

# **SAP Transportation Management – Freight Unit (FU)**

## **Raw information on FU**

FU is the smallest unit that can be transported together

1st decide - what is the tracking level for your transportation --> Container Level, Package Level or Product Level

Shipper Scenario - usually track it at Product level

LSP Scenario - Usually tracked at Container level

FU is always created automatically using FUBR (Freight Unit Building Rule), never created manually

FU is a very important element for Planning

FU is the link between FWO and Transportation Document

We can create One/Multiple FU per FWO

Output of Planning is a freight order / freight booking

FU gives follow information

What is being transported

Where is it being transported (Source/Destination)

When is it being transported (Timeline)

## Understanding the FU document

### Display Freight Unit Type 1406

Save Cancel Edit Follow Up Check Direct Shipment Split/Merge Remove Unplanned Stages Fixing Cancel Document Customs

Source	Destination
Location: <input type="text" value="DE_01_04"/> shipping point	Location: <input type="text" value="US_01_04"/> consignee location
Start Date (Acceptable): <input type="text" value="08.01.2017"/> <input type="text" value="00:00:00"/> CET	Start Date (Acceptable): <input type="text"/> <input type="text" value="00:00:00"/> CST
Start Date (Requested): <input type="text" value="08.01.2017"/> <input type="text" value="00:00:00"/> CET	Start Date (Requested): <input type="text" value="12.01.2017"/> <input type="text" value="00:00:00"/> CST
End Date (Requested): <input type="text" value="08.01.2017"/> <input type="text" value="00:00:00"/> CET	End Date (Requested): <input type="text" value="12.01.2017"/> <input type="text" value="00:00:00"/> CST
End Date (Acceptable): <input type="text"/> <input type="text" value="00:00:00"/> CET	End Date (Acceptable): <input type="text" value="12.01.2017"/> <input type="text" value="23:59:59"/> CST
Loading Date: <input type="text" value="16.01.2017"/> <input type="text" value="19:30:00"/> CET	Unloading Date: <input type="text"/> <input type="text" value="00:00:00"/> CST

Additional Data	Required Capacity
Label: <input type="text"/>	Weight: <input type="text" value="10"/> <input type="text" value="KG"/>
Freight Unit Type: <input type="text" value="YTM5"/> Freight Unit Type	Volume: <input type="text"/> <input type="text" value="M3"/>
Shipping Type: <input type="text" value="3"/> FCL (Full Container Load)	Pieces: <input type="text"/> <input type="text"/>
Movement Type: <input type="text" value="DD"/> Door to Door	Density Factor: <input type="text" value="0"/>
Incoterm: <input type="text"/>	
Incoterm Location: <input type="text"/>	
Dangerous Goods: <input type="checkbox"/>	
No ADR Exemption: <input type="checkbox"/>	
Points acc. to ADR 1.1.3.6: <input type="text"/>	
Freight Unit Building Rule: <input type="text" value="OF-FUBR-02"/> <input type="checkbox"/> Defaults applied	
HBL or HAWB: <input type="text"/> Not Final...	
Transportation Mode: <input type="text" value="03"/> Sea	

Organizational Data
Purchasing Organization: <input type="text"/>
Purchasing Group: <input type="text"/>
Planning and Execution Organization: <input type="text"/>
Org. Unit Group: <input type="text"/>

(Start/End) Acceptable Date - Date Range before/beyond which goods is not accepted at destination nor released at source

(Start/End) Requested Date - Preferred Date Range for accepting goods

Incoterm/Shipping Type/Movement Type/Transportation Mode/Weight/Volume/Pieces/Organizational Unit Info - data coming from FWO

Business Partner Info is coming from FWO

### Display Freight Unit Type 1406

Save Cancel Edit Follow Up Check Direct Shipment Split/Merge Remove Unplanned Stages Fixing Cancel Document Customs

General Data **Business Partner** Document Flow Notes Attachments Direct Shipment Options Statuses Administrative Data Execution Customs

Party Role	Busi... Partner	Description	Street/House Number	House No.	Postal Code/City	City	R...	Region (Desc.)	Co...	Country (Desc.)
Carrier										
Shipper										
Consignee										
Executing Carrier										
Communication Party										

Document Flow - has information on preceding and succeeding documents

General Data Business Partner **Document Flow** Notes Attachments Direct Shipment Options Statuses Administrative Data Execution Customs Change Documents

Display

Document Hierarchy	Business Document Ty...	Business Document	Business Document Life...	Created By	Created On Date/Time	Changed By	Changed On Date
Freight Unit Type 1406	Freight Unit Type	1406	In Process	TMUSER2	17.01.2017 09:20:50 IN...	TMUSER2	17.01.2017 22:16
Predecessor Business Documents							
Forwarding Order for TM 2100000266	Forwarding Order for TM	2100000266	In Execution	TMUSER2	17.01.2017 09:20:50 IN...	TMUSER2	17.01.2017 22:16
Successor Business Documents							
TM Solutions Freight Order 2200000102	TM Solutions Freight Or...	2200000102	In Process	TMUSER2	17.01.2017 22:09:44 IN...	TMUSER2	17.01.2017 22:16

## Change Documents Tab - Has details on Document Change History

Change Documents | Output Management | Stages | HBL or HAWB

Chan...	Node Descript...	Node	ID	Change Indic...	Short Descript...	Field Name	New Value	Old Value	Chan...	Ch...	Time	Transaction C...
9690701	Root Node	ROOT	000C2992460...	Update (U)	Changed By	CHANGED_BY	TMUSER62	TMUSER2	TMUS...	22.0...	02:2...	
9690701	Root Node	ROOT	000C2992460...	Update (U)	Changed On	CHANGED_ON	22.03.2017 06:...	17.01.2017 22:...	TMUS...	22.0...	02:2...	
3707029	Items of the Tr...	ITEM_TR	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Items of the Tr...	ITEM_TR	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Root Node	ROOT	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Stop	STOP	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Items of the Tr...	ITEM_TR	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Successor of a...	STOP_SUCC...	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Successor of a...	STOP_SUCC...	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Successor of a...	STOP_SUCC...	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	
3707029	Successor of a...	STOP_SUCC...	000C2992460...	Insert (I)	KEY	KEY			TMUS...	17.0...	04:5...	

## Notes Tab - Any Instruction can be maintained here

General Data | Business Partner | Document Flow | **Notes** | Attachments | Direct Shipment Options | Statuses | Administrative Data | Execution | Customs | Change Documents

Text Type	Language	I...	Content	Created By	Created On
Loading Instruction	English	<input type="checkbox"/>	Fragile	TMUSER62	22.03.2017 06:49:10 IN...

## Attachments Tab - Has information on all Attachments associated with this FU (Links, Rate Table, Legal Documents, etc)

General Data | Business Partner | Document Flow | Notes | **Attachments** | Direct Shipment Options | Statuses | Administrative Data | Execution | Customs | Change Documents

Name	Description	Visibility Type	Attach... Type	Attachment Type (Description)	URL	Com... Size	Created By	Created On/At	Document Type
	SAP	Internal	LINK	Link	<a href="https://www.sap.com">https://www.sap.com</a>		TMUSER62	22.03.2017 06:49:14 IN...	

Administrative Data Tab- Has information on who created the FU and who last changed it

General Data Business Partner Document Flow Notes Attachments Direct Shipment Options **Administrative Data** Execution Customs Change Documents

Changed	Created
Changed By: TMUSER62 Changed On/At: 22.03.2017 06:49:15 INDIA	Created By: TMUSER2 Created On/At: 17.01.2017 09:20:50 INDIA

Statuses Tab -

General Data Business Partner Document Flow Notes Attachments Direct Shipment Options **Statuses** Administrative Data

**General**

Life Cycle Status: In Process Changed... TMUSER2 Changed... 17.01.2017 22:09:36 INDIA

Fixing Status:

Archiving Status: Not Archived

**Planning and Execution**

Planning Status: Partially Planned

Execution Status: In Execution

Delivery Status: Not Delivered

**Customs**

Customs Status: Initial

**Blocking Information**

Planning Block:  Details

Execution Block:  Details

General Status - Fixing Status - When we are sure that there are no more changes in the FU, we can double click menu Bar "FIXING" and select FIX, status will be changed to FIXED; similar for UNFIX

**Edit Freight Unit Type 1406**

No Messages - [Display Message Log](#)

Customs Status - if GTS is integrated then Customs status will be updated  
 Blocking Information gets updated if there is a block.

ITEM Information is being derived from FWO

Items

Set to Picked Up

Items	Item	Item Category	Package	Product	Gross Volume	G... Volum UoM	Gross Weight	G... Weight UoM	Quantity	Qu... Unit of Measur	Package Type	Transp. Unit Resource	Equ Gro
Container	10	Cont...				M3	10	KG	1	PC			Co..
Package	20	Pack...			100	M3	10	KG	1	PC			
Pro...	30	Product											

EXECUTION TAB -

General Data Business Partner Document Flow Notes Attachments Direct Shipment Options Statuses Administrative Data **Execution** Customs Change Documents

Report Event Insert Event

S.	Event	Planned Date	Actual Event Date	Actual Event Time	T. Zo	Location	Description	Estimated Event Date	Referenced...	Source of Exec. Information
	Scheduled	06.01.2017 0...		00:00:00	I...					
	Unloading Begin	16.01.2017 1...		00:00:00	C...	H_DE01_04	bremen port			
	Unloading End	16.01.2017 1...		00:00:00	C...	H_DE01_04	bremen port			
	Loading Begin	17.01.2017 0...		00:00:00	I...					
	Loading End	16.01.2017 1...		00:00:00	C...	DE_01_04	shipping point			

Execution Note

Event:

Event Reason:

Event Reason Code:

Planned Date: 06.01.2017 04:30:00 INDIA

Actual Event Date:   INDIA

Location:

Item:

Source of Exec. Information:

This tab is important from SAP EVENT MANAGEMENT PERSPECTIVE

## STAGE TAB

Display DOT: Freight Unit Type 1480

Save Cancel Edit Follow Up Check Direct Shipment Split/Merge Remove Unplanned Stages Fixing Cancel Document Customs

Output Management **Stages** HBL or HAWB

Insert Merge Unassign Freight Document Apply Default Route Create Freight Document Set Of Status for FU Stages

Stage	Stage Type (Description)	Freight Document	Source Location	Source Location Address	Destination Location	Destination Location Address	Planned Departure Date/Time	Planned Arrival Date/Time
1	Pick-Up	Freight order type for P...	DE_01_05	/ D-	H_DE01_05	YBRE // D-	20.03.2017 04:30:00 IN...	22.03.2017 04
2	Main Carriage	OF: Ocean Booking Ex...	H_DE01_05	YBRE // D-	H_US01_05			22.03.2017 11
3	Delivery	Freight order type for o...	H_US01_05		US_01_05		22.03.2017 11:30:00 IN...	22.03.2017 11

The stages that we see above come from FWO - here we have an option to Insert/merge a stage if needed  
We can also remove unplanned stages, split a stage in to two or more stages...

## CONFIGURE FU

### DEFINE FREIGHT UNIT TYPE

SCM Extended Warehouse Management

SAP Transportation Management

Transportation Management

- Settings in SCM Basis
- Master Data
- Basic Functions
- General Settings for Order Management
- Forwarding Order Management
- Freight Order Management
- Planning
  - General Settings
  - Freight Unit
    - Define Freight Unit Types
  - Transportation Unit
- Settlement

### Change View "Freight Unit Types": Overview

New Entries

Dialog Structure

Freight Unit Types

Allowed Event Code:

Freight Unit Types

FU Type	Description of Document Type	Dft Type	Time
0001	Freight Unit	<input type="checkbox"/>	Draw Number Imme
DOT3	DOT: Freight Unit Type	<input type="checkbox"/>	Draw Number When
DOT5	Freight Unit Type for testing	<input type="checkbox"/>	Draw Number When
FUM1	Mala: Freight Unit Type	<input type="checkbox"/>	Draw Number When
HFU	Honda_Parts_Boxes	<input type="checkbox"/>	Draw Number Imme
OF02	OF: Freight Unit	<input type="checkbox"/>	Draw Number Imme
ORL4	freight unit type for ORL	<input type="checkbox"/>	Draw Number When
RAJ	Raj Main FU	<input type="checkbox"/>	Draw Number Imme
RFFU	Rail Freight Unit	<input type="checkbox"/>	Draw Number Imme
SEY2	Sey_FU based on Vol	<input type="checkbox"/>	Draw Number Imme
SEY3	Sey_FU based on Weight	<input type="checkbox"/>	Draw Number Imme
TMU1	Freight Unit - TM Solutions FCL	<input type="checkbox"/>	Draw Number When
YFU	Yashwanth Freight Unit	<input type="checkbox"/>	Draw Number Imme
YT40	G - OB Freight Unit	<input type="checkbox"/>	Draw Number When
YTM1	<input type="checkbox"/> type	<input type="checkbox"/>	Draw Number Imme
YTM5	Freight Unit Type	<input type="checkbox"/>	Draw Number When
Z001	Freight Unit	<input type="checkbox"/>	Draw Number Imme
ZAJF	AJ_Freight Unit	<input type="checkbox"/>	Draw Number Imme
ZANC	Freight Unit_ Each	<input type="checkbox"/>	Draw Number Imme



**Change View "Freight Unit Types": Details**

New Entries

Dialog Structure

- Freight Unit Types
  - Allowed Event Code:

Freight Unit Type: YTM1 FU type

Default Type

Freight Unit Can Be Deleted

**Basic Settings**

**Change Controller Settings**

Default Change Strategy: NO\_ACTION

Change Strategy Determination Cond.:

Quantity Tolerance Condition:

Date Tolerance Condition:

**Execution Settings**

Execution Track Relevance: Execution Tracking with Extern...

Display Mode for Execution Tab: Actual Events from TM and EM, ...

Execution Propagation Mode: Standard Propagation

Immediate Processing

**Event Management Settings**

Application Object Type: ODT30\_FU

Last Exp. Event: UNLOAD\_END

**Number Range Settings**

Time for Drawing: Draw Number Immediately

Number Range Interval: FU

**Additional Strategies**

Creation Strategy:

Save Strategy:

Deletion Strategy:

**Direct Shipment Options**

**Determination**

Direct Shipment Option Type: No Determination of Direct Ship...

Carrier Selection Settings:

Carrier Selection Condition:

Direct Shipment Strategy:

DSO Result Rule: Convert to Freight Order for Dir...

**Freight Order Determination**

Freight Order Type:

Freight Order Type Condition:

**Default MTr Definition**

Default MTr for Type:

Condition for default MTr:

### Execution Settings - SAP EM relevant settings

**Execution Track Relevance** --> If you want to track certain types of documents, choose 2 (*Execution Tracking*) or 3 (*Execution Tracking with External Event Management*). The system then sets the initial document execution status *Not Started*. If you do not want to track certain types of documents, choose 1 (*No Execution Tracking*). The system then sets the initial document execution status *Not Relevant*.

**Display Mode for Execution Tab** --> Expected events are always retrieved from SAP Event Management (SAP EM). For actual events, you can decide from which systems they are to be retrieved, as follows:

- From SAP EM and SAP Transportation Management (SAP TM)
- From SAP TM only
- From SAP EM only

**Execution Propagation Mode** --> Controls how execution information is propagated between different related freight documents.

The following options are available:

- *Standard Propagation*  
Select this option if the attributes DATACS and DATAID of the execution information are not used in your scenario.
- *Enhanced Propagation*  
Select this option if the attributes DATACS and DATAID are used to distinguish between several expected events of a freight document in SAP EM that are all related to the same expected event of its successor document.

If you have not selected the checkbox **Propagate Execution Info** in the Customizing activities for defining freight order types, freight booking types, and transportation unit types, this setting is not taken into account regarding the propagation of execution events to predecessor documents. It is recommended that you set the propagation mode to the **same value for all freight documents that are related to each other regarding the execution tracking**.

**Default Means of Transport** --> Default Value can be selected

**Condition for Default Means of Transport** --> Custom BRF+ Condition can be developed and used here

Direct Shipment Option Type -->

The screenshot displays the SAP Customizing configuration for freight units, organized into several sections:

- Default Units of Measure:** Includes dropdown menus for 'Weight' (set to 'Weight') and 'Volume'.
- Additional Settings:** Contains fields for 'Dangerous Goods Profile', 'Customs Profile', 'Rule for PU / DLV Window' (set to 'Earliest Pick-Up at Req. Day/La...'), 'Cond. for PU/DLV Window Determ.', checkboxes for 'BW Relevance' (unchecked) and 'Track Changes' (checked), 'Archiving Retention Period in Days' (set to 100), 'Web Dynpro Application Conf.' (set to '/SCMTMS/FRE\_UNIT'), 'HBL or HAWB Strategy', 'Text Schema', and 'Default Text Type'.
- Admin Data:** A table showing creation and modification details:
 

Created By	TMUSER2	Created On	17.03.2017 09:39:58
Changed By	TMUSER62	Changed On	24.03.2017 01:17:46
- Output Options:** Includes 'Output Profile' and 'Add. Output Profile' fields.
- Organizational Unit Determination:** Contains 'Default Org Unit' with fields for 'Execution Organization', 'Purchasing Organization', 'Execution Group', and 'Purchasing Group'.
- Determination Rules:** Includes a checkbox for 'Consider Organization Unit of User' (unchecked) and a 'Condition' field.

**Dangerous Good Profile** --> You use the profile to specify the behavior of business documents when processing dangerous goods.

You can define a profile to allow all messages from the dangerous goods check to be displayed. You can also define a profile to allow only error messages to be displayed. (Integration with EHS)

**Customs Profile** --> A customs profile contains one or more customs activities that control customs handling for a specific process (for example, export or transit). The customs profile is assigned to the document type, as follows: (Integration with GTS)

- Customs processes for freight orders or freight bookings: You assign the customs profile to the freight order type or freight booking type
- Customs processes for freight units: You assign the customs profile to the freight unit type

**Rule for Pick-Up /Delivery Window** --> Defines the way in which the requested dates/times defined in the forwarding order, forwarding quotation, order-based transportation requirement or the delivery-based transportation requirement are used to define the pick-up and delivery windows of the freight unit.

You use windows to control when goods are to be picked up and delivered.

- *Pick-Up and Delivery as Defined in FWO, FWQ, OTR, or DTR*  
In this case, the system takes the windows from your forwarding order, forwarding quotation, order-based transportation requirement or delivery-based transportation requirement.
- *Earliest Pick-Up at Req. Day/Latest Delivery at Req. Day*  
In this case, the system sets the acceptable start date/time for pick-up to the earliest date/time on the requested day and the acceptable end date/time for delivery to the latest date/time on the requested day.
- *Pick-Up and Delivery Exactly on Requested Day*  
In this case, the system sets the acceptable start date/time for pick-up to the earliest date/time on the requested day and the acceptable end date/time for pick-up to the latest date/time on the requested day. It sets the acceptable start date/time for delivery to the earliest date/time on the requested day and the acceptable end date/time to the latest date/time on the requested day.

**Archiving Retention Period in Days** --> Describes the minimum time in days between the completion date of a business object instance and the date the business object instance is allowed to be archived. Typically, the completion date is the date when the lifecycle status has been set to *Completed* or *Canceled*.

**Text Schema** - You can select a text schema that you have defined in Customizing. The text schema determines the types of text that you can choose for creating notes on the *Notes* tab page of the business document UI in SAP NetWeaver Business Client. It also determines certain attributes of the text for a note, for example, if a note is mandatory for this type of business document, or whether or not a note text is language-dependent.

**HBL/HAWB Strategy** --> Specifies the tasks that the process controller is to perform when you build a house bill of lading or a house air waybill for a forwarding order, a freight order, or a freight booking.  
You can specify a strategy for building a HBL or HAWB. The system then groups the items of a business document for building the HBL or HAWB according to this strategy. For example, you can specify whether the HBL or HAWB is to be built based on a forwarding order or based on individual freight units. Thus, you can build a HBL or HAWB for a shipper or consignee, and you can have multiple HBLs or HAWBs per forwarding order or freight order.  
To be able to specify a HBL or HAWB building strategy for forwarding orders, you have to enable the waybill stock function in Customizing for the forwarding order type.

**Web Dynpro Application Configuration** --> You can define your own Web Dynpro application configurations and assign them to business document types and agreement types. If you do not assign a Web Dynpro application configuration, the system uses the default Web Dynpro application configuration available in SAP TM