

Loading Split functionality in OTM



Friday, Nov 16, 10:00 a.m. - 10:45 a.m.

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Presentation Agenda

I. Pallet/Load Splitting - Introduction

II. Business Requirement

III. Configuration Changes

IV. Pros and Cons

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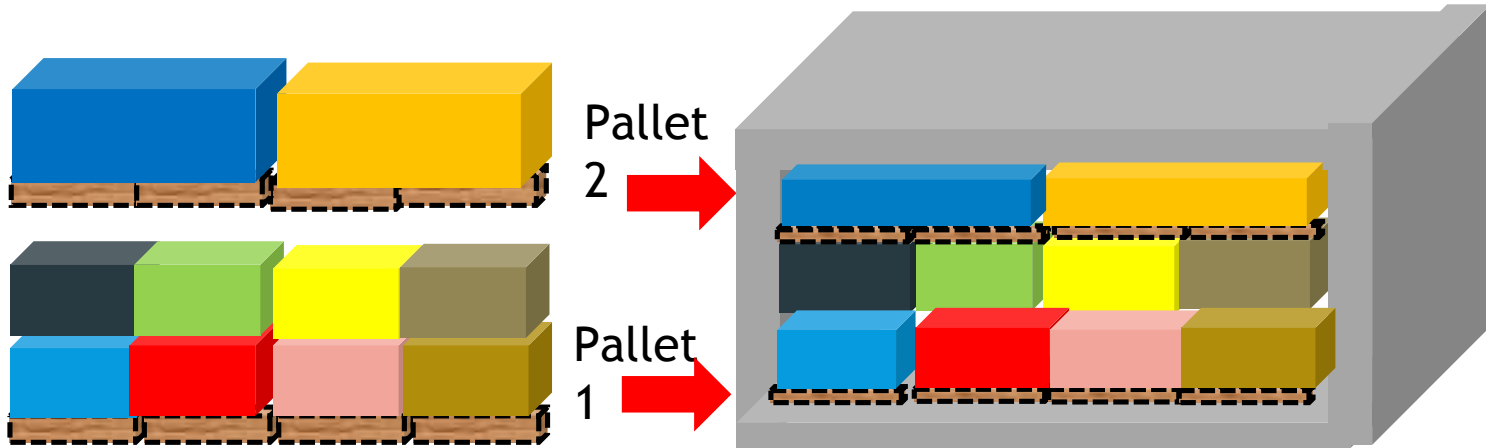
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Pallet/ Load Splitting

Introduction

- ❑ **Problem Statement** : In 3D load configuration (OTM Load Configuration Functionality), when the equipment is left with the free space that cannot fit a full pallet, planning ignores this space and loads the rest of the pallet it into a new container.
- ❑ **New Functionality** : Load Splitting enable users to split the pallets while loading to make use of free space in the equipment efficiently



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Business Requirement

- Single pallet shouldn't be broken into multiple containers.
- Pack the equipment efficiently to minimize the shipment cost.
- Load planning should be in sync with real time operational planning.

Load Splitting features - comparison

#	Load split enabled	Load split disabled
1	Break pallet with in the same container to utilize the free space.	Load into second container by leaving the free space empty.
2	Supports real time loading.	User had to manually handle by merging shipments
3	Cost saving due to maximum utilization of equipment space	Optimal cost saving is not realized

Business Requirement - Scenario

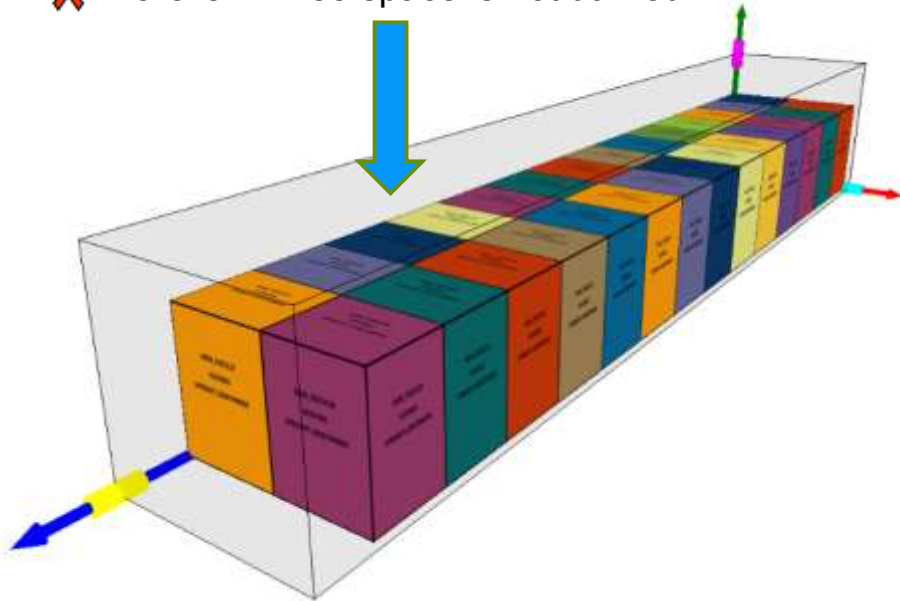
Example - Consider the height of the equipment is 3 Meters and the full pallet height is 2 Meters ,



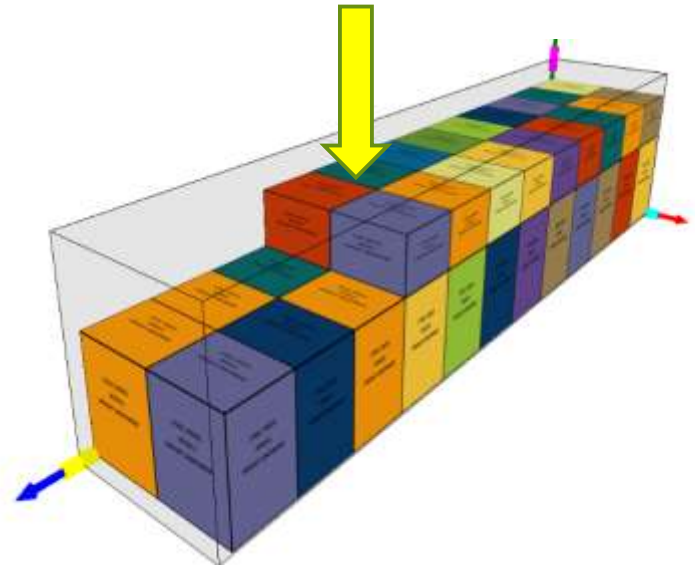
Business Requirement - Scenario

► Before Load Split is enabled.

✗ Before : Free space is not utilized



✓ After : Free space is utilized



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Load Split Configuration

Changes Required

- **Order Configuration** - Ensure ship unit count is 1 .
- **Load splitting specification** – can be setup based on weight,volume,length,width,height.
- **Planning parameter** - ORDER ROUTING METHOD

OTM Configuration

Order configuration

► Order base/ Release ship unit pallet count should be '1'.

- If ship unit is created in OTM ,order configuration 'AUTO_CALC_UNIQUE' can be used or ensure ship unit count = 1

The screenshot shows the SAP Order Configuration interface for the configuration 'AUTO_CALC_UNIQUE'. The interface includes a title bar with '1 of 1', 'New', and 'Copy Order Configuration' buttons. The main content area is divided into sections: 'Order Configuration ID' (AUTO_CALC_UNIQUE), 'Description' (OTM determines the number of Transport Handling Units to create with each having its own record), and 'Domain Name' (PUBLIC). Below this, there are sections for 'Order Base/Release Creation Line' (Ship Unit Creation ON_CREATE), 'Order Base', and 'Order Release'. The 'Order Release' section contains several settings: 'Releasing Logic' (Determine Number of Ship Units), 'Splittable' (checked), 'Allow Repack of Partial Ship Units' (checked), 'Repack Percent Threshold' (100.0), 'Allow Creation of Mixed Freight Ship Units' (checked), and 'Ship Unit Calculation' (LINE TO SH). A red box highlights the 'Create Individual Ship Units' checkbox, which is checked.

Field	Value
Order Configuration ID	AUTO_CALC_UNIQUE
Description	OTM determines the number of Transport Handling Units to create with each having its own record
Domain Name	PUBLIC
Order Base/Release Creation Line	Ship Unit Creation ON_CREATE
Order Release	
Releasing Logic	Determine Number of Ship Units
Splittable	Checked
Allow Repack of Partial Ship Units	Checked
Repack Percent Threshold	100.0
Allow Creation of Mixed Freight Ship Units	Checked
Ship Unit Calculation	LINE TO SH

OTM Configuration

Loading Split specification

- ▶ Can mention number of possible splits, dimensions of the each split piece
- ▶ It should match with footprint of the base full pallets.

* Split Number	Weight	Volume	* Length	* Width	* Height	
<input type="text"/>	<input type="text"/> LB <input type="button" value="v"/>	<input type="text"/> CUFT <input type="button" value="v"/>	<input type="text"/> FT <input type="button" value="v"/>	<input type="text"/> FT <input type="button" value="v"/>	<input type="text"/> FT <input type="button" value="v"/>	<input type="button" value="Save"/>
1	7.41 LB	1.34 CUFT	3.28 FT	3.94 FT	0.14 FT	/X
2	7.41 LB	1.34 CUFT	3.28 FT	3.94 FT	0.14 FT	/X

OTM Configuration

Planning Parameter

- ▶ In the planning parameter “ORDER ROUTING METHOD” must be set to “Network Routing”. Cost based routing does not honor the loading split logic

ORDER ROUTING METHOD	Cost-Based Routing	Network Routing
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- ▶ For multi-leg scenarios, Loading split decisions taken for the first leg will be carried over to the subsequent legs planned.

OTM Configuration

Load configuration view

► In the load configuration view we can see

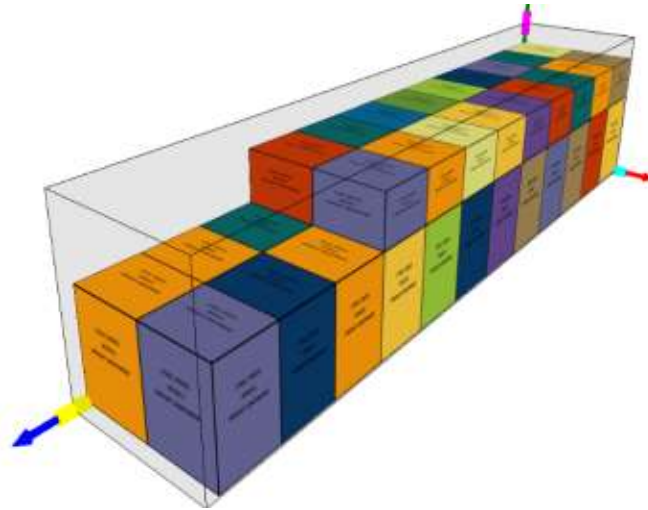
1. Number of split in the piece column.
2. If a ship unit is split or not.

Equipment Compartment Number	Loading Sequence	Shipment Ship Unit ID	Piece	Is Split	Pickup Stop Number	Dropoff Stop Number	Packaged Item ID	Commodity ID	Order Release ID	Order Movement ID	Priority	Order Ship Unit	Orientation	Stacking Layer	Position	Top Weight
1	1	583681	1	N	1	2	22829	LIR	OR-20180717-0003	157605	1	1494899	UPRIGHT LENGTHWISE	1	0.00 FT, 0.00 FT	
1	2	583667	1	N	1	2	3042902	AA8	OR-20180717-0105	157606	1	1492525	UPRIGHT LENGTHWISE	1	3.94 FT, 0.00 FT	
1	3	583672	1	N	1	2	22829	LIR	OR-20180718-0143	157608	1	1494895	UPRIGHT LENGTHWISE	2	0.00 FT, 1.08 FT	
1	4	583673	2	N	1	2	22829	LIR	OR-20180718-0143	157608	1	1494895	UPRIGHT	3	0.00 FT, 4.26 FT	

OTM Configuration

Outcome of Load Split

- ▶ 33 Pallets - 24 Base pallets/ 18 Half pallets packed in single equipment



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Pros and Cons

Pros	Cons
Optimal Space utilization	Split details carry forward for Multi-leg - might not help the LCL load
Cost effective	Foot print of the pallet cannot be split - Only height of the pallet can be distributed
Split details carry forward for Multi-leg - Effective for FCL loading	



Q&A

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