

Shipping Service Levels - Introductory Material

Shipping Service Level Basics

Part of the process to fulfill an order requires EVP to determine a *carrier-service-level* (i.e. How do I ship the order from the selected fulfillment source). With an order, a sales channel may send specific *carrier-service-levels* to utilize OR a *generic carrier-service data-format*. A *generic carrier-service data-format* denotes a latency group that must be utilized for the order. Once EVP has determined the carrier-service-level latency requirements indicated by the sale channel, it must rationalize this to the fulfillment source (i.e. Stock, Dropship, Cross-dock).

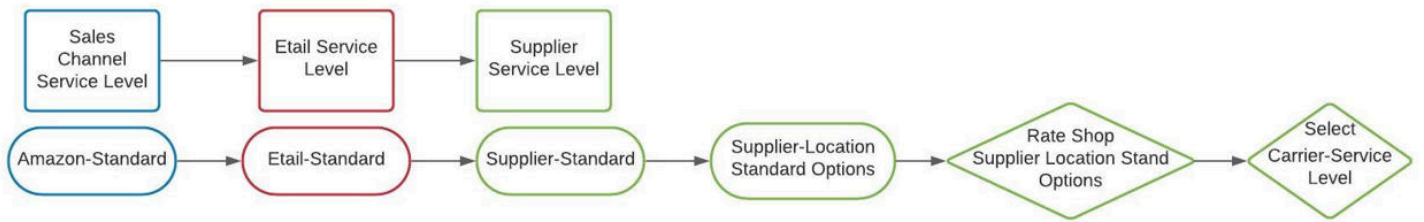
EVP must rationalize the *service-level data-format* from sales channels to the *service-level data-format* of a supplier channel. Historically, this required rationalizing every supplier channel *service-level data-format* to sales channel *service-level data-format* combination (see Figure 1). To simplify the configuration requirements for the shipping service level (and as a best practice) EVP can normalize *service-level data-formats* from both sales and supplier channels on the Etail Channel. Meaning the *service-level data-format* from any channel can be mapped to a *generic service level group* (see Figure 2).

To set up a sales channel you Map from the Etail Channel Service Level Screen and “point at” the Sales channel as the source channel. To set up a supplier channel you Map from the supplier channel Service Level Screen and “point at” the Etail Channel as the source channel. (see Figure 2)

In layman’s terms, EVP needs to understand the shipping-latency requirements indicated by the sales channel, then figure out the best shipping method to tell the inventory-source to utilize. During this process, EVP also determines the “Estimated Shipping Cost” for an order.

Costs and specific *carrier-service-levels* are determined at the end of the Shipping Service Level Rationalization Process. *Generic Carrier-Service Data-Format* is the primary reference point of the Shipping Service Level Rationalization Process.

An initial concept to understand is the types of Shipping Service Level data EVP utilizes. There are three categories of Shipping Service Level Data; There is specific Carrier Service Level information, Generic Carrier Service Level Information, and Sales Channel Specific Carrier Service Level Information. Specific Carrier Service Level information means a specific carrier and service level is indicated. Generic Carrier Service level information is when a code is sent that only specifies a latency requirement but not a specific carrier or service level. Lastly, there are Sales Channel Specific Shipping levels; Typically, these only indicate a latency requirement.



Types of Carrier Service Level Data

Specific Carrier Service Level	
Carrier	Service Level
FedEx	FedEx-Ground
	FedEx-2Day
	FedEx-Home Delivery
UPS	UPS-Ground
	UPS-Express
	UPS-International

Generic Carrier Service Level	
<i>Generic Carrier-Service Data-Format</i>	Latency Requirements
Standard	3-6 Days
SecondDay	1-2 Days
Express	1-3 Days
Prime	1-2 Days
Expedited	2-3 Days

Sales Channel Specific Carrier Service Level	
Sales Channel	Generic Service-Level Data-Format
Amazon	Prime
Walmart	Value
eBay	Guaranteed Delivery

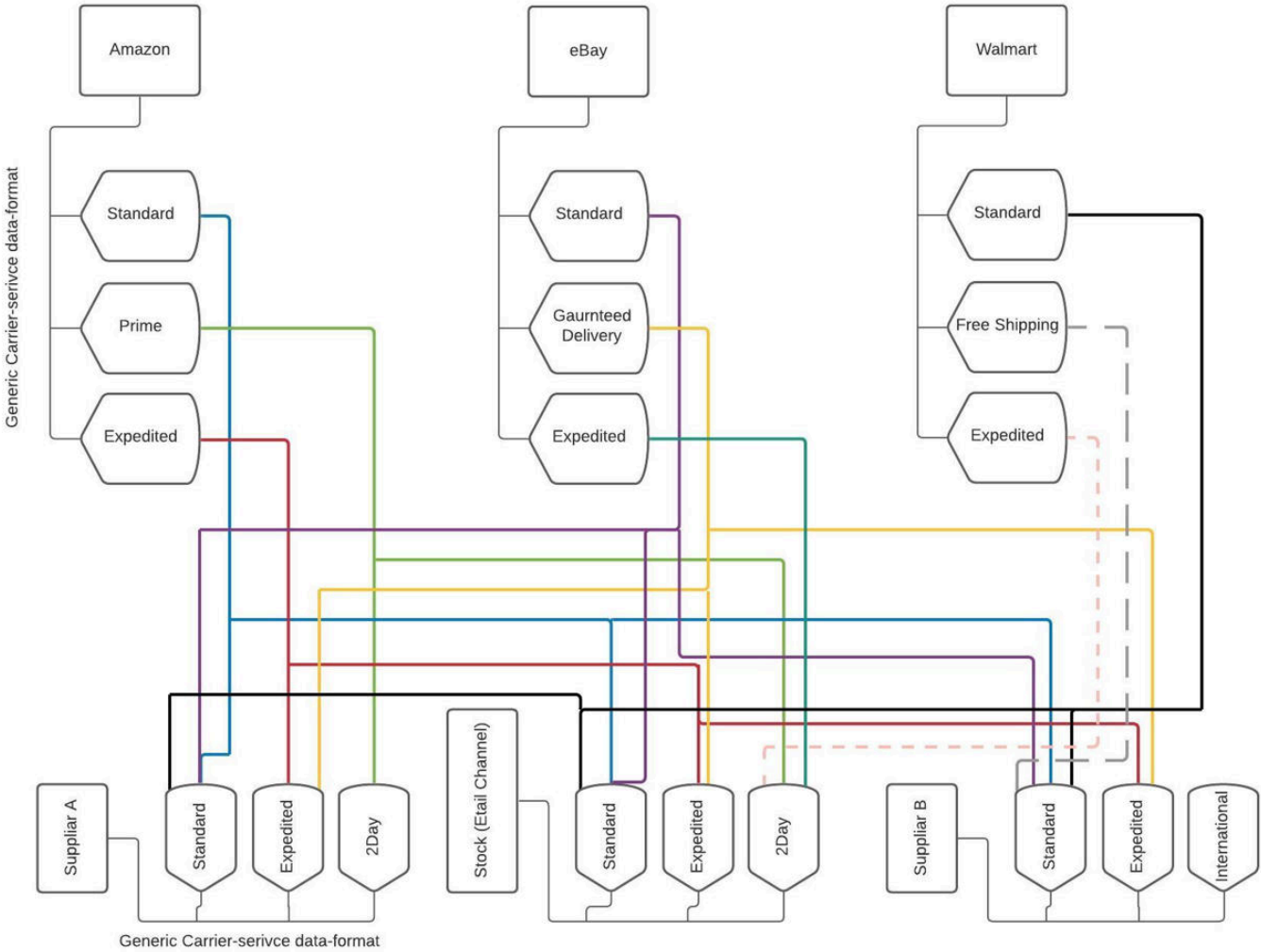


Figure 1: Old Style Shipping Service Level Configuration

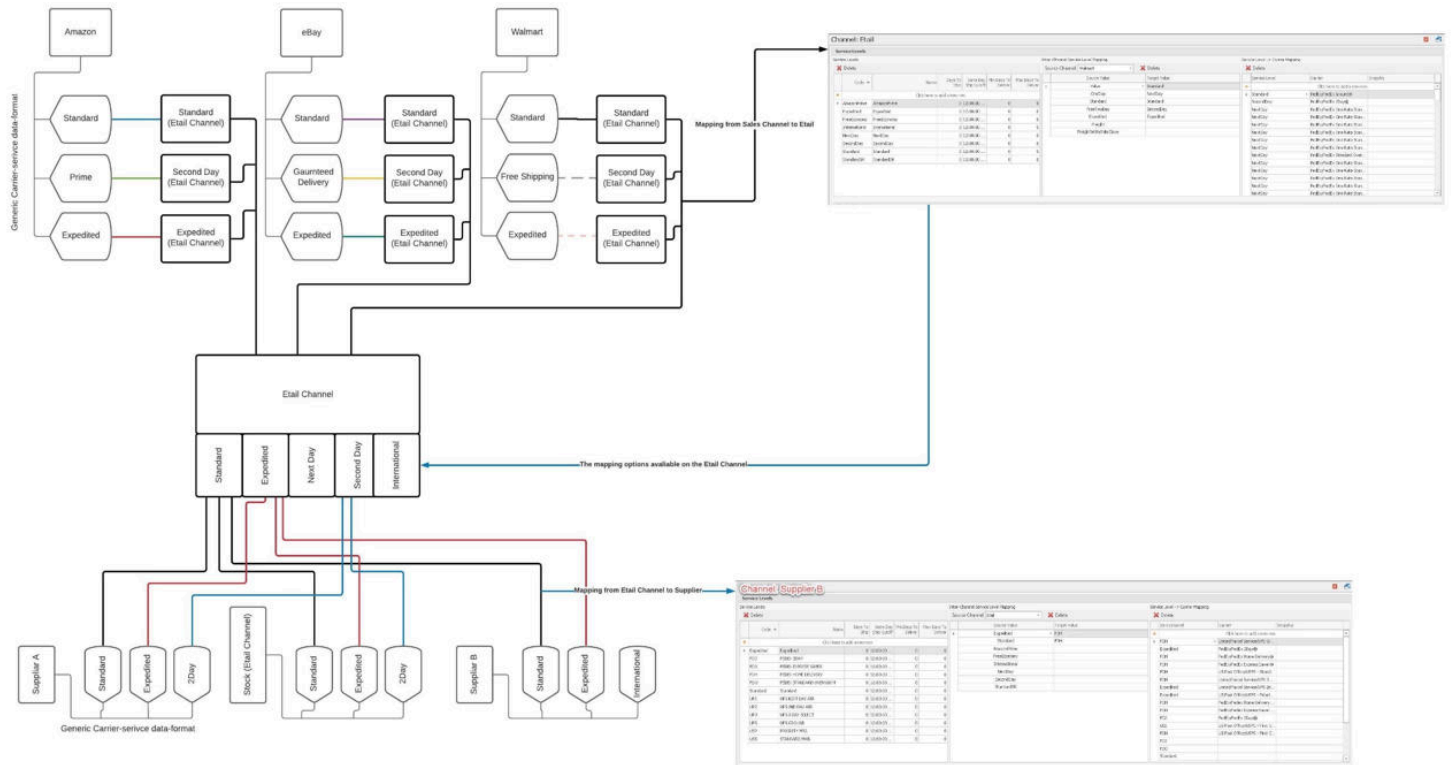


Figure 2: Best Practice Shipping Service Level Configuration

The process below will walk through an example of EVP executing the Shipping Service Level Rationalization Process. It will focus on a single service level.

Sales Order: SO-210246850-A

Save and Close Save Close Print Duplicate Order Assign Fulfillment Location Complete Cancel Order Delete Order

Sales Order Sys Admin Functions

General				Sales Channel		Totals	
SO Number	SO-210246850-A			Number	113-9895065-8630622	Price	11.45
Order Date	2/8/2021 10:58 AM	Shipping	0.00	Name	Amazon	Shipping	0.00
Service Level	Standard		0.00	Service Level	Standard	Tax	0.80
Status	Fulfilled	Currency	USD	Status	Fulfilled	Total	12.25
				<input type="checkbox"/> Disable Amazon Shipment Confirmations			

▲	Sku	Quantity	Uom	Shipped	Title	Item Price	Extended	Total	Net	
Click here to add new item										
1	FJLFTX6T	1.00	EACH	1.00	Standard Motor Products TRU-TECH TX6T	11.45	11.45	12.25	12.25	USD
								11.45	12.25	

1 1 11.45 12.25

Shipments Billing Address Shipping Address Order Types History Internal Notes External Notes Sales Order Notes Dates

Void Shipment

Carrier	Service ...	Date Sh...	Tracking Number	...	Status
US P...	USPS - ...	2/8/2021	9400111898658820169408	...	Shipped

History	Internal Notes	External Notes	Sales Order Notes	Dates
2/8/2021 5:08 PM	Upload tracking information to Amazon (auuvo2.Service)			
2/8/2021 5:05 PM	End: DS: Confirm (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderTrackingDownload)			
2/8/2021 5:05 PM	Shipment 9400111898658820169408 Loaded (auuvo2.Service)			
2/8/2021 5:05 PM	Deallocated 1 EACH from FJLFTX6T (auuvo2.Service)			
2/8/2021 11:53 AM	Begin: DS: Confirm (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderTrackingDownload)			
2/8/2021 11:53 AM	End: DS: Send (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderSender)			
2/8/2021 11:45 AM	Fulfillment Assignment - Success (auuvo2.Service)			
	Begin: DS: Send			

Step 1: EVP receives a SO from a Sales Channel and rationalizes the Service Level Data provided by the Sales Channel

1. – The Service Level provided by the sales channel
 - a. – The Etail Service level rationalized

Step 1 (Continued)

Amazon Standard mapped to Etail Standard because of configured on the Etail Channel Shipping Service Level screen. NOTE: We are on the Etail Channel Service Level Screen and the Source Channel is the Sales Channel.

Inter-Channel Service Level Mapping

Source Channel: Amazon

Source Value	Target Value
NextDay	NextDay
Expedited	Expedited
SecondDay	SecondDay
Standard	Standard
FreeEconomy	Standard
Prime	AmazonPrime
PrimeSL	AmazonPrime
AmazonPrime	AmazonPrime
Prime SL	AmazonPrime

User: James Davies (JDavies) / System Administrator

Step 2: EVP determines a fulfillment source, and the rationalization of the Standard Service level occurs; Meaning we determine which options we have to ship the order via the selected fulfillment source. NOTE: We are on the Supplier Channel and the Source Channel is Etail.

Standard is mapped to the Supplier Code “FDH”; In the Service Level → Carrier Mapping section, FDH is mapped to multiple Carrier options. This is the superset of options available for this supplier.

Channel: Supplier

Inter-Channel Service Level Mapping

Source Channel: Etail

Source Value	Target Value
Expedited	FDH
Standard	FDH
AmazonPrime	
FreeEconomy	
International	
NextDay	
SecondDay	
StandardSR	

Service Level -> Carrier Mapping

Service Level	Carrier	Dropship
	Click here to add a new row	
FDH	US Post Office/USPS – First C...	
FDH	FedEx/FedEx Express Saver ...	
FDH	FedEx/FedEx Home Delivery ...	
FDH	United Parcel Service/UPS 3 ...	
FDH	US Post Office/USPS – Stand...	
FDH	FedEx/FedEx Express Saver@	
FDH	FedEx/FedEx Home Delivery@	
FDH	United Parcel Service/UPS Gr...	
FD3		
FD2	FedEx/FedEx 2Day@	
Expedited	US Post Office/USPS – Priorit...	
Expedited	United Parcel Service/UPS 2n...	
Expedited	FedEx/FedEx 2Day@	

Step 3: After EVP determines a fulfillment location it rates shops all available options based on the location configuration AND the channel shipping service level configuration (Step 2).

Note on Step 2 that FDH is mapped to multiple carrier options. At that point, it is a label not tied to any specific cost model. It is on the location that these labels are tied to a shipping cost model and generate a specific cost (*Figure 3-C*).

This is to allow location-specific configuration; For example, you have a supplier with three locations and each location has different shipping costs (or overhead fees). Because EVP determines shipping cost at the location level it can handle these configuration requirements.

The important point to note is that on Step 2 (on the shipping service level screen) the carriers in the “Service Level → Carrier Mapping” is a label not tied to any cost and only creates a superset of options that are then configured for each supplier location (Step3).

The carrier options labels are setup on the System → Carriers screen (*Figure: 3-A*). The options available for the “carrier” section of the “Service Level → Carrier Mapping” are what is configured on the System → Carrier screen. Again, these act only as label not tied to any specific costs. It is during Step 3 that the labels are tied to a SCM on a specific fulfillment location.

The location selected for this location was the “Laurel Warehouse”; Standard configuration has the cheapest option selected (This is configured on the System → Setup → Selection Order tab) (*Figure: 3-B*).

See the Document “Shipping Cost Model Basics” for a more in-depth review of how SCM determine costs.

Step 2 (Shipping Service Level Screen)		Step 3 (Fulfillment Location → Shipping Tab)	
Supplier Carrier Service Map Value	Carrier Service Label	Carrier Service Label	Shipping Cost Model (SCM)
FDH	US Post Office/USPS – First Class	US Post Office/USPS – First Class	USPS – First Class Mail – Packages – PartsA
FDH	US Post Office/USPS – Standard Mail	US Post Office/USPS – Standard Mail	X
FDH	FedEx/FedEx Express Saver – NO DIM	FedEx/FedEx Express Saver – NO DIM	X

	Items	Items	
FDH	FedEx/FedEx Home Delivery – NO DIM Items	FedEx/FedEx Home Delivery – NO DIM Items	FedEx Home Delivery-No Dim Items-PartsA
FDH	United Parcel Service/UPS 3 Day	United Parcel Service/UPS 3 Day	UPS – 3 Day Select-PartsA
FDH	FedEx/FedEx Express Saver	FedEx/FedEx Express Saver	X
FDH	FedEx/FedEx Home Delivery	FedEx/FedEx Home Delivery	FedEx – Home Delivery-PartsA
FDH	United Parcel Service/UPS Ground	United Parcel Service/UPS Ground	UPS – Ground -PartsA

NOTE: Step 3 not all options are tied to a SCM so these options are not considered when determines fulfillment/cost from this specific location

Figure 3-C

The screenshot shows the Etail Solutions software interface. The main window is titled "Location Edit" and displays a table of shipping options. The table has columns for "Carrier Service Level", "Cost Model", and "ORH ID". The table lists various shipping methods and their associated costs.

Carrier Service Level	Cost Model	ORH ID
FedEx(FedEx Home Delivery - NO Dim It...	FedEx Home Delivery-No Dim Items-PartsA	
FedEx(FedEx Home Delivery)	FedEx Home Delivery-PartsA	
FedEx(FedEx Standard Overnight)	FedEx Standard Overnight-PartsA	
FedEx(FedEx 2Day)	FedEx 2Day-PartsA	
United Parcel Service/UPS 2nd Day	UPS - 2nd Day Air-PartsA	
United Parcel Service/UPS 3 Day	UPS - 3 Day Select-PartsA	
United Parcel Service/UPS Ground	UPS - Ground-PartsA	
United Parcel Service/UPS Next Day	UPS - Next Day Air-PartsA	

The interface also shows a sidebar with navigation options like Purchase Orders, Replenishment, Receiving, and Settings. The bottom status bar shows the user is James Davies (JDavies) / System Administrator, and the date is 2/15/2021.

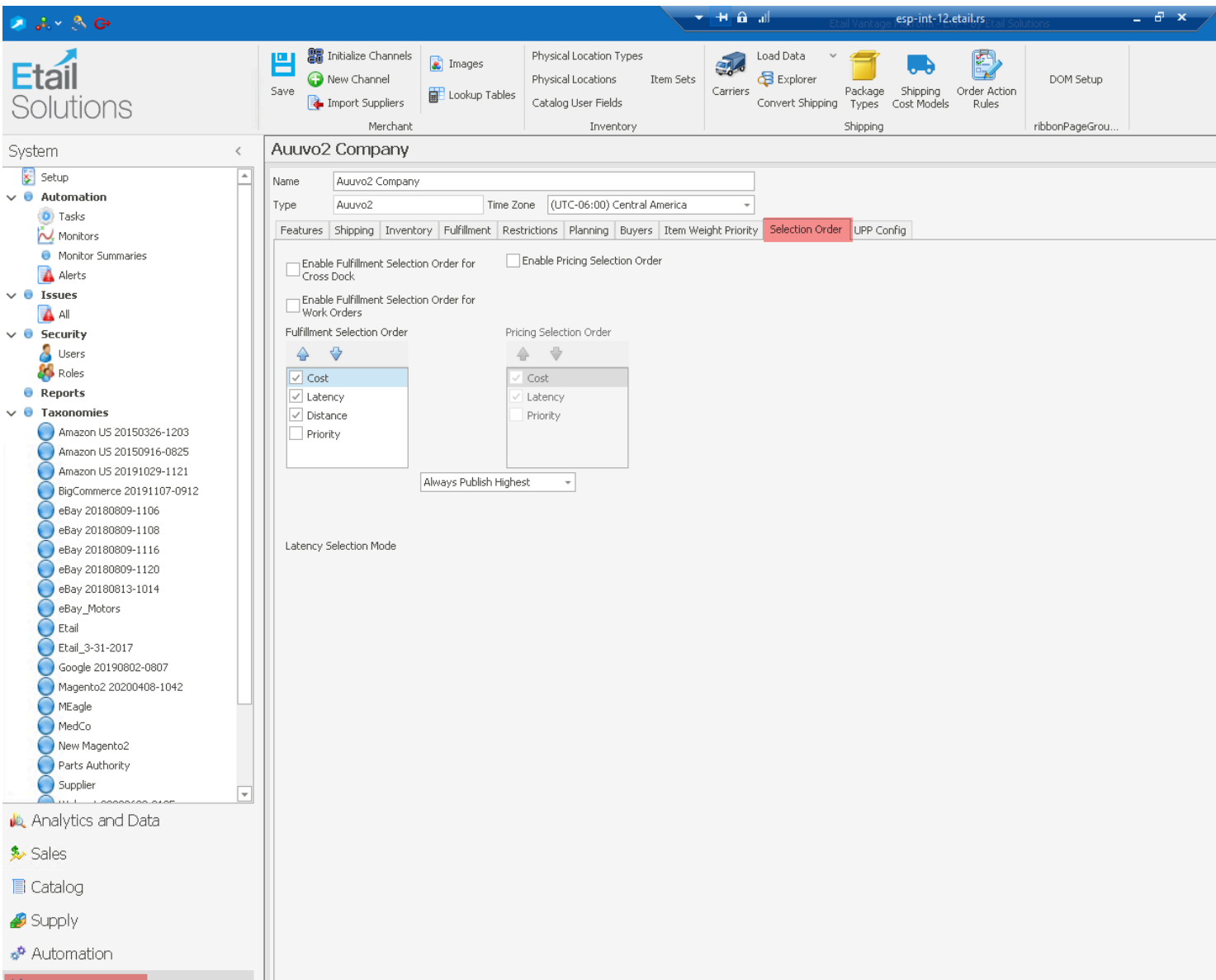
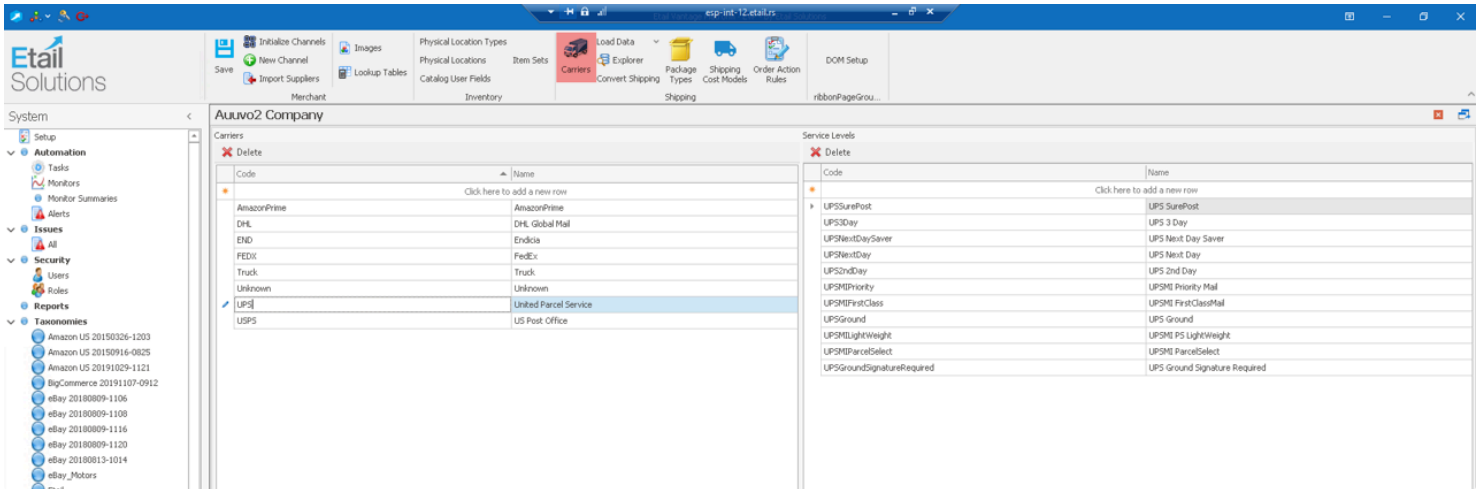


Figure 3-B

Figure 3-A



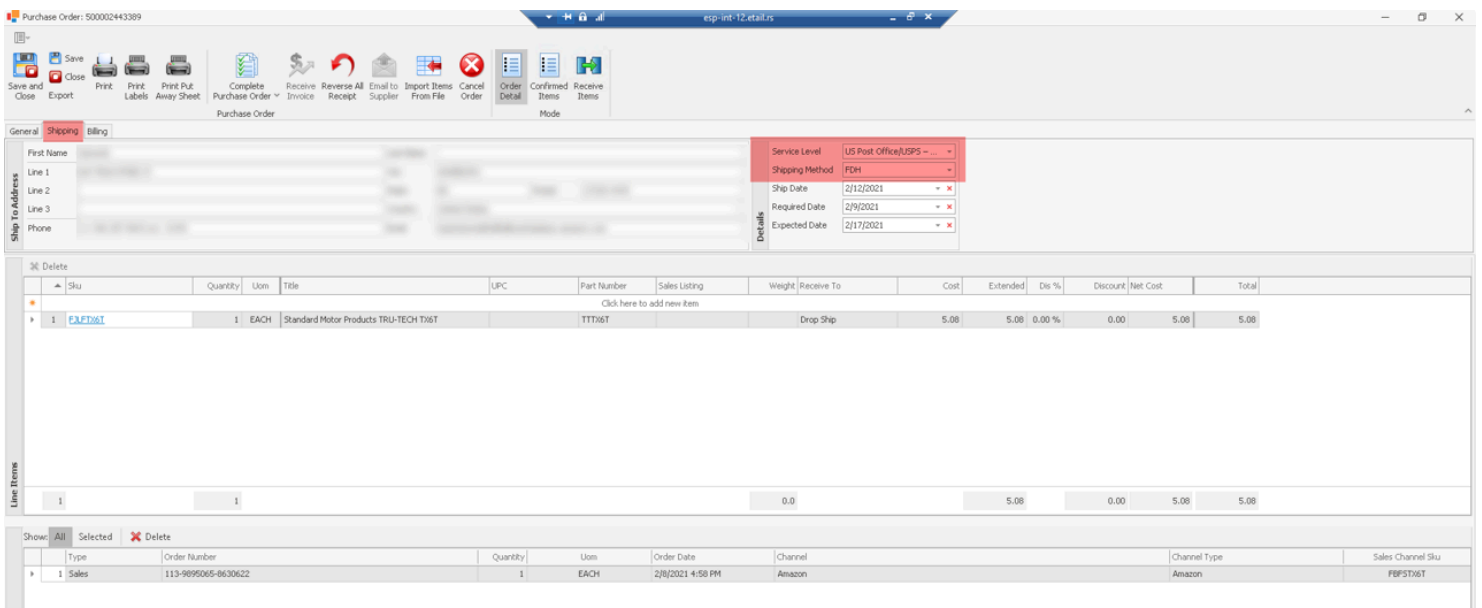
Step 4: After EVP rate shops the available options for the selected fulfillment locations and determines which method to be utilized:

CrossDock: Creates a CD Order with the service option selected

Dropship: Creates a DS PO (Purchase Order) with the service option selected (see example below)

Stock: Fulfills the SO from Etail Locations (local stock)

3PL: Creates a 3PL Fulfillment Order



This entire process can be seen on the Fulfillment Trace/History.

Sales Orders

113-9895065-8630622 Exact Phrase Contains Advanced Show/Hide Columns Select Filters Clear Filters

Order Date	Order Number	Earliest Ship Date	Latest Ship Date	Estimated Delivery Date	Batch	Print Queue	Status	Notes	Total Curre...
2/8/2021 10:58 AM	113-9895065-8630622	2/9/2021 12:00 AM	2/10/2021 11:59 PM	2/18/2021 11:59 PM			Fulfilled		\$12.25 USD

Record 1 of 1

Sales Order Details

Line Items	Addresses	Profit Analysis	History
2/9/2021 5:03 AM			Exported to Order_2021-02-09-06-03-01-93.csv (auuvo2.Service)
2/8/2021 5:08 PM			Upload tracking information to Amazon (auuvo2.Service)
2/8/2021 5:05 PM			End: D5: Confirm (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderTrackingDownload)
2/8/2021 5:05 PM			Shipment 9400111898658820169408 Loaded (auuvo2.Service)
2/8/2021 5:05 PM			Deallocated 1 EACH from FJLFTX6T (auuvo2.Service)
2/8/2021 11:53 AM			Begin: D5: Confirm (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderTrackingDownload)
2/8/2021 11:53 AM			End: D5: Send (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderSender)
2/8/2021 11:45 AM			Fulfillment Assignment - Success (auuvo2.Service)
2/8/2021 11:45 AM			Begin: D5: Send (auuvo2.Service/Evp.Server.Supplier.Custom.PartsAuthority.Orders.OrderSender)
2/8/2021 11:45 AM			Allocate 1 EACH to FJLFTX6T (auuvo2.Service)
2/8/2021 11:45 AM			Opened from status Pending (auuvo2.Service)
2/8/2021 11:45 AM			Downloaded from Amazon in Status Open (auuvo2.Service)
2/8/2021 11:08 AM			Order loaded as Pending (auuvo2.Service)

Detailed Results

Expand: 1 2 3 4 All Copy Print

Message	Seconds
Root	0.0000
Calculate Solutions	0.0000
Find Availability	0.0000
Build solutions	0.1418
Check for solutions below best complete tier of 2 - none	0.1418
Calculate shipping cost = 3.85 to 5.33	0.1418
Find best solution	0.8375
8 Solutions found	0.8375
Selected solution	0.8375
Other solutions	0.8375
Assign to line items	0.8375
Line: 1) 1 EACH of FJLFTX6T	0.8375

Shipping Level: Standard 1

Sales Order Type

Supplier Channel

Hold Code

Fulfillment Source Location

PartsAuthority (Laurel Wareho... 1

Order Status

Fulfilled 1

Sales Channel

Amazon 1

Fulfillment Ship Location

PartsAuthority (Laurel Wareho... 1

Item Sku

FJLFTX6T 1

Shipment Status

Shipped 1

Fulfillment Trace Access

Detailed Results

Expand: 1 2 3 4 All Copy Print

Message

Root

- Calculate Solutions
 - Find Availability
 - Build solutions
 - Check for solutions below best complete tier of 2 - none
 - Calculate shipping cost = 3.85 to 5.33
 - Solution A) Factory Motor Parts: Dropship from PMP - Branford CT = 4.88
 - Solution B) Factory Motor Parts: Dropship from PMP - Phoenix AZ = 5.33
 - Solution C) PartsAuthority: Dropship from Rockville Centre Warehouse = 3.88
 - Solution D) PartsAuthority: Dropship from Phoenix Warehouse = 4.33
 - Solution E) PartsAuthority: Dropship from Bronx Warehouse = 3.88
 - Solution F) PartsAuthority: Dropship from San Bernardino Warehouse = 4.33
 - Solution G) PartsAuthority: Dropship from Norcross Warehouse = 3.85
 - Solution H) PartsAuthority: Dropship from Laurel Warehouse = 3.85
- Group 1) Laurel Warehouse - Weight = 0.610 Pound, Mileage = 269, Cost = 3.85, USPS - First Class
 - Standard Shipping Weight = 0.61 Pound
 - Shipping Weight 1 of FJLFTX6T = 0.60 Pound
- Carrier specific shipping calculations - US Post Office/USPS - First Class = 3.85
 - UPS Ground = 8.22
 - Cost Model UPS - Ground-PartsA = 8.22
 - FedEx Home Delivery = 7.30
 - Cost Model FedEx Home Delivery-PartsA = 7.30
 - UPS 3 Day = 12.36
 - Cost Model UPS - 3 Day Select-PartsA = 12.36
 - FedEx Home Delivery - No Dim Items
 - Cost Model FedEx Home Delivery-No Dim Items-PartsA - exclude, no valid range
 - USPS - First Class = 3.85
 - Cost Model USPS - First Class Mat - Packages-PartsA = 3.85
- Find best solution
- 8 Solutions found
 - Selected solution
 - H) PartsAuthority: Dropship from Laurel Warehouse Total: 8.93
 - 1) Dropship Laurel Warehouse Inventory: 5.08, Shipping: (269 miles) 3.85, Overhead: 0.00, Total: 8.93
 - Other solutions
 - G) PartsAuthority: Dropship from Norcross Warehouse Total: 8.93
 - 1) Dropship Norcross Warehouse Inventory: 5.08, Shipping: (286 miles) 3.85, Overhead: 0.00, Total: 8.93
 - E) PartsAuthority: Dropship from Bronx Warehouse Total: 8.96
 - 1) Dropship Bronx Warehouse Inventory: 5.08, Shipping: (470 miles) 3.88, Overhead: 0.00, Total: 8.96
 - C) PartsAuthority: Dropship from Rockville Centre Warehouse Total: 8.96
 - 1) Dropship Rockville Centre Warehouse Inventory: 5.08, Shipping: (473 miles) 3.88, Overhead: 0.00, Total: 8.96
 - D) PartsAuthority: Dropship from Phoenix Warehouse Total: 9.41
 - 1) Dropship Phoenix Warehouse Inventory: 5.08, Shipping: (1,937 miles) 4.33, Overhead: 0.00, Total: 9.41
 - F) PartsAuthority: Dropship from San Bernardino Warehouse Total: 9.41
 - A) Factory Motor Parts: Dropship from PMP - Branford CT Total: 9.45
 - B) Factory Motor Parts: Dropship from PMP - Phoenix AZ Total: 9.90
- Assign to line items

EVP determines which locations have this SKU in Stock

EVP determines which locations that have stock need to be considered. This is based on the locations Tier & Priority

EVP determines the shipping cost for the selected fulfillment Options

EVP Determines the Size of the item

EVP rate shops the Service Level -> SCM configured on the location and selects the cheapest option

The option selected by EVP as being the optimal fulfillment method

Other fulfillment options considered but not selected

Fulfillment Trace Example Breakdown

Shipping Level Sections Breakdown

Channel: All Pro Distributing

Service Levels

Service Levels
Delete

1

Code	Name	Days To Ship	Same Day Ship Cutoff	Min Days To Deliver	Max Days To Deliver
Click here to add a new row					
2nd Day	2nd Day	0	12:00:00	0	0
3 Day	3 Day	0	12:00:00	0	0
Next Day Air	Next Day Air	0	12:00:00	0	0
Standard	Standard	0	12:00:00	0	0

Inter-Channel Service Level Mapping

Source Channel: Etail
Delete

2

Source Value	Target Value
Standard	Standard
3Day	3 Day
SecondDay	2nd Day
NextDay	Next Day Air
FreeEconomy	Standard
Expedited	
International	
Prime	
Prime SL	
Quote	
WillCall	

Service Level -> Carrier Mapping

Delete

3

Service Level	Carrier	Dropship
Click here to add a new row		
Standard	FedEx/FedEx Ground®	
Next Day Air	United Parcel Service/UPS Nex...	
3 Day	United Parcel Service/UPS 3 Day	
2nd Day	United Parcel Service/UPS 2nd...	
Standard	United Parcel Service/UPS Gro...	

Carrier Mapping

Input

4

Service Level	Carrier	Carrier Service Level
Click here to add a new row		

Output

Standard Overrides

5

Delete Load From Shipments

Carrier Service Level	Service Level	Carrier
Click here to add a new row		

User: James Davies (JDavies) / System Administrator

1. Service Levels Quadrant

- This section is where you specify the generic service level groups a supplier supports
 - If a supplier only offers a standard shipping option then we would only want Standard as an option
 - This controls the “Target Value” option in quadrant 2

2. Inter-Channel Service Level Mapping

- The Source Channel is the channel from which order data is are coming from. EVP best practice is to normalize Sales Order Service Levels on the Etail channel. Meaning on a supplier channel this should almost always be set to the Etail channel.
- The Source Values are the generic service level groups configured on the Source Channel.

3. Service Level → Carrier Mapping

- This quadrant is utilized to define the actual Carrier-Service levels that should be utilized for the generic sever level groups.
- For example, in the screenshot we see in Quadrant 2 Standard is mapped to Standard. Meaning we get an order from a sales channel with the service level Standard, when this order is routed through this supplier channel we want Standard Orders (Sales Channel) to be consider the Standard options (Supplier Channel) in Quadrant 3.
 - In Quadrant 3 we see there are two options for standard (FedEx Ground & UPS Ground)
 - We will compare the costs (defined on the supplier locations) of both FedEx-G and UPS-G when determining how to fulfill the order (and reprice depending on supplier location

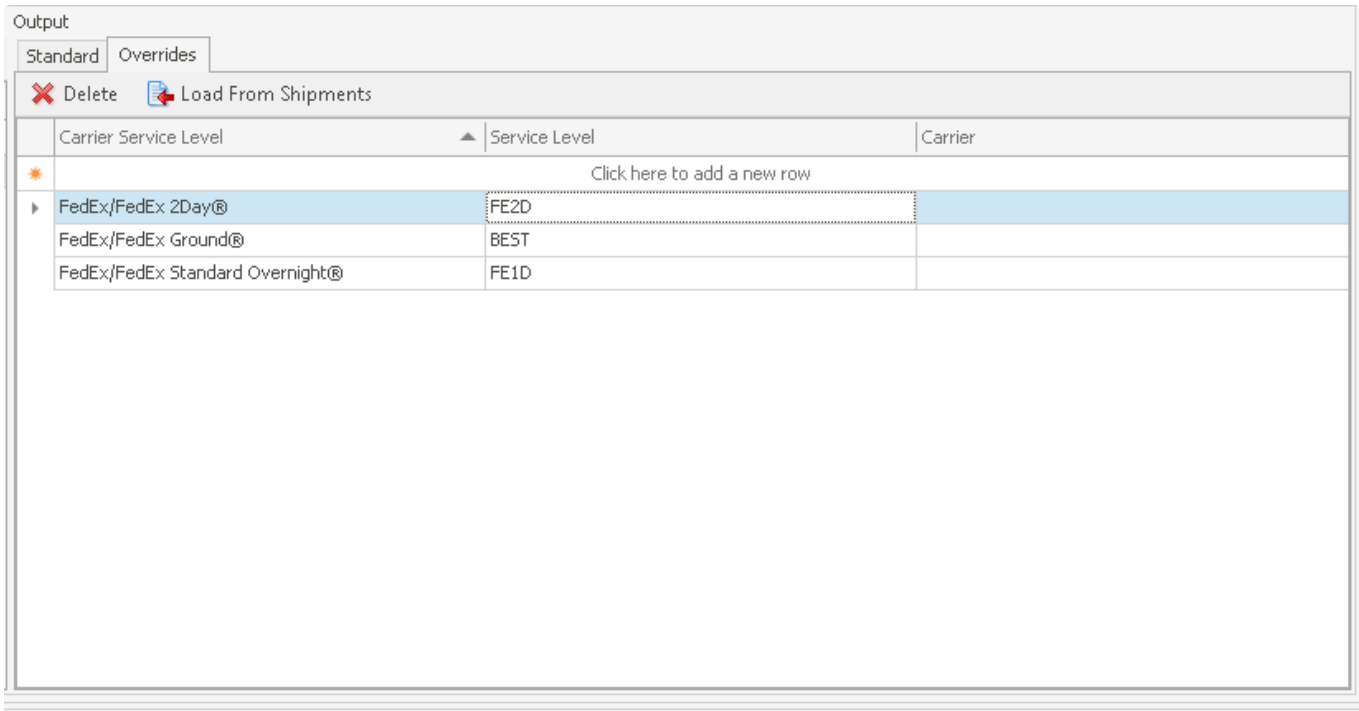
configuration).

4. Input

- a. This quadrant is utilized to define the incoming Carrier Service Level data from a channel.

5. Output – Overrides

- a. After EVP has determined a shipping service level to utilize, in some cases the Service Level “Code” we send the supplier on the PO must match the expected formats for that supplier. This is when Overrides are utilized.
- b. In the Screenshot, when FedEx Ground is the fulfillment method, EVP will override the “FedEx Ground” and send “BEST”



Carrier Service Level	Service Level	Carrier
FedEx/FedEx 2Day®	FE2D	
FedEx/FedEx Ground®	BEST	
FedEx/FedEx Standard Overnight®	FE1D	

Override Usage Example

Estimated Shipping Cost for Repricing

For repricing, the same process above is executed. As EVP does not know the service level that will be utilized for an order, we must assume one for repricing. EVP also does not know the distance an order will need to go before it is placed; we must also assume a distance. These two points are configured on a supplier location.

In this example, the options configured for the Service Level “Standard” will be utilized and the assumed distance is 100 miles.


Location Edit


 Save and Close  Cancel  Delete

General Latency Fulfillment Methods Shipping Package Types Max Dropship Orders


 Add  Remove



Addresses

Ship To [EditValue is null] 

Ship From 145 W. Commercial Avenue 

Defaults (used for pricing)

Service Level Standard 

Mileage 100  

Carrier Service Level 

Cost Model

ORM-D