/TRACE/` on your application server, where `domain` is the WebLogic domain directory for Order Administration.
- The CWDirect.log file is typically located under `/domain/log/CWDirect.log` on your application server, where `domain` is the WebLogic domain directory for Order Administration.

> **Note**
>
> In addition to the errors written to log files, you will also see an error message in order entry if the extended order line price is over a million: `Error occured on CALL to program Cwwebservice`. Vertex does not support tax calculation for order line values that high.

Error in TRACE.log File	Explanation	How to Correct:
Initial Configuration Issues		
ERROR TRACE - Class not found: ERROR TRACE - TAX_INT web service error: - null	A required class was not installed during the initial installation process.	Contact your Order Administration representative.
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: User login failed: invalid_user. ; nested exception is: User login failed: invalid_user.	Possible causes: • An incorrect user ID and password were entered as the `UserName` and `Password` in the Vertex User ID and Password, or • The user ID specified in the Vertex User ID and Password was not created correctly in Vertex.	Check the contents of the Vertex User ID and Password and confirm that the user ID and password exist in Vertex and have authority to the correct partition in Vertex. See Set up Data within Vertex Vertex Setup and your Vertex documentation for more information. After you change the user ID and password in the Vertex User ID and Password, you need to stop and restart Order Administration. See Restarting Order Administration for more information.

Error in TRACE.log File	Explanation	How to Correct:
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: SAX processing failed on input stream SAX processing failed when attempting to create new element. (parent element=com.vertexinc.tps.xml.calc.parsegenerate.builder.ParticipantData, new element=null, local element name=PhysicalOrigin	No physical origin is being passed. The physical origin is the address of the warehouse for the order detail line. Possible causes: • The Default Values by Company XML File was not set up correctly • Warehouse list setup in Order Administration is not correct	• Default Values by Company XML File: Confirm that the file exists for the company, contains valid data, and is in valid XML format. • See Working with Warehouse Lists (WWHL) for information on setting up warehouse lists in Order Administration.
AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: SAX processing failed on input stream Non-fatal error detected during SAX parsing. Verify document against schema or contact document supplier. (URI=null, line number=30, error=cvc-datatype-valid.1.2.1: '' is not a valid value for 'integer'.)	The *Default Warehouse (A04)* is not listed in the Warehouses XML File .	Warehouses XML File: Confirm that the Default Warehouse (A04) is included in this file.
Tax Calculation Failing After Initial Setup		
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: ; nested exception is: java.net.ConnectException: Connection refused: connect; nested exception is: java.net.ConnectException: Connection refused: connect	Order Administration can no longer reach Vertex.	Contact your Order Administration representative.

Error in TRACE.log File	Explanation	How to Correct:
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: An error occured during CalcEngine.calculateTax. This may be an incorrect use of the calculation engine. Please contact your software vendor. Error trying to calculate tax. Cannot find tax areas. Please verify that the address or tax area id provided for the location is correct and retry.	The postal code passed in the tax request message from Order Administration is incorrect, or is associated with a city that does not exist in Vertex. To confirm, log onto Vertex and advance to the Tax Area Lookup Tool, then search for the shipping address that is causing the error. A message such as the following indicates that the postal code is incorrect: `No tax areas were found during the lookup. The address fields are inconsistent for the specified asOfDate. (Street Information=24 PRIME PKWY, Postal Code=01701, City=NATICK, Sub Division=null, Main Division=MA, Country=USA, As Of Date=20060627)`	Correct the postal code information in Order Administration.
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: ; nested exception is: java.net.SocketException: No buffer space available (maximum connections reached?): connect	The Order Administration server is out of memory.	Reboot the Order Administration server.
ERROR TRACE - AxisFault exception in invoke method of com.cwi.direct.interfaces.webservice.VertexWS: exception on AXIS invoke: (404)Not Found; nested exception is: (404)Not Found	The URL specified for Vertex in the Vertex URL property is incorrect.	1. Correct the URL in the Vertex URL property. 2. Stop and restart Order Administration. See Restarting Order Administration for more information.
Miscellaneous Log Messages		
WARN TRACE - WARNING: Responses for DISTRIBUTE not found in configuration xml.	The log includes this message when Order Administration requests tax information for an order that includes a tax override.	No need to correct; message is informational only.

Error in TRACE.log File	Explanation	How to Correct:
TRACE - message: com.sun.xml.ws.fault.ServerSOAPFaultException: Client received SOAP Fault from server: An unit based tax rule cannot be applied to a line item with a quantitiy of zero. Please ensure that the quantity is not zero and retry. Please see the server log to find more detail regarding exact cause of the failure.	Certain states, such as Tennessee, require a quantity for tax calculation, and this error occurs when the quotation request includes a zero quantity for freight or additional freight charges.	Add a new rule in Vertex to change the quantity to 1 for the related product classes.

Tax Calculation Rules

Situation	Explanation
New settings in Vertex apply when you use the Vertex Transaction Tester, but not when Order Administration requests tax information	If you have Vertex configured to cache information for improved performance, it might be retrieving tax rules from cached information when Order Administration requests tax information. Caching does not apply when you use the Transaction Tester. Consult your Vertex documentation for more information on configuring caching.
An item on an order is not taxable based on its item or product class settings in Vertex, or on the Tax override flag for the order line; but there is still tax on the order	Even if an item on an order is not taxable, freight, handling, gift wrap, additional freight, and duty can still be subject to tax.
You receive an order that includes an item with a tax override through the generic order interface, but the order line is still taxed	Even if the `tax_override` flag is set to Y in the inbound order message, Order Administration does not apply a tax override unless the inbound order message also specifies a tax amount greater than zero for the order line.
You change the user ID and password in the Vertex User ID and Password, but the changes do not take effect	Before your changes take effect, you need to restart Order Administration. See Restarting Order Administration for more information.