



USER GUIDE | CUSTOMER

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SAP Transportation Management, Lead to Agreement for Container Shipping Liners for SAP S/4HANA

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1 Introduction to Lead to Agreement

Before you start working with SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, we recommend that you familiarize yourself with the following important information.

Working with Web Applications

The SAP Fiori launchpad is the access point for all web-based applications (apps) for the container shipping liner add-on. Apps are displayed as tiles, and you can launch each app by clicking the corresponding tile on the launchpad. The tiles displayed on your launchpad home page are arranged into groups, with the group title displayed at the top of each group.

The set of tiles initially visible to you on the launchpad depends on the business catalogs assigned to the business roles that your business user is assigned to. The business catalogs and the corresponding tile groups are delivered as part of the container shipping liners solution.

In the SAP Fiori launchpad frontend system, you can use the `/TMCSL/BCR_L2A_ADMIN` role as a template, which contains references to the SAP Fiori tile catalogs or groups that are listed in the following table. This allows you to access all applications that are relevant for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA. We recommend creating your own roles, referencing only the necessary catalogs required by the various groups of business users.

For more information about creating your own roles, see the section *Configuring Your SAP Fiori Launchpad* in the relevant administration guide for your functional area at https://help.sap.com/tm_csl_l2a_s4hana under *Configuration*.

Business Catalogs

Business Catalog	Technical Name	Reference Technical Catalog
CSL L2A Admin Business Catalog	/TMCSL/BC_L2A_ADMIN	/TMCSL/TC_BE_L2A_APPS

Business Groups

Business Group	Technical Name
CSL Master Data L2A	/TMCSL/BCG_L2A_MD

Displaying Application Help

Most apps in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA are Web Dynpro apps. To display context-sensitive application help, select the lower question mark in the upper right corner and then *Help Center*. Alternatively, you can press `F1` in the app.

Displaying Field Help

To view field help in the SAP ABAP system, choose the field and press **F1**. To view field help in an app, choose the field, right-click, and choose *More Field Help*.

Displaying Quick Help

To view a screen area explanation in an app, right-click anywhere on the screen and choose *Display Quick Help*.

Described Feature Scope of the Product Assistance

For more information about the features in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, see the feature scope description.

More Information

For more information about the SAP Fiori launchpad, see the product assistance for SAP S/4HANA at https://help.sap.com/s4hana_op and choose your version. Under *SAP NetWeaver for SAP S/4HANA*, open *Function-Oriented View* and choose ► *UI Technologies in SAP NetWeaver* ► *SAP Fiori Launchpad* ►.

For more information about the feature scope for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, see *Feature Scope Description* for your release at https://help.sap.com/tm_csl_l2a_s4hana.

Related Information

[Master Data \[page 8\]](#)

[Basic Settings \[page 59\]](#)

[Forwarding Agreement Quotations \[page 142\]](#)

[Forwarding Agreements \[page 199\]](#)

[Transportation Charge Calculation Sheets \[page 205\]](#)

[Rate Tables in Forwarding Agreement Quotations \[page 195\]](#)

[Transportation Zones Classification \[page 208\]](#)

[Exception Templates \[page 211\]](#)

[Enhancements to Charge Calculation \[page 214\]](#)

[Integration \[page 251\]](#)

2 Master Data

Master data represents the business objects used in applications to support transactional processes and operations.

In addition to the standard Transportation Management (TM) master data objects, the following objects are part of the SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA application:

- Commodity master
- Partner and location profiles
- Product catalog

Related Information

[Commodity Master \[page 8\]](#)

[Partner and Location Profiles \[page 18\]](#)

[Service Product Catalog for Container Shipping Liners \[page 32\]](#)

For more information about the master data objects in Transportation Management, see the product assistance for Transportation Management in your SAP S/4HANA release on SAP Help Portal at https://help.sap.com/s4hana_op. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management (TM)* ► *Master Data* ►.

2.1 Commodity Master

A commodity master contains all data required for a commodity. A commodity is used to identify the type of cargo to be moved on behalf of customers. In SAP Transportation Management, commodities are used in all key documents such as agreements, bookings, bills of lading, and so on.

Besides general data such as commodity code, description, commodity type, cargo type, International Maritime Organization (IMO) class, and industry, the commodity master contains administrative data such as the name of user who created or last changed the commodity data as well as validity information.

Furthermore, it is possible to enter a long description of the commodity, add attachments (such as certificates or links), and specify output management data.

Related Information

[Creating a Commodity Master \[page 9\]](#)

2.1.1 Creating a Commodity Master

Create a commodity master for cargo that is to be moved on behalf of customers.

Prerequisites

- The number range object /TMC SL/CMD has been defined in standard transaction SNRO.
- The commodity code types have been defined in Customizing for *Transportation Management* under [Transportation Management](#) > [Master Data](#) > [Classification of Goods](#) > [Define Commodity Codes](#).
- The commodity code pattern has been defined in Customizing for *Transportation Management* under [Container Shipping Liners](#) > [Basic Settings](#) > [Commodity Master](#) > [Define Commodity Code Pattern](#).
- You have carried out the following Customizing activities in Customizing for *Transportation Management* under [Container Shipping Liners](#) > [Basic Settings](#) > [Commodity Master](#):
 - Define Commodity Types
 - Define Cargo Types
 - Define IMO Class
 - Define Industry Code

Procedure

1. In your SAP Fiori launchpad, open the [Create Commodity Master](#) app.
2. In the [General Data](#) section, enter the following commodity code details:

Field	What To Do
Commodity Code	If only an internal number range is defined, then the commodity code is generated by the system automatically. If an external number range is defined, you need to enter a unique commodity code that matches the commodity code pattern.
Description	Enter a description for the commodity code.
Commodity Type ID	Select the commodity type, and the system applies the corresponding validations.

Field	What To Do
<i>Cargo Type ID</i>	Select the cargo type.
<i>IMO Class</i>	Select the IMO class. This field is mandatory if the commodity type ID selected is relevant to dangerous goods.
<i>Industry</i>	Select the industry.

3. In the *Administrative Data* section, specify the validity period for the commodity code.
4. Save your entries.

Results

The commodity master is created.

Related Information

[Commodity Master \[page 8\]](#)

2.1.2 Harmonized Tariff Schedule

The Harmonized Tariff Schedule (HTS) was developed by the World Customs Organization and comprises codes that are used to classify and define internationally traded goods.

In most cases, in order to import or export a product internationally, the traded good must be assigned an HTS code that corresponds with the Harmonized Tariff Schedule of the country of import. In contrast, commodity codes in the commodity master are more company-specific, but it is possible to link commodity codes to HTS codes, which may be required in other business processes.

Related Information

[Uploading HTS Data \[page 11\]](#)

[Assigning HTS Codes to Commodities \[page 12\]](#)

2.1.2.1 Uploading HTS Data

Before you can assign Harmonized Tariff Schedule (HTS) codes to commodities in order to categorize them in accordance with international rules, you first need to upload a Microsoft Excel file containing these codes.

Prerequisites

You have prepared a Microsoft Excel file with HTS codes. You can download the template by choosing [Download Excel Template](#) on the initial screen of the [HTS Data Upload](#) application.

Procedure

1. In your SAP Fiori launchpad, open the [HTS Data Upload](#) app.
2. In the [Import HTS Data](#) step, choose [Browse](#).
3. Select the Microsoft Excel file containing the HTS codes.
4. Choose [Upload](#).
5. Choose [Next](#).
6. Choose [Save HTS Data](#).

Results

The HTS data is uploaded to the system and the HTS codes can be assigned to commodities.

Related Information

[Harmonized Tariff Schedule \[page 10\]](#)

2.1.2.2 Assigning HTS Codes to Commodities

Trade goods that are imported or exported internationally must be assigned a Harmonized Tariff Schedule (HTS) code that corresponds with the HTS of the country of import. For this reason, you need to assign an HTS code to the commodity in the commodity master.

Prerequisites

In your SAP Fiori launchpad, the HTS codes have been uploaded to the system using the [HTS Data Upload](#) app.

Procedure

1. In your SAP Fiori launchpad, open the [Change Commodity Master](#) app, and then open the relevant commodity.
2. Go to the [HTS Tab](#) and choose [Insert](#).
3. Specify the HTS code.
4. Save your entries.

Results

The HTS code is assigned to the commodity.

Related Information

[Harmonized Tariff Schedule \[page 10\]](#)

[Uploading HTS Data \[page 11\]](#)

2.1.3 UN Numbers

UN numbers are four-digit numbers that identify dangerous goods, hazardous substances, and articles (such as explosives, flammable liquids, toxic substances, and so on) in the framework of international transport. UN

numbers can be assigned for classification of commodity codes that are relevant to dangerous goods according to international rules.

Related Information

[Assigning UN Numbers to Commodities \[page 13\]](#)

2.1.3.1 Assigning UN Numbers to Commodities

To classify commodities that are relevant to dangerous goods according to international rules, assign UN numbers to such commodities.

Prerequisites

The dangerous and hazardous (DnH) codes for the commodity have been defined in Customizing for *SAP Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Commodity Master* ► *Define DnH Code* ►

Procedure

1. In your SAP Fiori launchpad, in the *Master Data* group, open the *Change Commodity Master* app, and then open the relevant commodity.
2. Go to the *UN Number* tab and choose *Insert*.
3. Specify the UN code.
4. Save the commodity.

Results

The UN number is assigned to the commodity.

Related Information

[UN Numbers \[page 12\]](#)

2.1.4 Adding Commodity Long Descriptions

In the commodity master, enter a long description to describe the relevant commodity in detail.

Prerequisites

The text schema has been defined in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Dependent Object Text Collection* ► *Maintain Text Schema* ►.

Context

For example, two different commodities could have the same short description because they are very similar. In this case, you can add a long description to specify details and differences. Furthermore, you can also add a long description with a validity in the future (that is, a long description that applies only as of a specific date).

Procedure

1. In your SAP Fiori launchpad, open the *Change Commodity Master* app, and then open the relevant commodity.
2. Go to the *Long Description* tab and choose *Insert*.
3. Select the text type and language.
4. Enter your content.
5. Specify the validity.
6. Save your description.

Results

The long description is saved in the commodity master.

Related Information

[Adding Commodity Long Descriptions \[page 14\]](#)

2.1.5 Adding Attachments to Commodities

In the commodity master, attach files or links that are relevant to the commodity.

Context

For example, you may want to attach scanned certificates, permissions, and so on. Alternatively, you can also add links to such documents.

Procedure

1. In your SAP Fiori launchpad, open the *Change Commodity Master* app, and then open the relevant commodity.
2. Choose the *Attachments* tab.
3. Choose *Insert File*.

i Note

To attach a link, choose ► *Insert* ► *Link* ► and enter the URL and a description.

4. Select the attachment type.
5. Enter a description.
6. Choose *Next*.
7. Browse and select the content.
8. Choose *OK*.
9. Save the commodity master.

Results

The attachment is saved in the commodity master.

Next Steps

i Note

You can also group attached documents into folders according to business meaning. To do this, choose ► *Insert* ► *Folder* ► and move the relevant attachments into the folder.

2.1.6 Commodity Output Management

Output management enables you to print, fax, and e-mail commodity information. You can also execute application-to-application or business-to-business actions.

Related Information

For more information about the standard Transportation Management functionality for output management, see the product assistance for Transportation Management in your SAP S/4HANA release on SAP Help Portal at https://help.sap.com/s4hana_op. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management (TM)* ► *Basic Functions* ► *Output Management* ► or search for **Output Management**.

2.1.7 Commodity Hierarchy

A commodity hierarchy allows you to logically group commodities with similar properties in a hierarchical manner. At each commodity level, the commodities are mutually exclusive.

It also allows you to set parameters not only for one commodity but for all child commodities. For example, if a validity period is maintained for one commodity, it is updated for all dependent commodities.

Related Information

[Maintaining Commodity Hierarchies \[page 16\]](#)

2.1.7.1 Maintaining Commodity Hierarchies

Maintain a commodity hierarchy to logically group commodities with similar properties.

Prerequisites

The commodity hierarchy settings have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Commodity Master* ► *Maintain Hierarchy Header* ►.

Procedure

1. In your SAP Fiori launchpad, open the [Maintain Commodity Hierarchy](#) app.
2. In the hierarchical tree, select the commodity in the tree.
3. Choose [Add at Level Below](#) or [Add at Same Level](#).
4. Specify the commodity code.
5. Choose [Check for Consistency and Add](#).
6. Add as many commodities as you wish.
7. You can perform from the following functions when organizing the hierarchy:

Function	Description
Remove	Removes the selected commodity with any underlying children from the hierarchy
Show Commodity Details	Displays the details for the selected commodity
Move	Moves the selected commodity together with any existing children to a different location in the hierarchy
Up	Moves the selected commodity together with any existing children up one level in the hierarchy
Down	Moves the selected commodity together with any existing children down one level in the hierarchy

8. Save your data.

Results

You have created the commodity hierarchy.

Related Information

[Commodity Hierarchy \[page 16\]](#)

2.1.7.2 Displaying Commodity Hierarchies

Search and display the existing commodity hierarchy.

Procedure

1. In your SAP Fiori launchpad, open the [Display Commodity Hierarchy](#) app.
If commodities have been maintained, then the whole commodity hierarchy is displayed.
2. To search for commodities, enter values in one or more of the following fields:
 - [Commodity Code](#)
 - [Description](#)
 - [Cargo Type](#)
 - [Cargo Type ID](#)
3. Choose Go.
The commodity hierarchy is displayed.

2.2 Partner and Location Profiles

A partner and location profile (PLP) enables master data objects (such as business partner, location, and country) in the system to be enhanced with additional attributes.

There are three main types of PLP, which are also referred to as master data (MD) profiles:

- Business partner
- Location
- Country

For each of the above PLP types, there also exists a respective template profile, as listed below:

- Business partner template
- Location template
- Country template

The template profiles are not linked to the real master data object in the system. They can therefore be reused for creating new MD profiles, thus saving time to enter data all over again.

Related Information

[Tabs in Partner and Location Profiles \[page 19\]](#)

[Creating Partner and Location Profiles \[page 24\]](#)

2.2.1 Tabs in Partner and Location Profiles

A set of tabs is used in a partner and location profile (PLP) to display additional information for the master data object. Depending on the type of PLP, the set of tabs displayed in the PLP can vary.

The relevance of a particular tab to the corresponding PLP type can be defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Partner and Location Profile* ► *Define UI Content Options* . The relevance can be specified for each tab even at the level of *Business Partner Party Role Code* and *Location Type* for the Business Partner and *Location* PLP types accordingly.

Related Information

[Content Discrepancies on PLP Tabs \[page 19\]](#)

2.2.1.1 Content Discrepancies on PLP Tabs

In the partner and location profile (PLP), the content on the various tabs can vary depending on the type of PLP (Business Partner, Location, and Country) and whether the PLP is a master data (MD) or template profile.

The following table contains an overview of the discrepancies:

Tab	PLP Type	Visible Content Based on PLP Type
General	Template profiles only	<i>Template Description</i> field
	MD profiles only	<i>Master Data</i> section
Agency	Location with location type Berth	Not applicable
	Business partner (MD and template)	<i>E-Signature File Name</i> field
	Business partner (MD and template)	<i>Edit Link</i> button
	Business partner and location (MD and template)	<i>Empty Repositioning Approval Threshold</i> section
Documentation	Location (MD and template)	Not applicable
	Country (MD and template)	<i>Commodity Codes Exempted from Customs Clearance</i> table
	Business partner and country (MD and template)	<i>DO Generation Rule</i> table
	Business partner (MD only)	<i>Manifest Profile Assignment</i> table

Tab	PLP Type	Visible Content Based on PLP Type
	Country (MD and template)	<i>Customs Clearance Required</i> field
	Country (MD and template)	<i>Include Prepaid Charges</i> field
	Country (MD and template)	<i>Include Collect Charges</i> field
	Country (MD and template)	<i>Include DDSM Export Charges</i> field
	Country (MD and template)	<i>Include DDSM Import Charges</i> field
	Country (MD and template)	<i>Ignore Discharge Move</i> field
	Country (MD and template)	<i>Check only Local Place of Payment</i> field
	Business partner (MD and template)	<i>Draft B/L Not Required</i> field
	Business partner (MD and template)	<i>Automatic Approval Period (h)</i>
	Business partner (MD and template)	<i>Badge Code Provided</i> field
	Business partner (MD and template)	<i>Badge Code</i> table
	Location with location type Berth	Not applicable
	Location and country (MD and template)	<i>No Show Fee on Booking Cancellation</i> table
Booking	Business partner and country (MD and template)	<i>Number Range</i> table
	Business partner and country (MD and template)	<i>Reconfirmation Information</i> section
	Location (MD and template)	<i>Allowed as Part-Load Destination</i> field
	Location and country (MD and template)	<i>Dynamic Attributes Profile</i> field
	Country (MD and template)	<i>DDSM Auto Rating</i> section
	Country (MD and template)	<i>Evaluate Conditions at Receiver</i> field
	Country (MD and template)	<i>Default Business Partner Role</i> field
	Business partner and country (MD and template)	<i>Temperature</i> field
	Business partner and country (MD and template)	<i>Vent Open</i> field

Tab	PLP Type	Visible Content Based on PLP Type
	Business partner and country (MD and template)	Reconfirmation Required field
	Business partner and country (MD and template)	General Information section
	Business partner (MD and template)	ETA Tolerance Period field
	Country (MD and template)	Distribution Profile field
Charge Calculation	Location with location type Berth	Not applicable
	Business partner (MD and template)	General table
	Business partner (MD and template)	Place of Payment field
	Business partner and location (MD and template)	Invoicing Data section
	Location (MD and template)	Authorized Place of Payment field
Output Management	Business partner and country (MD and template)	Output Channels table
	Business partner (MD and template)	Contact Person for Primary Channel field
	Business partner (MD and template)	Recipient for Primary Channel field
	Business partner (MD and template)	Fax for Primary Channel field
	Business partner (MD and template)	E-Mail Address for Primary Channel field
	Business partner (MD and template)	Contact Person for Backup field
	Business partner (MD and template)	Recipient for Backup Channel field
	Business partner (MD and template)	Fax for Backup Channel field
	Business partner (MD and template)	E-Mail Address for Backup Channel field
	Country (MD and template)	Document/BP Role Assignment table
Berth	Location with location type Berth	Berth Draft field
	Location with location type Berth	Berth Length field
Attachment	Business partner, location, and country (MD and template)	Attachment table

Tab	PLP Type	Visible Content Based on PLP Type
Manifest	Location and country (MD and template) with exception of location type Berth	Business Partners section
	Location and country (MD and template) with exception of location type Berth	Additional Location Characteristics section
	Location and country (MD and template) with exception of location type Berth	Location Groupings section
	Location and country (MD and template) with exception of location type Berth	Short Sea When Coming From section
	Location and country (MD and template) with exception of location type Berth	Short/Deep Sea Exceptions section
NVOCC	Business partner and country (MD and template)	Information and Automation with Customs section
Shipper/Consignee	Business partner (consignee and shipper functions only) and country (MD and template)	Shipper Information section
	Business partner (consignee and shipper functions only) and country (MD and template)	Consignee Information section
	Business partner (consignee and shipper functions only) and country (MD and template)	Empty Release Order Validity section
	Business partner (consignee and shipper functions only) and country (MD and template)	Preferred Vendors section
	Business partner (consignee and shipper functions only) and country (MD and template)	Restricted Vendors section
Storage Capacity	Location and country (MD and template) with exception of location type Berth	Container Yard Information section

Tab	PLP Type	Visible Content Based on PLP Type
	Location and country (MD and template) with exception of location type Berth	Container Storage Capacity section
Terminal	Location (MD for location type Terminal only), location (Template), and country (MD and template)	Cutoffs section
	Location (MD for location type Terminal only), location (Template), and country (MD and template)	Procured Service Cutoffs section
	Location (MD for location type Terminal only), location (Template), and country (MD and template)	Terminal Characteristics section
	Location (MD for location type Terminal only), location (Template), and country (MD and template)	Documentation section
	Location (MD for location type Terminal only), location (Template), and country (MD and template)	Publish Load/Discharge List section
TSP	Business partner (MD) and country (MD and template)	Transport Order Information section
	Business partner (MD) and country (MD and template)	Matchback Information section
Vessel	Location and country (MD and template) with exception of location type Berth	Services section
	Location and country (MD and template) with exception of location type Berth	Location Details section

2.2.2 Brand-Specific Data in Partner and Location Profiles

A brand is a trade name used by an organization to uniquely identify a maritime freight product or a service. Certain data in a partner and location profile (PLP) is brand-specific.

Brand-specific information is logically grouped into tables on the user interface where the [Brand ID](#) field is mandatory and a unique parameter. When maintaining this information in a PLP, you can use only those brand IDs that have been defined in the maintenance view /TMCSL/V_BRAND (using transaction SM30).

2.2.3 Approval-Relevant Fields in Partner and Location Profiles

Certain fields in a partner and location profile (PLP) must not be changed by nonauthorized users without additional approval. These fields are referred to as approval-relevant fields (ARFs) and are defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Partner and Location Profile* ► *Define Approval-Relevant Fields* ►.

If the Business Add-In (BAI) PLP Approval-Relevant Fields is activated, then it is triggered when a nonauthorized user changes an ARF and saves the change. This BAI has information about the ARF (such as old and new values), and is implemented to determine the further workflow.

If the Business Add-In (BAI) PLP Approval-Relevant Fields is not activated, then it is not triggered when a nonauthorized user changes an ARF and saves the change. The changed ARF values are subsequently restored to their old values and a warning message is displayed to state that approval-relevant fields cannot be changed.

When an authorized user changes an ARF and saves the change, the determination and BAI are skipped and the change can be saved successfully.

For more information about this BAI, see the associated Customizing documentation in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Business Add-Ins (BAIs)* ► *Master Data* ► *Partner and Location Profile* ► *BAI: PLP Approval-Relevant Fields* ►.

2.2.4 Creating Partner and Location Profiles

Create a new partner and location profile (PLP) for a particular master data object.

Prerequisites

In Customizing for *Transportation Management* under *Container Shipping Liners* the following activities have been completed:

- The number range intervals for PLP have been defined in ► *Basic Settings* ► *Partner and Location Profile* ► *Define PLP Number Range Intervals* ►.
- The PLP types have been assigned to the number range intervals in ► *Basic Settings* ► *Partner and Location Profile* ► *Assign PLP Types to Number Range Interval* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Create Partner/Location Profile* app.
2. On the initial screen, maintain the following details:

- **PLP Type**: Select the PLP type that you want to use to create a new profile.
 - **Master Data ID**: This can be the **Business Partner**, **Location**, or **Country** field, depending on the PLP type selected.
 - **Template**: Select this checkbox if you want to create a template profile. Note: If you select this checkbox, the previous field for the master data ID is grayed out and not required.
 - **Existing Profile**: Select an existing MD profile in the system to copy all relevant data from it to the newly created profile.
 - **Profile Template**: Select an existing template profile in the system to copy all relevant data from it to the newly created one.
3. Choose **Continue**.
 4. Maintain a description for the profile on the **General** tab.
 5. Save your entries.

Results

You have created the partner and location profile.

Related Information

[Changing Partner and Location Profiles \[page 25\]](#)
[Copying Partner and Location Profiles \[page 26\]](#)
[Deactivating Partner and Location Profiles \[page 27\]](#)
[Deleting Partner and Location Profiles \[page 28\]](#)
[Uploading Data to PLP Tables \[page 30\]](#)

2.2.5 Changing Partner and Location Profiles

Change an existing partner and location profile (PLP) to update the settings for this profile.

Prerequisites

The PLP that you want to change exists.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile you want to change and choose [Continue](#).
3. Change or update the relevant data.
4. Save your changes.

Results

You have updated the relevant partner and location profile.

Related Information

[Copying Partner and Location Profiles \[page 26\]](#)

[Deactivating Partner and Location Profiles \[page 27\]](#)

[Deleting Partner and Location Profiles \[page 28\]](#)

[Uploading Data to PLP Tables \[page 30\]](#)

2.2.6 Copying Partner and Location Profiles

Create a new partner and location profile (PLP) by copying an existing one from the profile's maintenance screen.

Prerequisites

The PLP to be copied exists in the system.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile to be copied and choose [Continue](#).
3. Choose [Copy](#) or [Copy as Template](#) in the toolbar of the maintenance transaction.
 - If you choose [Copy](#), specify a new master data object ID in the dialog box that opens and then confirm.
 - If you choose [Copy as Template](#), a master data object ID is not required, and you only need to confirm the dialog box that opens. A new window containing the newly created profile opens.

4. Make any required changes and save your entries.

Results

You have created a new PLP by copying an existing one.

Related Information

[Changing Partner and Location Profiles \[page 25\]](#)

[Deactivating Partner and Location Profiles \[page 27\]](#)

[Deleting Partner and Location Profiles \[page 28\]](#)

[Uploading Data to PLP Tables \[page 30\]](#)

2.2.7 Deactivating Partner and Location Profiles

Deactivate an existing partner and location profile (PLP) if it is no longer relevant. A deactivated profile is no longer editable and can subsequently be reactivated or deleted.

Prerequisites

The PLP to be deactivated exists in the system.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile to be deactivated and choose [Continue](#).
3. Choose [Deactivate](#) in the toolbar of the maintenance transaction.
4. Confirm the dialog box that opens.

Results

You have deactivated the partner and location profile.

Related Information

[Reactivating Partner and Location Profiles \[page 28\]](#)

[Deleting Partner and Location Profiles \[page 28\]](#)

2.2.8 Reactivating Partner and Location Profiles

Reactivate a partner and location profile (PLP) to allow further changes to be made to it.

Prerequisites

The PLP to be reactivated exists in the system and is currently deactivated.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile to be reactivated and choose [Continue](#).
3. Choose [Reactivate](#) in the toolbar of the maintenance transaction.
4. Confirm the dialog box that opens.

Results

You have reactivated the partner and location profile.

2.2.9 Deleting Partner and Location Profiles

Delete a partner and location profile (PLP) that has been deactivated to completely remove the profile from the system. Note that the deletion process is **not reversible**.

Prerequisites

The PLP to be deleted exists in the system and is currently deactivated.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile to be deleted and choose [Continue](#).
3. Choose [Delete](#) in the toolbar of the maintenance transaction.
4. Confirm the dialog box that opens.

Results

The partner and location profile is completely removed from the system.

2.2.10 Performing Mass Update of Partner Location Profiles

Perform a mass update of partner and location profiles (PLPs) if you need to update profiles with the same information based on common selection criteria.

Prerequisites

The PLPs to be updated exist in the system.

Procedure

1. Start transaction `MASSD` in the system.
2. In the [Object Type field](#), select [PLP](#).
3. Specify the selection criteria for retrieving a target set of PLPs.

i Note

To avoid performance issues, select at least one attribute of the [ROOT](#) level.

4. Specify the components and attributes to be maintained or changed.

i Note

The list of attributes available is restricted to a set of change-relevant fields.

5. Choose [Select](#).
6. In the dialog box that opens, choose one of the following options:

- [Set Fixed Value](#) if you want to set the same value in the relevant field for all the selected profiles.
 - [Set Values Manually](#) if you want to set different values in the relevant field for all the selected profiles, and maintain the new values directly in the list
7. Make the necessary changes for the maintainable fields.
 8. Save your entries.

Results

The selected PLPs are updated with the newly maintained values.

2.2.11 Uploading Data to PLP Tables

To update an existing partner and location profile (PLP) with external data, upload a CSV file directly into the PLP. You can do this only for editable tables for which the [Upload](#) button appears in the local toolbar.

Prerequisites

- CSV files with required formats, names, and valid content have been prepared.

i Note

The source files with proper formats and required names can be generated from report /TMCSL/PLP_BO_DATA_UPLOAD upon selection of the [Download Template](#) radio button. You use transaction SE38 to run the report /TMCSL/PLP_BO_DATA_UPLOAD.

- The profiles to be updated exist in the system.

Procedure

1. In your SAP Fiori launchpad, open the [Change Partner/Location Profile](#) app.
2. Specify the profile ID of the profile to which you want to update data and choose [Continue](#).
3. Find the relevant table for which the [Upload](#) button is visible and then choose the button.
4. In the dialog box that opens, select a source file.
5. For adding the data, select the relevant option from the following:
 - [Replace Existing Data](#): Upon choosing this option, the existing information is replaced with the new data from the source file.
 - [Add to Existing Data](#): Upon choosing this option, the existing information is retained and enriched with the new data from the source file.

6. Confirm the dialog box.
7. Save your entries.

Results

The data is uploaded from the CSV file into the PLP.

2.2.12 Uploading Mass Data to Partner and Location Profiles

Upload mass data from CSV files into multiple partner and location profiles (PLPs) to replace or enrich the existing data in these profiles.

Prerequisites

- CSV files with required formats, names, and valid content have been prepared.

i Note

The source files with proper formats and required names can be generated from report /TMCSL/PLP_BO_DATA_UPLOAD upon selection of the [Download Template](#) radio button.

- The profiles to be updated exist in the system.

Procedure

1. Start transaction /TMCSL/PLP_UPLD and select a folder directory where all source files are located.
2. Select the data format used in the files:
 - [Comma Separated](#)
 - [Semicolon Separated](#)
By default, values in CSV files are separated by a semicolon (;).
3. For adding data, select the relevant radio button for adding data:
 - [Replace Existing Data](#): Upon choosing this option, the existing information is replaced with the new data from the source file.
 - [Add to Existing Data](#): Upon choosing this option, the existing information is retained and enriched with the new data from the source file.
4. Execute the report.

Results

The mass data is uploaded from the CSV files into the PLPs.

2.2.13 POWL for Partner and Location Profiles

The Personal Object Worklist (POWL) for the partner and location profile (PLP) can be found in the [Partner/Location Profile Worklist](#) in your SAP Fiori launchpad.

For the ease of working with profiles, the result set of the POWL for PLP inherits all the actions available in the toolbars on the maintenance screen. The result set is also enriched with useful additional attributes such as location type, location type description, and so on.

2.2.14 APIs for Partner and Location Profiles

For providing access to partner and location profile (PLP) data, a set of Application Programming Interfaces (APIs) has been provided within the class `/TMCSL/CL_PLP_API`. The following table contains a list of the available APIs.

API	Description
CREATE	Creates new PLPs
READ	Reads existing PLPs
UPDATE	Updates existing PLPs
DELETE	Deletes existing PLPs
COPY	Copies existing PLPs into new master data profiles
COPY AS TEMPLATE	Copies existing PLPs into new template profiles
DEACTIVATE	Deactivates existing PLPs
REACTIVATE	Reactivates existing PLPs
PROFILE_DETERMINATION	Composes a combined profile for the specified consumer and its business document number

2.3 Service Product Catalog for Container Shipping Liners

The service product catalog for container shipping liners (CSL) contains all of the service products for a particular trade lane and carrier. The product manager uses a service product catalog to capture the routes and supplemental services that are made available to the customer.

The service product catalog for CSL is based on the standard service product catalog solution in Transportation Management (TM).

You can perform the following tasks in the product catalog:

- Create service products
You can create service products using the [Create Service Product - CSL](#) app or the [Service Product Worklist](#).
- Edit service products
You can edit existing service products in the [Edit Service Product - CSL](#) app or in the [Service Product Worklist](#).
- Assign routes manually or automatically to a service product
A service product must have at least one assigned route. The service product catalog for CSL calls the route generator application programming interface (API) to get all possible valid routes between a source and destination location for a service product.
- Add services such as the following to the service product:
 - Insurance
 - Fumigation
 - Packing and labelling
 - Chemical preservation
 - Document check
 - Controlled atmosphere service
 - Container service charge
 - Security escort
 - Cargo stuffing
- Specify whether the service product is published on an external portal
- Change the status of a service product
- Set the update status of a service product
- Mass-update service products
You can use the mass-update application to update multiple service products on a single screen.
- View and search for service products in the [Service Product Worklist](#).
The [Service Product Worklist](#) gives an overview of all service products in the system. You can use the [Service Product Worklist](#) to search for service products using different criteria and to perform various operations to selected service products.

Related Information

[Creation of Service Products \[page 33\]](#)

[Service Product Worklist \[page 57\]](#)

[Mass Update \[page 56\]](#)

[Route Assignment \[page 38\]](#)

2.3.1 Creation of Service Products

A service product contains information such as the source and destination locations, validity dates, trade lane, and carrier. Routes are assigned to the service product.

The system supports two types of service products:

- Customized service products
A customized service product is a corridor with only one assigned route.
- Open service products
An open service product is more flexible in that it consists of a corridor (origin-destination combination) with one (or in exceptional cases more) preferred route and one or two alternative routes. The preferred route is the default route for the service product. If the preferred route is not available then one of the alternative routes can be used by the carrier.

i Note

A preferred route may not be available, for example, due to limited capacity or unavailability of the requested containers. The Booking or Forwarding Agreement Quotation application calls the routing solution to check the best available route.

The routes that are assigned to the service product are identified by the route generator application programming interface (API).

You can perform the following tasks when creating a service product:

- Add general data such as validity dates, trade information, and source and destination locations

i Note

There are differences between the standard product catalog functionality in Transportation Management and the service product catalog for container shipping liners (CSL). The service product catalog for CSL provides more generic fields such as trade lane, carrier, source of origin and destination, and movement types. In particular, the following standard fields are not available on the *General Data* tab in the container shipping liners solution:

- *Shipping Type*
- *Calculation Sheet Template*
- *Archiving Status*
- *Sales Organization*
- *Transportation Mode*
- *Traffic Direction*

- Add value-added services as separate items to the service products
You can add different services to the service product (for example, fumigation, insurance, or other value adding services) and then define a stage type for each service. You can also add instructions, commodity codes, and can create a calculation sheet.

i Note

There are differences between the standard product catalog functionality in Transportation Management and the service product catalog for CSL. The service product catalog for CSL is designed only for services, and therefore certain restrictions have been applied. The creation of an agreement in CSL is done through FWAQ process.

In particular, the following restrictions apply on the *Items* tab in the container shipping liners solution:

- You can only create items of type *Service*.
- When you create a service product catalog for CSL, by default only one service product record is created automatically.
- The following functions are disabled:

- Follow Up
- Copy
- Create Forwarding Agreement Quotation

- Copy an existing service product
- Check the consistency and completeness of the service product data
When you save or check a service product, the system performs consistency checks and checks the business rules that are maintained in the Generic Validation Framework (GVF).
- Specify if the service product is to be published
- Assign routes to the service product
- View information (attributes) about the assigned routes
The [Attributes](#) tab displays information about the assigned routes, for example, departure frequency, cargo types, and transshipments.
- Set the update status of the service product
- View reason codes on the [Justification](#) tab
- Add notes and attachments on the [Attachments](#) tab
- View administrative data and any changes made to the service product
You can view changes made to the update status fields ([Update Status](#), [Update Status Date](#), and [Update Status By](#)) on the [Change Documents](#) tab. The changes are listed by date and time. You can view when the service product was last saved and by which user on the [Administrative Data](#) tab.
- Generate e-mails and faxes and see a record of documents that were already printed or sent
On the [Output Management](#) tab, you can print, fax, and e-mail service product information. You can also see a record of the documents that were already printed or sent (by e-mail or fax, for example).

Related Information

[Creating Service Products \[page 36\]](#)

[Route Generator API for Product Catalog \[page 65\]](#)

[Publication Status \[page 53\]](#)

[Route Assignment \[page 38\]](#)

[Attributes \[page 44\]](#)

[Update Status \[page 54\]](#)

[Justification \[page 49\]](#)

2.3.1.1 Creating Service Products

Create a service product to capture the details of routes that you offer to customers.

Prerequisites

- An open service product with the same source and destination location in the same validity period does not exist in the system.
- A customized service product with the same route that has the same stages in the same validity period does not exist in the system.
- Forwarding agreements (FWAs) and service product catalog types have been defined in Customizing for *Transportation Management* under ► *Master Data* ► *Agreements and Service Products* ► *Define FWA and Service Product Catalog Types* ►.
- FWAs and service product item types have been defined in Customizing for *Transportation Management* under ► *Master Data* ► *Agreements and Service Products* ► *Define FWA and Service Product Item Types* ►.
- Default route types have been defined in Customizing for *Transportation Management* under ► *Master Data* ► *Transportation Network* ► *Define Default Route Types* ►.
- General settings have been defined for service products in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define General Settings for Service Product* ►.
- Justification use cases and reason codes have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Justification Use Cases and Reason Codes* ►.
- Service product update statuses have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Service Product Update Statuses* ►.
- Movement types and location types have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Movement Types and Location Types* ►.
- The impact of changes on service product attributes has been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Impact of Changes on Service Product Attributes* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Create Service Product - CSL* app.

The system initially sets the status of the service product to *Draft* and the service product type to *Open*, which you can change, if needed. The *Service Product ID* field is a read-only field that contains a temporary number assigned by the system. A permanent number is assigned by the system after you save the service product.

2. On the [General Data](#) tab, enter general data about the service product such as transportation network information and the validity period. The following fields must be completed before a route can be assigned to the service product:

- Service Product Type
- Carrier
- Trade Lane
- Movement Type
- Source Location
- Destination Location

After routes have been assigned to the service product, the following fields on the [General Data](#) tab cannot be edited:

- Service Product Type
- Carrier
- Trade Lane
- Movement Type
- Source Location
- Destination Location

3. If you want the service product to be published, select the [Publication](#) checkbox on the [Publicity](#) screen area of the [General Data](#) tab.

If you select the [Publication](#) checkbox, you must specify the publication dates and publication type.

4. (Optional) On the [General Data](#) tab, add services to the service product on the [Item](#) screen area.

You can also define a stage type for each service, and add a calculation sheet, preconditions, notes, and instructions to the service product.

5. On the [Attributes](#) tab, assign at least one of the carrier's brands by selecting the [Selection](#) checkbox for each relevant brand on the [Brands](#) table.
6. On the [Routes](#) tab, generate and assign routes manually or allow the system to automatically generate and assign the routes.

The system assigns the routes and displays the assigned route information on the [Assigned Routes](#) table and on the [Attributes](#) tab.

7. (Optional) Deselect any cargo types on the [Attributes](#) tab that you do not need for the service product.
8. (Optional) On the [Notes](#) and [Attachments](#) tabs, add extra information about the service product in the form of text files or attached files.
9. (Optional) Set the status of the service product by choosing [Set Status](#).

i Note

If you change the status to [Ready for Approval](#), you must specify a reason code.

10. (Optional) Check the consistency of the data in the service product at any time by choosing [Check](#).

The system performs the consistency checks and checks the business rules that are maintained in the Generic Validation Framework (GVF).

11. Save the service product.

The system performs the consistency checks and checks the business rules that are maintained in the Generic Validation Framework (GVF). If the checks are passed, the system saves the service product and assigns an ID to the service product.

Related Information

[Creation of Service Products \[page 33\]](#)

[Route Assignment \[page 38\]](#)

[Attributes \[page 44\]](#)

[Service Product Status \[page 49\]](#)

[Justification \[page 49\]](#)

2.3.1.2 Route Assignment

Routes are assigned to service products for container shipping liners after the required general data has been entered. A service product for container shipping liners must have at least one assigned route.

Usually, the route with the highest rank (according to the business rules maintained in the ranking framework) is assigned as the preferred route; however, you can also assign a route with a lower ranking as the preferred route. If you assign a lower ranking route as the preferred route, you must specify a reason code.

The [Routes](#) tab contains information about the assigned and proposed routes for the service product.

You can perform the following tasks on the [Routes](#) tab:

- Generate a list of proposed routes for the service product
The route generator application programming interface (API) searches for all possible routes based on schedules between the source and destination locations that you specified on the [General Data](#) tab. The route generator then returns route proposals with stages relevant for the particular route. The list of route proposals is ranked, and you can view the assigned rank for the route in the [Rank](#) field on the [Proposed Routes](#) table. The rank for each route is provided by route generator. If any route proposals are considered relevant for the connecting manifest case, an additional aggregation level is provided by the system. For more information on the connecting manifest, see [Connecting Manifest Consideration \[page 39\]](#). Note that the system does not save information about route proposals.
- Manually assign routes to the service product
After the system generates the proposed routes, you can manually assign the routes to the service product. You can assign one (or in exceptional cases more) preferred route and one or two alternative routes to an **open** service product. For example, you request a route for a full year (January to December) and the system proposes two routes, each with a validity of six months (first route January to June, second route July to December). In this case, you can assign both of the routes as a preferred route. You assign only one route to a **customized** service product.

i Note

To ensure duplicate routes are not assigned to service products, the system prevents you from manually adding proposed routes that have already been added to the service product.

- Automatically assign routes to the service product
You can allow the system to automatically generate and assign the routes in one step. In this case, the system assigns the highest-ranking route to the service product.
- Change the assignment type of assigned routes of open service products (for example, from an alternative route to a preferred route).
- View if a route has been manually or automatically assigned to the service product
If a route has been manually assigned, the [Manual Assignment](#) checkbox is selected on the [Assigned Routes](#) table.
- Delete an assigned or proposed route
- View the attributes of the assigned preferred route or routes on the [Attributes](#) tab
- View the status of assigned and proposed routes

Route Status

Assigned and proposed routes are displayed on the [Routes](#) tab of the service product application. The status of each route is indicated through the use traffic lights, which are described in the table below:

Traffic Light Color	Route Status
Green	The route is valid for 30 days or more.
Yellow	The route is valid for less than 30 days.
Red	The route is invalid and the validity period is out of date.

Connecting Manifest Consideration

An additional aggregation level is provided for route proposals that are returned by the route generator and are considered as relevant for the connecting manifest case.

The following logic is executed after the system calls the route generator and before the proposed routes are displayed on the [Routes](#) tab: If the proposals have stages that are marked by the route generator as relevant for the connecting manifest case, they are merged into one stage and the route transit time is summed.

Related Information

[Assigning Routes Manually \[page 41\]](#)

[Assigning Routes Automatically \[page 43\]](#)

[Creation of Service Products \[page 33\]](#)

[Creating Service Products \[page 36\]](#)

[Route Generator API for Product Catalog \[page 65\]](#)

2.3.1.2.1 Route Assignment Period Determination

The assignment period of routes is determined by the system based on the route validity dates, the service product validity dates, and the current date. You can also manually change assignment period.

The route assignment period is the *Assigned From* and *Assigned To* dates on the *Assigned Routes* table.

The following values are taken into account when the system determines the assignment period of the proposed routes:

- Current date
- Validity dates of the service product
The service product validity dates are the *Valid From* and *Valid To* dates on the *General Data* tab.
- Route validity dates
The route validity dates are *Valid From* and *Valid To* dates on the *Assigned Routes* table.
- Service product type
An assignment period is required for open service products, while customized service products do not require an assignment period.
- Number of preferred routes (in open service products)
Open service products must have at least one preferred route, with an assignment period that is valid for at least six months.

The system takes the following rules into account when determining the assignment period of the routes:

- All service products (customized and open):
 - A service product must have at least one preferred route with an assignment period that is dated six months or more from the current date
For example, if the current date is 01-Jan and the *Assigned From* date is 01-Jan, then the *Assigned To* date must be later than or equal to 30-June. If the service product validity period is less than six months, the assignment period must be within all the service product validity periods (that is, the service product validity dates, the route validity dates of each assigned route, and the route assignment period). This rule is based on the current date. An exception to this rule is if the *Valid From* date of the service product is in the future, then this date is used as the start date of the six-month duration.
- Open service products:
 - In open service products, the service product validity dates can exceed the route validity dates of the preferred or alternative assigned routes.
 - In an open service product, the *Assigned To* date of the route date cannot exceed the *Valid To* date of the route.
 - If an open service product has more than one preferred route, the assignment periods cannot overlap for preferred routes that have the same departure weekday.
 - In an open service product, the assignment periods cannot overlap for an *Alternative 1* route and an *Alternative 2* route.
In the service product catalog, the system proposes two additional or alternate routes, which are called *Alternative 1* and *Alternative 2* routes. You can select any one of the routes.
- Customized service products:
 - In customized service products, the service product validity dates cannot exceed the route validity dates of the assigned route.
 - After manual or automatic assignment of a route to a customized service product, the system automatically changes the route validity dates to match the service product validity dates.

Related Information

[Route Assignment \[page 38\]](#)

[Justification \[page 49\]](#)

[Attributes \[page 44\]](#)

2.3.1.2.2 Assigning Routes Manually

Assign routes manually to the service product if you do not want the system to automatically assign the highest-ranking route as the preferred route for the service product. For example, in an open service product, you may want to assign more than one route as the preferred route.

Prerequisites

Reason codes and use cases have been defined in Customizing for *Transportation Management* under [► Container Shipping Liners ► Basic Settings ► Product Catalog ► Define Justification Use Cases and Reason Codes ►](#)

Context

In an open service product, several routes can be assigned as preferred routes if they have different departure weekdays.

Note

To ensure duplicate routes are not assigned to service products, the system prevents you from manually adding proposed routes that have already been added to the service product.

Procedure

1. In your SAP Fiori launchpad, open the [Create Service Product - CSL](#) app.
2. Complete the mandatory fields on the [General Data](#) tab.
3. On the [Routes](#) tab, generate the proposed routes by choosing [► Routes ► Generate ►](#) on the [Assigned Routes](#) toolbar.

The route generator application programming interface (API) searches for routes and displays a list of proposed routes and stages that are sorted by rank in the [Proposed Routes](#) table. You can view the stages for each proposed route by expanding the routes node.

4. Assign the routes to the service product.

Depending on whether the service product type is open or customized, you assign the routes as follows:

Service Product Type	Steps to Assign a Route
Open	1. In the <i>Proposed Routes</i> table, select the preferred route for the service product. 2. On the <i>Proposed Routes</i> toolbar, choose ► <i>Assign As Preferred</i> ▾. i Note All possible routes are sorted by rank in descending order in the <i>Proposed Routes</i> table. If you select a route that is not ranked highest as a preferred route, you must specify a reason code. 3. In the <i>Reason</i> dialog box, specify the relevant reason code. The system adds the route to the <i>Assigned Routes</i> table. 4. Assign an alternative route for the service product by selecting a route in the <i>Proposed Routes</i> table and choosing <i>Assign As</i> in the <i>Routes</i> toolbar. The system adds the alternative route to the <i>Assigned Routes</i> table.
Customized	1. In the <i>Proposed Routes</i> table, select the preferred route for the service product. 2. On the <i>Proposed Routes</i> toolbar, choose <i>Assign</i>. The system adds the route to the <i>Assigned Routes</i> table.

5. (Optional) Change the default assignment periods for the assigned routes by changing the dates in the *Assigned From* and *Assigned To* fields on the *Assigned Routes* table.
6. (Optional) Delete routes that you do not need from the list of assigned routes.
7. (Optional) Change the assignment type of assigned routes in open service products by selecting the assigned route and choosing *Change Type To* on the *Proposed Routes* toolbar.

i Note

If you change the assignment type to *Preferred*, you must specify a reason code.

Results

Routes are assigned to the service product. The route attributes are displayed on the *Attributes* tab. Any reason codes entered during the assignment process are displayed on the *Justification* tab.

Related Information

[Assigning Routes Automatically \[page 43\]](#)

[Route Assignment \[page 38\]](#)

[Route Generator API for Product Catalog \[page 65\]](#)

2.3.1.2.3 Assigning Routes Automatically

Assign routes automatically when you want the system to assign the highest-ranking route to the service product.

Context

Before automatically assigning routes, the system deletes any routes that were previously assigned to the service product.

The automatic assignment logic for open and customized service products differs as follows:

- Open service product
The system assigns the proposed route with Rank 1 as the preferred route. Proposed routes with ranks 2 and 3 (if such routes were generated) are assigned as Alternative 1 and Alternative 2 respectively.
- Customized service product
The proposed route with Rank 1 is assigned to the service product.

Procedure

1. In your SAP Fiori launchpad, open the [Create Service Product - CSL](#) app.
2. Complete the mandatory fields on the [General Data](#) tab.
3. On the [Routes](#) tab, generate and assign routes to the service product by choosing [Generate and Assign](#) on the [Assigned Routes](#) toolbar.

Route proposals are retrieved by the route generator application programming interface (API) and listed in the [Proposed Routes](#) table. The highest-ranking route is assigned to the service product and is listed in the [Assigned Routes](#) table. The assigned route is marked as assigned in the [Proposed Route](#) table.

4. (Optional) Change the default assignment periods for the assigned routes.
5. (Optional) Delete routes that you do not need from the list of assigned routes.
6. (Optional) Change the assignment type of assigned routes in open service products by selecting the assigned route and choosing [Change Type To](#).

i Note

If you change the assignment type to [Preferred](#), you must specify a reason code.

Results

One or more routes are assigned to the service product. The route attributes are displayed on the [Attributes](#) tab. Any reason codes that you entered during the assignment process are displayed on the [Justification](#) tab.

Related Information

[Assigning Routes Manually \[page 41\]](#)

[Route Assignment \[page 38\]](#)

2.3.1.3 Attributes

The attributes of the service product are information about the routes that are assigned to the service product.

After one or more routes have been assigned to the service product, the [Attributes](#) tab displays information about the assigned routes, for example, departure frequency, cargo types, and transshipments. The system calculates the attributes based on specific rules. The brands that are owned by the carrier are also listed on the [Attributes](#) tab. You can select the brands that must be used for the service product.

i Note

If an open service product type has been assigned more than one preferred route, the fields on the [Attributes](#) tab display aggregated information about the assigned preferred routes. The cargo types attribute is different to the other attributes in that it takes into account the assigned preferred and alternative routes.

Cargo Types

The [Attributes](#) tab also displays which of the following cargo types are supported by the assigned route:

- Out of gauge
- Dangerous goods
- Reefer

i Note

If the service product type is [Open](#), the cargo types attribute takes into account all preferred and alternative routes.

If at least one assigned route supports a cargo type, the checkbox for that cargo type is selected. You can deselect the checkbox for a supported cargo type if you do not need it for the service product.

The system also calculates the following attributes for the assigned preferred route or routes:

Attribute	Description
Transit time	This value is the length of the assigned preferred route in days. If more than one preferred route has been assigned to an open service product, the transit time is the range of days of the assigned preferred routes (for example, 25-30 days).
Transshipments	This value is the number of points between the maritime stages of the assigned preferred route. If more than one preferred route has been assigned to an open service product, the number of transshipments is the range of points between the maritime stages of the assigned preferred routes.
Departure frequency	This value is the frequency of the assigned preferred route. The frequency can be daily, weekly, N times per week, N times per day, every N days, or N times in M days. If more than one preferred route has been assigned to an open service product, the departure frequency is the frequency of all the assigned preferred routes. ❖ Example An open service product has two assigned preferred routes: Route 1 and Route 2. Route 1 departs on Mondays and Route 2 departs on Tuesdays. The departure frequency for this service product is 2 (two) times per week.
Departure days	This value is the days of departure for the route. If more than one preferred route has been assigned to an open service product, the departure days indicate the departure days of all the assigned preferred routes.
Line	This value is the service or services provided in the maritime stage or stages. This field is visible only for customized service products.
Transportation modes for pre-carriage and on-carriage stages	This value is the transportation modes used for the pre-carriage and on-carriage stages of route. If more than one preferred route has been assigned to an open service product, the transportation mode lists all the transportation modes used for the pre-carriage and on-carriage stages of the assigned preferred routes.

Related Information

[Route Assignment \[page 38\]](#)

[Creation of Service Products \[page 33\]](#)

2.3.1.3.1 Calculation Rules for Attributes

The system applies specific rules when calculating the routes attributes in a service product.

After one or more routes have been assigned to the service product, the system calculates the attributes and displays the information on the [Attributes](#) tab.

The system applies the following rules when calculating the attributes:

- Attributes are calculated based on the assigned routes for the current date.
- For open service products, the system takes into account the assignment period of preferred assigned routes (the cargo types attribute also takes the assigned alternative routes into account) when calculating the attributes.
- For customized service products, the system takes into account the validity period of the assigned route when calculating the service product attributes.
- If the service product is not yet valid (for example, the valid-from date is in the future), the attributes are calculated on the valid-from date of the service product.
- If the service product has ended (for example, the valid-to date is in the past) and if the service product has assigned routes with assignment periods that are valid until the end of service product, the attributes are calculated based on the valid-to date of the service product. Otherwise, the attributes are calculated based on the last valid [Assigned To](#) date of the preferred route of the service product.
- If you assign a new route or delete an assigned route from the service product, the system recalculates the attributes.

Related Information

[Attributes \[page 44\]](#)

[Route Assignment \[page 38\]](#)

2.3.1.3.2 Impact of Route Changes on Service Product Attributes

If you make changes to an assigned route in an existing service product, the system checks if the changes affect the service product attributes (for example, if you add a new route that has different departure days).

If the route changes affect the service product attributes, the system displays a dialog box after you save or check the service product. The dialog box displays detailed information about the impact of the changes on the

service product attributes. The information includes a list of the changes and the priority (high, medium, or low) of each change. You can then decide to either proceed with the changes or cancel the process.

Bandwidths can be set for certain attributes (for example, for transshipments, transit time, and departure frequency). The bandwidths can be used as checks to ensure that changes in attributes do not affect the commercial promise of the service product. The bandwidth can be absolute (for example, the number of days) or relative (a percentage change in the value). If the changes to the route results in the attributes exceeding the set bandwidths, a dialog box warns you that the changes exceed the bandwidths (thereby affecting the commercial promise of the service product) and gives you the option to create a new service product. In this case, you can continue with the changes and allow the system to create a new service product, or you can cancel the process.

If you choose to allow the system to create a service product based on the route changes, the following occurs:

- In the existing service product, the new route is removed, a new validity end date is set for the service product, and the publication period is updated with the new validity date.
- A new service product is created in *Draft* status. The new service product has the same key parameters (for example, source and destination locations, carrier, trade lane) as the original service product. The new route is assigned to the new service product.
- The system displays a dialog box, in which you must specify a reason code for the changes. This reason code is saved on the *Justification* tab of the newly created service product.
- The system saves the ID of the original service product (the predecessor ID) in the newly created service product. The ID of the new service product (the successor ID) is saved in the original service product. You can view the successor and predecessor ID on the *General Data* tab.

If the bandwidths are exceeded for the defined attributes, the system also checks that certain conditions are met before it creates a new service product. These conditions are grouped into the following scenarios:

- Current-date case
- Future-date case

You can define the impact of the changes and set the relevant bandwidths in Customizing for *Transportation Management* under **► Container Shipping Liners ► Basic Settings ► Product Catalog ► Define Impact of Changes on Service Product Attributes** .

Related Information

[Route Assignment \[page 38\]](#)

[Date Case Conditions for Impact of Route Changes \[page 48\]](#)

[Justification \[page 49\]](#)

[Attributes \[page 44\]](#)

2.3.1.3.3 Date Case Conditions for Impact of Route Changes

If the bandwidths that have been set for certain service product attributes are exceeded, the system gives you the option to create a new service product.

Before the system creates a new service product, it checks that certain conditions are met. These conditions are grouped into the following scenarios:

- Current-date case
- Future-date case

Current-Date Case

In the current-date case, each of the following conditions must be true before the system creates the new service product:

- The service product type is *Open*.
- The status of the service product is *Approved*.
- The service product validity period (the *Valid From* and *Valid To* dates on the *General Data* tab) is not fully in the future.
- At least one of the following changes was made to the assigned routes:
 - A new preferred route was assigned with the current date.
 - A preferred route with an assignment period that includes the current date was deleted.
 - The assignment period of a preferred route, which initially included the current date, was changed and the new assignment period does not include the current date.
- The difference in the old and new service product attributes on the current date exceeds the bandwidth limits.

Future-Date Case

In the future-date case, each of the following conditions must be true before the system creates the new service product:

- The service product type is *Open*.
- The status of the service product is *Approved*.
- The service product validity period is not fully in the future.
- The service product has only one route and it is the preferred route.
- One new preferred route with the following characteristics was assigned to service product:
 - The route assignment start date is in the future.
 - The route assignment start date is the next day after the assignment end date of the old preferred route.
- The difference in the old and new route attributes exceeds the bandwidths.

Related Information

[Impact of Route Changes on Service Product Attributes \[page 46\]](#)

[Attributes \[page 44\]](#)

[Route Assignment \[page 38\]](#)

[Justification \[page 49\]](#)

2.3.1.4 Justification

For certain scenarios in the service product, you must justify your actions by specifying a reason code before you can complete your actions.

When you perform certain predefined actions to the service product, the system displays a dialog box in which you must specify a reason code and optionally add a description.

The following scenarios require you to enter a reason code:

- If you change a route assignment type to *Preferred*
- If you assign a proposed route that does not have the highest rank as the preferred route
- If you change the service product status to *Ready for Approval* or *Request Discontinuation*
- If you make changes to the routes that will affect the route attributes

You can view the reason codes that were entered for the service product on the *Justification* tab. Reason codes and use cases are defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Justification Use Cases and Reason Codes* ►.

Related Information

[Route Assignment \[page 38\]](#)

[Impact of Route Changes on Service Product Attributes \[page 46\]](#)

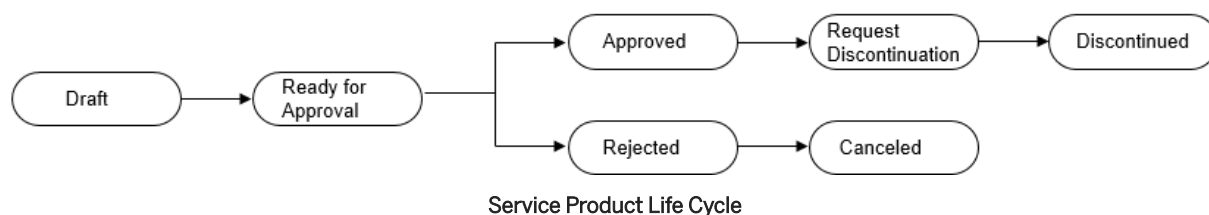
[Creation of Service Products \[page 33\]](#)

2.3.1.5 Service Product Status

Service products follow an approval life cycle. The service product status indicates the current life cycle stage of the service product.

You can view the status of the service product on the *General Data* tab on the service product screen.

The figure below illustrates the status cycle of a service product:



As shown in the figure above, the status life cycle has a specific sequence, which is predefined in the system. For example, if you want to change the service product status from *Rejected* to *Approved*, you must first change the service product status from *Rejected* to *Ready for Approval*. You can then change the service product status from *Ready for Approval* to *Approved*.

Related Information

[Changing the Service Product Status \[page 50\]](#)

[Service Product Status Descriptions \[page 51\]](#)

[Creation of Service Products \[page 33\]](#)

2.3.1.5.1 Changing the Service Product Status

Set the service product status of service products to indicate the current life cycle stage of the service product.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Service Product - CSL* app, and specify the service product ID.
2. On the *Service Product* toolbar, choose *Set Status*.

i Note

Depending on the status of the service product, certain options in the *Set Status* menu are disabled. This is to ensure that correct sequence is followed in the service product approval life cycle.

3. Depending on the status that you select, you may need to specify a reason code for the status change.

Related Information

[Service Product Status \[page 49\]](#)

[Service Product Status Descriptions \[page 51\]](#)

[Justification \[page 49\]](#)

2.3.1.5.2 Service Product Status Descriptions

The service product status indicates the current life cycle stage of the service product.

The following table describes the different statuses of a service product:

Service Product Status	Description
Draft	This is the initial status for new service products. You can edit service products in this status. A service product that has a <i>Draft</i> status can be changed to <i>Ready for Approval</i> or <i>Canceled</i>.
Ready for Approval	The service product is ready to be approved by the responsible person. This status can be set only if the following conditions are true: • One or more routes are assigned to the service product. • The publication type and publication period are defined. • The service product data is consistent. When you set this status, you must specify a reason code. You can edit service products in this status. A service product that has a <i>Ready for Approval</i> status can be changed to <i>Approved</i> or <i>Rejected</i>.
Approved	The responsible person sets this status when the service product has been approved for use in business processes. You can edit certain fields in service products in this status. A service product that has an <i>Approved</i> status can be only changed to <i>Request Discontinuation</i>.

Service Product Status	Description
Rejected	The service product cannot be used in business processes. You can edit service products in this status. The status of a rejected service product can be changed back to <i>Ready for Approval</i> or <i>Canceled</i>. ❖ Example Consider that you set the status of a service product to <i>Ready for Approval</i> and ask the responsible manager to approve it. If the manager does not want to approve the service product as it is (for example, if some details are incorrect), then the status can be set to <i>Rejected</i>. This means that the manager does not want to approve the service product in its current state, and some changes are required. Subsequently, you can edit the service product as needed and change the status from <i>Rejected</i> to <i>Ready for Approval</i>. You can then ask the manager again to approve the service product.
Canceled	The service product cannot be used. You cannot edit service products in this status. A service product that has a <i>Canceled</i> status would never have been approved and therefore never used in business processes. You might, for example, cancel a service product if the data contains an error. i Note If you set the status to <i>Canceled</i>, the service product is not deleted from the system, but is obsolete and cannot be used again.
Request Discontinuation	The service product is not needed for business processes anymore and the responsible person needs to approve the discontinuation of the service product. When you set this status, you must specify a reason code. You cannot edit service products in this status. When you set the status to <i>Request Discontinuation</i> the system displays a dialog box, which gives you information about how many forwarding agreement quotation (FWAQs) and forwarding agreement (FWA) documents will be affected if the service product is discontinued. You can then decide whether to cancel or continue with the discontinuation request. The status of a service product that has a <i>Request Discontinuation</i> status can be changed back to <i>Approved</i> or <i>Discontinued</i>.

Service Product Status	Description
Discontinued	The service product cannot be used in business processes anymore. A service product that has a <i>Discontinued</i> status was previously approved and used in business processes; however, it is no longer needed for business purposes. You cannot edit service products in this status. When you set the service product status to <i>Discontinued</i>, the system displays a dialog box, which gives you information about how many FWAQ and FWA documents will be affected if the service product is discontinued. You can then decide whether to cancel or continue with the discontinuation of the service product.

Related Information

[Service Product Status \[page 49\]](#)

[Changing the Service Product Status \[page 50\]](#)

[Justification \[page 49\]](#)

2.3.1.6 Publication Status

You can specify if a service product is to be published on an external portal, where customers can search for and select the service products you have created. You can also set the publication dates and define the publication type.

You set the publication status of a service product on the *General Data* tab of the service product screen. If you select the *Publication* checkbox, the service product is published on an external portal.

The system automatically deselects the *Publication* checkbox if the status of the service product is *Discontinued*.

If you choose to publish a service product, you must also define the publication period by specifying the publication-from and publication-to dates. If you don't specify the publication dates, you cannot set the status of the service product to *Ready for Approval* or *Approved*.

The publication dates must be within the validity period of the service product, which is defined in the *Validity* screen area on the *General Data* tab.

Publication Type

If you choose to publish a service product, you must also specify one of the following publication types:

- **Private**
A private service product is created for a particular customer, and is therefore not available to all customers on the external portal.
- **Public**
A public service product is available to all customers on the external portal.

The default publication type for open service products is *Public*, and the default publication type for customized service products is *Private*.

Related Information

[Service Product Status \[page 49\]](#)

[Creation of Service Products \[page 33\]](#)

2.3.1.7 Update Status

The update status of a service product indicates that a service product needs to be reviewed and possibly updated or that the service product is already up-to-date.

Changes in the underlying transportation network (for example, if new faster routes become available) may affect service products. If these changes affect an existing service product, the update status of the affected service products changes in order to alert the relevant manager (for example, the product manager) to review and, if necessary, update the service products.

The *Update Status* filter criteria in the *Service Product Worklist* can be used to search for any service products that have a *To Be Updated* status and need to be reviewed. Service products can be updated using the *Edit Service Product* screen or the *Mass Update* application. If you review service products using the *Edit Service Product* screen, you must manually set the update status of the service product. Any service products that you review using the *Mass Update* application are marked as up-to-date by the system.

When you create a new service product, the system automatically sets the update status on the *General Data* tab as up-to-date. The system enters the creation date of the service product into the *Service Product Update Status Date* field and the user logon into the *Service Product Updated By* field.

Related Information

[Setting the Update Status \[page 55\]](#)

[Mass Update \[page 56\]](#)

[Creation of Service Products \[page 33\]](#)

[Service Product Worklist \[page 57\]](#)

2.3.1.7.1 Setting the Update Status

Set a service product as to up-to-date once you have reviewed any possible changes that may have arisen from changes in the transportation network.

Prerequisites

Update statuses have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Product Catalog* ► *Define Service Product Update Statuses* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Overview Service Products - CSL - Worklist* app.
2. Choose *Show Quick Criteria Maintenance*.
3. In the filter criteria, enter the relevant carrier, trade lane, and update status to search for the service product that needs to be updated.
4. Choose *Apply*.
5. In the result list, select the relevant service product and choose *Edit*.

The system opens the *Edit Service Product* screen.

6. On the *Service Product* toolbar, choose *Mark as Up-to-Date*.

Note

If the service product is already up-to-date, the *Mark as Up-to-Date* button is disabled.

7. Save your entries.

Results

The system sets the service product update status as up-to-date. The *Service Product Update Status Date* field displays the current date, and the *Service Product Update Status Updated By* field displays your user login. You can view the details of the changes on the *Change Documents* tab.

Related Information

[Update Status \[page 54\]](#)

[Mass Update \[page 56\]](#)

[Service Product Worklist \[page 57\]](#)

2.3.2 Mass Update

The mass update application allows you to analyze system-proposed changes to service products, and accept or reject the changes.

Changes in the underlying transportation network may also lead to changes in multiple service products. If these changes affect any existing service products, the system proposes changes to the service products on a single screen. The mass update application allows you to analyze the proposals for a group of service products and then accept or reject the proposals one-by-one.

Note

You can only open *Approved* service products in the mass update application.

You can perform the following tasks in the *Service Product Mass Update* screen:

- View a list of the selected service products
- View a side-by-side comparison of the current attributes and the system-proposed updates to the attributes for each service product
- Accept or reject the proposed updates
- Open a service product to view detailed information or manually assign routes

Related Information

[Performing Mass Updates \[page 56\]](#)

[Service Product Worklist \[page 57\]](#)

[Attributes \[page 44\]](#)

[Route Assignment \[page 38\]](#)

[Service Product Catalog for Container Shipping Liners \[page 32\]](#)

2.3.2.1 Performing Mass Updates

Perform a mass update to review and accept or reject system-proposed updates to service products.

Procedure

1. In your SAP Fiori launchpad, open the *Overview Service Products - CSL - Worklist* app.
2. Enter search criteria to find the relevant service products.

3. Select one or more service products in the results table.
4. Choose [Mass Update](#).

i Note

You can only perform a mass update on service products that have an [Approved](#) status.

The system opens the [Service Product Mass Update](#) screen, which displays the list of service products that you selected in the worklist results table.

5. Select a service product to view and compare the proposed changes to attributes and routes.

Underneath the results list table, you can view the current attributes and assigned routes and the system-proposed attributes and assigned routes for the selected service product.

6. To accept the proposed updates, choose the [Update](#) button.

The system removes processed service product from the results table list.

Related Information

[Mass Update \[page 56\]](#)

[Attributes \[page 44\]](#)

[Route Assignment \[page 38\]](#)

[Service Product Worklist \[page 57\]](#)

2.3.3 Service Product Worklist

The [Service Product Worklist](#) for container shipping liners is based on the SAP Personal Object Worklist (POWL). This means that you can define and store worklists that are defined as queries, and you can configure the data to be displayed in the worklist.

You can perform the following tasks in the [Service Product Worklist](#):

- Search for service products
You can use various criteria such as movement type, trade lane, carrier, and so on to search for service products in the system.

i Note

You must specify the following search criteria:

- Carrier
- Trade Lane

- Define queries
- Create a new service product
You can create a new service product by choosing [New](#) on the results table menu.
- Maintain selected service products
You can edit, copy, and view a selected service product in the results table using the buttons on the results table menu. You can also navigate to a service product.

- Export the worklist to Microsoft Excel.
- Call the *Mass Update* application for selected service products so that you can analyze system-proposed changes to service products and accept or reject the changes.

For more information, see SAP Library for your SAP NetWeaver release on SAP Help Portal at <http://help.sap.com/netweaver>. Under ► *Application Help* ► *Function Oriented View* ►, open SAP Library and search for *Personal Worklist*.

Related Information

[Mass Update \[page 56\]](#)

[Creating Service Products \[page 36\]](#)

3 Basic Settings

Certain basic settings are required in the SAP Transportation Management add-ons for container shipping liners.

The routing process is used to determine possible routes between a source and a destination location. Routing is integrated with several lead to agreement applications such as product catalog and forwarding agreement quotation (FWAQ).

In addition, business partner data that is no longer required or used can be blocked and deleted to comply with data privacy and protection regulations. Business partner data that is still in use cannot be deleted. To help you determine whether business partners are still in use, corresponding end-of-purpose checks are provided as part of the product.

Related Information

[Routing \[page 59\]](#)

[Data Management \[page 82\]](#)

3.1 Routing

Routing is the process of determining possible routes between a source and destination location.

The following table lists which application area is integrated with routing in each of the products for the container shipping liners add-on:

Product	Integrated Applications
SAP Transportation Management, network and operations for container shipping liners for SAP S/4HANA	Product catalog and trip plan replanning
SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA	Product catalog and booking
SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA	Product catalog and forwarding agreement quotation (FWAQ)

More Information

For more information about routing for trip plan replanning see the product assistance for SAP Transportation Management, network and operations for container shipping liners for SAP S/4HANA on SAP Help Portal at

https://help.sap.com/tm_csl_nao_s4hana. Open the Product Assistance and choose ► *Basic Settings* ► *Routing* ► *Routing for Trip Plan Replanning* ►

For more information about routing for booking see the product assistance for SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA on SAP Help Portal at https://help.sap.com/tm_csl_o2c_s4hana. Open the Product Assistance and choose ► *Basic Settings* ► *Routing* ► *Routing for Booking* ►

Related Information

[Routing for Product Catalog \[page 63\]](#)

[Introduction to Routing \[page 60\]](#)

[Routing for Product Catalog \[page 63\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

3.1.1 Introduction to Routing

The routing solution is based on the k-shortest/Dijkstra algorithm. The main goal of the design is the implementation of a performance-optimized routing solution.

On a high-level, the optimized performance is achieved with the following main design features:

Performance Aspect	k-shortest/Dijkstra Algorithm Based Routing Solution
Flexible Frameworks	Use of static route check and static ranking functionality to minimize the runtime overhead spent in the generic frameworks and BOPF integration (Data Crawler)
Coding Approach	Spaghetti coding in the API to minimize the runtime overhead spent in the technical mass call of methods and functions during iterations in the algorithm.
Route Finding Approach	Creation of only the best routes purely based on a precomputed graph and edge score information.
Runtime Calculation	Massive precomputation of all individual graph edge attributes including preparation of constrained edges and all the inland connection options as virtual graph edges.
In-Memory Approach	Massive use of in-memory storage, partially based shared memory (algorithm core-related information) and SAP HANA database (additional data).

- **Network Preprocessor and Delta Management**

All routing data is supposed to be precomputed by the network preprocessor based on the routing-relevant Transportation Management (TM) and container shipping liners master data and under consideration of

the business logic, for example, the carbon emission calculation. The precomputation results are written to the preprocessing network database. The precomputation needs to be efficient to always provide the actual routing data in the maximum acceptable latency. At least for time critical master data, change pointers are written to enable a delta processing mode for the network preprocessor only on changed data.

- **Preprocessing Network Database**

In the preprocessing network database, all precomputed data is stored in routing algorithm optimized structures. The preprocessing network database serves as staging area and is the basis for the upload into shared memory and can be used for accelerated error analysis.

- **Shared Memory Uploader and Shared Memory Storage**

The upload of routing graph or edge data into shared memory only includes data that is essential to achieve an efficient runtime. The routing algorithm then refers back to the SAP HANA database for an efficient lookup of any additional route information that is required for the final routing results presentation.

- **Routing API**

The routing API report (/TMCSL/ROUTING_API) can be used to test routing scenarios individually.

- **Routing Computation**

The routing computation algorithm is based on shared memory storage.

- **Static Route Check and Static Ranking Business Add-Ins (BADIs)**

The static call of a Business Rule Framework plus (BRFplus) function or ABAP class on fully computed routes is done through BADIs.

Related Information

[Example: Routes, Transshipments, and Drayage Moves \[page 61\]](#)

[Routing: Integration \[page 62\]](#)

[Path Finder for Routing \[page 62\]](#)

3.1.1.1 Example: Routes, Transshipments, and Drayage Moves

Transshipments and drayage moves are considered during the routing process.

Transshipments

Routes consist of a sequence of stages, where each stage is an independently operated transportation service. The transition between stages is called transshipment. If you need to transport goods from origin location *A* to destination location *D*, for example, the proposed routes could appear in a number of different permutations such as follows:

-  $\triangleright A \triangleright B \triangleright C \triangleright D \triangleright$.
-  $\triangleright A \triangleright B \triangleright D \triangleright$.
-  $\triangleright A \triangleright D \triangleright$.
-  $\triangleright A \triangleright B \triangleright F \triangleright D \triangleright$.

In the above example, the intermediate locations between the origin location *A* and the destination location *D* (*B*, *C*, and *F*) are the **transshipment** locations.

Drayage Moves

Drayage refers to the transport of cargo over a short distance to facilitate the transshipment, for example, from one terminal to another terminal within a port.

In the sequence $\text{A} \rightarrow \text{B}' \rightarrow \text{B}'' \rightarrow \text{C} \rightarrow \text{D}$, for example, *B'* and *B''* are different terminals of the same port, *B*. These short-distance transshipments are called **drayage moves**.

3.1.1.2 Routing: Integration

Routing is integrated with the product catalog and forwarding agreement quotation (FWAQ) application areas.

If you have installed SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA, the route generator is also integrated with the booking process. When you create a booking, you can generate route proposals for a combination of source and destination location. For bookings in the order to cash functionality, the route generator is called by the Voyage Suggestion Framework (VSF).

If you have installed SAP Transportation Management, network and operations for container shipping liners for SAP S/4HANA, the route generator is also integrated with the trip plan replanning process. The route generator uses the enhanced schedules from Schedule Management to find route proposals.

Related Information

[Routing \[page 59\]](#)

3.1.1.3 Path Finder for Routing

The path finder is a standard Transportation Management (TM) tool that is used in the routing process to determine connections within a source location and a destination location.

The path finder determines paths, routes, and reachability within the transportation network between a source and destination location. While doing so, it takes into account defined transshipment locations and connections such as schedules, bookings, and transportation lanes. You can call the path finder for each routing strategy during the route determination process. The logic works as follows:

1. **The path finder takes the objects that make up the route from the network.**
These consist of standard or maritime line schedules such as intermodal or feeder schedules; and transportation lanes for any of the modes of transport for inland transportation such as train, truck, barge, or non-scheduled feeder legs. Only the scheduled services and lines are restrictive in time frames, since they are planned for specific weekdays and have cut-off times for cargo and documentation. These network objects deliver the durations and distances as input for the time calculation logic.
2. **The path finder takes into consideration any restrictions related to opening times and non-working days for the locations.**

3. **The path finder performs an iterative search that determines all of the next possible connections from one location origin.**

From each of the connecting locations found, it starts a new search for all possible connections until the destination location is found or the specified search depth is reached. In addition, with each of the searches, it determines the durations between the found connections, to determine if a timely connection is possible. To do this, it uses undated routing information from the proforma schedule as specified in the cycle plan definition of the line.

4. **The path finder adjusts for the schedule milestones.**

The connections based on transportation lanes are more flexible, and only deliver duration and distance in relation to means of transport. Therefore, the path finder can shift these lanes **connected to and from a schedule** to fit to the schedule milestones.

Related Information

[Routing \[page 59\]](#)

[Routing: Integration \[page 62\]](#)

3.1.2 Routing for Product Catalog

Routes are generated for service products in the product catalog for the container shipping liners add-on that operate between a source location and a destination location.

You use the product catalog for the container shipping liners add-on to capture the set of service products (such as cleaning, refrigeration, loading and unloading, and so on) that you make available to your customer. The route generator allows you to generate ranked route proposals (most favorable to the least) for a service product between a source and destination location combination. You can reduce the number of route proposals returned by maintaining specific Generic Validation Framework (GVF) rules.

You can generate route proposals for a service product as follows:

- From the [Create Service Product - CSL](#) and [Edit Service Product - CSL](#) apps in your SAP Fiori launchpad.
- With the [Routing API](#) report in the Transportation Management system

Related Information

[Route Generator API for Product Catalog \[page 65\]](#)

3.1.2.1 Example: Finding Routes for a Service Product

Finding routes for a service product between the source location and the destination location.

In this example, there are several possible routes, incorporating various paths, from Shanghai to Rotterdam. When you generate routes from the [New Service Product](#) screen in the [Create Service Product - CSL](#) app, all of

the possible path combinations for the source location (Shanghai) to the destination location (Rotterdam) are provided.

i Note

- A route consists of a sequence of **stages**, where each stage is an independently operated transportation service. For example, a shipping line, a rail line, or a truck can be a stage.
- Each stage has one or more **modes of transport** such as shipping, rail, truck, or barge.
- The **path** indicates the number of stages it takes to travel from the source location to the destination.

The total number of route solutions for one path is the product of the number of modes of transport of all the stages. The total number of route proposals returned is the sum of route solutions for all of the different paths.

Door to Door

If a door to door movement type is to be provided, for example, there would be seven stages and the path would look as follows:

Stage	Description	Type	Modes of Transport	Number of Modes of Transport
1	Door to warehouse	Pickup	Rail	1
2	Warehouse to source port	Pre-carriage	Rail and air	2
3	Source port to transshipment port terminal 1	Main-carriage	Sea	1
4	Transshipment port terminal 1 to transshipment port terminal 2	Drayage	Road	1
5	Transshipment port-terminal 2 to destination port	Main-carriage	Sea	1
6	Destination port to warehouse	On-carriage	Rail and air	2
7	Warehouse to door	Delivery	Road and rail	2

The total route solutions for the seven-stage path equals the product of modes of all the stages. Here, there are eight possible ways of movement, based on the combinations of available connections, for a door to door movement type from Shanghai to Rotterdam.

Port to Port

If a port to port movement type from the source port (Shanghai) to the destination port (Rotterdam) is to be provided, the path has only five stages, as follows:

Stage	Description	Type	Modes of Transport	Number of Modes of Transport
1	Door to warehouse	Pickup	Rail	1
2	Warehouse to source port	Pre-carriage	Rail and air	2
3	Source port to destination port	Main carriage	Sea	1
4	Destination port to warehouse	On-carriage	Rail and air	2
5	Warehouse to door	Delivery	Road and rail	2

The total route solutions for the five-stage path equals the product of modes of all the stages. Here, there are eight possible ways of movement, based on the combinations of available connections, for a port to port service from Shanghai to Rotterdam.

Total Number of Route Proposals

Overall, the total number of route proposals depends on the number of stages (with different modes of transport) between two locations of type door, port, or ramp. Hence, based on the connections set up in the routing network, the corresponding route proposals are displayed.

Related Information

[Routing for Product Catalog \[page 63\]](#)

3.1.2.2 Route Generator API for Product Catalog

The routing application programming interface (API) for the product catalog for container shipping liners contains searches for and returns ranked route proposals for a source and destination combination for a service product.

You can call the routing API for the product catalog from either the [Create Service Product - CSL](#) app your SAP Fiori launchpad or by using the [Routing API](#) report in the Transportation Management (TM) system.

Related Information

[Generating Routes for Product Catalog Through Routing API Report \[page 66\]](#)

3.1.2.2.1 Generating Routes for Product Catalog Through Routing API Report

Generate all possible route proposals for a combination of source and destination location with this report.

Prerequisites

- Ranking has been defined for the service product catalog in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Ranking* ►.
- Parameters for routing API consumers have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Network and Operations* ► *Routing* ► *Maintain Parameters for Routing API Consumers* ►.
- Parameters for routing models and horizon configuration have been defined in Customizing for *Transportation Management* under ► *Transportation Management* ► *Container Shipping Liners* ► *Network and Operations* ► *Routing* ► *Maintain Routing Models and Horizon Configuration* ►.
- Parameters for routing score functions have been defined in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Network and Operations* ► *Routing* ► *Maintain Routing Score Functions* ►.

Context

i Note

This is a test report that can be used to check the routing scenarios individually for different consumer types. Hence, no business transaction is associated with it.

Procedure

1. Start transaction SE38 and execute the *Routing API* report (/TMCSL/ROUTING_API).
2. Enter the following data in the report screen:

Field	What to Do
<i>Consumer Type</i>	Enter <i>Product Catalog</i> .
<i>Source Location</i>	Enter the source location according to routing network data.
<i>Destination Location</i>	Enter the destination location according to routing network data.
<i>Movement Type</i>	Enter the required movement type according to source and destination locations.
<i>Valid From</i>	Enter a valid-from date.
<i>Valid To</i>	Enter a valid-to date.
<i>Horizon Days</i>	Enter the number of horizon days.
<i>Carrier</i>	Enter the planning organization ID configured in the system.
<i>Source Location</i>	Enter the location from where the movement starts.
<i>Destination Location</i>	Enter the location where the movement ends.
<i>Max. Number of Solutions</i>	Enter the maximum number of route proposals to be displayed.
<i>Model ID</i>	Enter the model ID configured in the system for routing.

3. Execute the report.

The route generator application programming interface (API) searches for and returns routes that are consistent with the input set.

Results

A list of ranked proposed routes and stages is displayed. The top node represents the input set number, with the route proposals of the input set listed under the second node, and the respective stages of the route proposal listed under the third node.

Related Information

[Generating Routes from the New Service Product Screen \[page 68\]](#)

[Generating Routes from the Edit Service Product Screen \[page 70\]](#)

3.1.2.2.2 Generating Routes from the New Service Product Screen

Generate route proposals for a combination of source location and destination location using the [Create Service Product - CSL](#) app.

Prerequisites

- A strategy has been defined for the product catalog in Customizing for [Transportation Management](#) under [Basic Functions](#) > [Process Controller](#) .
- GVF rules have been defined for the product catalog in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Basic Settings](#) > [Generic Validation Framework](#) .
- Ranking has been defined for the product catalog in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Basic Settings](#) > [Ranking](#) .
- A broken trip is visible in the trip plan issue list.

Procedure

1. In your SAP Fiori launchpad, open the [Create Service Product - CSL](#) app.
2. On the [General Data](#) tab, enter the following details:

Field	What to Do
Service Product Description	Enter a description for the service product.
Carrier	Enter a carrier ID for the service product.
Trade Lane	Enter a trade lane ID for the service product.
Movement Type	Enter a movement type for the service product (for example, Door to Door , Port to Port , Door to Port , or Port to Door).
Source Location	Enter a source location ID for the service product.
Destination Location	Enter a destination location ID for the service product.
Valid From	Enter a valid-from date for the service product.
Valid To	Enter a valid-to date for the service product.
Publication	Select this checkbox to ensure that the service product is valid for publication.

Field	What to Do
Publication From	When you select the Publication checkbox, this date defaults to the valid-from date entered earlier.
Publication To	When you select the Publication checkbox, this date defaults to the valid-to date entered earlier.
Publication Type	Select a publication type for the service product. The possible values are Public and Private .

3. On the [Attributes](#) tab, enter the brand.
4. Select the selection checkbox.
5. On the [Routes](#) tab, choose one of the following options:
 - To generate the route proposals for the newly created service product, choose [► Routes ► Generate ►](#).
 - To generate the route proposals and assign them to the newly created service product, choose [► Routes ► Generate and Assign ►](#).

The routing engine application programming interface (API) searches for and returns routes that are consistent with the input set.

6. Save your entries.

Results

A list of ranked proposed routes and stages is displayed in the [Proposed Routes](#) table. You can view the stages for each proposed route by expanding the nodes.

Each route proposal is displayed with one of three icons, as follows:

- [Red](#): Red indicates that the displayed proposal has errors associated with it and hence should not be proceeded with or selected further.
- [Yellow](#): Yellow indicates that the displayed proposal has cautions or warnings associated with it and could be proceeded with nevertheless.
- [Green](#): Green indicates that the displayed proposal is correct and could be proceeded with directly.

Related Information

[Generating Routes from the Edit Service Product Screen \[page 70\]](#)

[Generating Routes for Product Catalog Through Routing API Report \[page 66\]](#)

3.1.2.2.3 Generating Routes from the Edit Service Product Screen

Generate route proposals for a combination of source location and destination location using the [Edit Service Product - CSL](#) app.

Prerequisites

At least one service product exists.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Service Product - CSL](#) app.
2. Enter a service product ID for an existing service product and choose [Continue](#).
3. On the [Routes](#) tab, choose one of the following options:
 - To generate the route proposals for the newly created service product, choose [Routes](#) > [Generate](#).
 - To generate the route proposals and assign them to the newly created service product, choose [Routes](#) > [Generate and Assign](#).

The route generator application programming interface (API) searches for and returns routes that are consistent with the input set.

Results

A list of ranked proposed routes and stages is displayed in the [Proposed Routes](#) table. You can view the stages for each proposed route by expanding the nodes.

Each route proposal is displayed with one of three icons, as follows:

- **Red:** Red indicates that the displayed proposal has errors associated with it and hence should not be proceeded with or selected further.
- **Yellow:** Yellow indicates that the displayed proposal has cautions or warnings associated with it and could be proceeded with nevertheless.
- **Green:** Green indicates that the displayed proposal is correct and could be proceeded with directly.

Related Information

[Generating Routes from the New Service Product Screen \[page 68\]](#)

[Generating Routes for Product Catalog Through Routing API Report \[page 66\]](#)

3.1.3 Routing for Forwarding Agreement Quotations

Forwarding agreement quotations (FWAQs) are integrated with the routing solution during the request for quotation (RFQ) translator upload and response line generation.

The routing solution for FWAQs carries out the following tasks:

- RFQ translator upload
The FWAQ gets routes from the solution builder during the RFQ translator upload.
- Response line creation
During response line creation, the FWAQ gets the valid routes from the route generator using the [Search Routes](#) and [Get Recommended Routes](#) functions. The response lines in an FWAQ are generated based on the valid routes returned from the routing generator.

Related Information

[Getting Routes for Request Lines \[page 168\]](#)

[Getting Recommended Routes for Request Lines \[page 170\]](#)

[Forwarding Agreement RFQ Translator \[page 144\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

[Manual Creation of Forwarding Agreement Quotations \[page 160\]](#)

3.1.4 Preprocessor Report for Routing

The Preprocessor Report (/TMCSL/TN_DB_PROCESSOR) is used to create routing master data based on lines, schedules, and trade lanes created in the system. The Preprocessor Report is a prerequisite for routing. The report must be run before running the routing solution.

You can use the Preprocessor Report to create master data for routing based on a specific line ID and schedule ID, or you can create master data for all lines and schedules in the system. The Preprocessor Report is a background process that is run by the background job scheduler. You can schedule the report to run periodically based on your requirements.

The Preprocessor Report has the following predefined variants, which have been configured for Model 000:

- /DEL_ALL: This variant deletes the root cache, location cache, and graph tables for Model 000.
- /ROT_BLD: This variant builds the location cache and root cache for Model 000.
- /GPH_BLD: This variant builds the graph tables for Model 000.

Job Scheduler for Preprocessor Report

The report is run through the background job scheduler. You define the background job for the report using transaction SM36.

i Note

When you schedule the background job for the report, you must add the variants in the following sequence:

1. /DEL_ALL
2. /ROT_BLD
3. /GPH_BLD

Configuration of New Model IDs for Routing

If you configure a different model for routing, you must create new report variants by copying the predefined variants. You must then define a new background scheduler job for the Preprocessor Report using the copied variants.

i Note

When creating copies of the predefined variants, you must use specific selection criteria for each variant.

More Information

For more information on configuring models for routing see the Routing Administration Guide at https://help.sap.com/tm_csl_l2a_s4hana. Under *Configuration*, choose *Routing Administration Guide*.

Related Information

[Selection Criteria for Report Variant /DEL_ALL \[page 73\]](#)

[Selection Criteria for Report Variant /ROT_BLD \[page 74\]](#)

[Selection Criteria for Report Variant /GPH_BLD \[page 75\]](#)

[Job Schedule Creation for Preprocessor Report for New Model ID \[page 76\]](#)

[Creating a Background Schedule Job for the Preprocessor Report \[page 80\]](#)

3.1.4.1 Selection Criteria for Report Variant /DEL_ALL

The table below lists the selection criteria that you must specify when creating a copy of the variant /DEL_ALL for the Preprocessor Report (/TMCSL/TN_DB_PROCESSOR).

Section	Field	Information
Processing Options	Datastore for Selections	Specify <i>Trans Network DB</i>
	Processing Mode	Specify <i>Delete Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Location Cache	Select the checkbox
	Root DB	Select the checkbox
	Graph DB	Select the checkbox
	Constr. DB	Select the checkbox
	Shared Memory	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *
	Loc Hier Parent	Enter *

Related Information

[Preprocessor Report for Routing \[page 71\]](#)

[Copying the Predefined Report Variants for a New Model ID \[page 76\]](#)

3.1.4.2 Selection Criteria for Report Variant /ROT_BLD

The table below lists the selection criteria that you must specify when creating a copy of the variant /ROT_BLD for the Preprocessor Report (/TMCSL/TN_DB_PROCESSOR).

Section	Field	Information
Processing Options	Datastore for Selections	Specify SAP TM Database
	Processing Mode	Specify <i>Initial Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Location Cache	Select the checkbox
	Root DB	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *
	Loc Hier Parent	Enter *

Related Information

[Preprocessor Report for Routing \[page 71\]](#)

[Copying the Predefined Report Variants for a New Model ID \[page 76\]](#)

3.1.4.3 Selection Criteria for Report Variant /GPH_BLD

The table below lists the selection criteria that you must specify when creating a copy of the variant /GPH_BLD for the Preprocessor Report (/TMCSL/TN_DB_PROCESSOR).

Section	Field	Information
Processing Options	Datastore for Selections	Specify <i>Trans Network DB</i>
	Processing Mode	Specify <i>Initial Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Graph DB	Select the checkbox
	Constr. DB	Select the checkbox
	Shared Memory	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *
	Loc Hier Parent	Enter *

Related Information

[Preprocessor Report for Routing \[page 71\]](#)

[Copying the Predefined Report Variants for a New Model ID \[page 76\]](#)

3.1.4.4 Job Schedule Creation for Preprocessor Report for New Model ID

The default routing model that has been configured for the Preprocessor Report (/TMCSL/TN_DB_PROCESSOR) is 000. If you configure a new model for routing, you must create a new background job schedule for the Preprocessor Report and create new variants for the new model.

You create the new variants by copying the variants that have been predefined for the Preprocessor Report. You then specify the new model ID in the new variants. You make copies of the following predefined variants:

- /DEL_ALL
- /ROT_BLD
- /GPH_BLD

You must create a new background job schedule for the Preprocessor Report for the new model and assign the new variants to the schedule job.

The following table lists the steps that you need to perform to create a new job schedule for the Preprocessor Report after you configure a new model ID for routing:

Step	Description	Related Topic
1	Create copies of the predefined variants for the Preprocessor Report.	Copying the Predefined Report Variants for a New Model ID [page 76]
2	Create a new background job schedule and add the copied variants to the job.	Creating a Background Schedule Job for the Preprocessor Report [page 80]

3.1.4.4.1 Copying the Predefined Report Variants for a New Model ID

Create copies of the variants that have been predefined for the Preprocessing Report (/TMCSL/TN_DB_PROCESSOR) and specify a model ID in each variant.

Context

If you have configured a new model ID for the routing solution, you must create a new job schedule for the Preprocessing Report, and create copies of the predefined variants for the new model.

The predefined variants that you must copy for the new model ID are as follows:

- /DEL_ALL
- /ROT_BLD
- /GPH_BLD

Procedure

1. Start transaction SE38.
2. Enter **/TMCSL/TN_DB_PROCESSOR** in the *Program* field.
3. Copy the predefined variant **/DEL_ALL** as follows:
 - a. Select the subobject *Variants*.
 - b. Choose *Change*.

The system opens the variants screen.

- c. Enter the name of the new variant in the *Variant* field (for example, **/DEL_ALL_100**).
- d. Choose *Create*.
- e. Specify the following selection criteria:

Section	Field	Information
Processing Options	Datastore for Selections	Specify <i>Trans Network DB</i>
	Processing Mode	Specify <i>Delete Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Location Cache	Select the checkbox
	Root DB	Select the checkbox
	Graph DB	Select the checkbox
	Constr. DB	Select the checkbox
	Shared Memory	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *

Section	Field	Information
	Loc Hier Parent	Enter *

- f. Choose the *Attributes* button.

The *Variant Attributes* screen opens.

- g. Enter a description for the variant in the *Description* field.

- h. Save your entries by choosing  *Variant* .

4. Copy the predefined variant /ROT_BLD as follows:

- Follow substeps a-d in Step 3.
- Specify the following selection criteria:

Section	Field	Information
Processing Options	Datastore for Selections	Specify SAP TM Database
	Processing Mode	Specify <i>Initial Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Location Cache	Select the checkbox
	Root DB	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *
	Loc Hier Parent	Enter *

- c. Follow substeps f-h in Step 3.

5. Copy the predefined variant /GPH_BLD as follows:

- Follow substeps a-d in Step 3.
- Specify the following selection criteria:

Section	Field	Information
Processing Options	Datastore for Selections	Specify <i>Trans Network DB</i>
	Processing Mode	Specify <i>Initial Mode</i>
	Save Mode	Specify <i>Synch. Save (Local Update)</i>
	Model Desc	Enter the new model ID
Cache(s) to Update	Graph DB	Select the checkbox
	Constr. DB	Select the checkbox
	Shared Memory	Select the checkbox
Line Selections	Line ID	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
Std Schedule Selections	Schedule ID	Enter *
	Schedule Type	Enter *
	Voyage Generation Scope	Specify <i>Actual Voyages</i>
TLane Selections	TLane GUID	Enter *
	Location From & To	Enter *
Graph Pre-Processing Selections	Graph Type	Enter *
	Loc Hier Parent	Enter *

- c. Follow substeps f-h in Step 3.

Next Steps

Create a new job for the Preprocessor Report and assign the new variants.

Related Information

[Creating a Background Schedule Job for the Preprocessor Report \[page 80\]](#)

3.1.4.5 Creating a Background Schedule Job for the Preprocessor Report

Create a background scheduling job for the Preprocessor Report (/TMCSL/TN_DB_PROCESSOR).

Prerequisites

If you are defining a job schedule for a new model ID, you must have created copies of the predefined variants in the Preprocessor Report to new variants.

Context

You add the variants to the background job as steps. The variants must be added in the following order:

1. The variant to delete the root cache, location cache, and graph tables.
The predefined variant is named /DEL_ALL; however, if you have copied the predefined variant for a new model, your variant will have a different name.
2. The variant to build the location cache and root cache.
The predefined variant is named /ROT_BLD; however, if you have copied the predefined variant for a new model, your variant will have a different name.
3. The variant to build the graph tables.
The predefined variant is named /GPH_BLD; however, if you have copied the predefined variant for a new model, your variant will have a different name.

Procedure

1. Start transaction SM36.
The *Define Job* screen opens.
2. Enter a name for the new job in the *Job Name* field.
3. In the *Job Class* field, accept the default entry (C).
4. In the *Status* field, accept the default entry (*Scheduled*).
5. Define when the job is scheduled to run by choosing the *Start Condition* button.
6. In the *Start Time* dialog box that opens, specify the required schedule details.
7. Save the dialog box.
8. Choose the *Step* button to add the variants to the job.
9. In the *Create Step 1* dialog box that opens, enter the following details:

Section	Field	Specify the Following:
ABAP Program	Name	/TMCSL/TN_DB_PROCESSOR
	Variant	/DEL_ALL

i Note

If you have copied the predefined variant you enter the name of the copied variant here.

10. Save the dialog box.

The [Step List Overview](#) screen opens and displays the first variant that you added to the job.

11. Add the next variant by choosing the [Create](#) button.

12. In the [Create Step 2](#) dialog box that opens, enter the following details:

Section	Field	Specify the Following:
ABAP Program	Name	/TMCSL/TN_DB_PROCESSOR
	Variant	/ROT_BLD

i Note

If you have copied the predefined variant you enter the name of the copied variant here.

13. Save the dialog box.

The [Step List Overview](#) screen opens and displays the two variants that you added to the job.

14. Add the last variant by choosing the [Create](#) button.

15. In the [Create Step 3](#) dialog box that opens, enter the following details:

Section	Field	Specify the Following:
ABAP Program	Name	/TMCSL/TN_DB_PROCESSOR
	Variant	/GPH_BLD

i Note

If you have copied the predefined variant you enter the name of the copied variant here.

16. Save the dialog box.

The [Step List Overview](#) screen opens and displays the three variants that you added to the job.

17. Choose the *Enter* button.
18. In the *Define Job* screen, choose the *Save* button to save the job.

Related Information

[Copying the Predefined Report Variants for a New Model ID \[page 76\]](#)

[Preprocessor Report for Routing \[page 71\]](#)

3.2 Data Management

Data Management offers various options to help you to manage your data.

You can use the following options to help you manage your data:

Function	Purpose	More Information
Data Aging	Data aging allows you to move data you no longer need out of the current data store to optimize system performance.	Data Aging [page 83]
Archiving	You can use archiving to remove mass data from the database that is no longer required in the system but must be kept in a format that can be analyzed.	Archiving [page 102]
Blocking and Deletion of Personal Data	Personal data that is no longer required in the system can be first blocked and later destroyed.	Blocking and Deletion of Personal Data [page 114]
Change Tracking	You can use this change tracking to display which data was changed, how it was changed, when it was changed, and by whom it was changed for certain business documents.	Change Tracking [page 140]
Blocking and Deletion of Location Master Data	Location master that is no longer required for any business purposes can be first blocked and later destroyed.	See application help for Cross Applications at https://help.sap.com/viewer/product/BS_CA/750%20SP11/ Under <i>Application Help</i>, open <i>Business Functions in SAP NetWeaver</i> and choose  <i>Simplified Blocking and Deletion</i>  <i>Blocking and Deletion of SCM Location Master Data</i> .

3.2.1 Data Aging

Data Aging allows you to optimize system performance by moving data you no longer need out of the current data store.

Data Aging lets you move business objects that you no longer need in your day-to-day work out of the current data store into a historical data store, which is typically kept on hard disk. When unused business objects are no longer taking up space in the current data store, the system can perform at its optimum level allowing you to work more efficiently.

You can still access and view the aged documents, but you cannot change them or carry out any other activities on them. If you need to change an aged document, you must first restore it to the current data store using the data aging undo transaction `DAG_UNDO`.

i Note

A data aging business object is different from a Business Object Processing Framework (BOPF) business object. To reflect this difference, we will use the term business objects for data aging business objects, and the term BOPF business objects for BOPF business objects.

Data Aging is only available for the following objects and documents:

- Completed business objects
- Canceled business objects
- Business objects whose residence period is over
- Complete business documents that are ready for data aging, that is, when all related documents listed in the document flow are ready for data aging

i Note

You define the residence period in the document type Customizing for documents of data aging objects / SCMTMS / TOR.

For all other data aging objects, you define the residence period in Customizing for [Cross-Application Components](#) under [Processes and Tools for Enterprise Applications](#) > [Reusable Objects and Functions for BOBF Environment](#) > [Data Aging Adapter](#) > [Maintain BO-specific Residence Periods](#).

Dependent Objects

Reuse data aging objects exist for all BOPF dependent objects such as the Generic Validation Framework Log, or the Document Comparison and Reconciliation Log. Transportation Management (TM) data aging objects include all relevant reuse data aging objects, so that BOPF dependent object data is aged at the same time as the data of its host business objects.

Parallel Processing

Most of the data aging objects are suitable for parallel processing. You can define a server group, the maximum number of work processes, and the package size per work process for each data aging object.

Analysis Report

You can simulate a data aging run for a data aging object using transaction `DAGADM`. A simulation run executes a data aging run but does not update the document age or move the documents from current data into the historical data store. A report is available after the run, containing many useful statistics such as data volume, run times, and any error messages.

Data Aging Procedure

For each business object that you want to age, there must be a corresponding data aging object. You can also enhance data aging objects, if applicable. During a data aging run, the data aging objects are moved into partitions. A corresponding partitioning object must exist for each data aging object before it can be moved into a partition.

Note

Data aging objects, partitioning objects, and enhanced data aging objects are provided as standard for container shipping liners business objects.

You must create one or more data aging groups to execute the data aging run. Once your groups are created, you can then execute data aging by scheduling a data aging run.

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver at <http://help.sap.com/nw>. Choose your platform, and under *Application Help* open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* ▾.

Related Information

[Why Data Aging? \[page 85\]](#)

[Data Aging Objects \[page 86\]](#)

[Partitions and Partitioning Objects \[page 86\]](#)

[Data Aging Runs \[page 88\]](#)

[Undo Data Aging \[page 89\]](#)

[Prerequisites for Data Aging \[page 90\]](#)

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.1 Why Data Aging?

Data Aging is a business data management concept for reducing the SAP S/4HANA memory footprint

Data Aging works as follows:

- Only operational data (current data) is loaded into SAP S/4HANA main memory.
- Other data (historical data) is primarily stored on disk, so it does not influence current data performance.
- Current and historical data are separated into partitions. Historical data remains accessible via SQL on request, that is, you must explicitly request access to historical data.

Data Aging also helps SAP S/4HANA to keep the time for loading, processing, and change operations as short as possible because the memory contains less data.

Searching aged documents is possible using the standard Transportation Management (TM) POWLs using the POWL query parameter *Document Age* (date). The system opens aged documents in display mode only.

i Note

The default of the POWL query parameter *Document Age* is initial, meaning that the system only searches current data when looking for business documents.

If you specify a date for the *Document Age* parameter, as well as searching current data, the system also searches historical data up to the date you specified. This has an impact on system performance, so only use this if you need to access historical data.

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver at <http://help.sap.com/nw>. Choose your platform, and under *Application Help* open *SAP NetWeaver Library: Function-Oriented View* and choose  *Solution Life Cycle Management*  *Data Aging* .

Related Information

[Data Aging Objects \[page 86\]](#)

[Data Aging \[page 83\]](#)

3.2.1.2 Data Aging Objects

Data aging objects must be created for each business object that has to be aged.

Data aging objects contain the following information:

- Database tables that are also aged when you execute a data aging run
- An optional set of reuse data aging objects
Reuse data aging objects are similar to data aging objects; however, they can only be aged with their host data aging objects and cannot be aged on their own. Reuse data aging objects can be referenced by one or more data aging objects.
- A data aging runtime class, which contains the functional part of the data aging object. For example, data selection, parallel processing, error handling, or writing the data aging log.
- A data aging object analysis program, which is used to execute a data aging run in simulation mode.
- A list of available enhancement spots

You use transaction `DAGOBJ` to create or change data aging objects.

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Partitions and Partitioning Objects \[page 86\]](#)

[Data Aging \[page 83\]](#)

3.2.1.3 Partitions and Partitioning Objects

Data aging objects and database tables used in Data Aging are moved into partitions in the historical data store. A partitioning object that corresponds to the data aging object must exist before the data aging object can be partitioned.

Data aging objects and database tables used in Data Aging are moved into partitions in the historical data store.

You create these partitions using the transaction *Manage Partitions* (transaction `DAGPTM`).

Before a data aging object can be moved into a partition, a corresponding partitioning object must be created for it. The partitioning object defines the set of database tables that are processed at the same time.

A database table can only be part of one partitioning object. When you have specified a partitioning object for a database table, you can use the table for one or more data aging objects.

You create or change a partitioning object using transaction DAGPTC.

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* .

Related Information

[Data Aging \[page 83\]](#)

[Data Aging Objects \[page 86\]](#)

3.2.1.4 Available Data Aging and Partitioning Objects

The following table lists the partitioning and data aging objects (with the appropriate settings) that we provide as standard for container shipping liners:

Business Object	Data Aging Object	Enhanced Data Aging Object	Partitioning Object	Documentation
Agreements	/SCMTMS/FREIGHTA-GREEMENT	/TMCSL/FREIGHTA-GREEMENT	/TMCSL/FREIGHTA-GREEMENT	Aging of Business Documents for Agreements [page 97]
Calculation Sheets	/SCMTMS/TCCS	/TMCSL/TCCS	/TMCSL/TCCS	Aging of Business Documents for Calculation Sheets [page 96]
Rate Tables	/SCMTMS/TC_RATES	/TMCSL/TC_RATES	/TMCSL/TC_RATES	Aging of Business Documents for Rate Tables [page 95]
Trade Lanes	/SCMTMS/TRADE-LANE	/TMCSL/TRADELANE	/TMCSL/TRADELANE	Aging of Business Documents for Trade Lanes [page 99]
DBC Exception Templates	/TMCSL/DDSM_EXCP_PROFILE		/TMCSL/DDSM_EXCP_PROFILE	Aging of Business Documents for DBC Exception Templates [page 101]

Business Object	Data Aging Object	Enhanced Data Aging Object	Partitioning Object	Documentation
Surcharge Exception Templates	/TMCSL/EXCEPTION_TEMPLATE		/TMCSL/EXCEPTION_TEMPLATE	Aging of Business Documents for Surcharge Exception Profiles [page 100]
Filter Templates	/TMCSL/FILTER_TEMPLATE		/TMCSL/FILTER_TEMPLATE	Aging of Business Documents for Filter Templates [page 98]
Governing Tariffs	/TMCSL/GOVERNING_TARIFF		/TMCSL/GOVERNING_TARIFF	Aging of Governing Tariffs [page 92]
Rate General Rules	/TMCSL/RATE_RULES		/TMCSL/RATE_RULES	Aging of Rate Rules [page 93]

Related Information

[Partitions and Partitioning Objects \[page 86\]](#)

[Data Aging \[page 83\]](#)

3.2.1.5 Data Aging Runs

Data Aging is executed by creating groups for the data aging run and then scheduling the data aging run. After business objects have been aged, you have the option of viewing them from various applications.

Data Aging Groups

Before you can execute Data Aging, you must create one or more data aging groups. A data aging group consists of a number of data aging objects to be processed in a defined sequence. A data aging group must contain at least one data aging object. Each data aging object can belong to only one data aging group. You can create and change data aging groups using the transaction `DAGRUN`.

Data Aging Run Schedule

Once the data aging groups have been created, you execute data aging by scheduling a data aging run for your tables using transaction `DAGRUN`.

You can control the memory used during a data aging run by specifying the processing package size. You can also specify the number of parallel processes and the package size per process. Before the next package is

selected and processed, allocated memory is released to keep the memory consumption for the data aging job constant.

Viewing Aged Documents

You can load aged business objects from the historical data store into the screens of container shipping liners. The objects are not loaded by default, but you can access them as follows:

- When you use the personal object worklist (POWL) parameter *Document Age* to define the maximum age for the documents to be loaded.
- When you navigate to an aged business document from the document flow of a current business document.
- When you navigate from an aged business document to another aged business document.

i Note

You can only view aged documents; you cannot change or delete them.

More Information

For more information on the prerequisites for Data Aging, see .

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging \[page 83\]](#)

3.2.1.6 Undo Data Aging

If you need to change or carry out any other activity on an aged business document, you can undo Data Aging using the transaction DAG_UNDO.

You can undo Data Aging for documents up to 180 days old. An undo data aging run clears the data aging information from the documents and loads them back into the current data store, allowing you to use them as required.

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* 🔍.

Related Information

[Data Aging \[page 83\]](#)

3.2.1.7 Prerequisites for Data Aging

Before you can apply data aging to your data, you need to create partitions and ensure that the business document is closed and has completed its residence period.

Partitions

Before you can start a data aging run, you need to create partitions for the aged data using the transaction Manage Partitions (DAGPTM).

Business Documents

To be considered for data aging, a business document must be closed for business (for example, the life cycle status must be *Completed* or *Canceled*). In addition, the residence period for a business document must be over. The residence period is the minimum time in days between the date you closed a document and the date the system considers the document for data aging.

You can specify the residence period for the following documents in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Data Aging Adapter* ► *Maintain BO-Specific Residence Periods* 🔍:

- Agreements
- Calculation Sheets
- Rate Tables
- Trade Lanes
- DBC Exception Template
- Surcharge Exception Template
- Filter Template
- Governing Tariff

- Rate General Rules

You can review the data aging objects that we have assigned to the BOPF business objects in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Data Aging Adapter* ► *Data Aging Residence Times For BOPF Business Objects* ►

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging \[page 83\]](#)

3.2.1.8 Data Aging for Business Objects

The below table lists the data aging object and business object combinations you can use for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA.

You use [Overview of Data Aging Runs](#) (transaction DAGRUN) to perform Data Aging.

Business Object	Data Aging Object	Documentation
Agreements	/SCMTMS/FREIGHTAGREEMENT	Aging of Business Documents for Agreements [page 97]
Calculation Sheets	/SCMTMS/TCCS	Aging of Business Documents for Calculation Sheets [page 96]
Rate Tables	/SCMTMS/TC_RATES	Aging of Business Documents for Rate Tables [page 95]
Trade Lanes	/SCMTMS/TRADELANE	Aging of Business Documents for Trade Lanes [page 99]
DBC Exception Templates	/TMCSL/DDSM_EXCP_PROFILE	Aging of Business Documents for DBC Exception Templates [page 101]
Surcharge Exception Profile	/TMCSL/EXCEPTION_TEMPLATE	Aging of Business Documents for Surcharge Exception Profiles [page 100]

Business Object	Data Aging Object	Documentation
Filter Templates	/TMCSL/FILTER_TEMPLATE	Aging of Business Documents for Filter Templates [page 98]
Governing Tariffs	/TMCSL/GOVERNING_TARIFF	Aging of Governing Tariffs [page 92]
Rate Rules	/TMCSL/RATE_RULES	Aging of Rate Rules [page 93]

More Information

For more information on Data Aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw> and choose your SAP NetWeaver platform. Under *Application Help*, open *SAP NetWeaver Library: Function-Oriented View* and choose ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

[Data Aging \[page 83\]](#)

3.2.1.8.1 Aging of Governing Tariffs

Definition

You can use the data aging object /TMCSL/GOVERNING_TARIFF to age governing tariffs.

Structure

Tables

The option for container shipping liners uses the data aging object /TMCSL/GOVERNING_TARIFF to age data from the nodes of the business object model /TMCSL/GOVERNING_TARIFF.

Prerequisites

The system can age a governing tariff when the following prerequisites are met:

- The governing tariff is not active.
- The dependent objects of the forwarding agreement have been aged.
- The governing tariff validity has expired.
- The aging residence time has passed.

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the *Overview Governing Tariff* app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for governing tariffs.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.2 Aging of Rate Rules

Definition

You can use the data aging object /TMCSL/RATE_RULES to age rate rules.

Structure

Tables

The option for container shipping liners uses the data aging object /TMCSL/RATE_RULES to age data from the nodes of the business object model /TMCSL/RATE_RULES.

Prerequisites

The system can age a rate rule when the following prerequisites are met:

- The rate rule is not active.
- The rate rule validity has expired.
- The aging residence time has passed.

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the *GRI/GRD* app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for rate rules.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.3 Aging of Business Documents for Rate Tables

Definition

You can use the data aging object /SCMTMS/TC_RATES to age rate tables.

Structure

Tables

The option for container shipping liners uses the data aging object /SCMTMS/TC_RATES to age data from the nodes of the business object model /SCMTMS/TC_RATES.

Prerequisites

The system can age an agreement when the following prerequisites are met:

- The aging residence time has passed.

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the *Charge Management Worklist* app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for rate tables.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.4 Aging of Business Documents for Calculation Sheets

Definition

You can use the data aging object /SCMTMS/TCCS to age calculation sheets.

Structure

Tables

The option for container shipping liners uses the data aging object /SCMTMS/TCCS to age data from the nodes of the business object model /SCMTMS/TCCS.

Prerequisites

The system can age an agreement when the following prerequisites are met:

- The aging residence time has passed
- The calculation sheet is not active

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the *Charge Management Worklist* app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for calculation sheets.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.5 Aging of Business Documents for Agreements

Definition

You can use the data aging object /SCMTMS/FREIGHTAGREEMENT to age forwarding agreements and quotations.

Structure

Tables

The option for container shipping liners uses the data aging object /SCMTMS/FREIGHTAGREEMENT to age data from the nodes of the business object model /SCMTMS/FREIGHTAGREEMENT.

Prerequisites

The system can age an agreement when the following prerequisites are met:

- The aging residence time has passed
- The agreement is not active
- The agreement validity has expired
- The dependent objects of the agreement have been aged

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the [Forwarding Agreement Worklist](#) app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for forwarding agreements and quotations.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.6 Aging of Business Documents for Filter Templates

Definition

You can use the data aging object `/TMCSL/FILTER_TEMPLATE` to age filter templates.

Structure

Tables

The option for container shipping liners uses the data aging object `/TMCSL/FILTER_TEMPLATE` to age data from the nodes of the business object model `/TMCSL/FILTER_TEMPLATE`.

Prerequisites

The system can age a filter template when the following prerequisites are met:

- The aging residence time has passed.

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction `DAG_UNDO`.

You can undo data aging and use parallel processing for filter templates.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.7 Aging of Business Documents for Trade Lanes

Definition

You can use the data aging object /SCMTMS/TRADELANE to age governing tariffs.

Structure

Tables

The option for container shipping liners uses the data aging object /SCMTMS/TRADELANE to age data from the nodes of the business object model /SCMTMS/TRADELANE.

Prerequisites

The system can age a trade lane when the following prerequisites are met:

- The aging residence time has passed

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the [Create/Edit Tradelane](#) app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for trade lane documents.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.8 Aging of Business Documents for Surcharge Exception Profiles

Definition

You can use the data aging object `/TMCSL/EXCEPTION_TEMPLATE` to age surcharge exception templates.

Structure

Tables

The option for container shipping liners uses the data aging object `/TMCSL/EXCEPTION_TEMPLATE` to age data from the nodes of the business object model `/TMCSL/EXCEPTION_TEMPLATE`.

Prerequisites

The system can age surcharge exception templates when the following prerequisites are met:

- The aging residence time has passed

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format
- Review individual aged documents

You can perform these tasks in the *Exception Template Worklist* app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction `DAG_UNDO`.

You can undo data aging and use parallel processing for surcharge exception profiles.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► *Application Help* ► *SAP NetWeaver Library: Function-Oriented View* ► *Solution Life Cycle Management* ► *Data Aging* ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.1.8.9 Aging of Business Documents for DBC Exception Templates

Definition

You can use the data aging object `/TMCSL/DDSM_EXCP_PROFILE` to age duration-based charge (DBC) exception templates.

Structure

Tables

The option for container shipping liners uses the data aging object `/TMCSL/DDSM_EXCP_PROFILE` to age data from the nodes of the business object model `/TMCSL/DDSM_EXCP_PROFILE`.

Prerequisites

The system can age an agreement when the following prerequisites are met:

- The aging residence time has passed

Functions

You can perform the following tasks after the documents have been aged:

- Review the details of aged documents in a tabular format

- Review individual aged documents

You can perform these tasks in the [Overview DBC Exception Profile](#) app in your SAP Fiori launchpad.

You cannot edit aged documents or execute any actions or activities on them. If you want to make changes, you first need to load the aged document back into the current data store using the undo data aging transaction DAG_UNDO.

You can undo data aging and use parallel processing for DBC exception profiles.

More Information

For more information on data aging, see SAP Library for SAP NetWeaver on SAP Help Portal at <http://help.sap.com/nw>. Select your SAP NetWeaver release and then choose ► [Application Help](#) ► [SAP NetWeaver Library: Function-Oriented View](#) ► [Solution Life Cycle Management](#) ► [Data Aging](#) ►.

Related Information

[Data Aging for Business Objects \[page 91\]](#)

3.2.2 Archiving

You can use transaction AOBJ to create archiving objects. You can specify archiving objects for preprocessing, writing, and deleting activities. For more information, see Customizing for [SAP NetWeaver](#) under ► [Application Server](#) ► [System Administration](#) ► [Data Archiving](#) ► [Archiving Object-Specific Customizing](#) ►.

We provide the following archiving objects with the appropriate settings:

Business Object	Archiving Object	Documentation
Rate Tables	SCMTMSTCRR	Archiving Rate Tables [page 109]
Agreements	SCMTMSFAG	Enhanced Archiving Agreements and RFQ Masters [page 108]

You can also extend the archiving objects for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA liners your own business requirements. You can specify the database tables from which the system archives the information for the archiving object.

You can use transaction SARA to schedule when the system executes the preprocessing, writing, and deleting activities for an archiving object. For more information, see ► [SAP Easy Access](#) ► [Tools](#) ► [Administration](#) ► [SARA](#) ► [Data Archiving](#) ►.

You can use the following features in transaction SARA:

- **Preprocessing**
We provide each business object with separate selection criteria to identify the instances of the business object that are ready for archiving. We provide each query with the same logic. The query selects the instances that are ready and calls the `CHECK_ARCHIVABILITY` action. The action checks the residence period and sets the archiving status to *Archiving in Process*. The action only runs across the relevant business object.

i Note

You define the residence period in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOBF Environment* ► *Archiving Adapter* ► *Maintain BO-specific Residence Periods* ►.

You can control the memory used during archive preprocessing by specifying the package size, and describing the number of documents being processed together in one SAP Logical Unit of Work (SAP LUW). Before the next package is selected and processed, allocated memory is released to keep the memory consumption for the preprocessing batch job constant.

- **Writing**
The system selects all instances of a business object that have the archiving status *Archiving in Process*. It copies the instances into the archive. You can control the memory used during writing in the same way as for preprocessing.
- **Deleting**
The system deletes all records that are archived from the registered database tables.
- **Deleting from Archive**
All Transportation Management (TM) archiving objects are ILM-enabled. For more information about SAP Information Lifecycle Management (SAP ILM), see <http://help.sap.com/erp>. Choose your release and open SAP Library. Choose ► *SAP ERP Cross-Application Functions* ► *Cross-Application Components* ► *SAP Information Lifecycle Management* ►.

You can load archived documents into the standard TM screens. The system uses only the display mode for these archived documents. We provide each business object in TM with the following settings:

- Individual archiving object
- Archiving status
Statuses include *Not Archived*, *Archiving in Process*, and *Archived*.
- `CHECK_ARCHIVABILITY` action
- Programs for each of the preprocessing, write, and delete steps
- Individual query to select business objects for the preprocessing step

For more information about the prerequisites you must specify before you can begin archiving, see [Prerequisites for Archiving \[page 105\]](#).

More Information

For more information about the Archive Information System, see SAP Library for *SAP NetWeaver* on SAP Help Portal at <http://help.sap.com/nw>. Choose your release. Under Application Help, open *SAP NetWeaver Library: Function-Oriented View*, and choose ► *Solution Life Cycle Management* ► *Data Archiving* ► *Data*

[Archiving in the ABAP Application System](#) > [Data Archiving with Archive Development Kit \(ADK\)](#) > [Archive Information System](#) .

For more information about tables and archiving objects, see SAP Library for [SAP NetWeaver](#) on SAP Help Portal at <http://help.sap.com/nw> . Choose your release. Under Application Help, open [SAP NetWeaver Library: Function-Oriented View](#), and choose [Solution Life Cycle Management](#) > [Data Archiving](#) > [Data Archiving in the ABAP Application System](#) > [Data Archiving with Archive Development Kit \(ADK\)](#) > [Archive Administration](#) > [Tables and Archiving Objects](#) .

Related Information

[Why Archive? \[page 104\]](#)

[Prerequisites for Archiving \[page 105\]](#)

3.2.2.1 Why Archive?

Archiving data from the production database makes the production database faster as it is carrying less unproductive data.

Archiving Dependent Objects

The system archives charge information, address information, or information from texts or attachments when you archive a business object. It also archives other objects that are used in business objects for tendering. It does not archive master data objects in general (with the exception of business partner master).

Index Criteria

You can specify database indexes to enable a query to search for data records efficiently. Ideally, you should have no more than 8 indexes defined for a database table; otherwise the performance of the query decreases. The database indexes in Transportation Management (TM) improve the performance of active business queries, and not archiving queries. For example, you usually do not search the database table for a product ID in forwarding order items for business reasons. For this reason, we do not provide database indexes for archiving. The system in general performs a full table scan during preprocessing.

More Information

For more information about the Archive Information System, see SAP Library for [SAP NetWeaver](#) on SAP Help Portal at <http://help.sap.com/nw> . Choose your release. Under Application Help, open [SAP NetWeaver Library: Function-Oriented View](#), and choose [Solution Life Cycle Management](#) > [Data Archiving](#) > [Data Archiving in the ABAP Application System](#) > [Data Archiving with Archive Development Kit \(ADK\)](#) > [Archive Information System](#) .

Related Information

[Archiving \[page 102\]](#)

3.2.2.2 Prerequisites for Archiving

To be considered for the preprocessing step in archiving, a business document must be closed for business (for example, the life cycle status must be *Completed* or *Canceled*). In addition, the residence period for a business document must be over.

The residence period is the minimum time in days between the date you closed a document and the date the system considers the document for archiving. You can specify the residence period for the following documents in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Archiving Adapter* ► *Maintain BO-Specific Residence Periods* ⌵:

- Agreements
- Rate Tables

We enable all the business objects in Transportation Management (TM) for archiving. You can review the archiving objects that we have assigned to the business objects in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Archiving Adapter* ► *Maintain BO-Specific Archiving Objects* ⌵.

To archive a master data object, the system must verify that the master data object is not used in an active business document. The system uses the where-used framework (WUF) to verify this.

Related Information

[Archiving \[page 102\]](#)

[Archiving for Master Data Objects \[page 105\]](#)

3.2.2.3 Archiving for Master Data Objects

When the system archives a business document, it also archives the identifiers of any master data objects used in the business document.

It is not critical if an active business document references a business document that has been archived. The fact that the object has been archived usually only impacts a small number of business documents, and the system can read the archived data from the archive database. A master data object can be used many times across different business documents. Because of this, you must perform additional checks before you archive a master data object.

Where-Used Framework

You can use the where-used framework (WUF) to identify the master data objects that are no longer being used. Because of the limitation in the number of database indexes, there are only limited WUF searches available for Transportation Management (TM). As a result, only a limited number of master data objects can be archived.

Related Information

[Archiving \[page 102\]](#)

[Where-Used Check for Objects \[page 106\]](#)

3.2.2.3.1 Where-Used Check for Objects

You can use transaction `WUF_OBJCUST` to review the objects that the where-used framework (WUF) includes in its where-used check. You can use transaction `WUF` to detect and display dependencies.

The system checks if the object which is checked is used by an instance of the defined subobjects. The WUF is used during archiving. If it does not find a usage, the object will be archived when the residence period is reached.

The following are the objects that the WUF includes in its where-used search:

Master Data Object	Other Object in Which the WUF Searches
Business Partner (/SCMB/BUFA)	- Duration-based charge (DBC) exception profile (/TMCSL/DDSM_EXCP) - Request for quotation (RFQ) translator (/TMCSL/RFQ) - Exception template (/TMCSL/ET)
Location (APOLOC)	Agreement (/SCMTMS/AGREEMENT)

Related Information

[Archiving for Master Data Objects \[page 105\]](#)

[Performing Where-Used Checks \[page 107\]](#)

3.2.2.3.2 Performing Where-Used Checks

You can perform a where-used check for most master data objects.

Context

The following master data objects can be included in the check:

- Locations
- Business Partner

Procedure

1. On the *SAP Easy Access* screen, choose ► *SAP Transportation Management* ► *SCM Basis* ► *Master Data* ► *General Master Data Functions* ► *WUF – Where-Used List* ►.
2. On the *Where-Used List* screen, enter the object type you want to check.
3. In the *Selection Criteria* screen area, enter the object value you want to check.
For example, enter a business partner number in a business partner check.
4. Under *Object Name* on the left side of the screen, select the object you want to check.
5. On the right side of the screen, choose the appropriate hosting object.
For example, choose *Agreement* or *Exception Template* for a business partner.

Results

The system displays the where-used information for the hosting object you select.

Related Information

[Archiving for Master Data Objects \[page 105\]](#)

[Where-Used Check for Objects \[page 106\]](#)

3.2.2.4 Archiving for Business Objects

The following are the archiving object and business object combinations you can use in processes for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA. You can use transaction SARA ([Archive Administration](#)) to perform the archiving.

Business Object	Archiving Object	Documentation
Agreements	SCMTMSFAG	Enhanced Archiving Agreements and RFQ Masters [page 108]
Rate Tables	SCMTMSTCRR	Archiving Rate Tables [page 109]

More Information

For more information about data archiving, see SAP Library for [SAP NetWeaver](#) on SAP Help Portal at <http://help.sap.com/nw>. Choose your release. Under Application Help, open [SAP NetWeaver Library: Function-Oriented View](#), and choose ► [Solution Life Cycle Management](#) ► [Data Archiving](#) ► [Data Archiving in the ABAP Application System](#) ► [Data Archiving with Archive Development Kit \(ADK\)](#) ► [Archive Information System](#) ►.

Related Information

[Archiving \[page 102\]](#)

3.2.2.4.1 Enhanced Archiving Agreements and RFQ Masters

The standard archiving object SCMTMSFAG is used for archiving and deleting agreements and freight agreement RFQ masters in Transportation Management (TM).

The standard object is enhanced to support the archiving of forwarding agreement quotations (FWAQs) in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA. The majority of functions in the option for container shipping liners are the same as in the standard object for archiving agreements and RFQ masters.

Structure

Programs

The following program is enhanced for SCMTMSFAG:

Program	Function
/SCMTMS/ARCH_FAG_PRE	Preprocessing

Prerequisites for Writing FWAQ Documents

If the following prerequisites are met, the system can archive a FWAQ:

- The document was in the database for the entire residence period.
- The document has the status *Canceled* or *Completed*

More Information

For more information about archiving agreements as part of TM standard features, see the product assistance for Transportation Management in SAP S/4HANA on SAP Help Portal at https://help.sap.com/s4hana_op and choose your release. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Basic Functions* ► *Data Management in Transportation Management* ► *Archiving in Transportation Management (TM)* ► *Archiving Objects for Business Objects* ► *Archiving Agreements and RFQ Masters (TM-MD-CM-AG)* ►.

Related Information

[Archiving for Business Objects \[page 108\]](#)

[Archiving \[page 102\]](#)

3.2.2.4.2 Archiving Rate Tables

You can use the archiving object SCMTMSTCRR to archive rate tables.

Structure

Tables

SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA uses the archiving object SCMTMSTCRR to archive data from the nodes of the business object model /TMCSL/TC_RATES.

Programs

The following programs are available for SCMTMSTCRR:

Program	Function
/SCMTMS/ARCH_TCRATES_PRE	<i>Preprocessing</i>
/SCMTMS/ARCH_TCRATES_WRI	<i>Write</i>
/SCMTMS/ARCH_TCRATES_DEL	<i>Delete</i>

Prerequisites for Writing Rate Tables

The system can archive a rate table if the document has existed in the database for longer than the configured residence period.

Functions

The *Preprocessing* and *Write* functions use the QU_FOR_CHECK_ARCHIVABILITY query to identify objects that have not yet been archived.

The *Preprocessing* function uses the CHECK_ARCHIVABILITY action to check whether the object can be archived. The archiving objects are given the archiving status *Archiving in Process* if they fulfill the following prerequisites:

- The non-archived rate table has existed in the database for longer than the business object (BO)-specific residence period. The residence period is configured in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Archiving Adapter* ► *Maintain BO-Specific Residence Periods* ►. The BO-specific residence period starts from the creation date of the rate table.
- If the rate table is a globally created rate table, it is no longer referenced in any non-archived calculation sheets.

The *Write* function saves all archiving objects that have the status *Archiving in Process* in an archiving document. You choose the option *ILM Action: Archiving* when executing the *Write* function. The system checks the residence policy configured with transaction IRMPOL, for the ILM object SCMTMSTCRR and audit area *ARCHIVING*. If the ILM end of residence duration is not reached for a rate table, the rate table will not be written into the archiving document.

Integration

Dependencies

All scales that are created from within a rate table are automatically marked for archiving when archiving begins for the rate table. Rate tables that are created from within a calculation sheet are automatically marked for archiving when archiving begins for the calculation sheet.

Before archiving, the system does not check for any references to master data objects used for charge calculation in business documents such as forwarding orders, freight orders, and settlement documents.

You cannot edit or delete a rate table when the archiving status is *Archiving in Process* or *Archived*.

You cannot reference a rate table in a calculation sheet if the rate table is marked for archiving.

Displaying Archived Schedules

You can access archived rate tables in the relevant [Archived Documents](#) personal object worklist. You can also use the archive information structure /SCMTMS/RATES for objects that have been archived using the archiving object SCMTMSTCRR to access archived rate tables using the Archive Information System.

More Information

For more information about the Archive Information System, see SAP Library for [SAP NetWeaver](#) on SAP Help Portal at <http://help.sap.com/nw>. Choose your release. Under Application Help, open [SAP NetWeaver Library: Function-Oriented View](#), and choose ► [Solution Life Cycle Management](#) ► [Data Archiving](#) ► [Data Archiving in the ABAP Application System](#) ► [Data Archiving with Archive Development Kit \(ADK\)](#) ► [Archive Information System](#) ►.

Related Information

[Archiving for Business Objects \[page 108\]](#)

[Archiving \[page 102\]](#)

3.2.2.5 ILM Objects for Business Objects

The following are the ILM object and business object combinations you can use for processes in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA:

Business Object	ILM Object	Documentation
Rates	SCMTMSTCRR	ILM Objects for Rate Tables [page 112]
Agreements	SCMTMSFAG	ILM Objects for Enhanced Agreements [page 113]

More Information

For more information about SAP ILM, see SAP Library on <http://help.sap.com/erp>. Choose your release, open SAP Library and then choose ► [SAP ERP Cross-Application Functions](#) ► [Cross-Application Components](#) ► [SAP Information Lifecycle Management](#) ►

Related Information

[Archiving \[page 102\]](#)

3.2.2.5.1 ILM Objects for Rate Tables

The ILM object `SCMTMSTCRR` is mapped to archiving object `SCMTMSTCRR`. You can find full information on mapping of ILM objects to archiving objects using transaction `IRM_CUST`.

Available Policy Categories

Policy Category	Description
RST	Residence Rules
RTP	Retention Rules

i Note

The policy category `RTP` is delivered by Transportation Management (TM). The policy category `RST` is provided by SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, for archiving the write process of rate tables using ILM residence rules.

i Note

The configurations for available time reference, available time offsets, and available condition fields are the same as those delivered by TM.

More Information

For more information about the ILM object for rate tables, including other configurations, see the product assistance for your SAP S/4HANA release on SAP Help Portal at https://help.sap.com/s4hana_op. Open the Product Assistance, choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Basic Functions* ► *Transportation Management (TM)* ► *Data Management in Transportation Management* ► *Archiving in Transportation Management (TM)* ► *ILM Objects for Business Objects* ► *SCMTMSTCRR - Rates* ►.

Related Information

[ILM Objects for Business Objects \[page 111\]](#)

3.2.2.5.2 ILM Objects for Enhanced Agreements

The ILM object `SCMTMSFAG` is mapped to archiving object `SCMTMSFAG`. You can find full information on mapping of ILM objects to archiving objects using transaction `IRM_CUST`.

Available Policy Categories

Policy Category	Description
RST	Residence Rules
RTP	Retention Rules

Note

The policy category `RTP` is delivered by Transportation Management (TM). The policy category `RST` is provided by SAP TM, lead to agreement for container shipping liners for SAP S/4HANA for archiving the write process of freight agreements using ILM residence rules.

Prerequisites for Writing Freight Agreement Documents

If the document was in the database for the entire residence period, the system can archive a freight agreement.

Note

The configurations for available time reference, available time offsets, and available condition fields are the same as those delivered by TM.

More Information

For more information about the ILM objects for freight agreements, including other configurations, see the product assistance for Transportation Management in SAP S/4HANA on SAP Help Portal at https://help.sap.com/s4hana_op, and choose your version. Open the product assistance and choose  **Enterprise**

Related Information

[ILM Objects for Business Objects \[page 111\]](#)

3.2.3 Blocking and Deletion of Personal Data

When a business partner or location is created in the system, it is available for use by different business documents, for example, partner agreement monitoring documents. Business partner or location master data that is no longer required in the system can be first blocked and later destroyed.

Overview

The system uses an end of purpose (EoP) check to determine whether the business partner or location is still relevant for business activities or can be blocked because the EoP has been reached.

The following business objects are included in the EoP check for the lead to agreement processes in the option for container shipping liners:

Business Partner	Location
Not applicable	/SCMTMS/FREIGHTAGREEMENT

The following business objects that deal with master data and use business partner or location data are excluded from the EoP check:

Business Partner	Location
/TMCSL/DDSM_EXCP_PROFILE	/TMCSL/DDSM_EXCP_PROFILE
TMCSL/EXCEPTION_TEMPLATE	/TMCSL/EXCEPTION_TEMPLATE
/TMCSL/RFQ_TRANSLATOR	/TMCSL/RFQ_TRANSLATOR

For legal reasons, it may be necessary to retain personal data related to a business partner or a location in the system for a specified period of time known as the retention period. The retention period is the total of the residence period and the blocking period. As soon as the residence period is exceeded, the business partner or location can be blocked and the blocking period starts. In this case, if the business partner or location is blocked, access to the personal data is limited and is allowed only for users with a special authorization. After

the blocking period expires, which is also the end of the retention period, personal data of blocked business partners and locations can be destroyed completely so that it can no longer be retrieved.

You use the SAP Information Lifecycle Management (ILM) component to support the deletion of personal data and to control the deletion and blocking of business partner master data and location master data.

For residence and retention periods, ILM policies must be defined in the customer system.

For more information see:

- [Start of Retention Time \(SoRT\) \[page 121\]](#)
- [End of Purpose Framework \[page 119\]](#)
- [Handling of Blocked Business Partners and Locations \[page 127\]](#)

Prerequisites

To use Data Protection and Privacy in the container shipping liners solution, the following settings are required:

- You have activated the following business functions:
 - Information Lifecycle Management (ILM)
 - Business Partner ILM (BUPA_ILM_BF)
 - Location Master ILM-Deletion (/TMCSL/SCMB_LOC_ILM_1)
- You have made the following Customizing settings:
 - Settings related to SAP ILM in Customizing for *SAP NetWeaver* under ► *Application Server* ► *Basis Services* ► *Information Lifecycle Management* ►
 - Settings related to the blocking and deletion of business partner master data in Customizing for *Cross-Application Components* under ► *Data Protection* ► *Blocking and Unblocking of Data* ►
 - Settings related to the blocking and deletion of location master data in Customizing for *Transportation Management* under ► *Master Data* ► *Transportation Network* ► *Location* ► *Location Master Data Deletion* ►
 - Settings related to the direct output agent (DOA) in Customizing for *Cross-Application Components* under ► *Cross-Application Components* ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *PPF Adapter for Output Management* ► *Maintain Output Management Adapter Settings* ►
- You have run transaction IRMPOL and maintained the required policies for the application-specific ILM objects and the master data ILM object CA_BUPA (for business partner) and the master data ILM object SCMB_LOC (for locations).
- You have run transaction BUS7 and activated the Data Protection and Privacy specific function modules for business partner archiving events ARCH4 and DELE2.

In Transportation Management (TM), Data Protection and Privacy for locations supports the location types Customer (1010), Transportation Service Provider (1020), and Vendor (1011).

For more information on the necessary settings see [Customizing Settings for Data Protection and Privacy \[page 117\]](#).

End of Business Check

An end of business check confirms that the documents using a certain business partner or location are completed in the context of Data Protection and Privacy, and therefore the business partner or location is no longer used in the system. This means the system can start the retention process for the business partner or location, assigning a start of retention time (SoRT).

For more information about the end of business conditions for TM documents, see [Business-Object-Specific End-of-Business Conditions \[page 123\]](#).

For more information about SoRT, see [Start of Retention Time \(SoRT\) \[page 121\]](#).

End of Purpose Check

The business system provides a central report to process an EoP check and record the EoP status for business partners or locations. If the defined residence time has elapsed since the SoRT, the report can block the business partner or location.

For more information, see [End of Purpose Framework \[page 119\]](#).

Related Information

- **Security Guide for TM in SAP S/4HANA**

For more information about security in TM in SAP S/4HANA, see http://help.sap.com/s4hana_op. Choose the relevant release and under *Product Documentation* open *Security Guide*.

- **SAP Information Lifecycle Management**

The SAP Information Lifecycle Management (SAP ILM) component supports the entire software lifecycle including the storage, retention, blocking, and deletion of data.

For more information about SAP ILM, see <http://help.sap.com/erp>. Open the Application Help and then choose ► *SAP ERP Cross-Application Functions* ► *Cross-Application Components* ► *SAP Information Lifecycle Management* ►.

3.2.3.1 Customizing Settings for Data Protection and Privacy

The following Customizing settings enable you to use Data Protection and Privacy in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA.

SAP Information Lifecycle Management (ILM) Customizing and Policy Settings

The basis for the blocking and deletion of personal data in Transportation Management (TM) is SAP Information Lifecycle Management (ILM).

The following ILM-specific settings are necessary:

- Define and maintain application rule groups
The application rule groups are used in the application-specific ILM policies and build the link between the application-specific ILM policies and the business-partner-specific or location-specific ILM policies. You can define an application rule group using transaction `IRM_CUST_CSS` for customer-specific settings for ILM objects or in Customizing for [SAP NetWeaver](#) under [► Application Server ► Basis Services ► Information Lifecycle Management ► Retention Management ► Make Customer-Specific Settings ►](#).
- Define application rule variants
Application rule variants are used in the master-data-specific ILM policies of the following ILM objects:

ILM Object	Location
CA_BUPA	Archiving Business Partner
SCMB_LOC	Location Master Data

These application rule variants provide a mapping by which the system determines the correct residence and retention times for a set of business partner or location data.

For more information about the use of application rule variants, see [Using Application Rule Variants \[page 123\]](#).

You can define an application rule variant and assign an application rule group to the application rule variant in Customizing as follows:

- Business Partner
See Customizing for [Cross-Application-Components](#) under [► Data Protection ► Blocking and Unblocking of Data ► Business Partner ► Define and Store Application Rule Variants for EoP Check ►](#).
- Locations
See Customizing for [Transportation Management](#) under [► Master Data ► Transportation Network ► Location ► Location Master Data Deletion ► Assign Application Rule Variants and Rule Groups for EoP Check ►](#).
- ILM policies to be maintained
 - Retention period for all application-specific ILM objects

- Residence period for master data ILM objects CA_BUPA and SCMB_LOC with audit area BUPA_DP
- Retention period for master data ILM objects CA_BUPA and SCMB_LOC

You define ILM policies in one of the following ways:

- In the menu for the ILM Retention Management Cockpit or the ILM Retention Warehouse Cockpit, choose ► [ILM Rules](#) ► [Edit Policies](#) ►.
- Use transaction IRMPOL.

For more information about the creation and handling of ILM policies, go to <http://help.sap.com/erp> and see:

- Editing ILM Policies
► [Application Help](#) ► [SAP ERP Cross-Application Functions](#) ► [Cross-Application Components](#) ► [SAP Information Lifecycle Management](#) ► [Using ILM Retention Management in the Application System](#) ► [Editing ILM Policies](#) ►
- Editing Residence Rules
► [Application Help](#) ► [SAP ERP Cross-Application Functions](#) ► [Cross-Application Components](#) ► [SAP Information Lifecycle Management](#) ► [Using ILM Retention Management in the Application System](#) ► [Editing ILM Policies](#) ► [Editing Residence Rules](#) ►
- Processing Audit Areas
► [Application Help](#) ► [SAP ERP Cross-Application Functions](#) ► [Cross-Application Components](#) ► [SAP Information Lifecycle Management](#) ► [Using ILM Retention Management in the Application System](#) ► [Processing Audit Areas](#) ►

Transportation Management Customizing Settings

The following TM-specific settings are necessary:

- Activate direct output agent for business object
To enable the system to write start of retention time (SoRT) information, you must enable the direct output agent (DOA) for the relevant business objects.

i Note

In the standard delivery, the DOA for the relevant business objects is disabled.

The table below shows the DOA configuration for the relevant business object:

Business Object	Node	Agent Name
/SCMTMS/FREIGHTAGREEMENT	Root	DPP_SORT_DETERMINATION

You can choose to handle the SoRT processing as a critical task (synchronous) or as an uncritical task (asynchronous).

i Note

In the option for container shipping liners, the DOA for the business objects is configured as an uncritical task (asynchronous).

You enable and maintain the DOA-specific settings in Customizing for [Cross-Application Components](#) under ► [Processes and Tools for Enterprise Applications](#) ► [Reusable Objects and Functions for BOPF Environment](#) ► [PPF Adapter for Output Management](#) ► [Maintain Output Management Adapter Settings](#) ►. For more information about SoRT, see [Start of Retention Time \(SoRT\) \[page 121\]](#).

- Activate Data Protection and Privacy-relevant function modules for business partner archiving events
To enable the system to delete the database table containing the SoRT information when a business partner is finally deleted, you need to activate the following function modules related to business partner archiving events ARCH4 and DELE2:

Archiving Event	Function Module
ARCH4 – Archiving: Delete Archived Data	/SCMTMS/DPP_BUPA_EVENT_ARCH4
DELE2 – Deletion Program: Delete	/SCMTMS/DPP_BUPA_EVENT_DELE2

You run transaction BUS7 to activate the above function modules.

Related Information

[Using Application Rule Variants \[page 123\]](#)

3.2.3.2 End of Purpose Framework

The system provides a central blocking report to process an end of purpose check and record the end of purpose status of business partner and location master data. The various stages in this process are outlined below.

End of Business

As soon as a business document such as a forwarding agreement document is completed, the business has ended for the business partner or location with respect to this document. As soon as all documents in which the business partner or location is used are completed, the end of business for the business partner or location is reached. End of business designates the start of retention time (SoRT) for the data.

Residence Period

The residence period is the defined period of time that must be exceeded before application data can be blocked or archived after the SoRT. During residence time, the data is still available to all users in the system.

The residence periods are defined in the Information Lifecycle Management (ILM) policies of the corresponding ILM objects as follows:

Master Data	ILM Object
Business Partner	CA_BUPA
Location	SCMB_LOC

The system selects the longest residence time as the final residence time.

If the residence period is exceeded, the end of purpose of the business partner or location is reached and it can be blocked.

End of Purpose

A business partner or location has reached end of purpose when:

- There are no open business documents in the system using the business partner or location.
- The residence time for the business partner or location has elapsed.

If a business partner or location has never had any business in the system, it can be blocked immediately without considering a residence time.

Blocking Period

Once the business partner or location reaches end of purpose, the blocking period starts and the system can block it. During the blocking period, access to the personal data of the business partner or location is restricted. Blocking of data can impact the system behavior.

Retention Period

The retention period is the defined period of time that must be exceeded before application data can be destroyed after the SoRT. The retention period is the total of the residence period and blocking period. When the specified retention time elapses, the system can delete the data.

The retention periods for business partners are defined in the ILM policies for ILM object CA_BUPA. The retention periods for locations are defined in the ILM policies for ILM object .

3.2.3.2.1 Start of Retention Time (SoRT)

Start of retention time (SoRT) designates the end of business (EoB) for business partners and locations. The SoRT is required to determine the end of purpose (EoP) according to the defined Information Lifecycle Management (ILM) policies and rules.

In SAP Transportation Management, lead to agreement for container shipping liners, the SoRT information is handled in two steps as follows:

- **Determination of the SoRT information**
Once a business document is completed and is saved, the system determines and stores the SoRT information in a database table according to business partner or location, business object, and application rule variant.
- **Use of the SoRT information**
During the EoP check, the system consults the database table containing the SoRT information to determine the relevant SoRT, and based on that, the correct end of residence period according to the maintained ILM policies and rules.

Determination of the SoRT Information

As soon as a business document is saved, the system checks if the document is completed in the context of Data Protection and Privacy. In this case, the system determines the SoRT information and stores it in a database table.

For more information on the conditions to be fulfilled to deem a document to have reached its end of business, see [Business-Object-Specific End-of-Business Conditions \[page 123\]](#).

SAP Transportation Management uses the direct output agent (DOA) `DPP_SORT_DETERMINATION` to trigger the SoRT determination.

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, the DOA is configured for the business object `/SCMTMS/FREIGHTAGREEMENT`.

You enable and maintain the DOA for the above business objects in Customizing for *Cross-Application Components* under **Processes and Tools for Enterprise Application** > *Reusable Objects and Functions for BOPF Environment* > *PPF Adapter for Output Management* > *Maintain Output Management Adapter Settings*.

For more information, see [Customizing Settings for Data Protection and Privacy \[page 117\]](#).

You can choose to handle the update of the SoRT information in two different modes:

- **Non-exclusive write lock**
Allows multiple updates.
- **Exclusive write lock:**
The table is locked until the COMMIT is finished.

Note

The standard delivery uses the non-exclusive write lock. Using the exclusive write lock may have implications for system performance.

You can implement the Business Add-In (BAdI) method `DETERMINE_SORT_WRITE_MODE` of the Business Add-In (BAdI) `/SCMTMS/BADI_DPP` to overwrite the standard setting.

For more information, see the following Customizing activities:

- For business partners, see Customizing for *Transportation Management* under [Business Add-Ins \(BAdIs\) for Transportation Management](#) > [Master Data](#) > [Business Partners](#) > [Data Protection](#) > [BAdI: Data Protection and Privacy](#).
- For locations, see Customizing for *Transportation Management* under [Business Add-Ins \(BAdIs\) for Transportation Management](#) > [Master Data](#) > [Transportation Network](#) > [Location](#) > [Data Protection](#) > [BAdI: Data Protection and Privacy](#).

Use of the SoRT Information

During the EoP check for a business partner or location, the system determines the relevant SoRT information from the database table containing the SoRT information. The SoRT information is required to determine the relevant ILM policies and to calculate the correct EoP time depending on the defined ILM policies.

Excluded Business Documents

Certain business objects that deal with master data are excluded from the data destruction process and are therefore also excluded from the SoRT handling. The system handles these master data objects and their use of business-partner-related or location-related data in the archiving process or the location destruction process. As soon as a business partner or location is archived or deleted, the system runs a where-used check that includes such master data. Thus, it is not possible to archive or delete a business partner or location as long as such documents are still in use in the system.

Related Information

[Customizing Settings for Data Protection and Privacy \[page 117\]](#)

[Business-Object-Specific End-of-Business Conditions \[page 123\]](#)

3.2.3.2.2 Business-Object-Specific End-of-Business Conditions

The following table lists the lead to agreement business objects that the system considers during the end of purpose (EoP) check and the end of business (EoB) condition:

Business Object	EoB Condition	New Business Object for Container Shipping Liners or Enhanced Standard Business Object
Agreements (FAG) Agreement Category: • Initial • Service Product	Agreement Status: Deactivated	Enhanced Standard Business Object
Agreements (FAG) Agreement Category: • RFQ • RFQ Assignment • FWAQ Child	RFQ/Quotation Status: • Completed • Canceled	Enhanced Standard Business Object

3.2.3.2.3 Using Application Rule Variants

Application rule variants provide a mapping that allows the system to determine the correct end of residence and retention date for a set of business partner or location data.

Context

The use of application rule variants is necessary if the system has to consider more than one residence or retention rule in an application where business partner or location data is used.

Procedure

1. You define application rule groups.

To use the concept of application rule variants, you need to define application rule groups. These rule groups are used in the application-specific Information Lifecycle Management (ILM) policies and provide the link between the application-specific ILM policies and the business-partner-specific or location-specific ILM policies. The business-partner-specific or location-specific ILM policies use the application rule variant.

For more information, see Customizing for *SAP NetWeaver* under ► *Application Server* ► *Basis Services* ► *Information Lifecycle Management* ► *Retention Management* ► *Make Customer-Specific Settings* ► (transaction `IRM_CUST_CSS`.)

2. You define an application rule variant.

You create an application rule variant and assign an application rule group to a variant in Customizing as follows:

- Business partners
See Customizing for *Cross-Application Components* under ► *Data Protection* ► *Blocking and Unblocking of Data* ► *Business Partner* ► *Define and Store Application Rule Variants for EOP Check* ►.
- Locations
See Customizing for *Transportation Management* under ► *Master Data* ► *Transportation Network* ► *Location* ► *Location Master Deletion* ► *Assign Application Rule Variants and Rule Groups for EoP Check* ►.

i Note

For container shipping liner processes, the specific ILM objects and the related condition fields are available as part of the container shipping liners option. The customer is responsible for the maintenance of policies and application rule variants.

3. You edit policies.

- Application-specific policies
If the usage of an application rule group is activated for the ILM object, then the field application rule group is available in the policy.
- Business-partner-specific and location-specific policies
The application rule variant is available as a condition field and can be included in the policy assigned to, for example, `CA_BUPA` for business partner and `SCMB_LOC` for locations. The application rule variant is linked to an application rule group.

For more information about editing policies, see <http://help.sap.com/erp>. Open the Application Help and choose ► *SAP ERP Cross-Application Functions* ► *Cross-Application Components* ► *SAP Information Lifecycle Management* ► *Using ILM Retention Management in the Application System* ► *Editing ILM Policies* ►.

Related Information

[Example: Application Rule Variants \[page 125\]](#)

3.2.3.2.3.1 Example: Application Rule Variants

The following example refers to an application rule variant with the Information Lifecycle Management (ILM) object `CA_BUPA`. The same procedure applies to the ILM object `SCMB_LOC`.

You want to define a specific residence and retention period for business partners ILM object `CA_BUPA` based on the transportation mode category of a transportation request (TRQ). To achieve this, you use an application rule variant.

You want to define different residence and retention periods according to the mode of transport category as follows:

- Road - 1 year
- Ocean - 3 years

You first define an application rule group for each of these mode of transport categories, named `ROAD` and `OCEAN` respectively. For each application rule group, you assign the fields that define the retention time as follows:

- You specify that the retention period for both is to be measured in years.
- You specify the retention times required for each group as follows:
 - Road - 1 year
 - Ocean - 3 years

Once you have created an application rule group, you activate the use of rule groups for the relevant ILM object `SCMTMSTRQ`. Now, it is possible to maintain ILM policies for ILM object `SCMTMSTRQ` depending on the different application rule groups (`ROAD` and `OCEAN`). In the next step, you define the application rule variants `TRQ_ROAD` and `TRQ_OCEAN` and link them to application rule groups `ROAD` and `OCEAN`.

The application rule variants (`TRQ_ROAD` and `TRQ_OCEAN`) are now available for inclusion in the ILM policies of business partner ILM object `CA_BUPA`.

Finally, you define policies for business partner ILM object `CA_BUPA`. By specifying one of the defined variants you can vary the residence and retention times according to the mode of transport category.

Related Information

[Using Application Rule Variants \[page 123\]](#)

3.2.3.2.4 Business-Object-Specific Settings to Write SoRT Information

Transportation Management (TM) uses the direct output agent (DOA) to write the start of retention time (SoRT) information for each business object.

The following DOA output management settings are delivered for each relevant business object. As default, the direct output agents in the context of Data Protection and Privacy are disabled.

Settings	Value
Node	Root
Agent Name	DPP_SORT_DETERMINATION
Synchronous/Asynchronous	B Has Uncritical o/p: Process after Commit (background)
Processor Class	/SCMTMS/CL_OUTMGMT_DOA_DPP
Enable	No

For each business object to be considered with respect to Data Protection and Privacy, the DOA needs to be enabled.

For more information, see Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *PPF Adapter for Output Management* ► *Maintain Output Management Adapter Settings* ►.

Related Information

[End of Purpose Framework \[page 119\]](#)

3.2.3.2.5 Rebuilding of SoRT Information

You can use report /SCMTMS/R_EOP_INDEX_REBUILD to rebuild the start of retention time (SoRT) information for a specific combination of business object and business partner.

This may be necessary, for example, in the following cases:

- You want to initially build the SoRT information for existing business documents for one of the following reasons:
 - You are using Data Protection and Privacy functions for the first time.
 - You activate switch BUPA_ILM_SWITCH or switch /SCMB/LOC_ILM_SFW_01 for the first time.
 - You activate switch BUPA_ILM_SWITCH or switch /SCMB/LOC_ILM_SFW_01, but the direct output agent is disabled and will be enabled in a later step.
- SoRT information is missing for some business documents.
- New application rule variants or policies are introduced in the Information Lifecycle Management (ILM) component, and thus new residence times become relevant.

System Performance Considerations

For system performance reasons, the report can be started in parallel mode. If you choose to run multiple work processes, the system groups documents into packages and runs parallel work processes to determine the SoRT information.

You can specify a maximum number of processes to run and can limit the size of packages by specifying the maximum number of documents to be included in a package.

3.2.3.3 End of Purpose Check

The system uses the end of purpose (EoP) check to decide whether it can block a business partner or location. A central blocking report calls the EoP check for each registered application, including SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA.

The following table shows the blocking report for each business object.

Master Data	Report
Business Partner	BUPA_PREPARE_EOP
Location	/SCMB/RLOC_PREPARE_EOP

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, a business partner or location is deemed to have reached EoP if:

- It is not used in any container shipping liners business document.
- There are no open business documents relevant to the business partner or location. All existing documents using the business partner or location are completed.
In the container shipping liners setup, the system considers business documents of the following business objects:
 - Location: /SCMTMS/FREIGHTAGREEMENT
- The residence period defined in the relevant Information Lifecycle Management (ILM) policies for the business partner or location has elapsed.

As soon as a business partner or location has reached its EoP, the system can block it.

3.2.3.4 Handling of Blocked Business Partners and Locations

Blocking of data can impact the system behavior in the following ways:

- Display
The system does not display personal data of a blocked business partner or location.
- Change
It is not possible to change a completed business document that contains a blocked business partner or location.

- **Create**
It is not possible to create a business document using a blocked business partner or location. As soon as a blocked business partner or location is entered, the system raises an error message.
- **Search**
The system does not display blocked business partners or locations in the result list of search helps. The same is true for technical queries on the business object for business partners /SCMTMS/BUPA and the business object for locations /SCMTMS/LOCATION.

Special Authorization

- **Business Partner**
It is possible to display blocked data if a user has special authorization (PFCG rule: SAP_CA_BP_DP_ADMIN); however, it is still not possible to create or change completed business documents that contain a blocked business partner.
- **Location**
To display a blocked location, you need the authorization for authorization object /TMCSL/LOC combined with the appropriate authorization group settings in Customizing. You can define the authorization group in Customizing for *Transportation Management* under ► *Master Data* ► *Transportation Network* ► *Location* ► *Location Master Deletion* ► *Define Authorization Group Indicating Blocked Master Data* ►.

3.2.3.5 Destruction Objects for Business Objects

The following table lists the destruction object and business object combinations that you can use in processes for SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA.

You can use transaction ILM_DESTRUCTION (*Data Destruction*) to perform the destruction. Transaction code DOBJ can be used to configure data destruction objects.

Business Object	Destruction Object	Documentation
DBC Exception Profiles	/TMCSL/ DDSM_EXCP_PROF_DESTRUCT	Destructing DBC Exception Profiles [page 129]
Exception Templates	/TMCSL/EXCEP- TION_TEM_DESTRUCT	Destructing Exception Templates [page 131]
RFQ Translator	/TMCSL/RFQ_TRANSLA- TOR_DESTRUCT	Destructing RFQ Translator Data [page 133]

3.2.3.5.1 Destructing DBC Exception Profiles

Use the data destruction object `/TMCSL/DDSM_EXCP_PROF_DESTRUCT` to destroy duration-based charges (DBC) profile data that is no longer relevant following the expiry of its retention period. As the data is not archived, you can use the data destruction program to delete it and thus reduce the amount of stored data.

Prerequisites

You need the following authorizations for data destruction:

Authorization Object	Description
S_ARCD_OBJ	Execute data destruction run for data in the database
S_ARCD_RES	Include resources in deletion packages
S_ARCD_RUN	Execute data destruction run

Context

Program

You can run the following SAP NetWeaver Information Lifecycle Management (ILM) enabled program with data destruction (transaction `ILM_DESTRUCTION`) for this data destruction object:

Function	Program
Destroy	<code>/TMCSL/DDSM_EXCP_PROF_DES</code>

Business Object

Transportation Management (TM) uses the data destruction object `/TMCSL/DDSM_EXCP_PROF_DESTRUCT` to destruct data from the nodes of the business object model `/TMCSL/DDSM_EXCP_PROFILE`.

Standard Fields for ILM Object

This data destruction object supports the ILM function for destroying data. You use the following standard fields to create ILM policies (transaction `IRMPOL`) for the data destruction object. The ILM object `TMCSL_DDSM_EXCP_PROF_DESTRUCT` belongs to this data destruction object.

Available Time Reference

The retention period for the data starts on the COMPLETION_DATE (End Date), which uses the following database attribute to determine the start date:

Source Field	Description
CHANGED_ON	Created On

Available Condition Fields

Condition Field	Description
PROFILE_ID	DBC Profile ID

Available Policy Categories

Policy Category	Description
RTP	Retention Rules

Procedure

1. Start transaction ILM_DESTRUCTION (Data Destruction).
2. In the *Type of Data to Be Destroyed* group box, select the *Data from the Database* radio button.
3. In the *Restrictions* group box, enter the ILM object TMC SL_DDSM_EXCP_PROF_DESTRUCT.
4. Choose *Execute*.
5. On the *Data Destruction from the Database: Initial Entry* screen, choose the action *Destroy*.
6. Define at least one variant for the data destruction program.

You can restrict the data to be selected for destruction by the data destruction program by entering specific criteria.

7. Define a start date and the spool parameters for the data destruction run.
8. Choose *Execute*.

Related Information

[Destruction Objects for Business Objects \[page 128\]](#)

3.2.3.5.2 Destructing Exception Templates

Use the data destruction object `/TMCSL/EXCEPTION_TEM_DESTRUCT` to destroy destroy exception template data that is no longer relevant following the expiry of its retention period. As the data is not archived, you can use the data destruction program to delete it and thus reduce the amount of stored data.

Prerequisites

You need the following authorizations for data destruction:

Authorization Object	Description
S_ARCD_OBJ	Execute data destruction run for data in the database
S_ARCD_RES	Include resources in deletion packages
S_ARCD_RUN	Execute data destruction run

Context

Program

You can run the following SAP NetWeaver Information Lifecycle Management (ILM) enabled program with data destruction (transaction `ILM_DESTRUCTION`) for this data destruction object:

Function	Program
Destroy	<code>/TMCSL/EXCEPTION_TEMPLATE_DES</code>

Business Object

The data destruction program destroys all data from the business object `/TMCSL/EXCEPTION_TEMPLATE` (Surcharge Exception Template).

Standard Fields for ILM Object

This data destruction object supports the ILM function for destroying data. You use the following standard fields to create ILM policies (transaction `IRMPOL`) for the data destruction object. The ILM object `TMCSL_EXCEPTION_TEMP_DESTRUCT` belongs to this data destruction object.

Available Time Reference

The retention period for the data starts on the COMPLETION_DATE (End Date), which uses the following database attribute to determine the start date:

Source Field	Description
CHANGED_ON	Created On

Available Condition Fields

Condition Field	Description
EXCEPTION_TYPE	Exception Template Type
TEMPLATE_ID	Exception Template ID

Available Policy Categories

Policy Category	Description
RTP	Retention Rules

Procedure

1. Start transaction `ILM_DESTRUCTION` (Data Destruction).
2. In the *Type of Data to Be Destroyed* group box, select the *Data from the Database* radio button.
3. In the *Restrictions* group box, enter the ILM object `TMCSL_EXCEPTION_TEMP_DESTRUCT`.
4. Choose *Execute*.
5. On the *Data Destruction from the Database: Initial Entry* screen, choose the action *Destroy*.
6. Define at least one variant for the data destruction program.

You can restrict the data to be selected for destruction by the data destruction program by entering specific criteria.

7. Define a start date and the spool parameters for the data destruction run.
8. Choose *Execute*.

Related Information

[Destruction Objects for Business Objects \[page 128\]](#)

3.2.3.5.3 Destructing RFQ Translator Data

Use the data destruction object `/TMCSL/RFQ_TRANSLATOR_DESTRUCT` to destroy RFQ Translator data that is no longer relevant following the expiry of its retention period. As the data is not archived, you can use the data destruction program to delete it and thus reduce the amount of stored data.

Prerequisites

You need the following authorizations for data destruction:

Authorization Object	Description
S_ARCD_OBJ	Execute data destruction run for data in the database
S_ARCD_RES	Include resources in deletion packages
S_ARCD_RUN	Execute data destruction run

Context

Program

You can run the following SAP NetWeaver Information Lifecycle Management (ILM) enabled program with data destruction (transaction `ILM_DESTRUCTION`) for this data destruction object:

Function	Program
Destroy	<code>/TMCSL/RFQ_TRANSLATOR_DES</code>

Business Object

The data destruction program destroys all data from the business object `/TMCSL/RFQ_TRANSLATOR` (RFQ Translator).

Standard Fields for ILM Object

This data destruction object supports the ILM function for destroying data. You use the following standard fields to create ILM policies (transaction `IRMPOL`) for the data destruction object. The ILM object `TMCSL_RFQ_TRANSLATOR_DESTRUCT` belongs to this data destruction object.

Available Time Reference

The retention period for the data starts on the COMPLETION_DATE (End Date), which uses the following database attribute to determine the start date:

Source Field	Description
CHANGED_ON	Created On

Available Condition Fields

Condition Field	Description
EXCEPTION_TYPE	Exception Template Type
TEMPLATE_ID	Exception Template ID

Available Policy Categories

Policy Category	Description
RFQ_ID	RFQ ID
RFQ_TYPE	RFQ Translator - RFQ Type

Procedure

1. Start transaction ILM_DESTRUCTION (Data Destruction).
2. In the *Type of Data to Be Destroyed* group box, select the *Data from the Database* radio button.
3. In the *Restrictions* group box, enter the ILM object TMCSL_RFQ_TRANSLATOR_DESTRUCT.
4. Choose *Execute*.
5. On the *Data Destruction from the Database: Initial Entry* screen, choose the action *Destroy*.
6. Define at least one variant for the data destruction program.

You can restrict the data to be selected for destruction by the data destruction program by entering specific criteria.

7. Define a start date and the spool parameters for the data destruction run.
8. Choose *Execute*.

Related Information

[Destruction Objects for Business Objects \[page 128\]](#)

3.2.3.6 ILM Objects for Business Objects

The Information Lifecycle Management (ILM) framework calculates the longest retention period starting from the start of retention time (SoRT) based on the retention times maintained for the business partner or the location in ILM. With this, the framework can determine how long the business partner or location is blocked and the date at which it can be destroyed.

The business partner can be archived during the blocking period if required. When the business partner or location has reached the end of retention, the system deletes it. If the rate of growth of the volume of business object data is so low that data archiving is not needed, then an alternative method for data destruction is provided in the option for container shipping liners through a data destruction object. The following table lists the ILM object and business object combinations that you can use for processes in SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA:

Business Object	ILM Object	Documentation
DBC Exception Profile	TMCSL_DDSDM_EXCP_PROF_DESTRUCT	ILM Objects for DBC Exception Profiles [page 135]
Exception Template Bill of Lading	TMCSL_EXCEPTION_TEMP_DESTRUCT	ILM Objects for Exception Templates [page 137]
RFQ Translator	TMCSL_RFQ_TRANSLATOR_DESTRUCT	ILM Objects for RFQ Translator [page 138]

You can use transaction `ILM_DESTRUCTION` (Data Destruction) to perform the data destruction.

For more information about SAP ILM, see <http://help.sap.com/erp>. Open Application Help and choose **SAP ERP Cross-Application Functions** > **Cross-Application Components** > **SAP Information Lifecycle Management** >

3.2.3.6.1 ILM Objects for DBC Exception Profiles

The Information Lifecycle Management (ILM) object `TMCSL_DDSDM_EXCP_PROF_DESTRUCT` (Duration-Based Charge (DBC) Exception Profile) is mapped to destruction object `/TMCSL/DDSDM_EXCP_PROFILE`. You can find full information about the mapping of ILM objects to destruction objects using transaction `IRM_CUST`.

Available Policy Categories

Policy Category	Description
RTP	Retention Rules

i Note

The policy category RST - Residence Rules is not applicable for the DBC exception profile process since there's no end of purpose concept for DBC exception profiles.

Available Time Reference

Information Retention Manager (IRM) Constant	Description
COMPLETION_DATE	End Date

Available Time Offsets

IRM Constant	Description
END_OF_MONTH	End of Month
END_OF_QUARTER	End of Quarter
END_OF_YEAR	End of Year

Available Condition Fields

Condition Field	Description
PROFILE_ID	DBC Profile ID

For value determination for time references or condition fields use transaction `IRM_CUST`.

Related Information

[ILM Objects for Business Objects \[page 135\]](#)

3.2.3.6.2 ILM Objects for Exception Templates

The Information Lifecycle Management (ILM) object `TMCSL_EXCEPTION_TEMP_DESTRUCT` (Exception Template) is mapped to destruction object `/TMCSL/EXCEPTION_TEM_DESTRUCT`. You can find full information about the mapping of ILM objects to destruction objects using transaction `IRM_CUST`.

Available Policy Categories

Policy Category	Description
RTP	Retention Rules

i Note

The policy category RST - Residence Rules is not applicable for the exception template process since there's no end of purpose concept for exception templates.

Available Time Reference

Information Retention Manager (IRM) Constant	Description
COMPLETION_DATE	End Date

Available Time Offsets

IRM Constant	Description
END_OF_MONTH	End of Month
END_OF_QUARTER	End of Quarter
END_OF_YEAR	End of Year

Available Condition Fields

Condition Field	Description
EXCEPTION_TYPE	Exception Template Type
TEMPLATE_ID	Exception Template ID

For value determination for time references or condition fields use transaction `IRM_CUST`.

Related Information

[ILM Objects for Business Objects \[page 135\]](#)

3.2.3.6.3 ILM Objects for RFQ Translator

The Information Lifecycle Management (ILM) object `TMCSL_RFQ_TRANSLATOR_DESTRUCT` (RFQ Translator) is mapped to destruction object `/TMCSL/RFQ_TRANSLATOR_DESTRUCT`. You can find full information about the mapping of ILM objects to destruction objects using transaction `IRM_CUST`.

Available Policy Categories

Policy Category	Description
RTP	Retention Rules

Note

The policy category RST - Residence Rules is not applicable for the RFQ Translator process since there's no end of purpose concept for RFQ Translator.

Available Time Reference

Information Retention Manager (IRM) Constant	Description
COMPLETION_DATE	End Date

Available Time Offsets

IRM Constant	Description
END_OF_MONTH	End of Month
END_OF_QUARTER	End of Quarter
END_OF_YEAR	End of Year

Available Condition Fields

Condition Field	Description
RFQ_ID	RFQ ID
RFQ_TYPE	RFQ Translator - RFQ Type

For value determination for time references or condition fields use transaction `IRM_CUST`.

Related Information

[ILM Objects for Business Objects \[page 135\]](#)

3.2.3.7 Enhancement Options for Blocking and Deletion

You can use the Business Add-In (BAI) `/SCMTMS/BADI_DPP` to overwrite some standard settings or results for Data Protection and Privacy in Transportation Management (TM). It enables you, for example, to define your own end of business (EoB) conditions.

For more information, see:

- Business Partners
Customizing for *Transportation Management* under ► *Business Add-Ins (BAIs) for Transportation Management* ► *Master Data* ► *Business Partners* ► *Data Protection* ► *BAI: Data Protection and Privacy* ►.
- Locations
Customizing for *Transportation Management* under ► *Business Add-Ins (BAIs) for Transportation Management* ► *Master Data* ► *Transportation Network* ► *Location* ► *Data Protection* ► *BAI: Data Protection and Privacy* ►.

3.2.4 Change Tracking

You can use this function to display which data was changed, how it was changed, when it was changed, and by whom it was changed for the following business documents:

- Rate Table
- Agreement
- DBC Exception Profile
- Exception Template
- RFQ Translator

Prerequisites

- Change tracking is enabled by default for each business document. Make sure that there are no business objects maintained with the *Enable Change Document* field as *No* in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Basic Settings* ► *Maintain Change Document Settings for Business Object* ⌵.
- Make sure you have maintained the following change document objects in Customizing for *Cross-Application Components* under ► *Processes and Tools for Enterprise Applications* ► *Reusable Objects and Functions for BOPF Environment* ► *Maintain BO-Specific Change Document Objects* ⌵:

Business Object	Change Document Object
/SCMTMS/TC_RATES	/TMCSL/CD_RATE
/SCMTMS/FREIGHTAGREEMENT	/TMCSL/CD_FAG
/TMCSL/DDSM_EXCP_PROFILE	/TMCSL/DDSM_EXC
/TMCSL/EXCEPTION_TEMPLATE	/TMCSL/EX_TMP
/TMCSL/RFQ_TRANSLATOR	/TMCSL/RFQ_TRAN

Note

Most of the change document objects are delivered by default for container shipping liners business objects. For those standard business objects (for example, /SCMTMS/TC_RATES) where there are enhanced fields that are required for change tracking, the specific standard change document objects need to be replaced.

Features

The changes are displayed on the *Change Documents* tab on the user interfaces of the business documents.

i Note

The [Change Documents](#) tab is not shown by default. However, you can display it by choosing the button for personalizing your user interface. If you want to display more technical information, you can personalize the views.

You can display the changes in the following views:

- Flat View
In this view, you can see all the changes made to your business document and the relevant information in a flat list.
- Hierarchical View
In this view, you can see who changed the business document and when it was changed. If you select a line, more details are shown in the lower part of the screen, for example, what exactly was changed.

To display the changes, you need to choose [Apply](#). You can filter the data that is displayed by entering search criteria.

Depending on the view type that you have chosen, you can use one of the following search criteria to filter your data:

- Flat View Search Criteria
You can search by user, from date, and to date. Also, you can search by the fields of a business object node (technical name or data access definition).
- Hierarchical View Search Criteria
You can search by user, from date, and to date.

4 Forwarding Agreement Quotations

A forwarding agreement quotation (FWAQ) is an individual business document that you, as a carrier or logistics service provider (LSP), proactively send to a shipper or another LSP to bid for the provision of future transportation services in one or more trade lanes for a defined period.

You can also use an FWAQ to respond to a quotation request (from a shipper or LSP) with your rates for transportation services.

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, FWAQs are based on the FWAQ business document in Transportation Management with enhancements in the following areas:

- Header information

The following information has been added to the header of the FWAQ:

- Potential target award (PTA)
- Minimum quantity commitment (MQC)
- Carrier space commitment (CSC)
- Instruction sets
- Agreement creation
- Duration-based charges (DBC)

- Request-response structure

An FWAQ is a collection of request lines and their corresponding response lines. The FWAQ item structure has been enhanced to hold request lines and additional details in the leading charge type rate table. The response item rate table for a leading charge type mirrors the structure of the request item rate table. The response item rate lines are related directly to the request item rate table lines (request lines).

- Advanced flat view

The flat view has been enhanced to work with request and response lines. The flat view can be integrated with SAP Transportation Management, network and operations for container shipping liners for SAP S/4HANA to build rates from existing tariffs or customer agreements, and to use advanced surcharge structures, rate construction, and life-cycle management in response lines.

Related Information

[Forwarding Agreement Quotation Creation \[page 143\]](#)

For more information about the standard TM functionality for FWAQs, see the product assistance for Transportation Management in SAP S/4HANA on SAP Help Portal at https://help.sap.com/s4hana_op and choose your version. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management (TM)* ► *Agreement Management* ► *Forwarding Agreement Quotation* , or search for **Forwarding Agreement Quotation**.

4.1 Forwarding Agreement Quotation Creation

Forwarding agreement quotations (FWAQs) can be created manually or by using the request for quotation (RFQ) translator.

You can use the RFQ translator to upload tenders from a Microsoft Excel file and create an FWAQ in the system. When creating an FWAQ manually, you can create it from scratch, or you can use a template that you have already defined in the [Create FWAQ Template](#) app in your SAP Fiori launchpad.

Once the FWAQ is complete, you can create a forwarding agreement (FWA) or forwarding agreement quotation assignment (FWAQ assignment).

FWAQs in the container shipping liners application contain the following functions, which allow you to efficiently respond to customer requests:

- Request lines creation
- FWAQ assignment
- Response lines generation
- Status management
- Context information
- Routing integration
- Rates building
- Conversion to FWA

Related Information

[Manual Creation of Forwarding Agreement Quotations \[page 160\]](#)

[Forwarding Agreement RFQ Translator \[page 144\]](#)

[Creating Request Lines \[page 166\]](#)

[Forwarding Agreement Quotation Assignment \[page 167\]](#)

[Response Lines Generation \[page 168\]](#)

[Status Management of Response Lines \[page 172\]](#)

[Viewing Context Information \[page 173\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

[Rate Building in Response Lines \[page 173\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreement Quotations \[page 142\]](#)

4.1.1 Forwarding Agreement RFQ Translator

Forwarding Agreement Request for Quotation (RFQ) Translator is a tool that you can use to translate Microsoft Excel file content into forwarding agreement quotations (FWAQs) in the SAP Transportation Management (SAP TM) system.

Upload Process

The upload process involves the following steps:

1. You generate the SAP Application Interface Framework (SAP AIF) interface using the [Generation of Structure from Uploaded Excel File](#) screen (transaction /TMCSL/L2A_GEN01). This is a one-time setup activity that needs to be done before you can upload a Microsoft Excel file.
2. You create the RFQ header using the [RFQ Translator: Excel Upload](#) screen (transaction /TMCSL/L2A_UP01).
3. You select an RFQ header and then upload the Microsoft Excel file using the [RFQ Translator: Excel Upload](#) screen (transaction /TMCSL/L2A_UP01).

When a file is uploaded, the system keeps a trace that matches the individual Microsoft Excel lines to a specific request line in the quotation.

RFQ Translator: Excel Upload Screen

The [RFQ Translator: Excel Upload](#) screen is composed of the following sections:

- Upload Mode
The possible options are as follows:
 - [Upload](#)
You select this option when you are uploading the initial Microsoft Excel file received from the customer, or during a negotiation round for subsequent uploads with customer feedback.
 - [New Negotiation Round](#)
When you select this option, the negotiation round is incremented by one. It indicates the start of a new negotiation round during the tendering process.
 - [Off Tender](#)
You select this option when the agreement is already created and the tendering process is closed. It allows you to add new rate request lines in the existing agreement. The system generates a new FWAQ with version 0 and only creates the request lines available in the latest Microsoft Excel file.
- Rate Lines
You can enter the specific set of Microsoft Excel rows that contain the tender information if the tender details are segregated. Alternatively, you can instruct the system to upload all of the available rows in the Microsoft Excel file by choosing the [All Lines](#) option.
- Boilerplate
You can indicate whether the Microsoft Excel File to be uploaded contains boilerplate information.
- RFQ Maintenance
You can create, edit, and delete RFQ headers, and also display the related FWAQs.

- **Related FWAQ**
You can view the related FWAQs for the selected RFQ header and also navigate to the log for the selected FWAQ.

You can perform the following tasks in the *RFQ Translator: Excel Upload* screen:

- Creating RFQ Headers
- Editing RFQ Headers
- Creating RFQ Headers by Copying Existing RFQ Headers
- Deleting RFQ Headers
- Displaying Related FWAQs
- Displaying the Log for RFQ Translator Upload

Related Information

[Generating AIF Interfaces from Microsoft Excel Files \[page 145\]](#)

[Creating RFQ Headers \[page 147\]](#)

[Editing RFQ Headers \[page 149\]](#)

[Creating RFQ Headers by Copying Existing RFQ Headers \[page 150\]](#)

[Deleting RFQ Headers \[page 151\]](#)

[Displaying Related FWAQs \[page 152\]](#)

[Displaying the Log for RFQ Translator Upload \[page 153\]](#)

4.1.1.1 Generating AIF Interfaces from Microsoft Excel Files

Convert a request for quotation (RFQ) Microsoft Excel file to an SAP Application Interface Framework interface using the *Generation of Structure from Uploaded Excel File* screen (transaction /TMCSL/L2A_GEN01).

Prerequisites

- The SAP Application Interface Framework add-on component is installed in the system.
- The application interface framework (AIF) namespace is defined in the system.
- Workbench and Customizing transport requests are available in the system to capture the relevant details of the SAP Application Interface Framework interface and the system-generated structures and table types.

Context

In this process, the data from the Microsoft Excel file is converted and mapped to the SAP Transportation Management (SAP TM) input structure. The system generates the data structure and the table type for the Microsoft Excel file that is to be uploaded, and also creates the SAP Application Interface Framework interface and file adapter. This is a one-time setup activity that needs to be done before you upload a Microsoft Excel file.

Procedure

1. Start transaction /TMCSL/L2A_GEN01.

The *Generation of Structure from Uploaded Excel File* screen is displayed.

2. In the *File on Local PC* section, enter the following details:
 - Path of the RFQ Microsoft Excel file on the presentation server provided by the customer
 - Name of the Microsoft Excel worksheet that contains the tender details
 - Row number that contains the column details
3. In the *AIF Related* section, enter the following details:
 - Namespace
 - Interface Name
 - Description
 - Interface Version
 - Data Structure
 - Table Type of Data Structure
 - Member of Raw Structure
 - Raw Structure
 - Configuration ID
4. If the Microsoft Excel file contains a boilerplate, then select the *Has Boilerplate* checkbox and enter the following details:
 - Name of the worksheet
 - Row number of the boilerplate
 - Column name of the boilerplate
5. In the *Transport Information* section, enter the transport details.
6. Choose *Execute*.

Results

The SAP Application Interface Framework Interface is generated with the details provided.

Next Steps

To complete the configuration of the SAP Application Interface Framework interface, you need to map the generated raw structure to the RFQ Translator destination structure in SAP Application Interface Framework Customizing (transaction `/AIF/CUST`).

Related Information

[Creating RFQ Headers \[page 147\]](#)

[Editing RFQ Headers \[page 149\]](#)

[Creating RFQ Headers by Copying Existing RFQ Headers \[page 150\]](#)

[Deleting RFQ Headers \[page 151\]](#)

4.1.1.2 Creating RFQ Headers

Create a request for quotation (RFQ) header using the *RFQ Translator: Excel Upload* screen (transaction `/TMCSL/L2A_UP01`).

Prerequisites

- The RFQ header number has been defined in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Agreements ► Define Number Range Intervals for RFQ ID](#) .
- You have generated the SAP Application Interface Framework interface using the program *Generation of Structure from Uploaded Excel Files* (transaction `/TMCSL/L2A_GEN01`).
- You have access to the customer's Microsoft Excel file with the tender worksheet containing the details of the rate request lines.

Context

You must create an RFQ header before uploading the customer's Microsoft Excel file into the system. The RFQ header contains the header level details of the forwarding agreement quotation (FWAQ) that is created after the file upload.

Procedure

1. Start transaction `/TMCSL/L2A_UP01`.

The *RFQ Translator: Excel Upload* screen is displayed.

2. In the *RFQ Maintenance* section, choose *Create*.

The *Create/Edit RFQ* dialog box is displayed.

3. In the *Create/Edit RFQ* dialog box, enter the following details:
 - RFQ Type (*Tender* or *Quotation*)
 - Ordering Party
 - Description
 - FWAQ Type
 - Document Currency
 - Account Type
 - Surcharge Template
 - List of Carriers (all carriers are listed by default)
 - List of Customer Requested Commodities and Named Accounts (NACs)
 - FWAQ/Tender Dates
 - FWAQ Valid-From Date and Valid-To Date
 - Response Deadline
 - Agreement Valid-From Date and Valid-To Date
4. Choose *Save*.

Results

The RFQ header is created with the relevant details.

Next Steps

You can select the RFQ header and then choose *Execute* to upload the customer's Microsoft Excel file.

Related Information

[Editing RFQ Headers \[page 149\]](#)

[Creating RFQ Headers by Copying Existing RFQ Headers \[page 150\]](#)

[Deleting RFQ Headers \[page 151\]](#)

4.1.1.3 Editing RFQ Headers

Edit the details of a request for quotation (RFQ) header using the *RFQ Translator: Excel Upload* screen (transaction /TMCSL/L2A_UP01).

Prerequisites

In the *RFQ Translator: Excel Upload* screen, there is an existing RFQ header listed in the *RFQ Maintenance* section.

Procedure

1. Start transaction /TMCSL/L2A_UP01.

The *RFQ Translator: Excel Upload* screen is displayed.

2. In the *RFQ Maintenance* section, select the relevant RFQ header and then choose *Edit*.

The *Create/Edit RFQ* dialog box is displayed with the following details:

- RFQ Type (*Tender* or *Quotation*)
- Ordering Party
- Description
- FWAQ Type
- Document Currency
- Account Type
- Surcharge Template
- List of Carriers
- List of Customer Requested Commodities and Named Accounts (NACs)
- FWAQ/Tender Dates
 - FWAQ Valid-From Date and Valid-To Date
 - Response Deadline
 - Agreement Valid-From Date and Valid-To Date

3. Edit the details as required.
4. Choose *Save*.

Results

The updated RFQ header is saved with the latest changes.

Next Steps

You can select the RFQ header and then choose [Execute](#) to upload the customer's Microsoft Excel file.

Related Information

[Creating RFQ Headers by Copying Existing RFQ Headers \[page 150\]](#)

[Deleting RFQ Headers \[page 151\]](#)

4.1.1.4 Creating RFQ Headers by Copying Existing RFQ Headers

Create a request for quotation (RFQ) header by copying an existing RFQ header using the [RFQ Translator: Excel Upload](#) screen (transaction /TMCSL/L2A_UP01).

Prerequisites

In the [RFQ Translator: Excel Upload](#) screen, there is an existing RFQ header listed in the [RFQ Maintenance](#) section.

Context

In the [RFQ Translator: Excel Upload](#) screen, you can use the [Create with Reference](#) button to create a copy of an existing RFQ header. You can then edit the details of the new RFQ header before saving it.

Procedure

1. Start transaction /TMCSL/L2A_UP01.

The [RFQ Translator: Excel Upload](#) screen is displayed.

2. In the [RFQ Maintenance](#) section, select the relevant RFQ header and then choose [Create with Reference](#).

The [Create/Edit RFQ](#) dialog box is displayed with the following details copied from the existing RFQ header.

- RFQ Type ([Tender](#) or [Quotation](#))
- Ordering Party
- Description

- FWAQ Type
 - Document Currency
 - Account Type
 - Surcharge Template
 - List of Carriers
 - List of Customer Requested Commodities and Named Accounts (NACs)
 - FWAQ/Tender Dates
 - FWAQ Valid-From Date and Valid-To Date
 - Response Deadline
 - Agreement Valid-From Date and Valid-To Date
3. Edit the details as required.
 4. Choose [Save](#).

Results

A new RFQ header is created with the relevant details.

Next Steps

You can now select the RFQ header and then choose [Execute](#) to upload the customer's Microsoft Excel file.

Related Information

[Creating RFQ Headers \[page 147\]](#)

[Editing RFQ Headers \[page 149\]](#)

[Deleting RFQ Headers \[page 151\]](#)

4.1.1.5 Deleting RFQ Headers

Delete a request for quotation (RFQ) header using the [RFQ Translator: Excel Upload](#) screen (transaction / TMCSL/L2A_UP01).

Prerequisites

In the [RFQ Translator: Excel Upload](#) screen, there is an existing RFQ header listed in the [RFQ Maintenance](#) section.

Procedure

1. Start transaction /TMCSL/L2A_UP01.

The *RFQ Translator: Excel Upload* screen is displayed.

2. In the *RFQ Maintenance* section, select the relevant RFQ header.
3. Choose *Delete*.

Results

The selected RFQ header is deleted and removed from the list.

Related Information

[Creating RFQ Headers \[page 147\]](#)

[Creating RFQ Headers by Copying Existing RFQ Headers \[page 150\]](#)

[Editing RFQ Headers \[page 149\]](#)

4.1.1.6 Displaying Related FWAQs

Display the associated forwarding agreement quotation (FWAQ) along with the versions for a given request for quotation (RFQ).

Prerequisites

An FWAQ exists for the RFQ after the successful upload of the customer's Microsoft Excel file.

Context

The list of FWAQs is shown in the *Related FWAQ* section of the *RFQ Translator: Excel Upload* screen (transaction /TMCSL/L2A_UP01).

Procedure

1. Start transaction /TMCSL/L2A_UP01.

The *RFQ Translator: Excel Upload* screen is displayed.

2. In the *RFQ Maintenance* section, select the relevant RFQ header.
3. Choose *Related FWAQ*.

Results

The list of FWAQs is displayed in the *Related FWAQ* section. The list is sorted based on round type, round number, negotiation round number, and upload reference number.

Related Information

[Displaying the Log for RFQ Translator Upload \[page 153\]](#)

4.1.1.7 Displaying the Log for RFQ Translator Upload

Display the logs for a customer's Microsoft Excel file upload in the SAP Application Interface Framework *Error Monitor*.

Prerequisites

A customer's Microsoft Excel file has been uploaded.

Context

The status of the upload is displayed alongside the related FWAQ. A traffic light indicator is used to show the upload status as follows:

- Green: successful upload
- Yellow: successful upload with warnings
- Red: upload ended with an error

Procedure

1. Start transaction /TMCSL/L2A_UP01.

The *RFQ Translator: Excel Upload* screen is displayed.

2. In the *RFQ Maintenance* section, select the relevant RFQ header and then choose *Related FWAQ*.
3. In the *Related FWAQ* list, select an upload instance and then choose *Display Log*.

Results

The system displays the SAP Application Interface Framework *Error Monitor* screen and opens the specific instance for the upload showing the relevant logs.

Next Steps

If you need to troubleshoot an error, you can double-click the error message to navigate to the erroneous line in the staging area of SAP Application Interface Framework.

Related Information

[Displaying Related FWAQs \[page 152\]](#)

4.1.2 Commodity and Named Account Groups

A commodity and named account (NAC) group represents a set of commodities and named accounts that are valid for an agreement. There can be multiple versions of a commodity and NAC group and each version has a validity period.

A commodity and NAC group has three different levels as follows:

- Level One
The first level is the group header information, which consists of the following details:
 - Group ID
 - Description
 - Pricer Group
 - Pricing Trade
 - Validity
- Level Two

The second level consists of the following details:

- Group ID
- Version
- Validity
- Status
- Level Three

At the third level, the group version consists of a list of commodities and a list of NACs.

Two group versions cannot have an overlapping validity period. In addition, there should not be any time gap between two consecutive versions. The overall validity of the group header is derived from the underlying versions.

You can only modify the commodity and NAC list in the latest version of the commodity and NAC group. You are prevented from changing any previous versions.

Related Information

[Management of Commodity and NAC Groups in FWAQs \[page 155\]](#)

[Maintaining Customer-Requested Commodities and NACs in Request Lines \[page 157\]](#)

[Processing Response Lines for Commodity and NAC Groups \[page 159\]](#)

[Commodity and NAC Groups in FWAs \[page 160\]](#)

4.1.2.1 Management of Commodity and NAC Groups in FWAQs

You can manage and maintain commodity and named account (NAC) groups from the relevant forwarding agreement quotation (FWAQ).

An FWAQ inherits the commodity and NAC group information from eligible agreements. The system derives the eligible agreements and then copies the group details into the FWAQ, where you can further enhance them. You can also create a new group and maintain commodities and NACs under one of the eligible agreements (an existing or prospective agreement).

The following table summarizes the tasks that you can perform in the FWAQ header under [Eligible Agreement List](#):

If you want to...	Do the following...
Search for an existing group	Under Manage Commodity and NAC Group , enter your search criteria and then choose Filter . You can search based on description, commodity code, and NAC.

If you want to...	Do the following...
Create a new commodity and NAC group	In the toolbar of the Manage Commodity and NAC Group table, choose Create. The system displays a dialog box prompting you to enter the mandatory details of the group. The system generates a unique Group ID for the new group.
Edit a commodity and NAC group	In the Manage Commodity and NAC Group table, select the relevant row and then choose Edit. You must be in edit mode to add or delete a commodity or NAC from the group.
Display a commodity and NAC group	In the Manage Commodity and NAC Group table, select the relevant row and then choose Display .
Create a new version	In the toolbar of the Manage Commodity and NAC Group Version table, choose Create New Version. You need to specify the start date of the new version (it defaults to the current date). The system automatically updates the validity period for the previous version to end one day before the new version. The validity period of the new version remains the same as the validity of the group header. When the new version is created, the commodities and NACs are defaulted from the previous version. At any given point in time, only one version of a commodity and NAC group can be created and in process in an FWAQ.
Add a commodity code or an NAC to a group	Select the relevant version of the group, and then choose Add above the commodity code table or the NAC table, as appropriate. The system performs the following checks: • While adding a commodity code in a version, the system checks whether the same commodity code is already part of another group for the same pricer group and trade under the same agreement with a common list of NACs. If it is, then an error message is displayed to state that the commodity code is already part of another group. • You can only add an NAC from the list of NACs maintained at FWAQ header level.
Delete a commodity code or an NAC from a group	Select the relevant version of the group, and then choose Delete above the commodity code table or the NAC table, as appropriate.
Submit a new version for approval	Select the relevant version of the group, and then choose Set Status To Submit. Once the version is submitted for approval, you cannot change the details of the version, and you are also prevented from creating another new version.
Approve a version	Select the relevant version of the group, and then choose Set Status To Approve. Submitted versions can be approved by pricers. When a version is approved, the rate lines using this version can be moved to the corresponding agreement along with the grouping details.

If you want to...	Do the following...
Reject a version	Select the relevant version of the group, and then choose ► Set Status To ► Reject ►. Submitted versions can be rejected by pricers. When a version is rejected, the rate lines using this version cannot be moved to the corresponding agreement. You can revert the rejected version to in process, and then work on it again.
Revert a Rejected version back to In Process	Select the relevant version of the group, and then choose ► Set Status To ► In Process ►. You can now make changes in the version again.
Copy the latest version of a commodity and NAC group	Select the relevant group, and then choose Copy. A dialog box is displayed where you can enter the list of pricing trades and pricer groups from the FWAQ. The system then copies the latest version of the group into multiple groups created with the pricing trade and pricer group combinations that you have specified.

Related Information

[Commodity and Named Account Groups \[page 154\]](#)

[Maintaining Customer-Requested Commodities and NACs in Request Lines \[page 157\]](#)

[Processing Response Lines for Commodity and NAC Groups \[page 159\]](#)

[Commodity and NAC Groups in FWAs \[page 160\]](#)

4.1.2.2 Maintaining Customer-Requested Commodities and NACs in Request Lines

Maintain the customer-requested commodity and customer-requested named account (NAC) for a request line in the [Flat View](#) in the [Edit Forwarding Agreement Quotation](#) app.

Prerequisites

- A forwarding agreement quotation (FWAQ) with request lines exists.
- The flat view profile settings have been maintained in Customizing for [Transportation Management](#) under ► [Master Data](#) ► [Agreement RFQs and Quotations](#) ► [Define Excel and Flat View Profiles](#) ►.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the [Flat View](#) screen, choose [Apply](#) to display the request lines.
5. Select the relevant request line.
6. On the [Requested Commodity and NAC](#) tab, enter the list of commodities and NACs.
7. Choose [Back](#) to return to the main screen.
8. Save the FWAQ document.

Results

You have maintained multiple commodities and NACs under the same request line in an FWAQ.

Next Steps

You can generate the response by choosing [Get Recommended Routes](#) or [Search Routes](#) in the [Flat View](#) of the FWAQ. During the response generation, the system determines the common parent commodity for all the customer-requested commodities by traversing the commodity hierarchy with a bottom-up approach. Once the common parent commodity is established, the system retrieves the rate for the parent commodity, and then generates the response accordingly.

Related Information

[Commodity and Named Account Groups \[page 154\]](#)

[Management of Commodity and NAC Groups in FWAQs \[page 155\]](#)

[Processing Response Lines for Commodity and NAC Groups \[page 159\]](#)

[Commodity and NAC Groups in FWAs \[page 160\]](#)

4.1.2.3 Processing Response Lines for Commodity and NAC Groups

Determine the commodity and named account (NAC) group for a particular response line in a forwarding agreement quotation (FWAQ) by selecting the relevant response line and then choosing [Get Commodity and NAC Group](#).

Prerequisites

- There is an existing FWAQ with response lines generated from request lines with customer-requested commodities and NACs.
- The commodity and NAC groups are defined at FWAQ header level under the eligible agreements list.
- You have determined the target agreement for the response lines.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the [Flat View](#) screen, choose [Apply](#) to display the request and response lines.
5. Select a response line and choose [Get Commodity and NAC Group](#).

Results

The system determines the commodity and NAC group number and enters it in the response line after matching the customer-requested commodities and NACs with the groups defined in the FWAQ header.

Next Steps

You can choose [Calculate Existing Agreement](#) to fetch rates from the agreement based on the commodity and NAC group.

Related Information

[Commodity and Named Account Groups \[page 154\]](#)

[Management of Commodity and NAC Groups in FWAQs \[page 155\]](#)

[Maintaining Customer-Requested Commodities and NACs in Request Lines \[page 157\]](#)

[Commodity and NAC Groups in FWAs \[page 160\]](#)

4.1.2.4 Commodity and NAC Groups in FWAs

The latest commodity and named account (NAC) group details are displayed in the forwarding agreement (FWA).

Commodity and NAC group information is displayed in the FWA header; however, you cannot make any changes to the group information. Changes are only allowed in forwarding agreement quotations (FWAQs) that are created with reference from the FWA containing the group details. Once you make changes to any commodity and NAC group in an FWAQ, these changes are reflected in the FWA after the agreement is successfully converted.

Related Information

[Commodity and Named Account Groups \[page 154\]](#)

[Management of Commodity and NAC Groups in FWAQs \[page 155\]](#)

[Maintaining Customer-Requested Commodities and NACs in Request Lines \[page 157\]](#)

[Processing Response Lines for Commodity and NAC Groups \[page 159\]](#)

4.1.3 Manual Creation of Forwarding Agreement Quotations

Forwarding agreement quotations (FWAQs) can be created from scratch, or you can use a template that you have already defined in SAP NetWeaver Business Client under [► Forwarding Agreement Management ► Forwarding Agreement Quotation Templates ▾](#).

Once the FWAQ is complete, you can create a forwarding agreement (FWA) or a forwarding agreement quotation assignment.

FWAQs in the container shipping liners application contain the following functions, which allow you to efficiently respond to customer requests:

- Request lines creation
- Forwarding agreement quotation assignment
- Response lines generation
- Status management
- Context information
- Routing integration
- Rates building

- Conversion to FWAs

Related Information

[Creating Forwarding Agreement Quotations Manually \[page 161\]](#)

[Functions in Forwarding Agreement Quotations \[page 165\]](#)

[Instruction Sets \[page 162\]](#)

4.1.3.1 Creating Forwarding Agreement Quotations Manually

Create a forwarding agreement quotation (FWAQ) to respond to a quotation request or to bid for the provision of future transportation services in one or more trade lanes for a defined period.

Prerequisites

- The relevant calculation bases have been defined in Customizing for *Transportation Management* under [Basic Functions](#) > [Charge Calculation](#) > [Data Source Binding](#) > [Define Calculation Bases](#).
- If an FWAQ template is being used, the FWAQ template has been defined using the *Forwarding Agreement Quotation Template* app.

Procedure

1. In your SAP Fiori launchpad, open the [Create Forwarding Agreement Quotation](#) app.
2. Choose one of the following options:

Option	What to Do
Create an FWAQ from scratch.	Specify a quotation type and choose Continue .
Create an FWAQ from a template.	Specify a quotation template and choose Continue .

3. In the FWAQ screen that opens, enter the required FWAQ header data.
4. Add items to the FWAQ by choosing the [Insert](#) button in the [Items](#) screen area.
5. Enter the leading charge type ([OCF](#)) for an item:
 - a. Select the relevant item in the item hierarchy.
 - b. Go to the [Calculation Sheet Overview](#) tab and choose [Insert](#) > [Single Item](#).
6. Add a new rate table for a calculation sheet item:
 - a. Select the charge item in the item hierarchy on the [Calculation Sheet Overview](#) tab.

- b. Choose the [Add Rate Table](#) button.
- c. In the rate table screen that opens, enter the required information and the following details:

Tab	Description
General Data	1. Select the Validity Split checkbox. i Note Selecting the Validity Split checkbox allows you to split rates at a later stage if needed. 2. Specify a calculation base.
Dates and Values	Specify a calculation base.

- d. Choose [Back](#) to return to the main screen.

i Note

You can also prefill the calculation sheet and rate table information in an FWAQ template, and use it to automate steps 3 to 6.

7. Save the FWAQ document.

Next Steps

Continue to build the FWAQ by completing tasks such as creating request lines, adding instruction sets, generating response lines, and building rates.

Related Information

[Forwarding Agreement Quotation Creation \[page 143\]](#)

[Creating Request Lines \[page 166\]](#)

[Instruction Sets \[page 162\]](#)

[Response Lines Generation \[page 168\]](#)

[Rate Building in Response Lines \[page 173\]](#)

4.1.3.2 Instruction Sets

Instruction sets are clauses that describe the carrier's and the merchant's rights and responsibilities when dealing with each other.

Instruction sets are made up of individual instructions that are grouped into a sequence of steps for a particular business process. For example, an instruction set could list a sequence of actions for transporting

dangerous or hazardous goods, clarifying the carrier's lines, or stating a blame collision clause. Instruction sets and instructions are defined in Customizing for *SAP Transportation Management* under ► *Transportation Management* ► *Basic Functions* ► *Instructions* ► *Define Instructions and Instruction Sets* ►.

Instruction sets can be assigned to forwarding agreement quotations (FWAQs) on the following levels:

- Header level
When you assign an instruction set to an FWAQ header, the instruction set is a general instruction that applies to the entire FWAQ.
- Individual request or response line level
When you assign an instruction to a request or response line, the instruction set applies to the specific request or response line.

Related Information

[Adding Instruction Sets to FWAQ Headers \[page 163\]](#)

[Adding Instruction Sets to Request and Response Lines \[page 164\]](#)

[Manual Creation of Forwarding Agreement Quotations \[page 160\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.1.3.2.1 Adding Instruction Sets to FWAQ Headers

Add instruction sets to forwarding agreement quotations (FWAQ) to specify procedures that must be carried out in the execution of the forwarding agreement (FWA).

Prerequisites

- Instruction sets have been defined in the Customizing for *Transportation Management* under ► *Basic Functions* ► *Instructions* ► *Define Instructions and Instruction Sets* ►.
- Instruction sets have been assigned in Customizing for *Transportation Management* under ► *Basic Functions* ► *Instructions* ► *Assign Instruction Sets* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement Quotation* app.
2. Enter the FWAQ number and choose *Continue*.
3. Choose *Edit*.
4. Go to the *Boilerplate* tab and choose the *Instruction Sets* subtab.

5. Add an instruction set, as follows:

- a. Choose **► Insert ► Instruction Set**.
- b. In the dialog box that opens, search for and select the relevant instruction set.
- c. Confirm the dialog box.

The system adds the instruction set and default instructions to the table on the *Instruction Sets* subtab.

6. (Optional) Add an instruction to the instruction set, as follows:

- a. Select an instruction set and choose **► Insert ► Instruction**.
- b. In the dialog box that opens, search for and select the relevant instruction.
- c. Confirm the dialog box.

The system adds the instruction underneath the selected instruction set.

7. Save your entries.

Related Information

[Instruction Sets \[page 162\]](#)

[Manual Creation of Forwarding Agreement Quotations \[page 160\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.1.3.2.2 Adding Instruction Sets to Request and Response Lines

Add instruction sets to request and response lines in forwarding agreement quotations (FWAQ) to specify procedures that must be carried out for the specific request or response line items.

Prerequisites

- Instruction sets have been defined in the Customizing for *Transportation Management* under **► Basic Functions ► Instructions ► Define Instructions and Instruction Sets**.
- Instruction sets have been assigned in Customizing for *Transportation Management* under **► Basic Functions ► Instructions ► Assign Instruction Sets**.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement Quotation* app.
2. Enter the FWAQ number and choose *Continue*.

3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to display the response and request lines.
5. Select the relevant response or request line.
6. Add an instruction set as follows:
 - a. On the [Instruction Set](#) tab, choose ► [Insert](#) ► [Instruction Set](#) ►.
 - b. In the dialog box that opens, search for and select the relevant instruction set.
 - c. Confirm the dialog box.

The system adds the instruction set and default instructions to the table on the [Instruction Set](#) tab.

7. (Optional) Add an instruction to the instruction set, as follows:
 - a. Select an instruction set on the [Instruction Set](#) tab, and choose ► [Insert](#) ► [Instruction](#) ►.
 - b. In the dialog box that opens, search for and select the relevant instruction.
 - c. Confirm the dialog box.

The system adds the instruction to the selected instruction set.

8. Choose [Back](#) to return to the main screen.
9. Save the FWAQ document.

Related Information

[Instruction Sets \[page 162\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2 Functions in Forwarding Agreement Quotations

Forwarding agreement quotations (FWAQs) in the container shipping liners application contain functions that allow you to efficiently respond to customer requests.

Once you have created the FWAQ header, you can further build the FWAQ using the following functions:

- Request lines creation
- Forwarding agreement quotation assignment
- Response lines generation
- Status management
- Context information
- Routing integration
- Rates building
- Conversion to forwarding agreements (FWA)

Related Information

[Creating Request Lines \[page 166\]](#)
[Forwarding Agreement Quotation Assignment \[page 167\]](#)
[Response Lines Generation \[page 168\]](#)
[Status Management of Response Lines \[page 172\]](#)
[Viewing Context Information \[page 173\]](#)
[Getting Routes for Request Lines \[page 168\]](#)
[Getting Recommended Routes for Request Lines \[page 170\]](#)
[Rate Building in Response Lines \[page 173\]](#)
[Exceptions \[page 181\]](#)
[Duration-Based Charges and Exceptions \[page 184\]](#)
[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)
[Forwarding Agreement Quotations \[page 142\]](#)
[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.1 Creating Request Lines

Create request lines to add details of a customer request to a forwarding agreement quotation (FWAQ).

Prerequisites

An FWAQ has been created with items that have an appropriate transportation charge calculation sheet (TCCS) structure.

Context

Request lines are added to the flat view of an FWAQ.

i Note

If the customer request is in a Microsoft Excel file, you can upload the request lines using the request for quotation (RFQ) translator.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement Quotation* app.

2. Enter the FWAQ number and choose *Continue*.
3. Choose *Display Flat View*.
4. In the flat view screen, choose *Apply* to view the request and response lines.
5. In the *Flat View* screen area, choose *Insert Row* to insert a new request line.
6. Enter the required information in the new request line.
7. Choose *Back* to return to the main screen.
8. Save the FWAQ document.

Next Steps

Generate response lines for the request lines.

Related Information

[Response Lines Generation \[page 168\]](#)

[Forwarding Agreement RFQ Translator \[page 144\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.2 Forwarding Agreement Quotation Assignment

A forwarding agreement quotation (FWAQ) assignment is a business document that you as a carrier or logistics service provider (LSP) can use to split an FWAQ into multiple assignment FWAQs, which can be simultaneously worked on for transportation services. FWAQ assignments can be created after you have created the FWAQ.

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, FWAQ assignments have the following characteristics:

- Each FWAQ request item can be assigned to only one FWAQ assignment at a time.
- The assignment item must be merged back to the FWAQ before the FWAQ request item can be assigned to another FWAQ assignment.
- Each FWAQ assignment has only one assignment request item.

Related Information

[Forwarding Agreement Quotations \[page 142\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

For more information about the standard TM functionality for FWAQ assignments, see the product assistance for Transportation Management in SAP S/4HANA on SAP Help Portal at https://help.sap.com/s4hana_op and

choose your release. Open the product assistance and choose ► [Enterprise Business Applications](#) ► [Supply Chain](#) ► [Transportation Management \(TM\)](#) ► [Agreement Management](#) ► [Forwarding Agreement Quotation](#) ► [Forwarding Agreement Quotation Assignment](#) ►, or search for **Forwarding Agreement Quotation Assignment**.

4.2.3 Response Lines Generation

Response lines contain the rate details that you, as a carrier, propose in reply to a request from a shipper or logistics service provider (LSP). You can create a response line for each request line in the flat view of a forwarding agreement quotation (FWAQ).

You create a response line for a request line by generating a route for the request line. The system creates a response line by calling the route generator application programming interface (API) to generate routes for the request line. The newly created response line contains the rates for the chosen route.

You can generate routes for response line creation in one of the following methods:

- The system retrieves all valid routes for the request and you choose the appropriate route (search routes feature).
- The system automatically selects the best route for a request (get recommended route feature).
Note that you can generate response lines for multiple request lines using the get recommended route feature.

Related Information

[Getting Routes for Request Lines \[page 168\]](#)

[Getting Recommended Routes for Request Lines \[page 170\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.3.1 Getting Routes for Request Lines

Search for valid routes for request lines and choose your preferred routes. Based on your chosen routes, the system generates response lines with the relevant rates.

Prerequisites

A routing solution has been configured in the system.

Context

The system calls the route generator application programming interface (API) to search for all valid routes. Note that you cannot create a new response line for a request line that already has a response line.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose the [Apply](#) button to show the request lines.
5. Specify the criteria that the system will use when searching for routes:
 - a. Go to the [Search Preferences](#) tab underneath the items table.

The [Search Preferences](#) tab contains the following sections:

Section	Description
Customer Preferences	This section contains the customer's default search preferences, which are copied from the request line details.
User Input Values	This section contains the final search criteria that will be used by the system when searching for routes.

- b. Choose the [Apply Customer Preferences](#) button on the request lines toolbar.

The system copies the default customer preferences from the [Customer Preferences](#) section to the [User Input Values](#) section.

- c. If you want to specify additional search criteria, enter values in the [User Input Values](#) section.

Note

You can overwrite any of the default customer preferences in the [User Input Values](#) section.

The system applies the criteria from the [User Input Values](#) section when searching for routes.

6. Create the response line by selecting the relevant request line and choosing the [Search Routes](#) button on the request lines toolbar.

The system opens the [Search Routes](#) dialog box, which displays your chosen search criteria.

7. In the [Search Routes](#) dialog box, choose [Get Routes](#).

Based on the search criteria, the route generator searches for valid routes and lists them in the [Stages](#) screen area.

8. Select one or more routes and choose the [Pick Routes](#) button.

The system generates a response line with the selected routes for the request line and displays it underneath the corresponding request item.

9. Create more response lines as necessary.
10. Choose [Back](#) to return to the main screen.
11. Save the FWAQ document.

Related Information

[Response Lines Generation \[page 168\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.3.2 Getting Recommended Routes for Request Lines

Generate response lines for request lines by allowing the system to automatically select the most suitable routes for the request.

Prerequisites

A routing solution has been configured in the system.

Context

The system calls the route generator application programming interface (API) to search for all valid routes. Note that you cannot create a new response line for a request line that already has a response line.

i Note

You can implement your own logic to filter and rank recommended routes using the Business Add In (BAI) /TMCSL/EHI_FILTER_RECOM_ROUTES.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose the [Apply](#) button to show the request lines.

5. Specify the criteria that the system will use when searching for routes:
 - a. Go to the [Search Preferences](#) tab underneath the items table.

The [Search Preferences](#) tab contains the following sections:

Section	Description
Customer Preferences	This section contains the customer's default search preferences, which are copied from the request line details.
User Input Values	This section contains the final search criteria that will be used by the system when searching for routes.

- b. Choose the [Apply Customer Preferences](#) button on the request lines toolbar.

The system copies the default customer preferences from the [Customer Preferences](#) section to the [User Input Values](#) section.

- c. If you want to specify additional search criteria, enter values in the [User Input Values](#) section.

i Note

You can overwrite any of the default customer preferences in the [User Input Values](#) section.

The system applies the criteria from the [User Input Values](#) section when searching for routes.

6. Create the response lines by selecting one or more request lines and choosing the [Get Recommended Routes](#) button on the request lines toolbar.

i Note

If you select more than one route, the [Processing Mode](#) dialog box opens in which you can choose whether the system processes the routes in the background or online.

The system performs the following tasks:

- Calls the route generator to search for valid routes based on the search criteria in the [Search Preferences](#) tab. The routes are filtered and prioritized based on customer business rules
- Generates one or more response lines with the selected routes for each selected request line

7. Create more response lines as necessary.
8. Choose [Back](#) to return to the FWAQ.
9. Save the FWAQ document.

Related Information

[Response Lines Generation \[page 168\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.4 Status Management of Response Lines

The system displays several statuses that allow you to view the progress of response lines in forwarding agreement quotations (FWAQs).

The container shipping liners solution contains several additional statuses for response lines. You can view the statuses for a response line on the *Activity Status* tab in the flat view of an FWAQ.

The following are the additional statuses that are provided for response lines in the container shipping liners solution:

Status	Description
Validity Status	Indicates whether the response entity (at FWAQ header, item, request line, and response line level) is valid from the customer's perspective
Assignment Status	Indicates the assignment status of the response item and request item
Processing Status	Indicates the status of the price building process
Response Completeness Status	Indicates the validation of response creation if there is no standard tariff
Submission Status	Indicates the submission of the FWAQ to customer
Agreement Creation Status	Indicates if agreements have been created or updated from the FWAQ
Customer Acceptance	Indicates if the customer has accepted or rejected the proposed prices

Related Information

[Response Lines Generation \[page 168\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.5 Viewing Context Information

Pricers can use the context information feature to get more information when they are building rates. Context information displays any other forwarding agreements (FWAs) and forwarding agreement quotations (FWAQ) that have the same ordering party as a selected request line.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the request line for which you want to view context information.
6. Choose the [Show/Hide Context Info](#) button.

A [Context Info](#) table is displayed underneath the items table in which you can view the matching agreement and FWAQ lines.

7. Select an agreement in the [Context Info](#) table.
8. Go to the [Revenue](#) tab to view the charge calculation results for the selected request line and the selected agreement in the [Context Info](#) table.

i Note

When you move between request lines, the [Context Info](#) table refreshes to show the results for the currently selected request line. However, if you find that this diminishes performance, you can hide the [Context Info](#) table by choosing the [Show/Hide Context Info](#) button again.

Related Information

[Forwarding Agreement Quotations \[page 142\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.6 Rate Building in Response Lines

Response lines are generated for each request line in a forwarding agreement quotation (FWAQ) and contain rates from an applicable tariff. After the response lines and rates have been generated, you have the option to adjust the rates in the response lines.

When a response line is generated, the system automatically uses the rates from the standard tariff as the sales-proposed rates. The sales-proposed rates are the rates that you finally propose to a customer in reply to their request. You can simulate rates from other sources and compare them to the sales-proposed rates. You

also have the option to overwrite the sales-proposed rates with the simulated rates. In this way, you can build custom sales-proposed rates for the response line.

You can use the following options to compare and adjust rates in response lines:

- Get rates from other sources (a tariff or an existing agreement)
- Adapt rates by overwriting the sales-proposed rate with a standard tariff or an existing agreement. You can also overwrite the rates with the customer-requested rate.
- Update charges by copying a rate from a specific charge type
- Use exceptions to change the rates

Getting Rates from a Standard Tariff or an Existing Agreement

You can retrieve rates from an existing agreement or a standard tariff. The system adds the rates to the standard tariff, agreement, and sales-proposed fields on the *Revenue* tab for the selected response line, allowing you to compare the different rates.

Adapting Rates

You can overwrite the sales-proposed rates using the adapt rates feature, which allows you to replace the sales-proposed rates with the values that you retrieved from an existing agreement or a standard tariff. You can also overwrite the sales-proposed rates with the customer-requested amount.

Updating Charges

This method allows you to copy the rate of a specific charge type from a source to a destination, while at the same time applying an absolute or percentage rate increase or decrease. You can copy the rate from one of the following sources:

- Normal: agreement, standard tariff, or customer-requested rate
- Equipment type: from a source equipment type to a destination equipment type

Exceptions

You can use the following exception types to adjust the sales-proposed rates in a response line:

- Amount exception
- Structure exception
- Validity exception

Related Information

[Getting Rates from a Standard Tariff \[page 175\]](#)

[Getting Rates from an Existing Agreement \[page 176\]](#)

[Adapting Rates in Response Lines \[page 177\]](#)

[Updating Charges in Response Lines \[page 179\]](#)

[Exceptions \[page 181\]](#)

[Response Lines Generation \[page 168\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.6.1 Getting Rates from a Standard Tariff

Retrieve rates from a standard tariff for a response line in a forwarding agreement quotation (FWAQ). The rates can be based on the *Valid From* date of the response line or on a date of your choosing.

Prerequisites

A valid active standard tariff has been set up for the response line.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement Quotation* app.
2. Enter the FWAQ number and choose *Continue*.
3. Choose *Display Flat View*.
4. In the flat view screen, choose *Apply* to view the request and response lines.
5. Select the relevant response line.
6. Choose the *Calculate* button and one of the following options:

Option	Choose If
Tariff	You want the tariff to be calculated on the <i>Valid From</i> date of the response line.
Simulated Tariff on a Given Date	You want to choose which date the tariff is calculated on.

The system copies the rates from the standard tariff, and depending on your chosen option, saves it in one of the following fields on the [Revenue](#) tab:

Option	Field Saved To
Tariff	STD Amount
Simulated Tariff on a Given Date	Standard Tariff Amount on Simulation Date

7. Choose [Back](#) to return to the main screen.
8. Save the FWAQ document.

Next Steps

If you want to use the standard tariff rate as the sales-proposed rate, use the adapt rates feature to overwrite the current sales-proposed rate with the standard tariff rate.

Related Information

[Adapting Rates in Response Lines \[page 177\]](#)

[Updating Charges in Response Lines \[page 179\]](#)

[Rate Building in Response Lines \[page 173\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.6.2 Getting Rates from an Existing Agreement

Retrieve rates from an existing agreement and compare them to the sales-proposed rates in a forwarding agreement quotation (FWAQ).

Prerequisites

A valid agreement exists in the system from which the rates can be copied.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.

2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the relevant response line.
6. Choose ► [Calculate](#) ► [Existing Agreement](#) ►.

A dialog box opens displaying the default agreement, which is copied from the [Target Agreement](#) field on the [Agreement Create/Update](#) tab.

7. Accept the default agreement or specify a different agreement and confirm the dialog box.

The system performs the following tasks:

- Retrieves the rate from the selected agreement based on the [Valid From](#) date of the response line
 - Copies the rate into the [Existing Agreement Amount](#) field on the [Revenue](#) tab
8. Choose [Back](#) to return to the main screen.
 9. Save the FWAQ document.

Next Steps

If you want to use the rate from the chosen agreement as the sales-proposed rate, use the adapt rates feature to overwrite the current sales-proposed rate with the rate from the agreement.

Related Information

[Adapting Rates in Response Lines \[page 177\]](#)

[Updating Charges in Response Lines \[page 179\]](#)

[Rate Building in Response Lines \[page 173\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.6.3 Adapting Rates in Response Lines

Replace the sales-proposed rates for a response line in a forwarding agreement quotation (FWAQ) with a customer-requested rate or with rates from an existing agreement or standard tariff.

Prerequisites

The rates from the existing agreement or standard tariff have been calculated and copied to the relevant fields [Revenue](#) tab for the response line.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the relevant response line.
6. Choose the [Adapt Rate](#) button.
7. In the dialog box that opens, select the source rate and confirm the dialog box.

On the [Revenue](#) tab, the system overwrites the value in the [Sales Proposed Amount](#) field with the value of the source rate that you specified.

The following table lists the fields that the system retrieves each source rate value from:

Specified Source	Field That Rate Is Copied From
Standard Tariff	STD Amount
Existing Agreement	Existing Agreement Amount
Customer Requested Rate	Customer Requested Amount

8. Choose [Back](#) to return to the main screen.
9. Save the FWAQ document.

Related Information

[Rate Building in Response Lines \[page 173\]](#)

[Getting Rates from a Standard Tariff \[page 175\]](#)

[Getting Rates from an Existing Agreement \[page 176\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.6.4 Updating Charges in Response Lines

Copy the rate of a source charge type a to a destination charge type and apply an absolute or percentage rate increase or decrease.

Prerequisites

The rates from an existing agreement or standard tariff have been calculated and copied to the relevant fields [Revenue](#) tab for the response line.

Context

You can copy a charge type from the following sources:

- Normal: agreement, standard tariff or customer-requested rate
- Equipment type: from a source equipment type to a destination equipment type

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the relevant response line.
6. Choose the [Charge Update](#) button.
7. In the dialog box that opens, specify the following criteria:

Field	Description	Applicable For
Update Type	Select one of the following sources from which you want to update the rates: ◦ Normal: The rates are updated based on an existing agreement, standard tariff, or the customer requested amount. ◦ Equipment: The rates are updated based on an equipment type.	Equipment and normal
Charge Type	Specify the charge type.	Equipment and normal

Field	Description	Applicable For
Source Equipment	Specify the source equipment type that you want to copy the charge form.	Equipment
Destination Equipment	Specify the destination equipment type that you want to copy the charge to.	Equipment
Rate Basis	Select the document you want the rates to be taken from.	Normal
Increase/Decrease	Specify if you want to increase or decrease the rate by the value that you enter.	Equipment and normal
Value Type	Select one of the following options that specify how you want the rate to be calculated: ○ Absolute If you select <i>Absolute Value</i>, the rate is increased or decreased by the value you enter in the <i>Value</i> field. ○ Percentage If you select <i>Percentage Value</i>, the rate is increased or decreased by the percentage value you enter in the <i>Value</i> field.	Equipment and normal
Value	Depending on the value type chosen, enter the percentage or amount.	Equipment and normal
Reason Code	Specify the reason code for updating the rates.	Equipment and normal
Processing Mode	Choose whether you want the rates to be processed online or in the background.	Equipment and normal

i Note

If you are processing a large amount of rows, then you should select *Background*, as it allows you to carry on with other tasks while the rows are processing.

The system updates the value in the *Sales Proposed Amount* field on the *Revenue* tab.

- Choose *Back* to return to the main screen.
- Save the FWAQ document.

Related Information

[Rate Building in Response Lines \[page 173\]](#)

[Getting Rates from a Standard Tariff \[page 175\]](#)

[Getting Rates from an Existing Agreement \[page 176\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.7 Exceptions

You can take amount and surcharge condition exceptions on sales-proposed rates that have been copied from the standard tariff. In this way, you can propose custom rates for the response lines.

You can take the following exceptions on rates:

Exception	Description
Amount exception	An amount exception allows you to change the charge amount for a specific charge type on the response line. You must provide a reason code and an appropriate surcharge condition to change the charge amount.
Structure exception	A structure exception allows you to change the surcharge condition of any charge type. You can take a structure exception on single or multiple response lines. A structure exception can be used to add charge types or to edit the surcharge condition of an existing charge type in the response line. You must specify a reason code when adding a structure exception.
Segment exception	A segment exception is an exception to the system-determined segment and tier for the response line. You can use a segment exception to change the segment and tier ID in a response line.
Validity exception	A validity exception is an exception to the validity start or end date of the response line. You can use a validity exception to split a response line into one or more new lines with different validity periods.

If needed, you can revert each or all of the exceptions on the response lines.

Related Information

[Forwarding Agreement Quotation Creation \[page 143\]](#)

[Adding Exceptions to Response Lines \[page 182\]](#)

[Reverting Exceptions in Response Lines \[page 183\]](#)

4.2.7.1 Adding Exceptions to Response Lines

Adjust the rates in a forwarding agreement quotation (FWAQ) by adding an exception to a response line.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the relevant response line.
6. Proceed as follows:

Option	What to Do
Take an amount exception	1. Go to the Revenue tab and specify a reason code in the Exception Reason Code field. The Sales Proposed Amount field becomes editable. 2. Enter a new value in the Sales Proposed Amount field.
Take a structure exception on a single response line	1. Go to the Revenue tab, and specify a reason code in the Exception Reason Code field. 2. Add a new surcharge type by choosing the Insert Item button. i Note You can also edit the surcharge condition of an existing charge type.
Take a structure exception on multiple response lines	1. Select additional response lines if needed. 2. Choose the Update Surcharge button. 3. In the dialog box that opens, choose the Add button to add a surcharge and reason code. 4. Confirm the dialog box. The new surcharge is added to the Revenue tab for each of the response lines.
Take a segment exception	1. Choose ► Segment and Tier ► Update ►. 2. In the dialog box that opens, enter the required information and confirm the dialog box. The Segment ID and Tier ID fields in the response line are updated with the new values.
Take a validity exception	1. Choose the Validity Exception button.

Option	What to Do
	2. In the dialog box that opens, specify the new valid-from date, valid-to date, and reason code. The system creates one or more additional response lines with the new validity dates.

7. Choose [Back](#) to return to the main screen.
8. Save the FWAQ document.

Related Information

[Exceptions \[page 181\]](#)

[Reverting Exceptions in Response Lines \[page 183\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.7.2 Reverting Exceptions in Response Lines

Revert exceptions that you previously applied to a response line in a forwarding agreement quotation (FWAQ).

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to view the request and response lines.
5. Select the relevant response line.
6. Proceed as follows:

Option	What to Do
Revert structure and amount exceptions.	Choose Revert Exceptions Amount and Structure .
Revert a segment and tier exception.	Choose Segment and Tier Redetermine .
Revert a validity exception.	Choose Revert Exceptions Validity .
Revert all exceptions.	Choose Validity Exceptions All .

The system resets the values in the response line to the values before the exceptions were taken.

7. Choose [Back](#) to return to the main screen.
8. Save the FWAQ document.

Related Information

[Exceptions \[page 181\]](#)

[Adding Exceptions to Response Lines \[page 182\]](#)

4.2.8 Duration-Based Charges and Exceptions

Duration-based charges (DBC) and exceptions can be added to forwarding agreement quotation (FWAQ) headers, and DBC exceptions can be added to individual response-lines.

Header-Level DBC and Exceptions

The [DBC Eligible Agreement](#) tab on an FWAQ header lists the agreements that are eligible for DBC. You can update eligible agreements in the list or add agreements to the list.

For each agreement in the [DBC Eligible Agreement List](#), you can perform the following actions:

- Initialize the DBC exception header rate tables
In a new agreement, the rate tables are initialized from DBC exception profiles. In an existing agreement, the DBC exception profile and the DBC rate tables in the forwarding agreement (FWA) header rate tables are copied to the FWAQ.
- Maintain the DBC exception slabs and rates for each DBC charge
- Maintain the pricer group
- Approve or reject DBC charges
- Update the DBC free days information
- Set the DBC status

Response-Line-Level DBC Exceptions

You add DBC response-line-level exceptions on the [DBC](#) tab of the response line. You must enter a reason code to add a response-level exception. You can also approve or reject the DBC exceptions for each response line.

Note

Approved DBC header and response-line exceptions are copied to the FWA when the FWAQ is converted.

Related Information

[Adding Duration-Based Charges and Exceptions to FWAQ Headers \[page 187\]](#)

[Adding DBC Exceptions to Response Lines \[page 189\]](#)

[Adjusting Rate Lines for Duration-Based Charges \[page 188\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.8.1 Duration-Based Charge Scenarios and Event Profiles

The duration for duration-based charges (DBC) is based on the events for the containers, which means that charges are calculated for a period of time between a start and a stop event.

Additionally, the DBC duration needs to be evaluated based on booking information associated with the container. The state of the booking information governs the determination of the start and stop events for the duration. To support this, the system allows you to define a DBC scenario for a DBC charge type based on the booking information. The information about the events to be considered for start and stop events is grouped in event profiles.

You can define different DBC scenarios for calculating DBC charges in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Duration-Based Charges](#) > [Maintain DBC Scenarios and Event Profiles](#). Each scenario must have a unique set of attributes (multiple scenarios with the same set of attributes are not permitted).

Before you can define a DBC scenario, you must have already created the event profiles, which are used to configure start and stop event profiles in the decision layer data. You can configure multiple events for a given event profile and specify whether the event is expected or not. A prerequisite for this step is that events have been created.

Below is an example of the START1 event profile:

Event	Description	Expected Event
ARRIV_DEST	Arrival at Destination	X
/CSL/DISCHARGE_BEGIN	Discharge Begin	X
/CSL/GATE_OUT	Gate Out	X
/CSL/LOAD_BEGIN	Load Start	X

Once you have created event profiles, you can define DBC scenarios. Below is an example DBC scenario:

Field Name	Mandatory/Optional	Entry
DBC Scenario	Mandatory	BOM_LEH_E

Field Name	Mandatory/Optional	Entry
<i>DBC Scenario Description</i>	Mandatory	MUMBAI <-> LE HAVRE EXPORT
<i>Charge Type</i>	Mandatory	YDTE (Detention Export)
<i>Direction</i>	Mandatory	Export
<i>Country</i>	Mandatory	AU (Australia)
<i>Resource Class</i>	Optional	Any
<i>Location</i>	Optional	AUBNE-BCT
<i>City</i>	Optional	BRISBANE
<i>DIT Location Role</i>	Optional	
<i>Event Profile Start1</i>	Mandatory	START1
<i>Event Profile Stop1</i>	Mandatory	STOP1

You must specify at least one start and one stop event profile when defining a DBC scenario. You can enter up to three start and stop event profiles for each DBC scenario. For example, if you fill the *Event Profile Start1* field, you must also fill the *Event Profile Stop1* field. This also applies to the second and third profiles you enter.

After defining the DBC scenario, you need to define for which movement type the DBC scenario is valid. You can configure multiple movement types for a given DBC scenario. A prerequisite is that you have already created DBC scenarios and movement types.

Below is an example of a movement type maintained for a particular DBC scenario:

DBC Scenario	DBC Scenario Description	Movement Type	Description
HAM_MIA_E	HAMBURG <-> MIAMI EX-PORT	DD	Door to Door
HAM_MIA_E	HAMBURG <-> MIAMI EX-PORT	PP	Port to Port

4.2.8.2 Adding Duration-Based Charges and Exceptions to FWAQ Headers

Add exceptions to duration-based charges (DBC), and update DBC in the forwarding agreement quotation (FWAQ) header.

Prerequisites

The specific charge type for DBC has been maintained in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Yield ► Maintain Yield-Specific Details for Charge Type ►](#).

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose the [DBC Eligible Agreement](#) tab.
4. Select an agreement in [DBC Eligible Agreement List](#) that you want to add an exception to.
5. Initiate a DBC exception by choosing the [Initiate DBC Exception](#) button.

The system adds the DBC exception profile ID to the [DBC Profile ID](#) field.

6. If the FWAQ is a new FWAQ, you can change the DBC exception profile by choosing the [Change Profile](#) button.
7. View the tariff slabs by choosing the [Tariff](#) tab underneath the list of charges.
8. View and adjust the slabs in the [Sales Proposed Slabs](#) tab underneath the list of charges.
9. (Optional) Adjust the rate lines for the DBC charges in the rate table editor.
10. Save your entries in the FWAQ document.

Related Information

[Adjusting Rate Lines for Duration-Based Charges \[page 188\]](#)

[Duration-Based Charges and Exceptions \[page 184\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.8.3 Adjusting Rate Lines for Duration-Based Charges

Adjust the rate lines for the duration-based charges (DBC) in the rate table editor.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Select the charge type in the list of charges underneath the [DBC Eligible Agreement List](#).
4. Choose the [Launch and Update Rate Table](#) button.

The system opens the [Edit Rate Table Definition](#) screen.

5. Go to the [Dates and Values](#) tab and choose the [Rates](#) subtab.
6. Select the relevant rate line.
7. Update the duration-based charges as follows:

Option	What to Do
Update DBC free days	1. Choose the Update Free Days Information button. 2. In the dialog box that opens, enter the required details and confirm the dialog box. The system adds the information to the Free Days, Free Day Type, and Chargeable Day Type fields.
Add or update the pricer group	1. Choose the Update Pricer Group ID button. 2. In the dialog box that opens, enter the required details and confirm the dialog box. The system adds the pricer group ID to the rate lines.
Set the DBC status	Choose the DBC Status button and select the relevant status.
Create new rate lines with different DBC day slabs	Choose the Insert button and add the required information.

8. Save your entries in the FWAQ document.

Related Information

[Duration-Based Charges and Exceptions \[page 184\]](#)

[Adding DBC Exceptions to Response Lines \[page 189\]](#)

[Adding Duration-Based Charges and Exceptions to FWAQ Headers \[page 187\]](#)

4.2.8.4 Adding DBC Exceptions to Response Lines

Add exceptions for duration-based charges (DBC) at the response line level for a forwarding agreement quotation (FWAQ).

Prerequisites

The specific charge type for DBC has been maintained in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Yield ► Maintain Yield-Specific Details for Charge Type ►](#).

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to display the request and response lines.
5. Choose the relevant response line.
6. On the [DBC](#) tab, specify a reason code in the [Exception Reason Code](#) field.

The system sets the free-days fields as editable.

7. Specify the sales-proposed free day, and sales-proposed chargeable day type information.
8. Approve or reject a DBC exception as follows:

Option	What to Do
Approve a DBC exception	Choose ► Set Status ► Approve DBC ► on the response line menu.
Reject a DBC exception	Choose ► Set Status ► DBC Reject ► on the response line menu.

9. Choose [Back](#) to return to the main screen.
10. Save the FWAQ document.

Related Information

[Duration-Based Charges and Exceptions \[page 184\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.9 Conversion of FWAQs to Forwarding Agreements

Once the rates in a forwarding agreement quotation (FWAQ) have been negotiated and finalized with the customer (the rate requester), you convert the FWAQ to a forwarding agreement (FWA).

During the conversion, the rates are transferred to a new FWA or to an existing FWA. The rates in an FWAQ become effective for a booking after the FWAQ is converted to an FWA.

The process for converting an FWAQ to an FWA is as follows:

1. Determine the eligible forwarding agreements
The response lines in the FWAQ are grouped by response category. The system automatically determines an FWA for each response category in the FWAQ. However, you can manually overwrite the system-assigned FWA that is assigned to the response line categories. You can also overwrite the FWA that is assigned to individual response lines.
2. Convert the FWAQ to an FWA
During the conversion, the system performs the following tasks:
 - Performs validations and overlap checks on the rate lines that are being transferred from the FWAQ to the FWA
 - Creates and adjusts rate lines and other details on the FWA
 - Sets the agreement creation status of the response line to *Created* or *Failed* based on the results of the conversion activity
3. View the audit trail.
Once the FWAQ has been converted, you can view the audit trail, which lists the destination of the response lines and origin of the rate lines.

Related Information

[Determining Eligible Forwarding Agreements \[page 190\]](#)

[Assigning Target Agreements to Response Lines \[page 192\]](#)

[Converting FWAQs to Forwarding Agreements \[page 193\]](#)

[Audit Trail \[page 194\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.9.1 Determining Eligible Forwarding Agreements

Determine a list of existing forwarding agreements (FWAs) that are eligible for conversion from a specific forwarding agreement quotation (FWAQ).

Prerequisites

The response line categories and the business logic have been set up for determining the default agreement assignment by response line categories.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Agreements](#) > [Determine Eligible](#).
4. In the dialog box that opens, specify the following criteria:

Field	What to Do
Overwrite Manual Changes	Select one of the following options: ◦ Do not overwrite manual changes (default option) When the system determines the eligible agreements, it will not overwrite any manual changes that you have previously made to agreements in the Eligible Agreement List. ◦ Overwrite all including manual changes In the process of determining eligible agreements, the system overwrites any manual changes that you previously made to agreements in the Eligible Agreement List.
Duration of Search in Months	Enter the number of months in the past for which the system should search for eligible agreements.

The system searches for existing eligible FWAs for each response category. If there are no eligible FWAs, the system creates placeholder agreement numbers for new FWAs to be created. The results are listed on the [Agreement Create/Update](#) tab as follows:

- The existing FWAs or new placeholder FWAs in the [Eligible Agreement List](#) screen area.
 - The default FWAs for each response line category in the [Default Agreement Assignment for FWAQ Response Lines](#) screen area.
5. (Optional) Change the system-determined FWA for a response category:
 - a. In the [Default Agreement Assignment for FWAQ Response Lines](#) screen area, specify a reason code for the relevant response category.

The system sets the [Agreement Number](#) field as editable.
 - b. Enter a new FWA number in the [Agreement Number](#) field.
 6. (Optional) Add a new FWA to the eligible agreement list:
 - a. In the [Eligible Agreement](#) screen area, choose the [Add New Placeholder Agreement](#) button.
 - b. In the dialog box that opens, specify the relevant information and confirm the dialog box.
 7. Save your entries.

Next Steps

- (Optional) Assign target agreements to individual response lines.
- Convert the FWAQ to an FWA.

Related Information

[Assigning Target Agreements to Response Lines \[page 192\]](#)

[Converting FWAQs to Forwarding Agreements \[page 193\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.9.2 Assigning Target Agreements to Response Lines

Assign specific forwarding agreements (FWA) to individual response lines in a forwarding agreement quotation (FWAQ). When the FWAQ is converted to an FWA, the individual response lines are added to the assigned FWA.

Prerequisites

- Response line categories and the business logic for determining the default agreement assignment by response line categories have been set up.
- The eligible forwarding agreements have been determined.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Choose [Display Flat View](#).
4. In the flat view screen, choose [Apply](#) to display the request and response lines.
5. Select the relevant response line.
6. Choose the [Set Agreement](#) button.
7. In the dialog box that opens, first specify the reason code and then the agreement number.

i Note

Only agreements that are valid for that response line category are listed.

If the response line has an overlapping agreement, the overlapping agreement is set as the target agreement and cannot be changed unless permitted for the response line category.

The new agreement is set for the response line and is visible on the [Agreement Create/Update](#) tab for the selected response line.

8. Choose [Back](#) to return to the main screen.
9. Save the FWAQ document.

Next Steps

Convert the FWAQ to an FWA.

Related Information

[Converting FWAQs to Forwarding Agreements \[page 193\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.9.3 Converting FWAQs to Forwarding Agreements

Convert a forwarding agreement quotation (FWAQ) into a forwarding agreement (FWA) once the rates have been finalized.

Prerequisites

- The response line categories and the business logic have been set up for determining the default agreement assignment by response line categories.
- The eligible FWAs have been determined.
- Target agreements have been assigned to individual response lines as needed.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. Convert the FWAQ by choosing  [Agreements](#)  [Create/Update](#) .

Results

The system performs the following tasks:

- Performs validations and overlap checks on the rate lines that are being transferred from the FWAQ to the FWA
- Creates new FWAs or updates existing FWAs, and adjusts rate lines and other details in the FWAs
- Sets the agreement creation status of the response line to [Created](#) or [Failed](#) based on the results of the conversion activity

Next Steps

- View the creation status on the [Activity Status](#) tab for the selected response line.
- View the audit trail for the response lines.

Related Information

[Audit Trail \[page 194\]](#)

[Assigning Target Agreements to Response Lines \[page 192\]](#)

[Determining Eligible Forwarding Agreements \[page 190\]](#)

[Status Management of Response Lines \[page 172\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.2.9.4 Audit Trail

The system stores an audit trail for each forwarding agreement quotation (FWAQ) response line and forwarding agreement (FWA) rate line. The audit trail shows the destination of response lines and origin of the FWA rate lines.

Audit trails are generated during the conversion of an FWAQ to an FWA. The audit trail shows an entry for each time a response line is converted to an agreement rate line or an agreement rate line is updated from a response line.

You can find the audit trails for rate and response lines as follows:

Line Type	Location of Audit Trail
Response line	On the Audit Trail tab of the response line in the flat view of the FWAQ
Rate line	On the Audit Trail tab of the FWA rate table line

Related Information

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.3 Rate Tables in Forwarding Agreement Quotations

Rate tables in forwarding agreement quotations (FWAQs) contain the details of the charges for the charge items.

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, rate tables have been enhanced to support the following additional functions:

- **Pricer group**
You can set a pricer group for rate lines, which allows you to control which users can edit the duration-based charges (DBC) information for the rate lines.
- **Payment information (place of payment and bill-to party)**
You can set the place of payment and bill-to party information for rate lines.
- **Rate validity split**
Rate lines can be split into multiple lines to allow you to create rate lines with separate validities.
- **DBC free days**
You can set the amount of DBC free days for specific rate lines.

Related Information

[Splitting Rate Lines \[page 198\]](#)

[Setting Pricer Groups for Rate Lines \[page 196\]](#)

[Updating Payment Information in Rate Lines \[page 196\]](#)

[Adjusting Rate Lines for Duration-Based Charges \[page 188\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

For more information about the standard TM functionality for rate tables, see the product assistance for Transportation Management on SAP Help Portal at https://help.sap.com/s4hana_op and choose your release. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management* ► *Master Data* ► *Change Management and Service Product Catalogs* ► *Setup of MD of Charge Management and SP Catalogs* ► *Rate Table* , or search for **Rate Table**.

4.3.1 Setting Pricer Groups for Rate Lines

Specify the pricer group ID for rate lines to control which users can edit the duration-based charge (DBC) information.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. In the [Items](#) screen area, select the row with the relevant item.
4. Choose the [Calculation Sheet Overview](#) tab.
5. Select the row for the relevant leading charge type, and choose the [Display Rate Table](#) button.
6. On the [Dates and Values](#) tab, go to the [Rates](#) subtab.
7. Select the row for the relevant rate, and choose the [Update Pricer Group ID](#) button.
8. In the dialog box that opens, specify the pricer group ID for the rate line.

The system adds the pricer group ID to the rate lines in the rate table.
9. Choose the [Back](#) button to save your entries and return to the FWAQ.

Related Information

[Rate Tables in Forwarding Agreement Quotations \[page 195\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.3.2 Updating Payment Information in Rate Lines

Update the place of payment and bill-to party information in rate lines.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app.
2. Enter the FWAQ number and choose [Continue](#).
3. In the [Items](#) screen area, select the row with the relevant item.
4. Choose the [Calculation Sheet Overview](#) tab.
5. Select the row for the relevant leading charge type, and choose the [Display Rate Table](#) button.
6. On the [Dates and Values](#) tab, go to the [Rates](#) screen area.

7. Select the row for the relevant rate, and choose the [Update Payment](#) button.
8. Choose the [Revenue](#) tab.
9. Enter bill-to party and place of payment information for the charge.
10. Choose the [Back](#) button to save your entries and return to the FWAQ.

Related Information

[Rate Tables in Forwarding Agreement Quotations \[page 195\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

4.3.3 Validity Splitting in Response and Rate Lines

Rate lines and response lines in forwarding agreement quotations (FWAQs) can be split into rate and response lines with different validities.

You split response and rates lines as follows:

Line Type	Method of Splitting
Rate	Split the charge type in the rate table
Response	Take a validity exception on the response line

To be able to split rates, you must select the [Rate Validity Split](#) checkbox on the [General Data](#) tab of the rate table. Note that once you select the [Rate Validity Split](#) checkbox and save your changes, you cannot deselect the checkbox.

Related Information

[Rate Tables in Forwarding Agreement Quotations \[page 195\]](#)

[Splitting Rate Lines \[page 198\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

[Exceptions \[page 181\]](#)

4.3.4 Splitting Rate Lines

Split a rate line in a forwarding agreement quotation (FWAQ) into rate lines with different validities.

Prerequisites

- The relevant response lines in the FWAQ are in process.
- The *Rate Validity Split* checkbox has been selected in the *General Data* screen area on the *General Data* tab of the rate table.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement Quotation* app.
2. Enter the FWAQ number and choose *Continue*.
3. In the *Items* screen area, select the row with the relevant item.
4. Choose the *Calculation Sheet Overview* tab.
5. Select the row for the relevant leading charge type, and choose the *Display Rate Table* button.
6. On the *Dates and Values* tab, go to the *Rates* subtab.
7. On the rate table, select the row for the relevant rate.
8. Choose the *Split Rate Validity* button.
9. In the dialog box that opens, specify the split date and confirm the dialog box.

The system creates new rate lines in the rates table.

10. Use the new rate lines to build rates for the agreement.
11. Choose the *Back* button to save your entries and return to the FWAQ.

Related Information

[Rate Tables in Forwarding Agreement Quotations \[page 195\]](#)

[Validity Splitting in Response and Rate Lines \[page 197\]](#)

[Forwarding Agreement Quotation Creation \[page 143\]](#)

[Exceptions \[page 181\]](#)

5 Forwarding Agreements

Forwarding agreements (FWAs) in the container shipping liners solution contain the exception information, which is applied to rates in addition to the standard tariff.

The header-level information in FWA is taken from the forwarding agreement quotation (FWAQ) from which the FWA was created or updated.

Each rate line in an FWA rate table contains the exception information and the standard tariff. If you want to evaluate the complete charges for a rate line, the FWA must be considered in addition to the standard tariff that is referenced in the leading charge type rate line.

i Note

In SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA, forwarding agreements are intended to be created from FWAQs. You should avoid manually creating and updating FWAs.

Related Information

[Viewing Rates in Forwarding Agreements \[page 201\]](#)

[Forwarding Agreement Rate Revisions \[page 202\]](#)

5.1 Tariffs

A tariff (or standard tariff) is a basic contract in which general rates are defined. The rates are defined for a particular trade and apply to all customers in that trade.

A standard tariff is created as a forwarding agreement (FWA) in the system, but has no business partner or sales organization. A standard tariff contains charge types such as ocean carrier freight (OCF). Standard tariffs can be defined for different pricing trades using the relevant charge structure.

Standard tariffs are used in the following processes:

- Response generation in forwarding agreement quotations (FWAQs)
When generating response lines for request lines in the FWAQ, the system determines the standard tariff of the response line based on the pricing trade of the origin and destination locations in the request line. The system gets the relevant charges from the standard tariff to build the charge structure in the response line. The charge structure is displayed on the [Revenue](#) tab in the flat view of the FWAQ. You can create customer-specific rates in the quotation by taking an exception for specific charge types. The customer rates in the FWAQ are transferred to the target FWA during the agreement conversion process.
- Charge calculation in bookings

In a booking, you can use the [Contract Type](#) field to indicate that the charges should be retrieved from the standard tariff instead of the customer FWA. During charge calculation, the charge structure and the corresponding rates are then retrieved from the standard tariff.

If a charge type has the surcharge condition [Subject To](#), then the charge calculation retrieves the charges for that charge type from the standard tariff (even if the contract type for the booking is a customer FWA).

Related Information

[Tariff Charge Types \[page 200\]](#)

[Surcharge Conditions \[page 205\]](#)

[Response Lines Generation \[page 168\]](#)

[Forwarding Agreements \[page 199\]](#)

[Forwarding Agreement Quotations \[page 142\]](#)

[Exceptions \[page 181\]](#)

5.1.1 Tariff Charge Types

The table below lists some of the charge types that can be included in a standard tariff.

Charge Type	Description
Ocean carrier freight (OCF)	The leading charge type, which contains the basic ocean freight charges
Inland origin	Inland transportation charges at the port of origin
Inland destination	Inland transportation charges at the port of destination
Transport additional - origin (TAO)	Transportation charges from a secondary port to a primary port at origin
Transport additional - destination (TAD)	Transportation charges from a primary port to a secondary port at destination
Terminal handling charges (THC)	An additional charge collected for the handling of containers at terminal
Bunker adjustment factor (BAF)	An additional charge type to compensate for the fluctuations in fuel cost
Currency adjustment factor (CAF)	An additional charge type to compensate for the fluctuations in exchange rates
Other charges	Other applicable surcharges

Related Information

[Tariffs \[page 199\]](#)

5.2 Viewing Rates in Forwarding Agreements

Check the rate tables and the details of leading charge rate lines for a forwarding agreement (FWA).

Prerequisites

The FWA has been created from a forwarding agreement quotation (FWAQ).

Procedure

1. In your SAP Fiori launchpad, open the *Display Forwarding Agreement* app.
2. Enter the agreement number and existing agreement version.
3. Select the relevant item in the *Items* screen area.
4. Go to the *Calculation Sheet Overview* tab.
5. Select the relevant leading charge type item in the item hierarchy.
6. Choose the *Display Rate Table* button.
7. In the rates screen that opens, go to the *Dates and Values* tab and choose the *Rates* subtab.
8. On the rate table, select a rate line to view the rate line details in the various tabs underneath the rate table.

Note

You can also use the steps above to view the rate details for charges other than leading charge types.

Related Information

[Forwarding Agreements \[page 199\]](#)

5.3 Forwarding Agreement Rate Revisions

Rates in forwarding agreements (FWAs) can be adjusted by converting the FWA to a forwarding agreement quotation (FWAQ).

You can create new FWAQs from existing rates in an FWA by creating a new FWAQ from the FWA header or from individual rate lines in the FWA leading charge type rate table. After you have amended the rates in the FWAQ, you can convert it back to an FWA.

i Note

You can only create an FWAQ from an FWA that was originally created from an FWAQ.

You can specify how the header FWAQ fields are copied from the source FWAQ to the new FWAQ by implementing the Business Add-In (BAdI) /TMCSL/BADI_CREATE_FWAQ_ROOT.

Related Information

[Revising Header Information in Forwarding Agreements \[page 202\]](#)

[Revising Rate Items in Forwarding Agreements \[page 203\]](#)

[Forwarding Agreements \[page 199\]](#)

5.3.1 Revising Header Information in Forwarding Agreements

Create a new forwarding agreement quotation (FWAQ) from the header information in a forwarding agreement (FWA). You can then amend the rates in the FWAQ before converting the FWAQ back into an FWA.

Prerequisites

The FWA has been created from an FWAQ.

Procedure

1. In your SAP Fiori, open the *Display Forwarding Agreement* app.
2. Enter the agreement number and existing agreement version.
3. Choose *Create Quotation*.
4. In the dialog box that opens, choose whether you want to copy the header information or the entire agreement to the new FWAQ.

5. Confirm the dialog box.

The system creates a new FWAQ.

6. Revise the rates in the new FWAQ.
7. Save your entries.

Next Steps

Once you have revised the rates, convert the FWAQ back into an FWA.

Related Information

[Forwarding Agreement Rate Revisions \[page 202\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreements \[page 199\]](#)

5.3.2 Revising Rate Items in Forwarding Agreements

Create a new forwarding agreement quotation (FWAQ) from individual rate lines in the leading charge type rate table in a forwarding agreement (FWA). You can then amend the rates in the FWAQ before converting the FWAQ back into an FWA.

Prerequisites

The FWA has been created from an FWAQ.

Procedure

1. In your SAP Fiori launchpad, open the *Display Forwarding Agreement* app.
2. Enter the agreement number and existing agreement version.
3. In the *Items* screen area, select the row with the relevant item.
4. Choose the *Calculation Sheet Overview* tab.
5. Select the leading charge type, and choose the *Display Rate Table* button.
6. In the rates screen, go to the *Dates and Values* tab, and choose the *Rates* subtab.
7. Select the rows for one or more rate lines, and choose the *Revise Agreement* button.

The system creates a new FWAQ with the selected rate lines inserted as response lines.

8. Revise the rates in the new FWAQ.
9. Save your entries.

Next Steps

Once you have revised the rates, convert the FWAQ back to an FWA.

Related Information

[Forwarding Agreement Rate Revisions \[page 202\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Forwarding Agreements \[page 199\]](#)

6 Transportation Charge Calculation Sheets

Transportation charge calculation sheets (TCCS) are hierarchical tables that the system uses to specify which transportation charges to calculate and how to calculate them.

The TCCS contains the transportation charge types that are permitted for a document. The *Items* table in a TCCS contains the details of the calculation sheet line items, and you can create rate tables for each line item.

TCCS in the container shipping liners solution are based on calculation sheets in the standard Transportation Management (TM) application with enhancements for the following functions:

- Surcharge conditions for individual charge types
- Reference charge types

Related Information

For more information about the standard TM functionality for calculation sheets, see the product assistance for Transportation Management in your SAP S/4HANA release on SAP Help Portal at https://help.sap.com/s4hana_op. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management (TM)* ► *Master Data* ► *Charge Management and Service Product Catalog* ► *Setup of MD for Charge Management and SP Catalogs* ►, or search for **Calculation Sheets**.

[Surcharge Conditions \[page 205\]](#)

[Reference Charge Types \[page 206\]](#)

6.1 Surcharge Conditions

Surcharge conditions specify the rules for determining the source of the surcharge amount and for calculating the surcharge amount in the calculation of ocean freight charges.

Surcharge conditions are added to charge types in transportation charge calculation sheets (TCCS). A charge type can have one of the following surcharge conditions:

Surcharge Condition	Description
Subject To	The surcharge is evaluated from the standard tariff at the time of charge calculation. The surcharge is used to calculate the overall charge amount.

Surcharge Condition	Description
Subject to Fixed	The surcharge is evaluated from the standard tariff during the quotation process. The calculated amount is transferred to the forwarding agreement (FWA). During the charge calculation process in a booking, the system retrieves the existing surcharge rate from the FWA instead of from the standard tariff.
Inclusive Of	The surcharge is evaluated from the standard tariff and was already included in the ocean freight charge during the quotation process. The surcharge amount is not included in the overall charge amount.
Inclusive of Fixed	The surcharge is negotiated with the customer as part of ocean freight charges during the quotation process. The surcharge amount is not included to the overall charge amount.

Related Information

[Transportation Charge Calculation Sheets \[page 205\]](#)

6.2 Reference Charge Types

Reference charges, which are charges that are calculated based on another charge type, can be added to transportation charge calculation sheets (TCCS).

A reference charge type can be based on a particular charge type, for example, an ocean carrier freight (OCF) charge, and the amount can be fixed or a percentage.

Related Information

[Adding Reference Charge Types to a TCCS \[page 207\]](#)

[Transportation Charge Calculation Sheets \[page 205\]](#)

6.2.1 Adding Reference Charge Types to a TCCS

Add one or more reference charge types to a charge item in a transportation charge calculation sheet (TCCS).

Prerequisites

The relevant reference charge type has been defined as a percentage charge type in Customizing for *Transportation Management* under ► *Basic Functions* ► *Charge Calculation* ► *Basic Settings* ► *Define Charge Types* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Calculation Sheet* app, and open the relevant calculation sheet.
2. Select the charge item in the *Items* table.
3. Specify the relevant reference charge type in the *Charge Type* field.
4. Select the *Maintain Reference Charge Type* checkbox.
5. Choose the *Reference Charge Types* subtab underneath the *Items* table.

Note

The *Reference Charge Types* subtab is only visible if a reference charge type is selected in the *Items* table.

6. Maintain the list of reference charge types for the charge item by adding or deleting charge types in the *Reference Charge Type* table.
7. Save your entries.

Results

During charge calculation, the charge for the charge type is calculated based on the values of reference charge types in the *Reference Charge Type* table.

Related Information

[Transportation Charge Calculation Sheets \[page 205\]](#)

[Reference Charge Types \[page 206\]](#)

7 Transportation Zones Classification

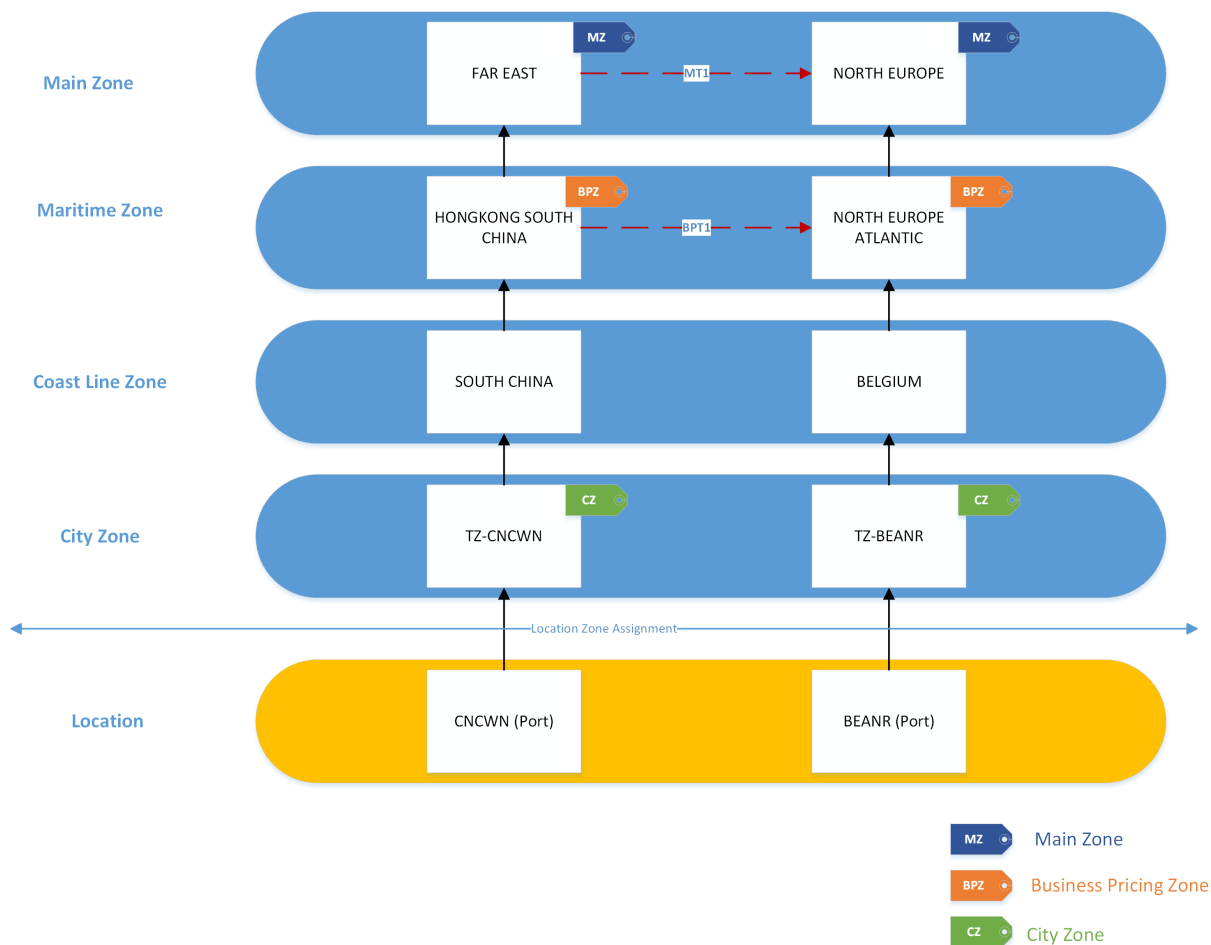
Transportation zones are groups of locations. In the master data for transportation zones, you can classify transportation zones according to use.

The following table lists the classifications that you can apply to transportation zones:

Zone	Description
Main business zone	The main business zones are used to define main trades. The main business zone is the highest level in a zone hierarchy.
Business pricing zone	Pricing zones are used to define pricing trades. These are the intermediate zones in a zone hierarchy.
City zone	The city zones are the origin and destination transportation zones in pricing rate-table dimensions. The rates are maintained at the city-code zone level in the rate tables. The city zones are the lowest level in a zone hierarchy.

Transportation zones can be structured as a hierarchy in the transportation zone hierarchy using the transaction `/SAPAPO/RELHSHOW`. You must follow a specific structure for the above zone classifications. The city zones are placed at the lowest level. The next level up is the pricing zones, and the business zones are at the top of the hierarchy.

The figure below is an example of the different hierarchical levels in a zone hierarchy:



Transportation Zone Hierarchical Level

Related Information

For more information about the standard Transportation Management functionality for transportation zones (and transportation zone definition), see the product assistance for your SAP S/4HANA release on SAP Help Portal at https://help.sap.com/s4hana_op. Open the product assistance and choose ► *Enterprise Business Applications* ► *Supply Chain* ► *Transportation Management (TM)* ► *Master Data* ► *Transportation Network* ► *Transportation Zone* ►, or search for **Transportation Zone**.

[Classifying Transportation Zones \[page 210\]](#)

7.1 Classifying Transportation Zones

Classify a transportation zone as a main business zone, a pricing zone, a city zone, or a mixture of the three.

Prerequisites

- Zone master data has been defined using transaction /SCMTMS/ZONE.
- The zone hierarchy has been maintained using transaction /SAPAPO/RELHSHOW.

Procedure

1. In your SAP Fiori launchpad, open the [Define Transportation Zone](#) app.
2. Use the search field to search for the relevant transportation zone.
3. Select the row with the transportation zone and choose [Edit](#).
4. Classify the zone by specifying **X** in the [Main Business Zone](#), [Business Pricing Zone](#), and [City Code Zone](#) fields as relevant.
5. Save your entries.

Related Information

[Transportation Zones Classification \[page 208\]](#)

8 Exception Templates

An exception template consists of a surcharge rule and a set of charge types that can be applied to single or multiple rate lines.

The table below lists the surcharge rules that can be assigned to exception templates:

Surcharge Rule	Description
All In	All relevant charge types are included in the ocean carrier freight (OCF) rate.
All in Except	All relevant charge types except for charge types in the exception list are included in the OCF.
All Subject To	All relevant charge types are considered as subject to .
All Subject to Except	All relevant charge types except the charge types in the exception list are considered as subject to .

You can create the following types of exception templates:

- **Tariff exception template**
A tariff exception template consists of a pricing trade, surcharge rule, and a set of charge types. You can use a tariff exception template to update exception conditions for OCF rate lines in the standard tariff by comparing the pricing trade.
- **Surcharge exception template**
A surcharge exception template consists of a surcharge rule and a set of charge types. You can use a surcharge exception template to update the surcharge conditions of charge types in rate lines in a forwarding agreement quotation (FWAQ).

Related Information

[Creating Exception Templates \[page 212\]](#)

[Editing Exception Templates \[page 213\]](#)

8.1 Creating Exception Templates

Create a surcharge or tariff exception template to specify a surcharge rule and a set of charge types that can be used to update conditions in rate lines.

Prerequisites

A set of charge types has been defined as surcharges in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Agreements ► Assign Charge Types to Group of Surcharges ►](#).

Context

You can use surcharge or tariff exception templates as follows:

- **Surcharge:** You can use surcharge exception templates to update surcharge conditions in rate lines in forwarding agreement quotations (FWAQs).
- **Tariff:** You can use tariff exception templates to update exception conditions in ocean carrier freight (OCF) rate lines in standard tariffs.

Procedure

1. In your SAP Fiori launchpad, open the [Create Exception Template](#) app.
2. In the initial exception template screen, select the relevant template type and choose [Continue](#).
3. In the main exception template screen, specify the template ID and description in the [General Data](#) section.
4. If you are creating a tariff exception template, specify a pricing trade.
5. In the [Surcharge Rule](#) section, select the relevant surcharge rule.
6. If you select the [All in Except](#) or the [All Subject to Except](#) surcharge rule, then add the excepted charge types to the [Exceptions List](#) section.
7. Set the template status to [Active](#) by choosing the [Activate](#) button.

Note

You must set the status to [Active](#) if you want to use the template to update rate lines.

8. Save your entries.

Results

- The surcharge exception template can be applied to rate lines in an FWAQ to update the customer requested surcharge condition and value.
- The tariff exception template can be applied to OCF rate lines in a standard tariff.

Related Information

[Exception Templates \[page 211\]](#)

8.2 Editing Exception Templates

Edit a tariff or a surcharge exception template to change the status, add exception charge types, delete the template, or revise the general data.

Prerequisites

A set of charge types has been defined as surcharges in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Agreements ► Assign Charge Types to Group of Surcharges ►](#).

Procedure

1. In your SAP Fiori launchpad, open the [Change Exception Template](#) app.
2. In the initial exception template screen, specify the template ID and choose [Continue](#).
3. In the main exception template screen, edit the relevant details.
4. Save your entries.

Related Information

[Exception Templates \[page 211\]](#)

9 Enhancements to Charge Calculation

The application provides several enhancements to the standard charge calculation process for forwarding agreement quotations (FWAQs) and bookings.

Related Information

[Charge Automation \[page 214\]](#)

[Other Size Per Formula \[page 226\]](#)

[Equipment Substitution \[page 230\]](#)

[Governing Tariffs \[page 234\]](#)

[General Rate Increase and General Rate Decrease Rules \[page 243\]](#)

9.1 Charge Automation

During the charge calculation process in forwarding agreement quotations (FWAQs) and bookings, the system uses the charge automation rules to calculate a rate when no specific rate has been defined for the requested equipment size and type. These charge automation rules are defined in Customizing.

When you trigger the charge calculation process in an FWAQ or a booking, the system fetches the tariff rates and then searches for a rate for the requested size and type of equipment. If a rate cannot be found, the system applies the charge automation rules and attempts to find a substitute rate plus a corresponding surcharge.

There are two types of charge automation rules, as follows:

- **Maritime**
The maritime rate is the transportation price for the main stage, and the transportation mode is sea. The maritime charge automation rules are configured in Customizing for [SAP Transportation Management](#) under ► [Container Shipping Liners](#) ► [Lead to Agreement](#) ► [Pricing](#) ► [Master Data](#) ► [Maintain Maritime Charge Automation Rules](#) .
A maritime charge automation rule needs to be configured for each of the following charge automation types, which are delivered as standard as part of the application:
 - Open Top
 - Flat Rack
 - Tank
 - Reefer
 - High Cube
 - Shipper-Owned Container (SOC)
 - Hazardous Goods

- Out of Gauge (OOG)
- Inland

The inland rate is the transportation price for the inland stage, which can be from the origin to the port, or from the port to the destination. The inland charge automation rules are configured in Customizing for *SAP Transportation Management* under **► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Maintain Inland Charge Automation Rules ►**.

An inland charge automation rule needs to be configured for each of the following charge automation types, which are delivered as standard as part of the application:

 - Open Top
 - Flat Rack
 - Tank
 - Reefer
 - High Cube
 - Hazardous Goods

i Note

SOC and OOG are not applicable for inland charge automation.

To use the configured charge automation rules, you need to perform the following tasks:

- Assign the maritime charge automation rules to a forwarding agreement tariff
- Assign the inland charge automation rules to a rate table

i Note

Roll-on roll-off (RORO) is not applicable for maritime or inland charge automation.

Related Information

[Assigning Maritime Charge Automation Rules to Tariffs \[page 215\]](#)

[Assigning Inland Charge Automation Rules to Rate Tables \[page 218\]](#)

9.1.1 Assigning Maritime Charge Automation Rules to Tariffs

Enter the pricing trade in a forwarding agreement tariff, so that the system can determine the relevant maritime charge automation rule during the charge calculation process.

Prerequisites

The charge automation rules for maritime transport have been maintained in Customizing for *Transportation Management* under **► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Maintain Maritime Charge Automation Rules ►**.

Context

The maritime charge automation rule is dependent on the pricing trade and always applies for the maritime rate. You maintain the formula for the charge automation rule in the forwarding agreement (FWA) tariff and the FWAQ header. In the FWA tariff, you enter the pricing trade on the [General Data](#) tab, and then the system automatically enters the relevant charge automation formulas on the [Trade](#) tab. The formulas are determined from the specified Customizing settings. You can enter a validity period for each formula, and also specify whether each formula is applicable.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement](#) app, and open the relevant forwarding agreement tariff.
2. On the [General Data](#) tab, in the [Surcharge Information](#) section, enter the pricing trade.
3. Save your entries.
4. On the [Trade](#) tab, select the [Charge Automation](#) subtab.

The system displays the charge automation types and the related rules (reference equipment types and surcharges).

5. (Optional): For each charge automation formula, you can enter the validity period and also specify whether the formula is applicable.
6. Save your entries.

Related Information

[Charge Automation \[page 214\]](#)

[Equipment-Relevant Charge Automation for Maritime Stages \[page 216\]](#)

[Non-Equipment-Relevant Charge Automation for Maritime Stages \[page 217\]](#)

9.1.1.1 Equipment-Relevant Charge Automation for Maritime Stages

The maritime charge automation rules for special equipment types such as flat racks and reefers are configured in Customizing. The system uses these rules to calculate the rate for special equipment types when no specific rate has been defined.

The maritime charge automation rules for special equipment types are configured in Customizing for [Transportation Management](#) under ► [Container Shipping Liners](#) ► [Lead to Agreement](#) ► [Pricing](#) ► [Master Data](#) ► [Maintain Maritime Charge Automation Rules](#) ►.

A rule needs to be configured for each of the following equipment-relevant charge automation types:

- Open Top
- Flat Rack
- Tank
- Reefer
- High Cube

Each rule is configured by defining a reference equipment type and a surcharge.

When a customer books a special equipment type (such as a flat rack or a reefer), the special equipment type is entered at the booking item level as the normal equipment type. When you trigger the charge calculation for the booking, the system first tries to find the rate quoted for the special equipment type. If no rate is found, the system applies the charge automation rules.

❖ Example

There is a booking request for the equipment type **200T** (a 20' open top container). However, there is no rate for **200T**. Using the charge automation rules, the system determines that the reference equipment type for **200T** is **20ST** (a 20' standard container), and a surcharge is applicable (the open top surcharge **AUTO_OT**). Therefore, to calculate the rate for **200T**, the system finds the rate for **20ST** and adds the open top surcharge **AUTO_OT**.

Related Information

[Charge Automation \[page 214\]](#)

[Assigning Maritime Charge Automation Rules to Tariffs \[page 215\]](#)

[Non-Equipment-Relevant Charge Automation for Maritime Stages \[page 217\]](#)

9.1.1.2 Non-Equipment-Relevant Charge Automation for Maritime Stages

The maritime charge automation rules for special cargos and shipper-owned containers (SOCs) are configured in Customizing. The system uses these rules to calculate the rate for special cargos and SOC when no specific rate has been defined.

A customer might want to ship special cargos such as hazardous goods or out of gauge (OOG) cargos, or ship cargo using an SOC. These details are entered in the booking item or the request in the forwarding agreement quotation (FWAQ).

The maritime charge automation rules for special cargos and SOC are configured in Customizing for *Transportation Management* under ► *Container Shipping Liners* ► *Lead to Agreement* ► *Pricing* ► *Master Data* ► *Maintain Maritime Charge Automation Rules* ►.

A rule needs to be configured for each of the following charge automation types:

- SOC

- Hazardous
- OOG

Each rule is configured by defining a surcharge. It is not necessary to configure a reference equipment type for non-equipment-relevant charge automation types.

When you trigger the charge calculation for the booking, the system first tries to find the rate for the special cargo type. If no rate is found, the system applies the relevant surcharge defined in the charge automation rules. For example, in the case of hazardous cargo, the system first searches for the rate for hazardous cargo. If no rate is found, the system applies the charge automation rule to find a rate for non-hazardous cargo, and then adds the relevant surcharge for hazardous cargo.

Related Information

[Charge Automation \[page 214\]](#)

[Assigning Maritime Charge Automation Rules to Tariffs \[page 215\]](#)

[Equipment-Relevant Charge Automation for Maritime Stages \[page 216\]](#)

9.1.2 Assigning Inland Charge Automation Rules to Rate Tables

Enter the inland charge automation formula in the relevant rate table, so that the system can determine the relevant charge automation rule during the charge calculation process.

Prerequisites

The charge automation rules for inland transport have been maintained in Customizing for *Transportation Management* under [► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Maintain Inland Charge Automation Rules ►](#).

Context

In contrast to the maritime charge automation rules, the inland charge automation rules are not dependent on the pricing trade. You assign the inland charge automation rule in the relevant rate table.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Rate Table Definition](#) app.
2. Open the relevant inland rate table.
3. On the [General Data](#) tab, in the [Basic Data](#) section, specify the [Inland Charge Automation Formula ID](#).
4. Save the rate table.

Related Information

[Equipment-Relevant Charge Automation for Inland Stages \[page 219\]](#)

[Charge Automation for Hazardous Goods Inland \[page 220\]](#)

9.1.2.1 Equipment-Relevant Charge Automation for Inland Stages

The inland charge automation rules for special equipment types such as flat racks and reefers are configured in Customizing. The system uses these rules to calculate the rate for the special equipment type when a specific rate has not been defined.

The inland charge automation rules for special equipment types are configured in Customizing for [Transportation Management](#) under ► [Container Shipping Liners](#) ► [Lead to Agreement](#) ► [Pricing](#) ► [Master Data](#) ► [Maintain Inland Charge Automation Rules](#) ►.

A rule needs to be configured for each of the following equipment-relevant charge automation types:

- Open Top
- Flat Rack
- Tank
- Reefer
- High Cube

Each rule is configured by defining a reference equipment type and a surcharge.

If a customer books a special equipment type such as a flat rack or a reefer, the special equipment type is entered in the booking item. When you trigger the charge calculation for the booking, the system first tries to find the rate quoted for the special equipment type. If no rate is found, the system applies the charge automation rule for the special equipment type.

❖ Example

There is a booking request for the equipment type **200T** (a 20' open top container). However, there is no rate for **200T**. The system determines that the reference equipment type for **200T** is **20ST** (a 20' standard container), and a surcharge is applicable. Therefore, determine the applicable rate for **200T**, the system finds the inland rate for **20ST** and adds the open top surcharge.

Related Information

[Assigning Inland Charge Automation Rules to Rate Tables \[page 218\]](#)

[Charge Automation for Hazardous Goods Inland \[page 220\]](#)

9.1.2.2 Charge Automation for Hazardous Goods Inland

The inland charge automation rules for hazardous cargos are configured in Customizing. The system uses these rules to calculate the rate for hazardous cargos when no specific rate has been defined.

The inland charge automation rules are configured in Customizing for *Transportation Management* under **► Container Shipping Liners ► Lead to Agreement ► Pricing ► Master Data ► Maintain Inland Charge Automation Rules ►**.

The inland charge automation rule for hazardous cargo is configured by defining the following surcharges:

- Origin Inland
- Destination Inland
- Origin First Mile Inland
- Destination Last Mile Inland

In the rate table, you enter the rate for hazardous cargo as a scale of the inland rate table. If the rate is for hazardous cargo, then you should enter the scale. If the rate is for normal cargo, then you should leave the scale blank.

In the booking item, there is a checkbox to indicate if the cargo in the container is hazardous. When you trigger the charge calculation for a booking that includes hazardous cargo, the system first searches for a rate for hazardous cargo. If no rate is found, the system applies the charge automation rule.

i Note

There is no shipper owned container (SOC) or out of gauge (OOG) charge automation for inland stages.

❖ Example

There is a booking request for hazardous cargo. The system determines that there is no rate for hazardous cargo, and that the rate for non-hazardous cargo plus a surcharge is applicable. Therefore, to determine the applicable rate for hazardous cargo, the system finds the inland rate for non-hazardous cargo, and adds the hazardous surcharge.

Related Information

[Assigning Inland Charge Automation Rules to Rate Tables \[page 218\]](#)

[Equipment-Relevant Charge Automation for Inland Stages \[page 219\]](#)

9.1.3 Charge Automation in Quotations and Bookings

When you calculate charges in forwarding agreement quotations (FWAQs) and bookings, the system uses the charge automation rules to calculate the rate when no direct rate is found. This can involve calculating and combining separate rates for maritime and inland stages.

In the charge calculation process for FWAQs and bookings, the system uses the charge automation rules for inland legs when a matching rate is not found for inland segments (origin or destination). The charge automation calculation for the origin inland stage and the destination inland stage are independent.

First, the system checks the specified rate for the inland legs. If a matching rate is not found, the system checks the charge automation rule specified in the inland rate table. The system determines the rate from a base rate plus a corresponding surcharge (such as an open top surcharge).

In the charge automation process for the maritime stage (ocean carrier freight (OCF)), if no surcharge has been defined, then the base rate is applied. Conversely, in the charge automation process for inland, if there is no surcharge defined, the base rate is not applied.

❖ Example

There is an FWAQ request for the equipment size and type **20OT** (a 20' open top container). There is no direct OCF rate for **20OT**, so the system uses the charge automation rules and determines that the appropriate base rate is OCF tariff **20ST** (a 20' standard container), which is \$400. No surcharge is maintained for open top, therefore, the rate for OCF is \$400.

Next, the system finds the inland tariff for **20ST**, which is \$300. No surcharge is maintained for open top for inland. Therefore, the rate for inland is returned blank.

It is possible to combine charge automation rules. For ocean freight, it is possible to combine charge automation rules for equipment type (open top, flat rack, reefer, tank, or high cube), shipper-owned container (SOC), and hazardous cargo. For inland, it is possible to combine charge automation rules for equipment type and hazardous cargo.

❖ Example

The FWAQ or booking request is for the equipment size and type **20OT** (a 20' open top container), using an SOC containing hazardous cargo (HAZ).

Using the maritime charge automation rules, the system determines that the OCF tariff for **20ST** (a 20' standard container) using an SOC containing non-hazardous cargo is applicable, which is \$400. Therefore, the rate for OCF is calculated as follows:

\$400 + open top surcharge + HAZ surcharge

For the inland stage, the system determines that the inland tariff for **20ST** containing non-hazardous cargo is applicable, which is \$400. Therefore, the rate for inland is calculated as follows:

\$400 + open top surcharge + HAZ surcharge

The priority of charge automation follows the order of the charge automation rules.

Related Information

[Charge Automation for Inland Stages \[page 222\]](#)

[Using Charge Automation in Quotations \[page 223\]](#)

[Using Charge Automation in Bookings \[page 225\]](#)

9.1.3.1 Charge Automation for Inland Stages

When an inland rate is required to complete the charge calculation in a forwarding agreement quotation (FWAQ) or a booking, the system calculates a rate using the charge automation rules when no specific rate exists.

The system determines the appropriate rate for inland stages as follows:

1. The system checks if there is a rate for the specific equipment size and type, and if a rate is found, it is used.
2. If there is no rate for the specific equipment size and type, then the system checks if a rate is available using the charge automation rule. If a suitable rate can be determined for inland plus a surcharge (such as open top, flat rack, tank, reefer, or high cube), then the system uses it.
3. If no valid rate is found using the charge automation rule (inland plus a surcharge not found), then the system moves to the next step of rate calculation.

When an inland rate for hazardous cargo is required to complete the charge calculation, the system attempts to determine the appropriate rate as follows:

1. If a specific inland rate for hazardous cargo is found, then the system uses it.
2. If no specific inland rate for hazardous cargo is found, then the system checks if a rate is available using the charge automation rule. If a suitable rate can be determined for inland plus a hazardous cargo surcharge, then the system uses it.
3. If no valid rate is found using the charge automation rule (inland plus surcharge for hazardous cargo), then the system moves to the next step of rate calculation.

If none of the above steps succeed in finding a rate for inland (including the charge automation steps), then the charge calculation fails to find an ocean carrier freight (OCF) rate and an inland (INL) rate.

The charge automation rules for ocean freight and inland are evaluated separately. Therefore, the system could apply the charge automation rules for the inland stage, and apply a specific matching rate for the ocean freight stage (and verse versa).

For ocean freight, if a surcharge is not found during the charge automation evaluation, then the default rate defined in the charge automation rules is applied. However, for inland, no rate is returned if a surcharge is not found in the charge automation rules.

The reference equipment type is not used to evaluate inland surcharges (including adjustment factors) or ocean freight surcharges. It is only used to find the ocean freight and inland base rate.

i Note

There is a difference between the charge automation process for quotations and the charge automation process for bookings. In quotations, if no rate is found for the inland surcharge in the inland charge

automation process, the OCF rate is retained. While in bookings, the OCF rate is blank when no rate is found for the inland surcharge.

Related Information

[Charge Automation in Quotations and Bookings \[page 221\]](#)

[Using Charge Automation in Quotations \[page 223\]](#)

[Using Charge Automation in Bookings \[page 225\]](#)

9.1.3.2 Using Charge Automation in Quotations

Generate the charges for the selected route in a forwarding agreement quotation (FWAQ).

Prerequisites

- The forwarding agreement tariff has been created in the [Create Forwarding Agreement](#) app.
- The calculation bases have been defined in Customizing for [Transportation Management](#) under [Basic Functions](#) > [Charge Calculation](#) > [Data Source Binding](#) > [Define Calculation Bases](#) .
- The calculation bases have been mapped in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Agreements](#) > [Map Calculation Base with Attribute in FWAQ](#) .
- The tariff has been mapped in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Agreements](#) > [Maintain Standard Tariffs](#) .
- The maritime charge automation rules have been defined in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Maintain Maritime Charge Automation Rules](#) .
- The inland charge automation rules have been defined in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Maintain Inland Charge Automation Rules](#) .

Procedure

1. In your SAP Fiori launchpad, open the [Create Forwarding Agreement Quotation](#) app.
2. On the initial screen, specify the quotation type, and optionally specify an existing quotation or a quotation template as a reference.
3. Choose [Continue](#).

4. On the [General Data](#) tab, enter the following mandatory details:
 - [FWAQ Valid From](#)
 - [FWAQ Valid To](#)
 - [Agreement Valid From](#)
 - [Agreement Valid To](#)
 - [Ordering Party](#)
 - [Sales Organization](#)
5. On the [Items](#) tab, choose [Insert](#) [Item](#) , and then enter the FWAQ item details.
6. On the [Items](#) tab, choose [Calculation Sheet](#) [Create Calculation Sheet](#) .
7. On the [Calculation Sheet Overview](#) tab on item level, enter the ocean carrier freight (OCF) rate table for the request, including the following details:
 - [Source Transportation Zone](#)
 - [Destination Transportation Zone](#)
 - [Delivery Mode](#)
 - [Receipt Mode](#)
 - [Equipment Type](#)
8. In the header toolbar, choose [Display Flat View](#).
9. Choose [Apply](#) to display the request lines.
10. Select the request line and choose [Search Routes](#) to find the preferred routing.
11. Select the required route.

A response line is generated.
12. Select the response line and choose the [Revenue](#) tab.

The system fetches the rates from the tariff.

Related Information

[Charge Automation in Quotations and Bookings \[page 221\]](#)

[Charge Automation for Inland Stages \[page 222\]](#)

[Using Charge Automation in Bookings \[page 225\]](#)

9.1.3.3 Using Charge Automation in Bookings

Calculate the charges for a booking and then view the rates and charge automation rules that have been applied.

Prerequisites

- The forwarding agreement tariff has been created in the [Create Forwarding Agreement](#) app.
- The calculation bases have been defined in Customizing for [Transportation Management](#) under [Basic Functions](#) > [Charge Calculation](#) > [Data Source Binding](#) > [Define Calculation Bases](#) .
- The calculation bases have been mapped in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Agreements](#) > [Map Calculation Base with Attribute in FWAQ](#) .
- The tariff has been mapped in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Agreements](#) > [Maintain Standard Tariffs](#) .
- The maritime charge automation rules have been defined in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Maintain Maritime Charge Automation Rules](#) .
- The inland charge automation rules have been defined in Customizing for [Transportation Management](#) under [Container Shipping Liners](#) > [Lead to Agreement](#) > [Pricing](#) > [Master Data](#) > [Maintain Inland Charge Automation Rules](#) .

Procedure

1. In your SAP Fiori launchpad, open the [Create Booking](#) app.
2. On the initial screen, specify the booking type, and optionally specify an existing booking or a booking template as a reference.
3. Choose [Continue](#).
4. On the [General Data](#) tab, enter the following mandatory fields:
 - [Booking Party](#)
 - [Source Location](#)
 - [Departure After Date](#)
 - [Destination Location](#)
 - [Sales Organization](#), [Sales Office](#), and [Sales Group](#)
 - Booking item details
 - Requested port of loading ([POL](#)) and port of discharge ([POD](#))
5. On the toolbar, choose [Calculate Charges](#).

The system fetches the rates from the tariff.
6. On the [Charges](#) tab, check the rate and the surcharge for the inland stage.

7. On the [Charge Analysis Log](#) subtab, view the messages for the charge automation rules that have been successfully applied.

Related Information

[Charge Automation in Quotations and Bookings \[page 221\]](#)

[Charge Automation for Inland Stages \[page 222\]](#)

[Using Charge Automation in Quotations \[page 223\]](#)

9.2 Other Size Per Formula

Other size per formula (OSPF) is a size-based formula that you can use to calculate a rate when there is no specific rate for the type of equipment.

Overview

Sometimes, the system cannot find a direct rate for a particular equipment type (not even for the reference equipment type configured in Customizing). When a direct rate cannot be found, the system can try to find a rate using the OSPF formula if you have maintained it in the tariff.

You can configure OSPF per governing tariff (per trade). The OSPF formula for an equipment type can only refer to one reference equipment type (only one formula).

You can enter cyclic formulas such as follows:

- 20' container = 80% of 40' container
- 40' container = 90% of 45' container

However, if you do enter cyclic formulas, the system only evaluates the first formula when applying OSPF.

You can also maintain a rounding profile for OSPF. The system applies the rounding during the charge calculation process. During the charge calculation process in a booking, the OSPF formula is applied if no rate can be found for the equipment type specified in the booking.

Related Information

[Entering the OSPF Formula in Forwarding Agreements \[page 227\]](#)

[OSPF Charge Automation Process \[page 228\]](#)

[Viewing the OSPF Rate Details in the Booking Screen \[page 229\]](#)

9.2.1 Entering the OSPF Formula in Forwarding Agreements

Enter the other size per formula (OSPF) details for a forwarding agreement (FWA) tariff.

Prerequisites

- The agreement type has been defined in Customizing for *Transportation Management* under ► *Master Data* ► *Agreement and Service Products* ► *Define Freight Agreement Types* ►.
- The agreement type has been identified as *Tariff* in Customizing for *Transportation Management* under ► *Lead to Agreement* ► *Pricing* ► *Master Data* ► *Agreements* ► *Define Forwarding Agreement Types* ►.
- The amendment code has been defined in Customizing for *Transportation Management* under ► *Lead to Agreement* ► *Pricing* ► *Charge Determination* ► *Maintain Amendment Codes* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement* app, and then open the relevant tariff.
2. On the *Trade* tab, select the relevant trade.
3. On the *OSPF* tab, enter the rounding profile and the formula details as follows:

Field Name	Mandatory	Read-Only (After initial entry)	Description
Equipment Type	Y		Equipment type that is originally requested in the booking
Sign		Y	Always equal ("=")
Value		Y	Percentage for the formula
Currency/Percentage	Y		Always percentage ("%")
Reference Equipment Type		Y	Reference equipment size/type (the rate for this equipment type is the basis of the formula)
Valid-From Date		Y	Effective date of the OSPF formula
Valid-To Date		Y	Expiration date of the OSPF formula

Field Name	Mandatory	Read-Only (After initial entry)	Description
Amendment Code			Amendment code of the formula. The system will not determine the amendment code. You need to enter the amendment code from the input help list. Example: ○ I – Initial Creation ○ E – Expired
Rounding Profile			Strategy for rounding the result

4. Save the tariff.

Results

When the tariff is released, the OSPF formula is used to calculate a rate if no direct rate or other rate is found for the specified equipment.

Related Information

[Other Size Per Formula \[page 226\]](#)

[OSPF Charge Automation Process \[page 228\]](#)

[Viewing the OSPF Rate Details in the Booking Screen \[page 229\]](#)

9.2.2 OSPF Charge Automation Process

In the charge automation process for bookings and forwarding agreement quotations (FWAQs), the system uses the direct rate for the specified equipment type if one is available. If there is no direct rate, the system uses the other size per formula (OSPF) settings to calculate a rate.

The OSPF formula is only applied to the ocean carrier freight (OCF) charge type. Since surcharges are always maintained for all equipment types, a direct rate is always available for surcharges.

❖ Example

A tariff contains the following rates for a 20' standard container (20ST):

- Direct rate (tariff line item (TLI)): 20ST = \$1000
- OSPF: 20ST = 80% of 40ST = \$900

In this example, the system applies \$1000 as the rate, because it is a direct rate even though it is higher.

Related Information

[Other Size Per Formula \[page 226\]](#)

[Entering the OSPF Formula in Forwarding Agreements \[page 227\]](#)

[Viewing the OSPF Rate Details in the Booking Screen \[page 229\]](#)

9.2.3 Viewing the OSPF Rate Details in the Booking Screen

View the charge calculation details on the [Charge Analysis Log](#) tab in the [Booking](#) app when other size per formula (OSPF) has been applied to calculate a rate for the equipment type.

Prerequisites

- You have defined the OSPF formula in the forwarding agreement tariff in the [Edit Forwarding Agreement](#) app.
- The following parameters have been added for your user ID in transaction /NSU3 on the [Parameters](#) tab:
 - /TMCSL/FULL_PRC_VIEW = X
 - /SCMTMS/TCC_LOG = X

Procedure

1. In your SAP Fiori launchpad, open the [Change Booking](#) app, and then open the relevant booking.
2. Choose [Calculate Charges](#).

If the system cannot find a direct rate for the equipment type specified in the booking item, then the OSPF rate is applied to the booking.

3. On the [Charges](#) tab, select the ocean carrier freight (OCF) rate and then select the [Charge Analysis Log](#) tab.

If an OSPF rate has been applied, then the details of the rate calculation are displayed.

4. Save the booking.

Related Information

[Other Size Per Formula \[page 226\]](#)

[Entering the OSPF Formula in Forwarding Agreements \[page 227\]](#)

[OSPF Charge Automation Process \[page 228\]](#)

9.3 Equipment Substitution

During the booking process, the carrier might not have available the equipment type requested by the customer. In this event, the carrier provides alternative equipment based on predefined rules in the agreement or the global tariff. The equipment type used for charge calculation is also determined based on these rules.

Overview

When the Voyage Suggestion Framework (VSF) is executed during the booking process to generate a route proposal, the equipment availability check is also triggered to check the equipment status through SAP Transportation Resource Planning.

If the booked equipment size is not available at the time of equipment pickup, the system checks the predefined alternative equipment type and the rules to determine the pricing equipment type in the tariff and agreement. Finally, the system proposes a substitution equipment and a pricing equipment type. Usually, the size of the alternative equipment maintained in the tariff or agreement is larger than the requested equipment.

Related Information

For more information about route proposal generation, see SAP Library for your SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA release on SAP Help Portal at https://help.sap.com/tm_csl_o2c_s4hana. Open the Product Assistance and search for **Route Proposal Generation**.

For more information about the equipment availability check, see SAP Library for your SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA release on SAP Help Portal at https://help.sap.com/tm_csl_o2c_s4hana. Open the Product Assistance and search for **Equipment Availability Check**.

For more information about SAP Transportation Resource Planning, see SAP Library for your SAP Transportation Resource Planning release on SAP Help Portal at https://help.sap.com/viewer/p/SAP_TRANSPORTATION_RESOURCE_PLANNING. Under *Application Help* open SAP Library.

[Maintaining Equipment Substitution Rules \[page 231\]](#)

[Determining the Pricing Equipment Type in Bookings with Substituted Equipment \[page 233\]](#)

9.3.1 Maintaining Equipment Substitution Rules

Maintain the substitution equipment type and the rules used to determine the pricing equipment type in the *Governing Tariff* screen.

Prerequisites

- The agreement type has been defined in Customizing for *Transportation Management* under ► *Master Data* ► *Agreement and Service Products* ► *Define Freight Agreement Types* ►.
- The agreement type has been identified as *Tariff* in Customizing for *Transportation Management* under ► *Lead to Agreement* ► *Pricing* ► *Master Data* ► *Agreements* ► *Define Forwarding Agreement Types* ►.

Procedure

1. In your SAP Fiori launchpad, open the *Edit Forwarding Agreement* app, and then open the relevant tariff.
2. On the *Equipment Substitution* tab, enter the following mandatory details:

Field Name	Description
Requested Equipment Type	Original equipment type in the booking request
Substituted Equipment Type	Alternative equipment proposed to the customer to load the cargo. Usually, the size is larger than the <i>Requested Equipment Type</i> . Example ◦ Request Equipment Type: 20G0 ◦ Substituted Equipment Type: 40G0
Pricing Equipment Type	Equipment type proposed to the customer for pricing purposes if certain rules are passed

3. (Optional): Enter the following fields to specify the rules for determining the pricing equipment type in the booking request:

Field Name	Description
Weight Threshold	Used to compare with the net weight in the booking to determine the pricing equipment type in the booking. If the net weight is greater than the weight threshold you specify here, then the system uses the substituted equipment type.

Field Name	Description
Weight UoM	Unit of measurement (UoM) for weight threshold
Volume Threshold	Used to compare with the gross volume in the booking to determine the pricing equipment type in the booking. If the gross volume in the booking is greater than the volume threshold you specify here, then the system uses the substituted equipment type. If the gross volume in the booking is less than the volume threshold you specify here, then the system uses the originally requested equipment type.
Volume UoM	UoM for volume threshold

Note

If you do not specify these details, then the system uses the *Pricing Equipment Type* specified in Step 2.

4. Save the tariff.

Next Steps

When the tariff is released, the substitute equipment and pricing equipment can be determined for a booking during the execution of the Voyage Suggestion Framework in the charge calculation process.

Related Information

[Equipment Substitution \[page 230\]](#)

[Determining the Pricing Equipment Type in Bookings with Substituted Equipment \[page 233\]](#)

9.3.2 Determining the Pricing Equipment Type in Bookings with Substituted Equipment

Choose a route proposal with an equipment substitution in a booking, and the system determines the pricing equipment type using the predefined rules in the governing tariff.

Prerequisites

You have maintained the equipment substitution rule in the tariff in the [Edit Forwarding Agreement](#) app.

Context

When you choose a route proposal with an equipment substitution in a booking, the following rules are executed in sequence to determine the pricing equipment type for the booking:

1. If threshold information is not maintained in the tariff, then the system uses the pricing equipment type maintained in the tariff.
2. If the net weight is greater than the weight threshold in the tariff, then the system uses the substituted equipment type.
3. If the gross volume is greater than the volume threshold in the tariff, then the system uses the substituted equipment type.
4. If the gross volume is less than the volume threshold in the tariff, then the system uses the originally requested equipment type.

The pricing equipment type is used for charge calculation in the booking, and is set as the originally requested equipment if no substitution happens.

Procedure

1. In your SAP Fiori launchpad, open the [Change Booking](#) app, and then open the relevant booking.
2. Enter the booking items including the equipment type and quantity.
3. Generate the routes for the booking.

The system executes the Voyage Suggestion Framework (VSF) to generate the route proposals.

4. Select a route proposal with an equipment substitution.

The system applies the following changes in the booking item:

- The requested equipment is replaced with the substitution equipment.
- The original equipment is entered.
- The pricing equipment type is determined using the predefined rules listed above.
- The equipment substitution checkbox is selected.

5. Save the booking.

Next Steps

The proposed substitution equipment type is used during the entire transportation phase, and the pricing equipment type is used for the charge calculation in this booking.

Related Information

[Equipment Substitution \[page 230\]](#)

[Maintaining Equipment Substitution Rules \[page 231\]](#)

9.4 Governing Tariffs

The governing tariff is used to store the rules used in the charge calculation process. These rules can be linked to a calculation sheet in a forwarding agreement tariff.

Overview

The governing tariff rules and subrules are grouped by sales organization and charge type. However, some rules can be defined globally with specific conditions, and therefore a special type of governing tariff called a general rule set is provided for defining these global rules. In a general rule set, the sales organization is optional. You can link a general rule set to a governing tariff.

The following types of rules can be defined:

- General clauses for service contracts
- Inland conditions and surcharges
- Conditions and surcharges for duration-based charges (DBC)
- Bill of lading (B/L) conditions and surcharges

Governing Tariff Screen

The governing tariff screen contains the following sections:

- General Data
This tab contains details such as the governing tariff ID, the governing tariff type, the status, and the validity period.

- Rules
This section contains the following tabs:
 - Rules
On this tab, you define the rules for the governing tariff.
 - Overview Linked General Rule Set/Governing Tariff
On this tab, you can view a summary of all the linked general rule sets or governing tariffs.
 - Linked Tariff
On this tab, you can view the linked forwarding agreement tariffs.
- Subrules
When you select a rule, the [Tariff Subrules](#) subtab and the Text subtab are displayed. You can use the [Text](#) subtab to maintain the text for the rule.
- Rule Text and Attachments
When you select a subrule, the [Rule Text For](#) subtab and the [Attachments](#) subtab are displayed. You can use the [Rule Text For](#) subtab to maintain the text for the subrule. You can use the [Attachments](#) tab to specify document links.

Related Information

[Creating Governing Tariffs \[page 235\]](#)

[Governing Tariff Maintenance \[page 237\]](#)

[Publishing Governing Tariffs, Rules, and Subrules \[page 237\]](#)

[Overview Governing Tariff \[page 239\]](#)

[Linking General Rule Sets to Governing Tariffs \[page 240\]](#)

[Linking Governing Tariffs to Forwarding Agreement Tariffs \[page 241\]](#)

[Viewing the Linked Governing Tariff Rules and Subrules in FWAs \[page 242\]](#)

9.4.1 Creating Governing Tariffs

Create a new governing tariff using the [Create Governing Tariff](#) app.

Context

You can create a governing tariff in the following ways:

- By manually entering all of the details
- By opening an existing governing tariff and choosing [Copy](#)
When you copy an existing governing tariff, the system creates a new governing tariff and copies all of the data from the original one, with the exception of the following fields:
 - [Governing Tariff Type](#)
 - [Publish Date](#)
 - [Status](#) (set to [Pending](#))

- [Governing Tariff ID](#)
- [Amendment Code](#) (set to *I*)

Procedure

1. In your SAP Fiori launchpad, open the [Create Governing Tariff](#) app.
The system displays the initial screen for creating a new governing tariff.
2. Select the governing tariff type ([Governing Tariff](#) or [General Rule Set](#)), and then choose [Continue](#).
3. On the [General Data](#) tab, enter the following mandatory fields:
 - [Governing Tariff ID](#)
 - [Sales Organization](#) (optional for a general rule set)
 - [Valid-From Date](#)
 - [Valid-To Date](#)
4. (Optional): On the [Rules](#) subtab, choose Insert to insert a new rule, and then enter the following mandatory fields:
 - [Rule Number](#)
 - [Valid-From Date](#)
 - [Valid-To Date](#)
5. (Optional): Enter the remaining rule fields as required.
6. (Optional): To enter text for rule, select the relevant rule, and then enter the text on the [Text](#) subtab.
7. (Optional): To insert a subrule, select the relevant rule, choose [Insert](#) on the [Tariff Subrule](#) subtab, and then enter the required details.
8. (Optional): To add an attachment, select the relevant subrule and then choose one or more of the following options on the [Attachments](#) subtab:
 - [Insert](#) > [Folder](#)
 - [Insert](#) > [File](#)
 - [Insert](#) > [URL](#)
9. Save the governing tariff.

Next Steps

Publish the governing tariff when it is ready for use.

Related Information

[Governing Tariffs \[page 234\]](#)

[Governing Tariff Maintenance \[page 237\]](#)

[Publishing Governing Tariffs, Rules, and Subrules \[page 237\]](#)

9.4.1.1 Governing Tariff Maintenance

Various maintenance options are available for rules and subrules in the *Governing Tariff* screen.

You can perform the following actions for rules and subrules that have the status *Pending*:

- Insert
- Edit
- Delete
- Copy
When you copy a rule, the subrules that belong to the rule are also copied. All of the data is copied except for the amendment code and status. The amendment code is set to *I*, and the status is set to *Pending*.
- Publish

If the status of a rule or subrule is *Published* or *Withdrawn*, then you can only perform the copy action.

If there are multiple active rules or subrules that are the same (that is, they have the same carrier, governing tariff ID, rule ID or subrule ID, validity period, and so on), only one of them can be processed normally by the system. The remaining duplicate rules are automatically set to the status *Withdrawn* and cannot be edited any more when you publish them.

Related Information

[Governing Tariffs \[page 234\]](#)

[Creating Governing Tariffs \[page 235\]](#)

[Overview Governing Tariff \[page 239\]](#)

9.4.2 Publishing Governing Tariffs, Rules, and Subrules

Publish a governing tariff, rule, or subrule so that the rules of the tariff can be applied.

Prerequisites

There is an existing governing tariff and it has not been published.

Context

You can use the [Publish](#) button to change the status of a governing tariff, rule, or subrule when the rules are accepted and ready to be applied.

You can perform the publication process at three different levels as follows:

- Tariff
- Rule
- Subrule

Note

You can only publish a rule when the related governing tariff has been published, and you can only publish a subrule when the related rule has been published.

There are two ways to perform the publication process:

- In the [Change Governing Tariff](#) app
This app has a [Publish](#) button at each different level.
- In the [Overview Governing Tariff](#) app
This app has a single [Publish](#) button and the system automatically determines the relevant level based on the selected data.

When the governing tariff, rules, and subrules are published, you can no longer update them and the rules and subrules cannot be deleted. However, you can add new rules and subrules to a published governing tariff.

Procedure

1. In your SAP Fiori launchpad, open the [Change Governing Tariff](#) app, and then open the relevant governing tariff.
2. Choose the relevant option as follows:

Option	Result
To publish the entire governing tariff, choose Publish in the header toolbar.	○ If the Valid-From Date is before the current date, it is adjusted to the current date. ○ If the Valid-To Date is before the current date, an error message is displayed. ○ When the governing tariff is successfully published, the status of the governing tariff is updated to Published, and all of the rules and subrules are also published.
To publish a rule, select the rule on the Rule subtab, and then choose Publish in the toolbar of the Rule subtab.	○ If the Valid-From Date is before the current date, it is adjusted to the current date, and the status of the rule is set to Published. ○ If the Valid-From Date is after or the same as the current date, the status of the rule is set to Published.

Option	Result
	If the <i>Valid-To Date</i> is before the current date, the status of the rule is set to <i>Withdrawn</i>.
To publish a subrule, select the subrule on the <i>Tariff Subrule</i> subtab, and then choose <i>Publish</i> in the toolbar of the <i>Tariff Subrule</i> subtab.	- If the <i>Valid-From Date</i> is before the current date, it is adjusted to current date, and the status of the subrule is set to <i>Published</i>. - If the <i>Valid-From Date</i> is after or the same as the current date, the status of the subrule is set to <i>Published</i>. - If the <i>Valid-To Date</i> is before the current date, the status of the subrule is set to <i>Withdrawn</i>.

3. Save the governing tariff.

Results

- The status of the governing tariff, rules, and subrules that you have published are either *Published* or *Withdrawn*.
- The published data can no longer be edited. However, you can add new rules and subrules.

Related Information

[Governing Tariffs \[page 234\]](#)

[Creating Governing Tariffs \[page 235\]](#)

[Governing Tariff Maintenance \[page 237\]](#)

9.4.3 Overview Governing Tariff

The *Overview Governing Tariff* screen is a worklist that provides an overview of all the governing tariffs in the system.

The worklist is based on the SAP Personal Object Worklist (POWL). This means that you can define and store worklists that are defined as queries, and you can configure the data to be displayed in the worklist.

To open the *Overview Governing Tariff* screen, in *SAP NetWeaver Business Client*, choose ► *Master Data* ► *Governing Tariff* ► *Overview Governing Tariff* .

You can perform the following tasks in the *Overview Governing Tariff* screen:

- Edit a governing tariff
- Publish a governing tariff
- Export the worklist to Microsoft Excel

Related Information

[Governing Tariffs \[page 234\]](#)

For more information about POWLS, see SAP Library for your SAP NetWeaver release on SAP Help Portal at <https://help.sap.com/netweaver>. Under ► *Application Help* ► *Function Oriented View*, ► open SAP Library and search for **Personal Worklist**.

9.4.4 Linking General Rule Sets to Governing Tariffs

Link a published general rule set to a governing tariff rule so that some of the rules or subrules in the general rule set can be used in the governing tariff.

Prerequisites

- There is an existing governing tariff that contains an unpublished rule.
- There is a published general rule set.

Context

If a general rule set exists and has at least one rule or subrule with a charge type that is equal to the target governing tariff rule, then the general rule set can be linked to the target governing tariff rule.

A governing tariff rule can only be linked to one general rule set. A general rule set can be linked to several governing tariffs.

Procedure

1. In your SAP Fiori launchpad, open the *Change Governing Tariff* app, and then open the relevant governing tariff.
2. On the *General Data* tab on the *Rules* subtab, select the rule that you want to link to the general rule set.
3. On the *Text* subtab, specify the target general rule set.
4. Save the governing tariff.

Results

- The linked general rule set ID is displayed in target governing tariff on the [Overview Linked General Rule Set](#) tab.
- The linked governing tariff ID is displayed in the target [General Rule Set](#) on the [Overview Linked Governing Tariff](#) tab.
- If you add this governing tariff to a forwarding agreement, the rules and subrules in the general rule set are included as if they are part of the governing tariff.

Related Information

[Creating Governing Tariffs \[page 235\]](#)

[Viewing the Linked Governing Tariff Rules and Subrules in FWAs \[page 242\]](#)

9.4.5 Linking Governing Tariffs to Forwarding Agreement Tariffs

Link a published governing tariff to a forwarding agreement of type tariff so that the terms and conditions from the governing tariff are associated to the trade tariff structure.

Prerequisites

- There is an existing forwarding agreement of type tariff.
- There is an existing published governing tariff.

Context

Only published governing tariffs can be linked to forwarding agreement tariffs. In addition, the sales organization in the governing tariff and the forwarding agreement should be the same.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement](#) app, and then open the relevant forwarding agreement tariff.
2. On the [Governing Tariff](#) tab, choose [Insert](#) and enter details of the governing tariff that you want to link to the forwarding agreement.

3. Save the forwarding agreement.

Results

The linked governing tariff ID is displayed on the [Governing Tariff](#) tab in the forwarding agreement.

Related Information

[Viewing the Linked Governing Tariff Rules and Subrules in FWAs \[page 242\]](#)

9.4.5.1 Viewing the Linked Governing Tariff Rules and Subrules in FWAs

View the linked governing tariff rules and subrules in a forwarding agreement tariff by displaying the calculation sheet.

Prerequisites

- There is an existing forwarding agreement tariff with an item that contains a calculation sheet.
- There is an existing published governing tariff.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement](#) app, and then open the forwarding agreement tariff.
2. On the [Governing Tariff](#) tab, choose [Insert](#) and enter the details of the governing tariff that you want to link to the forwarding agreement.
3. Save the forwarding agreement.
4. On the [Items](#) tab of the forwarding agreement, select the relevant item and choose [Display Calculation Sheet](#).
5. On the [Items](#) tab of the calculation sheet, select one of the charges and choose the [Linked Rule/Subrule](#) tab.

The rules and subrules in the linked governing tariff or in the general rule set that is linked to the governing tariff are displayed on this tab according to the charge type.

Related Information

[Linking Governing Tariffs to Forwarding Agreement Tariffs \[page 241\]](#)

9.5 General Rate Increase and General Rate Decrease Rules

A general rate increase (GRI) or a general rate decrease (GRD) is an adjustment applied by carriers to the base rates for ocean freight.

You can configure GRI and GRD rules to centrally control the ocean freight rates that apply to forwarding agreements. Once the rules are approved, you can broadcast them, and then they can be applied automatically based on their effective dates.

Related Information

[Entering GRI and GRD Settings for Forwarding Agreement Rate Line Items \[page 243\]](#)

[Entering GRI and GRD Settings for Forwarding Agreement Quotation Items \[page 245\]](#)

[Creating GRI and GRD Rules \[page 246\]](#)

[Status Control for GRI and GRD Rules \[page 248\]](#)

[Application of GRI and GRD Rules \[page 249\]](#)

[GRI/GRD Worklist \[page 249\]](#)

[Integration with Commodity Hierarchy \[page 250\]](#)

9.5.1 Entering GRI and GRD Settings for Forwarding Agreement Rate Line Items

Enter the general rate increase (GRI) and general rate decrease (GRD) settings on the [GRI/GRD](#) tab of a forwarding agreement rate line item.

Context

There is also a mass update function available for the GRI and GRD settings for the ocean freight (OCF) rate table. You can use the mass update function to update GRI and GRD information for multiple rate line items at once.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement](#) app, and then open the relevant forwarding agreement.
2. On the [Items](#) tab, select the relevant forwarding agreement item.
3. On the [Calculation Sheet Overview](#) subtab, select the OCF charge type, and then choose [Display Rate Table](#).
The system displays the rate table screen.
4. On the [Dates and Values](#) tab, select the relevant rate line item.
5. On the [GRI/GRD](#) subtab, enter the GRI/GRD options as follows:

Options	Values	Description
Subject to GRI	Yes	Enables the GRI rule
	No	Disables the GRI rule
Subject to GRD	Yes	Enables the GRD rule
	No	Disables the GRD rule
Effective Date	Blank	Applies for all effective dates in the GRI or GRD rule and when the rule effective date is within the rate line validity period
	Exact date	Applies when the entered date is earlier than or on the effective date in the GRI or GRD rule and the rule effective date is within the rate line validity period

6. Save your entries.

Related Information

[General Rate Increase and General Rate Decrease Rules \[page 243\]](#)

[Entering GRI and GRD Settings for Forwarding Agreement Quotation Items \[page 245\]](#)

[Creating GRI and GRD Rules \[page 246\]](#)

9.5.2 Entering GRI and GRD Settings for Forwarding Agreement Quotation Items

Enter general rate increase (GRI) and general rate decrease (GRD) information on the [GRI/GRD](#) tab of a flat view item in the [Edit Forwarding Agreement Quotation](#) app.

Context

There is also a mass update function available for the GRI and GRD settings for forwarding agreement quotation (FWAQ) flat view items. The mass update function allows you to update the GRI and GRD information for multiple flat view items at once.

Procedure

1. In your SAP Fiori launchpad, open the [Edit Forwarding Agreement Quotation](#) app, and then open the relevant FWAQ.
2. Choose [Display Flat View](#).
3. Choose [Apply](#).
4. Select the relevant flat view item.
5. On the [GRI/GRD](#) subtab, enter the GRI/GRD options as follows:

Options	Values	Description
Subject to GRI	Yes	Enables the GRI rule
	No	Disables the GRI rule
Subject to GRD	Yes	Enables the GRD rule
	No	Disables the GRD rule
Effective Date	Blank	Applies for all effective dates in the GRI or GRD rule and when the rule effective date is within the rate line validity period
	Exact date	Applies when the entered date is earlier than or on the effective date in the GRI or GRD rule and the rule effective date is within the rate line validity period

6. Save your entries.

Results

The GRI and GRD information for a response line (type RES) is copied to forwarding agreements (FWAs) when they are created from the FWAQ.

The GRI and GRD information for request line (type REQ) is copied to the related ocean freight (OCF) rate line items.

Related Information

[General Rate Increase and General Rate Decrease Rules \[page 243\]](#)

[Entering GRI and GRD Settings for Forwarding Agreement Rate Line Items \[page 243\]](#)

[Creating GRI and GRD Rules \[page 246\]](#)

9.5.3 Creating GRI and GRD Rules

Create new general rate increase (GRI) and general rate decrease (GRD) rules.

Procedure

1. In your SAP Fiori launchpad, open the [Create GRI/GRD Rule](#) app.
2. On the [General Data](#) tab, enter the following details:
 - Rule ID
 - Description
 - Effective Date
 - Status
 - Increase/Decrease
Choose either [Increase](#) or [Decrease](#). The [Rule Type](#) field is automatically set to [GRI](#) or [GRD](#) based on your selection.
 - Absolute Value/Percentage Value
Choose either [Absolute Value](#) or [Percentage Value](#). If you select [Absolute Value](#), you need to enter an [Amount](#) and a [Currency](#). If you select [Percentage Value](#), you need to enter a [Percent](#).
 - Rounding Profile
 - Text Description
Enter the explanatory text to be attached in the rate table GRI/GRD history list.
 - Pricing Trade
Enter the relevant trade, which determines the GRI/GRD rules to be applied.
 - Update Commodity Hierarchy
Select this checkbox to enable integration with the commodity hierarchy.
3. On the [Rule Criteria](#) tab, choose [Insert](#) and then enter the [Attribute Name](#), [Option](#) ([Equal](#) or [Not Equal To](#)), and [Value](#). The possible attribute values are as follows:

Attribute Name	Description
Agreement ID	Forwarding agreement ID
Agreement Version	Forwarding agreement version
Equipment	Equipment of rate line
Commodity	Commodity of rate line
Origin Zone	Origin zone of rate line
Destination Zone	Destination zone of rate line
POL	Port of loading (POL) of rate line
POD	Port of discharge (POD) of rate line
DnH Commodity	Dangerous and Hazardous (DnH) commodity of rate line

4. Save your entries.

Results

The GRI or GRD rule is created. You can later edit the rule you have created by using the [Edit GRI/GRD Rule](#) app.

Next Steps

When you have completed entering the rule, you can submit it for approval by choosing ► [Set Status](#) ► [Submit](#) ►.

Related Information

[General Rate Increase and General Rate Decrease Rules \[page 243\]](#)

[Entering GRI and GRD Settings for Forwarding Agreement Rate Line Items \[page 243\]](#)

[Entering GRI and GRD Settings for Forwarding Agreement Quotation Items \[page 245\]](#)

[Integration with Commodity Hierarchy \[page 250\]](#)

9.5.4 Status Control for GRI and GRD Rules

General rate increase (GRI) and general rate decrease (GRD) rules have a status, which is used to control the approval of the rules and the application of the rules.

The possible GRI and GRD rule statuses are as follows:

Status No.	Status	Description
00	Draft	The initial status when the rule is first created.
01	Submitted for Approval	When you have finished entering a rule, you can submit it for approval by choosing ► Set Status ► Submit ► . The system then changes the rule status from <i>Draft</i> to <i>Submitted for Approval</i> .
02	Approved	The rule has been approved.
03	Rejected	The rule has been rejected.
04	Broadcasted	You can broadcast an approved or a pushed off rule by choosing ► Set Status ► Broadcast ► . When the rule is successfully broadcast, the system changes the rule status from <i>Approved</i> or <i>Pushed Off</i> to <i>Broadcasted</i> . Rules with this status can be processed by the rule application report.
05	Applied	Broadcasted rules can be applied to related rate lines using a report, which can be scheduled. When the rule has been applied, the system changes the rule status from <i>Broadcasted</i> to <i>Applied</i> .
06	Canceled	You can cancel a rule by choosing ► Set Status ► Cancel ► . The system then changes the rule status to <i>Canceled</i> .
07	Pushed Off	You can push-off broadcasted rules by choosing ► Set Status ► Push Off ► . You can input a later effective date in the <i>Push Off</i> dialog box. When the rule is successfully pushed off, the system changes the rule status to <i>Pushed Off</i> .

Application Programming Interfaces (APIs) for Status Control

The system provides the following APIs for controlling GRI and GRD rule statuses:

- Business Add-In (BAI) /TMCSL/BADI_GRI_GRD_RULE: Can be used to trigger additional implement customer-specific status controlprocess logic like trigger work flow. (except for the approval and rejection processes).
- Function module /TMCSL/API_UPD_RT_RULE_STATUS: Provided for the approval or rejection of GRI and GRD rules.

Related Information

[Application of GRI and GRD Rules \[page 249\]](#)

9.5.5 Application of GRI and GRD Rules

General rate increase (GRI) and general rate decrease (GRD) rules that have been broadcast can be applied by running the report /TMC SL/APPLY_GRID_RULES.

You can set up a daily background job to execute and monitor the application of GRI and GRD rules.

To execute the report, you must specify the *Effective Date*. When the report is run, any GRI and GRD rules that have an effective date that matches the one specified in the report take effect and their status is updated to *Applied*. The report updates the relevant ocean freight (OCF) rate tables as per the applied GRI and GRD rules.

Related Information

[Status Control for GRI and GRD Rules \[page 248\]](#)

9.5.6 GRI/GRD Worklist

The *GRI/GRD Worklist* screen provides an overview of all the general rate increase (GRI) and general rate decrease (GRD) rules in the system.

This worklist is based on the SAP Personal Object Worklist (POWL). This means that you can define and store worklists that are defined as queries, and you can configure the data to be displayed in the worklist.

To open the *GRI/GRD Worklist* screen, in SAP NetWeaver Business Client choose ► *Master Data* ► *GRI/GRD Rules* ► *GRI/GRD Worklist*. ►

For ease of working with GRI and GRD rules, the result set includes useful details such as *Rule Type*, *Effective Date*, and so on.

Related Information

For more information about POWLS, see SAP Library for your SAP NetWeaver release on SAP Help Portal at <https://help.sap.com/netweaver>. Under *Application Help*, open SAP Library and search for **Personal Worklist**.

9.5.7 Integration with Commodity Hierarchy

In a general rate increase (GRI) or a general rate decrease (GRD) rule, you can use the [Integration with Commodity Hierarchy](#) checkbox to enable the automatic update of all the related commodities in the commodity hierarchy.

The [Commodity](#) attribute in a GRI or GRD rule is used to map to a node in the commodity hierarchy.

If you select the [Integration with Commodity Hierarchy](#) checkbox, the system applies the rule to all the commodity's subnode items in the commodity hierarchy. However, if a rule has been set for a lower level commodity, then that rule has the highest priority.

You implement the integration with the commodity hierarchy as follows:

1. Create the commodity hierarchy master data by choosing ► [Master Data](#) ► [Commodity](#) ► [Maintain Commodity Hierarchy](#). ►
2. Select the [Integration with Commodity Hierarchy](#) checkbox for the specific GRI/GRD rule by choosing ► [Master Data](#) ► [GRI/GRD Rules](#) ► [Edit GRI/GRD Rule](#). ►

Related Information

[Creating GRI and GRD Rules \[page 246\]](#)

10 Integration

SAP Transportation Management, lead to agreement for container shipping liners for SAP S/4HANA is integrated with the charge calculation in the booking app and with routing.

Integration with Charge Calculation in Bookings

The lead to agreement solution is integrated with the charge calculation in the booking app in SAP Transportation Management, order to cash for container shipping liners for SAP S/4HANA. The integration allows transportation charges to be calculated based on a customer forwarding agreement (FWA) or a standard tariff.

Integration with Routing

Forwarding agreement quotations (FWAQs) in the lead to agreement solution are integrated with the routing solution in the option for container shipping liners during the request for quotation (RFQ) translator upload and response line generation.

Related Information

[Charge Calculation in Bookings \[page 251\]](#)

[Routing for Forwarding Agreement Quotations \[page 71\]](#)

10.1 Charge Calculation in Bookings

The booking application in SAP Transportation Management, order to cash for container shipping liners has been enhanced to support the charge calculation process.

Transportation charges can be calculated in bookings based on a customer forwarding agreement (FWA) or a standard tariff. The method of processing individual charges depends on the surcharge condition in the customer FWA or standard tariff. If the customer FWA does not contain a through-rate, the system executes the rate construction for ocean carrier freight (OCF) charges.

The booking process has been enhanced to support charge calculation as follows:

- Customer FWA or standard tariff determination

In a booking, you can choose to execute the charge calculation based on a customer FWA or a standard tariff.

- **Exception processing**
If a charge type in a customer FWA includes an exception, the charge calculation retrieves the charges from the customer FWA based on the surcharge condition.
- **Rate construction**
If a through-rate is not found in the customer FWA for OCF charges, the charge calculation attempts to construct a rate using inland and arbitrary charges.
- **Inland charges**
Inland charges are used to price the inland leg of a route when the through-rate is not available in the OCF rate tables. The inland charges are applicable to the origin and destination legs of the route.
- **Arbitrary charges**
Arbitrary charges are used when no direct rates are available between the port of loading (POL) and port of discharge (POD). The system tries to fetch the rate from a dedicated arbitrary charge type from the load port to an origin base port (not necessarily the intermediate port in the proposed physical route). Afterwards, the system retrieves the OCF rate from the origin base port to the discharge port. If the system successfully retrieves the OCF rate, the rate is constructed based on the load port, origin base port, and discharge port using the OCF and arbitrary rate tables. The same logic applies to the discharge port.

Related Information

[Assigning a Customer FWA or Standard Tariff to a Booking \[page 252\]](#)

[Exception Processing \[page 253\]](#)

[Rate Construction \[page 254\]](#)

[Integration \[page 251\]](#)

10.1.1 Assigning a Customer FWA or Standard Tariff to a Booking

Specify whether the charge calculation in a booking is based on a standard tariff that is determined by the system or on a specific customer forwarding agreement (FWA).

Prerequisites

- A standard tariff has been created for the pricing trade based on the source and destination location in the booking.
- A customer FWA exists and is valid on the day of the booking.

Procedure

1. In your SAP Fiori launchpad, open the [Create Booking](#) app.
2. In the initial booking screen, specify the required information and choose [Continue](#).
3. In the main booking screen, specify the following details on the [General Data](#) tab:
 - The source and destination location
 - One of the following contract types:

Option	DescriptionDescription
Tariff	If you select Tariff , the system determines the standard tariff internally by using the pricing trade of the source and destination locations.
Forwarding Agreement	If you select Forwarding Agreement , you must also specify the customer FWA number in the Forwarding Agreement field. The system calculates the charges based on the specified FWA.

4. Specify any other required information.
5. Choose [Calculate Charges](#) to trigger charge calculation for the booking.

The system calculates the charges based on your chosen contract type, and displays the details on the [Charges](#) tab.
6. Save your entries.

Related Information

[Charge Calculation in Bookings \[page 251\]](#)

10.1.2 Exception Processing

If a customer forwarding agreement (FWA) is selected as the contract type for a booking, the charge calculation process only retrieves the rates from the FWA for those charges from which an exception has been taken. The charges must have been processed as exceptions. In all other cases, the system retrieves the rates from the standard tariff.

During the quotation process, the system generates responses for request lines using the standard tariff. The exception process begins when a customer asks for an exclusive price for a charge type. The pricer applies an exception to the charge type in the forwarding agreement quotation (FWAQ), and then adds the exception amount to the corresponding rate table.

Once the response has been approved, the FWAQ is converted. Only the rates that are maintained in the rate table for the FWAQ are transferred to the target FWA during the conversion.

During the charge calculation in a booking that specifies a customer FWA as the contract type, the system only retrieves the rates from the FWA for charges that have gone through the exception process described above.

Related Information

[Exceptions \[page 181\]](#)

[Conversion of FWAQs to Forwarding Agreements \[page 190\]](#)

[Assigning a Customer FWA or Standard Tariff to a Booking \[page 252\]](#)

[Integration \[page 251\]](#)

10.1.3 Rate Construction

During charge calculation, if the through-rate is not available for the ocean carrier freight (OCF) charge type, the system attempts to construct a rate using the tailored inland and tailored arbitrary charge types.

This process for constructing rates is applied in the following scenarios:

- Response line generation in forwarding agreement quotations (FWAQs)
- Charge calculation in bookings

The ocean freight rate for the underlying commercial routing is determined when the system performs a sequence of rate look-ups for a request line in a FWAQ or during the charge calculation in a booking. In addition to the pure ocean freight logic, which covers the transportation between two ports, a trade tariff can be set up to evaluate the transport additional or tailored arbitrary charges during the charge calculation process.

Tailored arbitrary charges consist of the ocean freight rate between the origin base port and the destination base port. Additionally, the tailored arbitrary charges can be defined between the port of loading (POL), the origin base port, the destination base port, and the port of discharge (POD). The location connected to the base port can be a port or a ramp. The origin base port and the destination base port do not appear in the routing since they are a part of the commercial route rather than the actual route.

Related Information

[Example: Rate Construction \[page 255\]](#)

[Tailored Inland Charge Types \[page 257\]](#)

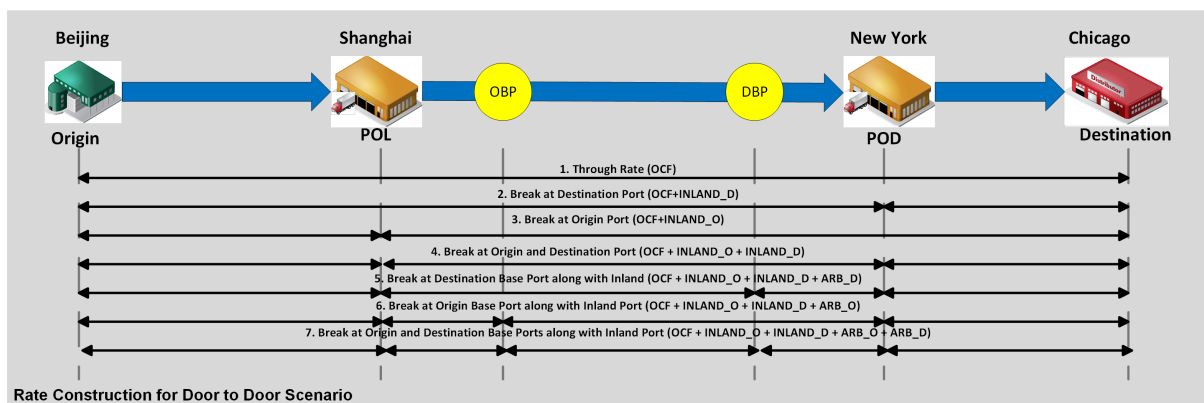
[Tailored Arbitrary Charge Types \[page 259\]](#)

[Integration \[page 251\]](#)

10.1.3.1 Example: Rate Construction

Consider an example of a charge calculation for a container in a door-to-door scenario. The container is shipped from the customer door location in Beijing to the consignee in Chicago.

The below figure displays the charge calculation logic with the sequence of steps executed by the system to construct a rate for a door-to-door scenario.



Rate Construction for Door-to-Door Scenario

The following table below lists the steps that the system follows when constructing a rate:

No.	Step	Description
1	Preprocess: Find the through-rate.	The system evaluates the ocean carrier freight (OCF) charge rate table for the charge calculation using the origin and destination information. If the system finds the rates, it creates a through-rate and stops the charge calculation process. Otherwise, the system continues with the next step.
2	Divide the route at the port of discharge (POD).	If the system cannot create a through-rate in Step 1, it divides the route at the POD to create the inland destination leg. The inland destination charge type is evaluated using the POD and the final destination location. If the system finds the destination inland rate, it calculates the OCF rates for the port of loading (POL) and POD.

No.	Step	Description
3	Divide the route at the POL.	The system divides the route at the POL, and evaluates the inland origin charge types for the origin location and the POL. If the system finds the inland rate, it calculates the OCF rate for the POL to the destination location. If the OCF rate is calculated successfully, the charge calculation process stops. Otherwise, the system continues with the next step.
4	Divide the route at the POL and POD.	The system divides the route at the POL and POD to allow the following evaluations: • The inland origin charge type to be evaluated using the origin and POL • The inland destination charge type to be evaluated using the POD and destination The OCF rate table is retrieved for the POL and POD.
5	Determine the destination base port.	The system determines the destination base port by evaluating the arbitrary-at-destination charge type using the POD. The OCF rate table is evaluated using the POL and destination base port. The inland origin and inland destination charge types are evaluated using the methods described in Steps 2 and 3.
6	Determine the origin base port.	The origin base port is determined by evaluating the arbitrary-at-origin charge type using the POL. The OCF rate is evaluated using the origin base port and POD. The logic of the inland charge type is evaluated using the methods described in Steps 2 and 3.

No.	Step	Description
7	Determine the origin and base ports.	The origin and destination base ports are determined from the arbitrary-at-origin and arbitrary-at-destination charge types using the POL and POD. The OCF rate table is evaluated based on the origin and destination base ports. The inland charge type is evaluated using the methods described in Steps 2 and 3.

The result of the processing above is that a rate is constructed for the given combination of origin and destination locations using the following charge types: OCF, transport additional - origin (TAO), transport additional - destination (TAD), inland origin, and inland destination.

i Note

Various rate-construction scenarios are possible, for example, port-to-port, ramp-to-ramp, port-to-door, ramp-to-door, and so on. However, all the scenarios follow the same pattern as the door-to-door scenario.

Related Information

[Rate Construction \[page 254\]](#)

[Charge Calculation in Bookings \[page 251\]](#)

[Integration \[page 251\]](#)

10.1.4 Tailored Inland Charge Types

Tailored inland charge types (or tailored inland tariffs) are used to create charges for inland legs. A tailored inland tariff can be included in a customer forwarding agreement (FWA) or a standard tariff. A transportation service provider (TSP) can be assigned to each rate line in a tailored inland tariff.

A tailored inland tariff is created when an ocean pricer asks the intermodal department for a tailored inland tariff for a customer. When the intermodal team gives the pricer the rates and a transportation service provider for each rate, the pricer uploads the tailored inland rates into SAP Transportation Management (SAP TM) using the rate table upload functionality.

The following fields have been added to rate table lines to accommodate the creation of tailored inland charge types by the intermodal team:

- Transportation Service Provider
- Intermodal Reference ID

Once the tailored inland tariff has been added to a customer FWA or standard tariff, it can then be used in the quotation and booking processes.

The following process is how the tailored inland tariff is modeled into the calculation sheet of the standard tariff so that it can be used in charge calculation for the quotation and booking processes:

1. The pricer adds the rates of the tailored inland tariff to rate tables.
2. To ensure that the charge calculation checks the tailored inland rate tables, the following new charge types have been added to the system:
 - INLO_TAIL: tailored inland rate origin
 - INLD_TAIL: tailored inland rate destination
3. The two new charge types are included in the standard tariff calculation sheet.
4. The system evaluates the new rates before getting the rates from the standard inland rate tables.
5. Rate table determination rules are set up in the standard tariff so that the rate table for the tailored inland tariff can be found for a customer during the charge calculation.
6. If no rate can be found in the determined tailored inland rate table, the system applies the charge types for the standard inland tariff to the charge calculation.

Related Information

[Tailored Inland Charge Types in FWAQs \[page 258\]](#)

[Tailored Inland Charge Types in Bookings \[page 259\]](#)

[Rate Construction \[page 254\]](#)

[Assigning a Customer FWA or Standard Tariff to a Booking \[page 252\]](#)

10.1.4.1 Tailored Inland Charge Types in FWAQs

After a tailored inland charge type (or tailored inland tariff) has been added to a standard tariff, it can then be used in the quotation process.

If the tailored inland rate table is relevant for a particular forwarding agreement quotation (FWAQ), the system applies the inland rate to any inland legs that cannot be covered by ocean carrier freight (OCF) charges and by additional transport charges (transport additional origin (TAO) and transport additional destination (TAD)) during rate building.

If no relevant rate is found in the tailored inland rate table, the system searches for a matching rate in the inland standard tariff.

The following fields have been added to the [General Data](#) tab in the FWAQ header so that the tailored inland rate table can be linked to a FWAQ:

- Tailored INLO Rate ID
- Tailored INLD Rate ID

Once the quoted rates are released, the rate table information is copied to the customer forwarding agreement (FWA).

Related Information

[Rate Construction \[page 254\]](#)

[Tailored Inland Charge Types \[page 257\]](#)

10.1.4.2 Tailored Inland Charge Types in Bookings

After a tailored inland charge type (or tailored inland tariff) has been added to a customer forwarding agreement (FWA) or standard tariff, it can then be used in the booking process.

For the purpose of charge calculation, a booking is linked to one of the following contract types:

- **Standard tariff**
If the booking is linked to the standard tariff contract type, the charge calculation uses the tailored inland tariff, if the tariff is linked to the customer in the booking. If the tailored inland tariff is not linked to the customer, the system uses the standard tariff for the charge calculation.
- **Customer FWA**
If the booking is linked to the customer FWA contract type, the charge calculation applies the tailored inland tariff (if available) first. If no matching rate is found, the system searches the standard inland tariff for a rate.

During the charge calculation in a booking, the system determines the tailored inland tariff as follows:

1. The system searches for the tailored inland rate table in the customer FWA item.
2. If a suitable rate is not found in the tailored inland rate table, the system uses the rate table that is specified in customer FWA header.
3. If a rate is not found in the rate table from the FWA, the system calls the rate table determination rule that is linked to the calculation sheet of the standard tariff that underlies the booking.

Related Information

[Tailored Inland Charge Types \[page 257\]](#)

[Rate Construction \[page 254\]](#)

10.1.5 Tailored Arbitrary Charge Types

Tailored tariffs for port arbitraries (tailored arbitrary charges) can be created by a pricer for a specific customer and modeled as charge types in the system. The related rates are stored in rate tables.

During the quotation process, the system checks if tailored arbitrary charges are available for the customer. If the charges are available, the system applies the arbitrary logic first using the rates from the tailored arbitrary rate table. If no rate is found in the tailored arbitrary rate table, then the system searches the standard tariff rate table for the tailored arbitrary charges.

Tailored arbitrary charges are applied on the origin and destination side using the charge types tailored transport additional - origin (TTAO) and tailored transport additional - destination (TTAD) respectively.

The following process is how the TTAO and TTAD charge types are modeled into the calculation sheet of the customer forwarding agreement (FWA) and standard tariff so that they can be used in charge calculation for the quotation and booking processes:

1. The pricer adds the rates of the tailored arbitrary charges to rate tables.
2. To ensure that the charge calculation checks the tailored arbitrary rate tables, the following new charge types have been added to the system:
 - TTAO: tailored transport additional - origin
 - TTAD: tailored transport additional - destination
3. The two new charge types are included in the standard tariff calculation sheet.
4. The system evaluates the new rates before getting the rates from the standard inland rate tables.
5. Rate table determination rules are set up in the standard tariff so that the rate table for the tailored arbitrary charge types can be found for a customer during the charge calculation.
6. If no rate can be found in the determined tailored arbitrary rate table, the system applies the charge types for the standard inland tariff to the charge calculation.

Related Information

[Tailored Inland Charge Types \[page 257\]](#)

[Rate Construction \[page 254\]](#)

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