

# STH and Delivery Consolidation

If not all of a [Ship to Home](#) or [Delivery](#) shipment's quantity is available at a fulfillment location, then [transfers](#) can be used to consolidate its items at a centralized location to be shipped together instead of splitting the shipment. Fulfillers are thus able to save on shipping costs while improving the customer experience by allowing them to receive a single shipment instead of multiple.

In some situations, you may be able to partially fulfill shipments or consolidate items at multiple locations if necessary for your particular location network. This guide details the standard STH and Delivery consolidation cases and these additional scenarios.

## How It Works

This is supported for both Ship to Home (STH) and Delivery shipments. In both cases, the original shipment is placed into a Waiting for Transfer step while inventory is transferred to the assigned consolidation location.



Both types of consolidation work with [inventory reservations](#), though this may result in multiple consolidated shipments as items are evaluated individually. For example, if the quantity of a line item reserved in the cart is increased or a new item is added, then Order Routing may make a new consolidation suggestion for the additional quantity or new item. This would result in multiple consolidated shipments at the time of shipment creation.

## STH Shipments

Transfer shipments for STH Consolidation (STH-C) get created when one of the following two scenarios occur:

- An order is placed for Ship to Home. If there is not inventory at any one location, then Order Routing automatically assigns a STH-C location and creates transfer shipments to transfer inventory to the STH-C location.

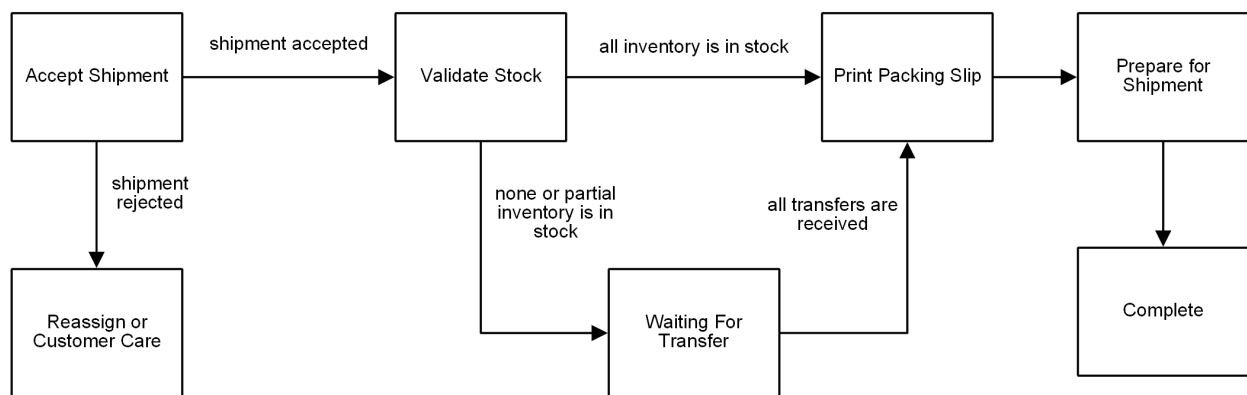


Order Routing has additional optimization built in to minimize the number of shipments when selecting a consolidation location. However, in this optimization process, the system bypassed the original filters that were applied in the initial step. The system now has an additional check that re-validates all applicable filters before assigning items. Items that fail any filter in applicable scenarios will not be assigned to the consolidation location, even if inventory is available. To trigger this additional check, please contact Kibo support to enable the tenant flag: `consolidationFilterMinimizationValidationEnabled`.

- An order is placed for Ship to Home and assigned to a location. While fulfilling the order, the fulfiller finds that there is not enough quantity at the location and [requests a transfer](#) for the quantity that isn't available. Order Routing determines the optimal qualifying locations to transfer inventory to the parent location.

If the shipment is rejected by its parent location, then the shipment will either be cancelled or placed into Customer Care depending on the [Order Routing after-actions](#) that are configured.

### STH Shipment (Consolidation Enabled)

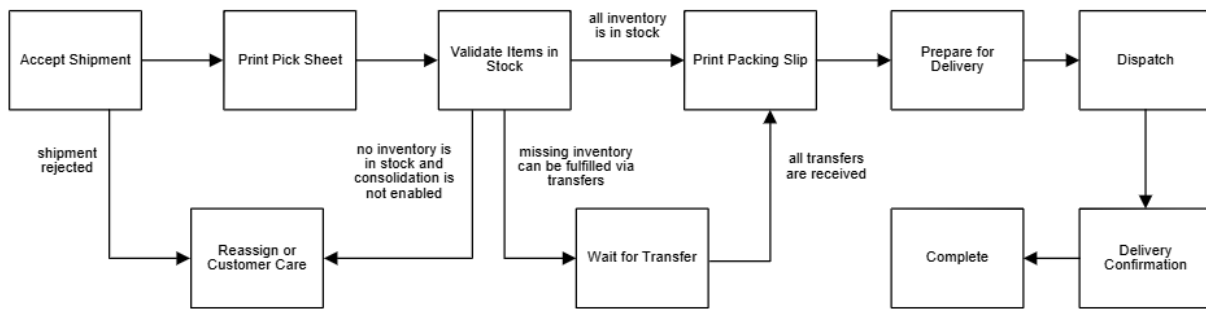


### Delivery Shipments

Delivery follows a similar method as [Ship-to-Home Consolidation](#) when not enough inventory is available at the chosen delivery location. If there is inventory at transfer locations, then transfers will be created to consolidate all items at the delivery consolidation location with no inventory (either the provided location selected by the customer or the location determined to have the shortest distance from the customer).

This diagram illustrates the basic delivery process flow, with options for whether a transfer is needed to supply missing inventory or consolidate shipments (which follows a similar process as that for STH Consolidation).

## Delivery Shipment



## Enable Consolidation

Consolidation is enabled and configured separately for STH and Delivery fulfillment methods.

### STH Consolidation

First, enable STH-C in your site's transfer settings.

1. Go to **System > Settings > General > Site**.
2. In the Transfers section, toggle on **Ship to Home Consolidation**.

☒ Ship to Home Consolidation ⓘ

☒ Multiple Consolidation ⓘ

Default shipping method ⓘ



☐ Cancel transfer/shipment item ⓘ

Restrict cancellation steps 🔒

Search

☒ Allow Partial Fulfillment ⓘ

☒ Force consolidation with 0 Inventory at consolidation location ⓘ

3. Enable **Multiple Consolidation** if you want to route items through multiple consolidation locations when there no single consolidation location is appropriate for an order and you don't want to use force consolidation (Step #7) to handle that scenario. This requires additional configuration of location attributes and Order Routing logic. See the [Multiple Consolidation](#) section for more details.

4. You can optionally set a **Default shipping method** for STH transfers.
5. Toggle on **Allow Partial Fulfillment** if you want to ship items separately when some of the quantity in a shipment is available at the consolidation location, while the remaining quantity is pending transfer to the location. In this case, available items will be moved to a new shipment that can immediately proceed with fulfillment. The transfer items will remain in the original Waiting for Transfer shipment until they arrive. See the [Partial Fulfillment section](#) for more details.
6. Toggle on **Cancel transfer shipment/item** if you want to cancel transfer shipments and items when a cancellation occurs on the parent shipment. If you enable this, you can also select which fulfillment steps to restrict cancellation on.
7. Toggle on **Force consolidation with 0 Inventory at consolidation location** if you want to consolidate even when there is no inventory at any STH-C enabled location. If enabled and there is inventory at transfer locations, then transfers will be created to be consolidated at a STH-C location with no inventory (either a specified location or the location determined to have the shortest distance from the customer).
  - You can override this site setting in the [Create Order API](#) request by enabling or disabling the `forceSTHConsolidationOnSplitShipments` field.
8. Click **Save**.

Then, STH-C must be enabled at the location level. In order for Order Routing to use consolidation, at least one other location in the group must have transfers enabled in addition to a centralized location being available.

1. Go to **Main > Orders > Locations**.
2. Select a location from the table.
3. In the Transfer settings section, toggle on **Ship to Home Consolidation** if you want that location to be able to consolidate shipments.

Transfer

☐ Transfer Enabled ⓘ

Transfer time ⓘ 🔒

Transfer time unit 🔒 ▼

☒ Ship to Home Consolidation ⓘ

4. Click **Save**.

## Delivery Consolidation

First, enable Delivery Consolidation in your site's transfer settings:

1. Go to **System > Settings > General > Site**.
2. In the Transfers section, toggle on **Delivery Shipment Consolidation**.

The screenshot shows the 'Delivery Shipment Consolidation' settings page. At the top, there are two toggle switches, both of which are turned on (green). The first toggle is labeled 'Delivery Consolidation' and the second is labeled 'Multiple Consolidation'. Below these toggles is a section for 'Default shipping method' with a dropdown arrow. Underneath that is a toggle for 'Cancel transfer/shipment item', which is currently turned off. Below this toggle is a search bar with the placeholder text 'Restrict cancellation steps' and a lock icon. At the bottom of the visible settings are two more toggle switches: 'Allow Partial Fulfillment' (turned off) and 'Force consolidation with 0 Inventory at consolidation location' (turned on).

☒ Delivery Consolidation ⓘ

☒ Multiple Consolidation ⓘ

Default shipping method ⓘ ▼

☐ Cancel transfer/shipment item ⓘ

Restrict cancellation steps ⓘ

Search

☐ Allow Partial Fulfillment ⓘ

☒ Force consolidation with 0 Inventory at consolidation location ⓘ

3. Enable **Multiple Consolidation** if you want to route items through multiple consolidation locations when there no single consolidation location is appropriate for an order and you don't want to use force consolidation (Step #7) to handle that scenario. This requires additional configuration of location attributes and Order Routing logic. See the [Multiple Consolidation](#) section for more details.
4. You can optionally set a **Default shipping method** for the transfer shipments.
5. Toggle on **Allow Partial Fulfillment** if you want to ship items separately when some of the quantity in a shipment is available at the consolidation location, while the remaining quantity is pending transfer to the location. In this case, available items will be moved to a new shipment that can immediately proceed with fulfillment. The transfer items will remain in the original Waiting for Transfer shipment until they arrive. See the [Partial Fulfillment section](#) for more details.
6. Toggle on **Cancel transfer shipment/item** if you want to cancel transfer shipments and items when a cancellation occurs on the parent shipment. If you enable this, you can also select which fulfillment steps to restrict cancellation on.
7. Toggle on **Force Consolidation with 0 inventory** if you want to consolidate even when there is no inventory at any consolidation location. If enabled and there is inventory at transfer locations, then transfers will be created to be consolidated at a delivery location with

no inventory (either a specified location or the location determined to have the shortest distance from the customer) If the system cannot identify a valid delivery consolidation location, it will follow the after-actions defined in your Delivery routing strategy.

Then, consolidation must be enabled at the location level. In order for Order Routing to use consolidation, the consolidation location must also be enabled for Delivery fulfillment and at least one other location in the group must have transfers enabled.

1. Go to **Main > Orders > Locations**.
2. Select a location from the table.
3. In the Transfer settings section, toggle on **Delivery Consolidation** if you want that location to be able to consolidate shipments.

#### Transfer

☐ Transfer Enabled ⓘ

☐ Ship to Home Consolidation ⓘ

☒ Delivery Consolidation ⓘ

4. Click **Save**.

## Fulfillment Process

Transfers can be requested during the Validate Stock step of the fulfillment process. The process will be similar to the non-Consolidation BOPIS example [shown here](#). When an STH or Delivery Consolidation shipment requires transfers, then the shipment will be moved into the Waiting for Transfer step as long as some quantity in the shipment is still pending transfer to the location.

Transfers are listed with their shipment number, assigned location, and current status as well as a table detailing the items included in that transfer. The **Review This Transfer** button will redirect you to its shipment details listing at the assigned location, allowing you to view and fulfill that transfer if you have access to the location.

3 Waiting For Transfer			
Items Available to Ship			
Image	Product	Product Identifiers	Quantity
Shipment # 549 Transferred from Location A (In transit)			
Image	Product	Product Identifiers	Quantity
Image not available	Example Product	UPC : Ch001 Product Code : Ch001	1
<a href="#">Review This Transfer</a>			

The below example shows a case where one item is already in stock and multiple transfer shipments have been created for the remaining items. Each transfer shipment is listed as its own separate table.

3 Waiting For Transfer			
Items Available to Ship			
Image	Product	Product Identifiers	Quantity
Image not available	Product 1	UPC : PR01 Product Code : PR01	1
Shipment # 1599 Transferred from Distribution Warehouse 2 (Not yet shipped)			
Image	Product	Product Identifiers	Quantity
Image not available	Product 2	UPC : PR02 Product Code : PR02	3
<a href="#">Review This Transfer</a>			
Shipment # 1640 Transferred from Distribution Warehouse 2 (Not yet shipped)			
Image	Product	Product Identifiers	Quantity
Image not available	Product 1	UPC : PR01 Product Code : PR01	1
<a href="#">Review This Transfer</a>			
Shipment # 1641 Transferred from Distribution Warehouse 2 (Not yet shipped)			
Image	Product	Product Identifiers	Quantity
Image not available	Product 1	UPC : PR01 Product Code : PR01	1
<a href="#">Review This Transfer</a>			

## Partial Fulfillment

By default, you must wait until all inventory is received before continuing with fulfillment of any quantity. But if the [Allow Partial Fulfillment site setting](#) is enabled, then you can move any available items to a new shipment for immediate fulfillment instead. This new shipment retains the original shipping info, and the other items remain in the original Waiting for Transfer shipment until they arrive at the location.


To perform partial fulfillment in the Fulfiller UI:

1. View the eligible shipment in the Wait for Transfer step.
2. By default, all currently-available quantity would be included in partial fulfillment. If you want to fulfill only some of the available quantity, click **Edit Pack Qty** to make that field editable in the table.
  - Be aware that if any [service items](#) are included in the shipment, they will always remain

with their parent item. If the quantity of a parent item is being split, then the service item quantity will also be split to match.

### 3 Wait for Transfer

Items Available to Ship

Image	Product	Product Identifiers	Quantity
	Handbag	<b>UPC:</b> <a href="#">EDD_storefront_product_1</a> <b>Product Code :</b> EDD_storefront_product_1	2

Ready For Pack

Edit Pack Qty

Shipment # 271 Transferred from Example Warehouse (Not yet shipped)

Image	Product	Product Identifiers	Quantity
Image not available	Scarf	<b>UPC:</b> 480112226008 <b>Product Code :</b> 480112226008	1

Review This Transfer

- Click **Ready for Pack**. This will immediately generate a new shipment with the indicated item quantity and provide you with the shipment number. You can then navigate to this new shipment to fulfill it.

To perform partial fulfillment via API instead, make a POST call to

`.../api/commerce/shipments/itemsReadyForPack` with a list of line item quantities such as the below example. This API will move those items to a new shipment that can immediately proceed with fulfillment.

```
{
  "items": [
    {
      "lineId": 1,
      "quantity": 2
    },
    {
      "lineId": 2,
      "quantity": 1
    }
  ]
}
```

## Multiple Location Consolidation

Order Routing will prioritize consolidating shipments at one location when possible, but if a single location cannot be identified due to location network restrictions then multiple consolidation locations can be used instead. This reduces manual intervention and exceptions when needed,



and lets you design more efficient routes between locations in a complex network.

This is particularly useful in cases such as transfer hubs that can only transfer inventory to a specific set of shipping locations, thus requiring multiple consolidation locations when inventory is available at different hubs. For example:

- Transfer Hub A has 50 quantity of Item A and can transfer to Location 1, Location 2, and Location 3.
- Transfer Hub B has 50 quantity of Item B and can transfer to Location 4, Location 5, and Location 6.
- An order is placed for 5 quantities each of Item A and Item B, and requires consolidation as no inventory is available at shipping locations.
- With multiple consolidation enabled, 5 quantities of Item A would be routed to Transfer Hub A and then to its transferable location nearest to the customer. Meanwhile, 5 units of Item B would be routed to Transfer Hub B and then to its transferable location nearest to the customer.

## Configure Multiple Location Consolidation

In addition to enabling **Multiple Consolidation** in the site settings for either STH or Delivery, you must configure an [extensible attribute](#) to define location relationships and Order Routing filters to handle them.

1. Go to **System > Schema > Location Attributes**.
2. Click **Create New Location Attribute**.
3. Enter the general attribute information and toggle on **Available as Order Routing Filter**.
4. Set the **Input Type** to "List" with a **Data Type** of "Text."
5. Enter label:value pairs in the **Add Value or Label Value** text field to define the Location Code of all potential consolidation locations.

General

Administration Name \*

SupportedDCLocations

Code

SupportedDCLocations

Display Group

Admin Only

Storefront Label #

Available for Discounts

Available as Order Routing Filter

Input

Input Type

List

Data Type

Text

Allow Multi select

Add Value or Label:Value

Insert at bottom

Pos	Label	Value
1	WH1	WH1
2	WH2	WH2
3	WH4	WH4
4	001	001
5	BOZEMAN	BOZEMAN
6	000005	000005

6. Go to **Main > Orders > Locations**.

7. For each transfer location, set the attribute to that location's associated consolidation location(s).

Attributes

ORE\_LA\_List\_Text

Search

ORE\_LA\_List\_Number

Search

ORE\_LA\_TextArea

ORE\_LA\_YesNo

DispositionConditions

Search

SupportedDCLocations

WH1 x

WH2 x

WH4 x

Search

8. In the Order Routing UI, go to the [Filters page](#) and create a data point filter that compares location codes with your attribute. In this example, the "pickup location code" refers to a potential consolidation location and so the filter will determine whether transfers to it are valid from a given transfer location.

Edit filter

FILTER NAME

PickupLocationInSupportedDCLocations

FILTER TYPE

Custom value

Data point

FILTER ATTRIBUTE

Pickup location code

LOGIC

=

≠

↓...

...↓

...↓..

∈

∉

equal to

not equal to

starts with

ends with

contains

in

not in

COMPARISON PROPERTY

DATA POINT ATTRIBUTE

SupportedDCLocations

9. Go to the [Scenarios](#) page and apply this filter to your Transfer scenario(s).

Transfer to Location

This strategy for Transfer to Location route attempts to match order items with fulfillment locations. When a match is located, the items are assigned. You choose how Order Routing behaves when items are partially matched or no match is available.

Cross Dock A

View 1 location and 1 Filter

Created on 04/23/2025 by admin@kibocommerce.com

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Active

Add/Remove Filter

Create Filter

Edit PickupLocationInSupportedDCLocations

Match located	Partial match	No match
Assign all items to a location in this scenario	Look for a match in the next scenario	Look for a match in the next scenario