# CSL100

## SAP Container Shipping Line Fundamentals

**PARTICIPANT HANDBOOK**
**INSTRUCTOR-LED TRAINING**

Course Version: 03
Course Duration: 3 Day(s)
Material Number: 50153215

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# Typographic Conventions

American English is the standard used in this handbook.

The following typographic conventions are also used.

| | |
|---|---|
| This information is displayed in the instructor's presentation |  |
| Demonstration |  |
| Procedure |   |
| Warning or Caution |  |
| Hint |  |
| Related or Additional Information |  |
| Facilitated Discussion |  |
| User interface control | *Example text* |
| Window title | *Example text* |

# Contents

# Course Overview

**TARGET AUDIENCE**

This course is intended for the following audiences:

- Training Manager
- Industry Specialist
- Trainer

# UNIT 1

# SAP Transportation Management Portfolio of Solutions for Container Shipping Lines

**Lesson 1**



**UNIT OBJECTIVES**

- Describe the SAP strategy for intelligent CSL
- Outline the components of the SAP portfolio of solutions for CSL
- Describe how SAP supports processes for container shipping lines

Unit 1
Lesson 1

# Outline the SAP Portfolio for Container Shipping Lines

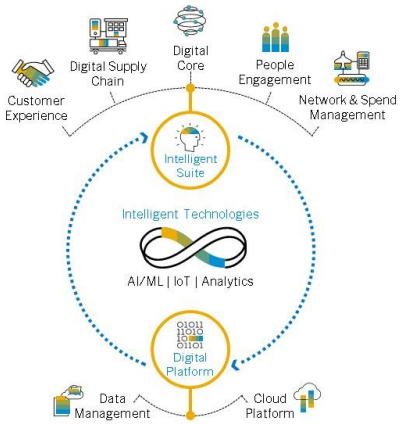
**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe the SAP strategy for intelligent CSL
- Outline the components of the SAP portfolio of solutions for CSL
- Describe how SAP supports processes for container shipping lines

## The Intelligent Container Shipping Line

SAP helps transportation companies transform to intelligent enterprises through integrated business applications that use intelligent technologies. This enables next-generation business processes to deliver breakthrough business value and enables our customers to become intelligent enterprises.




**Intelligent Suite**

- One common data and application platform
- Centralized master data
- Standardized and formalized business processes based on company policy
- Outdating of manual processes, with process automation
- Transparency within the business
- Extended information and analytics for making informed business decisions
- Secure and global authorization concepts
- Integrated B2B and B2C communication

**Intelligent Technologies**

Make use of disrupting technologies natively in SAP HANA:

- Big Data makes large data sets accessible for advanced analytics and intelligence.
- Machine learning and artificial intelligence automate repetitive processes and learn from human exception handling and decision-making.
- Advanced analytics find data patterns to support decisions and predict the future.
- Blockchain distributes collaborative processes across the entire value network.
- Data intelligence finds new value in data assets for new business models.
- Internet of things connectivity is embedded in the core.

**Digital Platform**

The digital platform, which is powered by SAP HANA, extends the intelligent end-to-end processes and connects to data sources:

- Expand digital capabilities.

Figure 1: Enabling the Intelligent Container Shipping Line

## The Evolution of the SAP Portfolio of Solutions for CSL

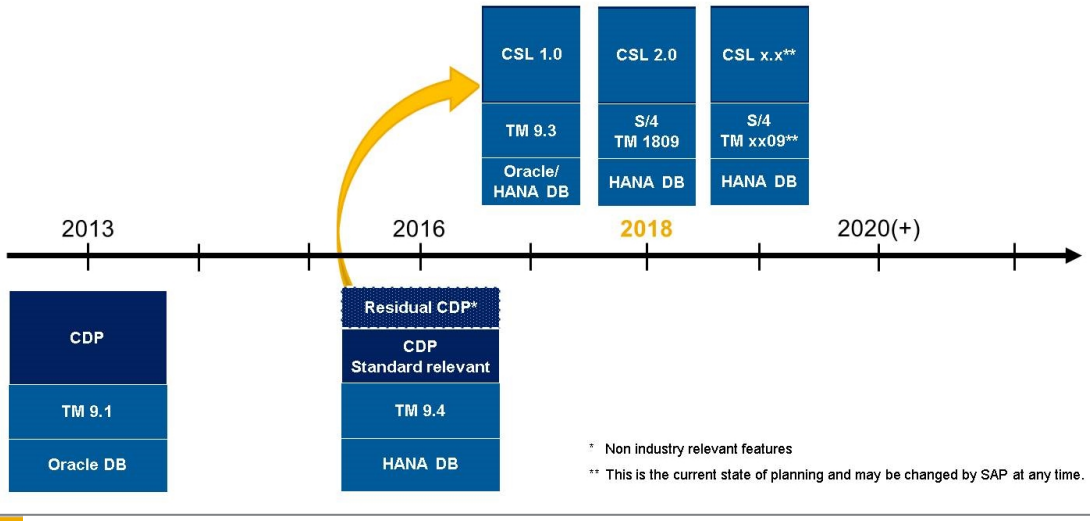



Figure 2: The Evolution of the Portfolio of Solutions for CSL

## The SAP Portfolio for CSL in the SAP S/4HANA Business Suite

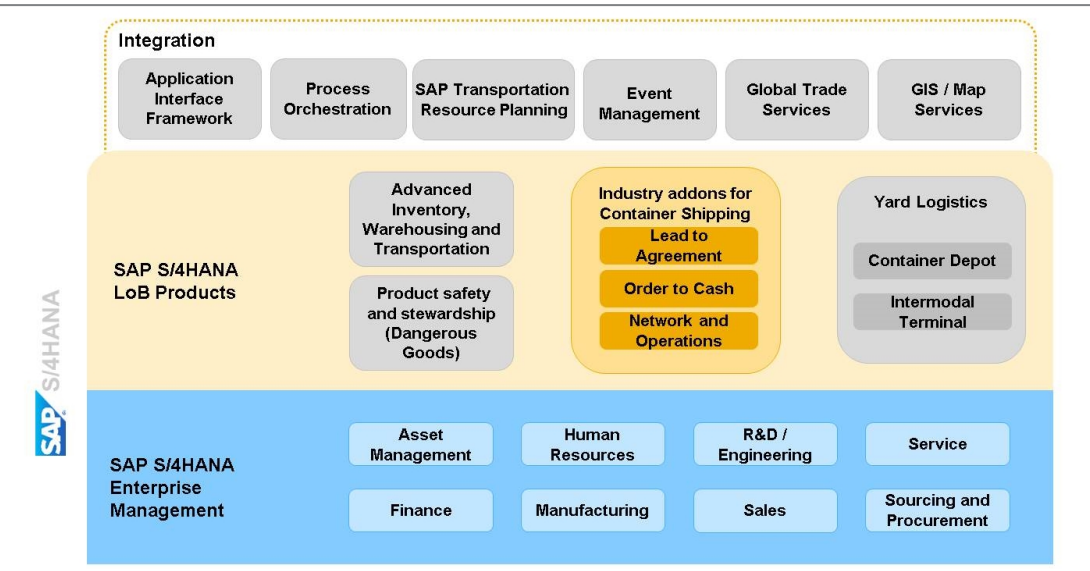



Figure 3: The SAP Portfolio of Solutions for CSL

## The Benefits of SAP for Container Shipping Lines

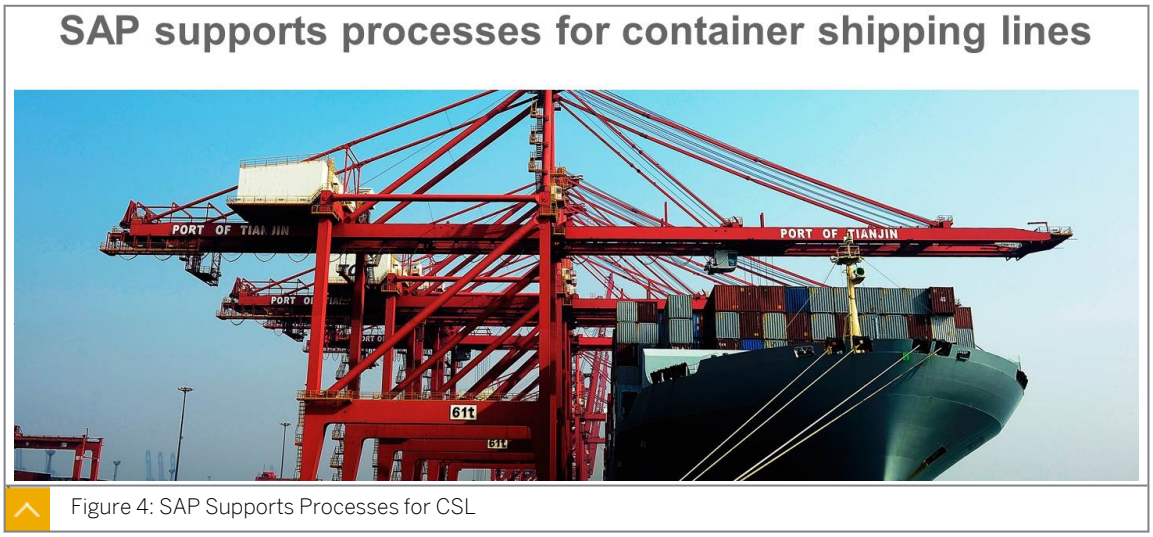



Figure 4: SAP Supports Processes for CSL

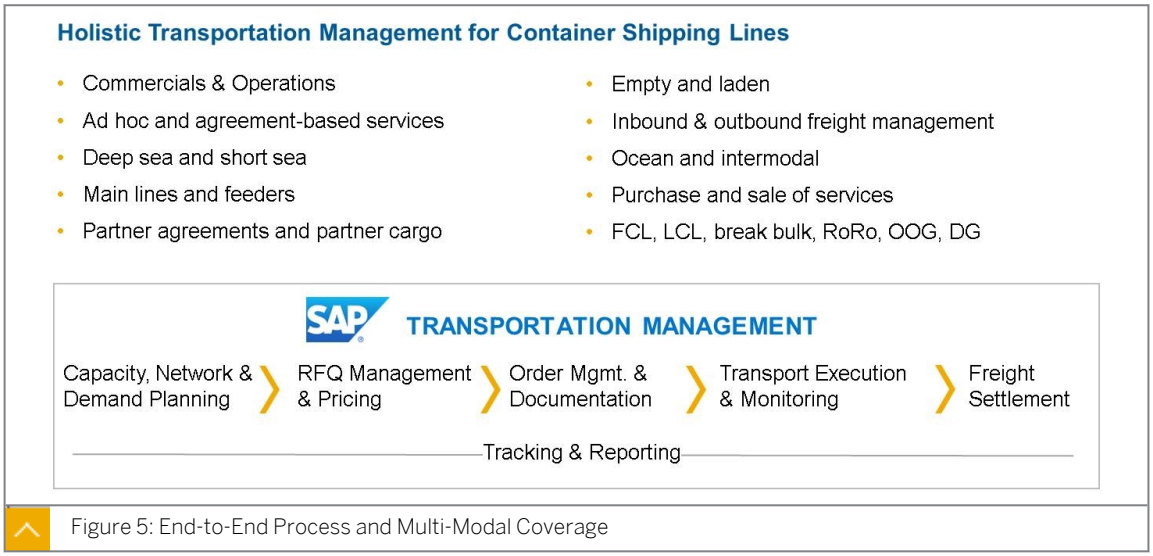



Figure 5: End-to-End Process and Multi-Modal Coverage

## The SAP Solution Portfolio for CSL in a Value Map

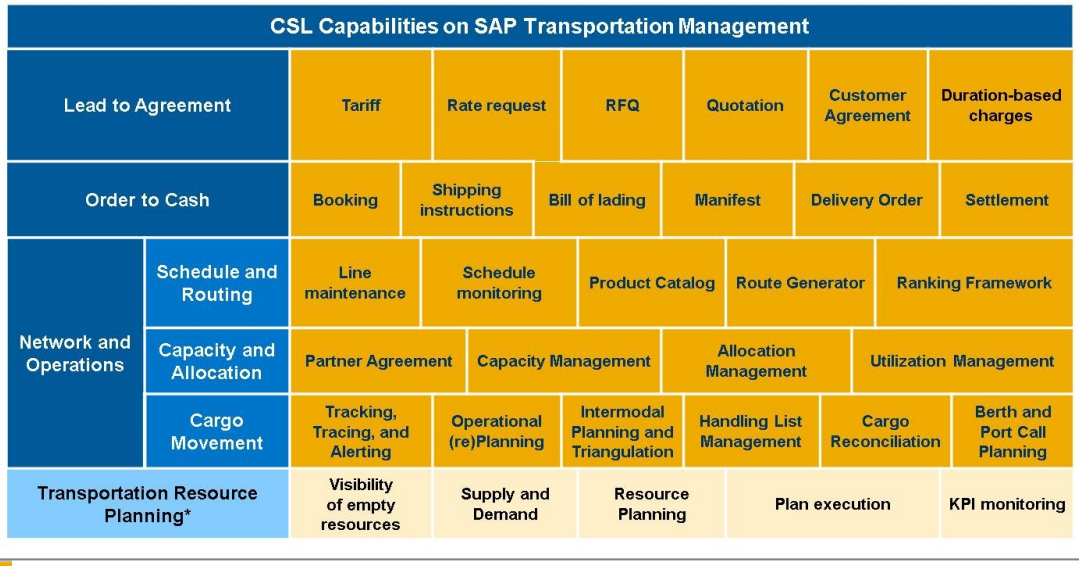



Figure 6: The SAP TM for CSL Solution Portfolio in a Value Map

### LESSON SUMMARY

You should now be able to:

- Describe the SAP strategy for intelligent CSL
- Outline the components of the SAP portfolio of solutions for CSL
- Describe how SAP supports processes for container shipping lines

# Learning Assessment

1. What are the three pillars of the Intelligent Container Shipping Line? Choose the correct answers.

   *Choose the correct answers.*

   - [ ] A One common data and application platform
   - [ ] B Assortment of Best-of-Breed Applications
   - [ ] C Leverage of Intelligent Technologies, for example, Blockchain
   - [ ] D Rely on Human Interfaces
   - [ ] E Digital Platform

2. Which process areas are not covered by SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

   *Choose the correct answers.*

   - [ ] A Commercial Processes
   - [ ] B Cargo Flow
   - [ ] C Vessel Chartering
   - [ ] D Port Operations
   - [ ] E Empty Resource Planning

3. Which are the products forming SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

   *Choose the correct answers.*

   - ☐ A SAP Transportation Management, network and operations for container shipping liners for S/4HANA
   - ☐ B SAP Transportation Resource Planning
   - ☐ C SAP Transportation Management, order to cash for container shipping liners for S/4HANA
   - ☐ D SAP Transportation Management, lead to agreement for container shipping liners for S/4HANA
   - ☐ E SAP Yard Logistics

# Learning Assessment - Answers

1. What are the three pillars of the Intelligent Container Shipping Line? Choose the correct answers.

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   - [X] A One common data and application platform
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   - [X] D SAP Transportation Management, lead to agreement for container shipping liners for S/4HANA
   - [ ] E SAP Yard Logistics

# UNIT 2 TM CSL Components



**UNIT OBJECTIVES**

- Describe the standard flow of SAP Transportation Management
- Describe the flow of SAP Transportation Management CSL Edition
- Explain basic CSL object relationships from a booking perspective
- List standard master data used in Transportation Management
- List CSL-specific master data
- Explain how the SAP TM CSL solution portfolio fits on a value map

Unit 2
Lesson 1

# Explaining Standard and CSL-Specific Objects and Integration Flow

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe the standard flow of SAP Transportation Management
- Describe the flow of SAP Transportation Management CSL Edition
- Explain basic CSL object relationships from a booking perspective

## Transportation Management Basic Flow

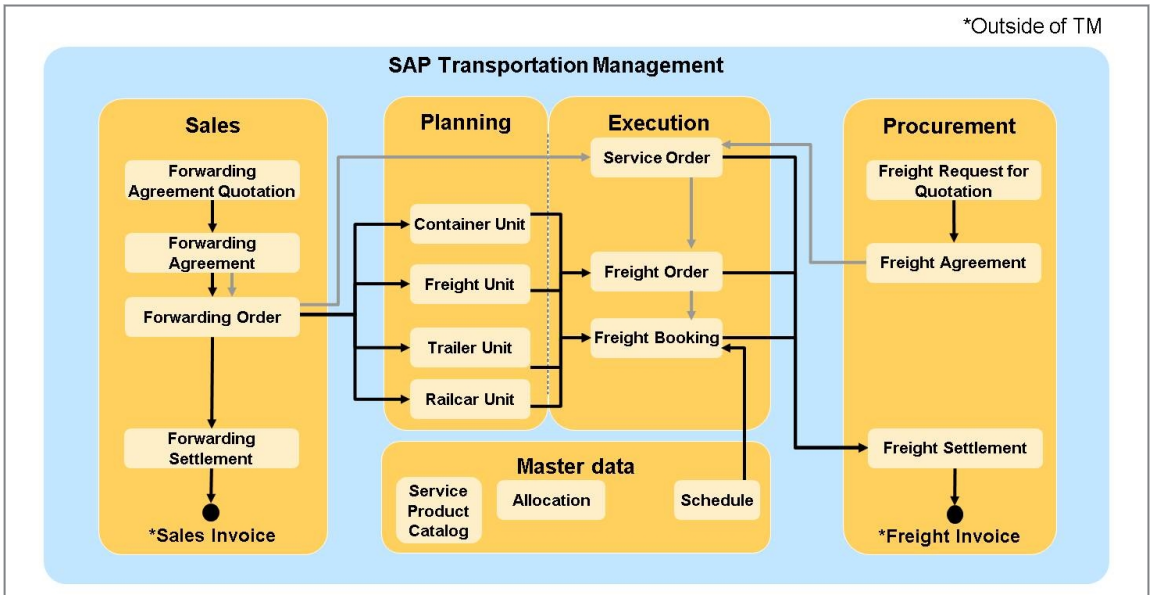


Figure 7: Transportation Management Basic Flow

## Basic Flow of TM for CSL

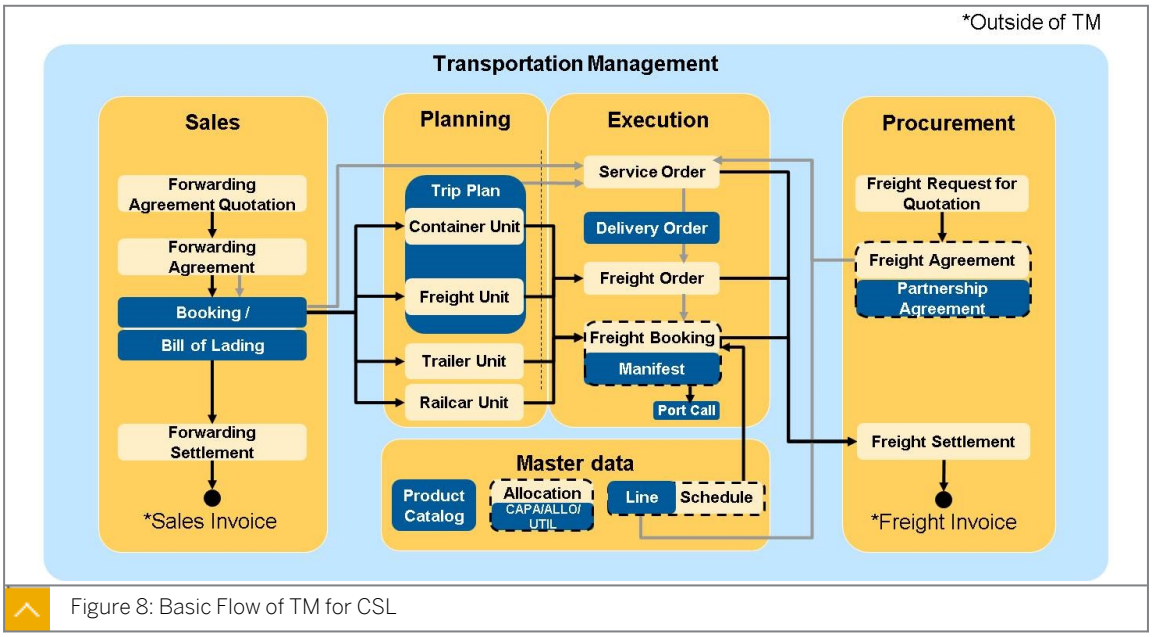


Figure 8: Basic Flow of TM for CSL

## CSL Object Relationships from a Booking Perspective

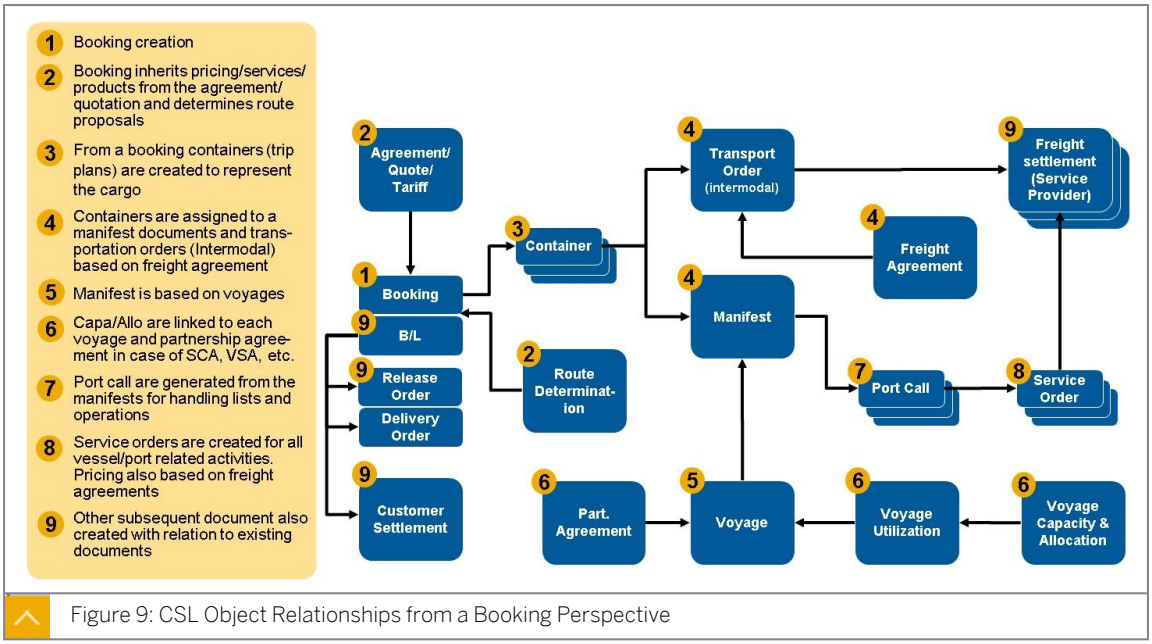


Figure 9: CSL Object Relationships from a Booking Perspective

## LESSON SUMMARY

You should now be able to:

- Describe the standard flow of SAP Transportation Management
- Describe the flow of SAP Transportation Management CSL Edition
- Explain basic CSL object relationships from a booking perspective

# Organizing Master Data

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- List standard master data used in Transportation Management
- List CSL-specific master data

## Standard Master Data in TM

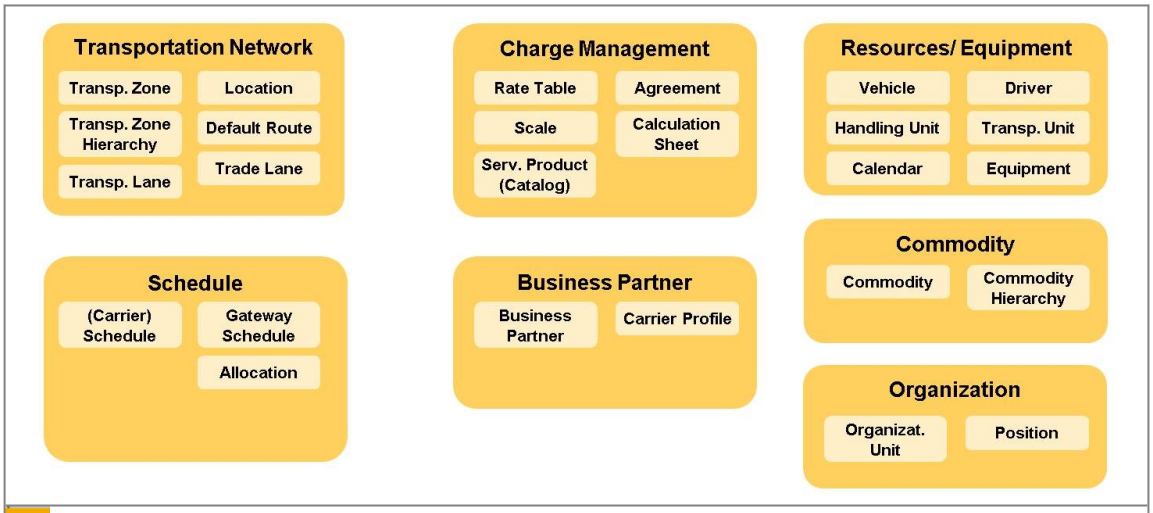


Figure 10: Transportation Management Standard Master Data

## CSL-Specific Master Data

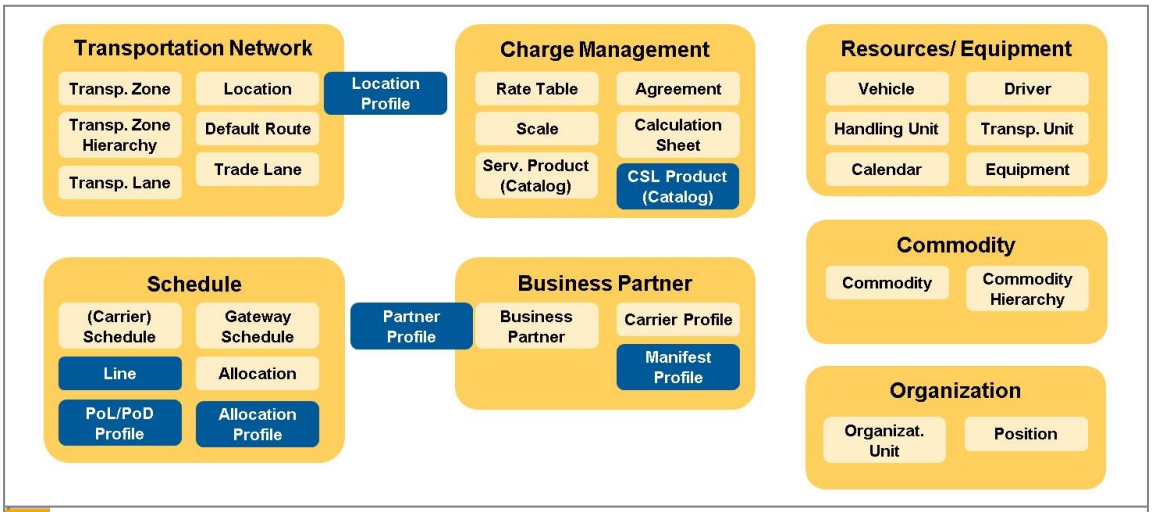


Figure 11: SAP Transportation Management CSL Master Data

### LESSON SUMMARY

You should now be able to:

- List standard master data used in Transportation Management
- List CSL-specific master data

# Positioning the SAP TM Portfolio of Solutions for Container Shipping Lines on a Value Map

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain how the SAP TM CSL solution portfolio fits on a value map

## SAP TM Solution Portfolio in a Value Map

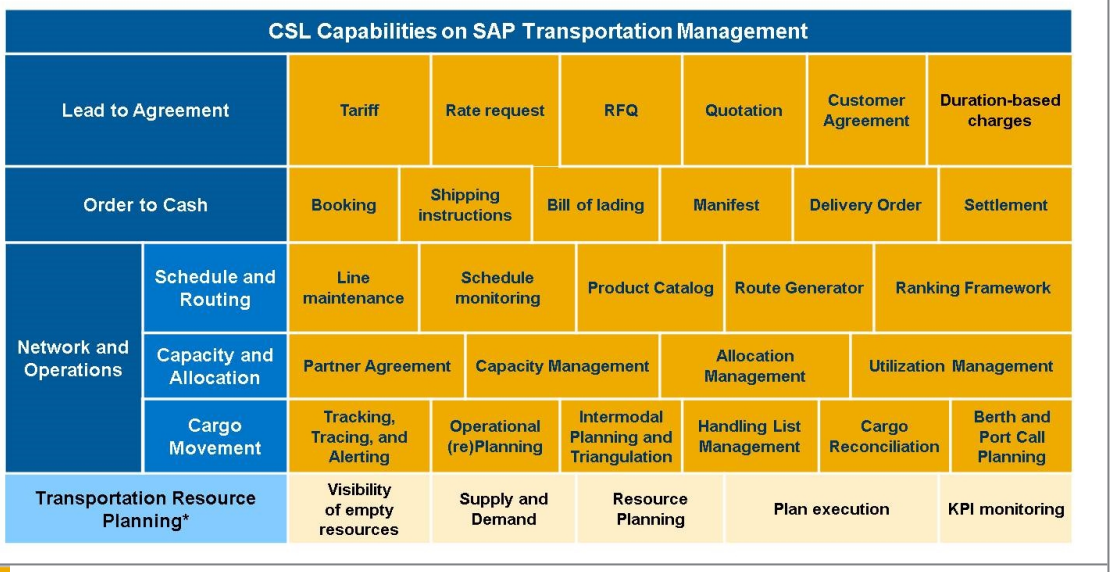


Figure 12: The SAP TM for CSL Solution Portfolio in a Value Map

## LESSON SUMMARY

You should now be able to:

- Explain how the SAP TM CSL solution portfolio fits on a value map

# Learning Assessment

1. Which business objects have been introduced by SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

   *Choose the correct answers.*

   - ☐ **A** Trailer Unit
   - ☐ **B** Trip Plan
   - ☐ **C** Schedule
   - ☐ **D** Freight Settlement
   - ☐ **E** Partnership Agreement

2. Which business objects have been introduced by SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

   *Choose the correct answers.*

   - ☐ **A** Business Partner
   - ☐ **B** Carrier Profile
   - ☐ **C** Manifest Profile
   - ☐ **D** Commodity Hierarchy
   - ☐ **E** Allocation Profile
   - ☐ **F** Line

3. Bay Plan functionality can be used when implementing? Choose the correct answer.

   *Choose the correct answers.*

   - ☐ **A** SAP Transportation Management, order to cash for container shipping liners for S/4HANA
   - ☐ **B** SAP Transportation Management, network and operations for container shipping liners for S/4HANA
   - ☐ **C** SAP Transportation Management, lead to agreement for container shipping liners for S/4HANA

# Learning Assessment - Answers

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   - [x] F Line

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   ☐ C SAP Transportation Management, lead to agreement for container shipping liners for S/4HANA

# UNIT 3 The TM CSL Training Scenario

**Lesson 1**



**UNIT OBJECTIVES**

- Explain the training scenario, including the process and functionality
- Demonstrate the creation, functionality, conversion, and update of FWAQ
- Demonstrate duration-based charging functionality in FWAQ with an example of DDSM
- Describe pricing and booking execution

Unit 3
Lesson 1

# Introducing the Scenario Across all SAP TM CSL Products

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain the training scenario, including the process and functionality
- Demonstrate the creation, functionality, conversion, and update of FWAQ
- Demonstrate duration-based charging functionality in FWAQ with an example of DDSM
- Describe pricing and booking execution

## The Demonstration Scenario Ocean Routes

- **Carrier:** Ocean Service Line (OSL)
- Main office: Port of Rotterdam
- Agencies:
  - China
  - USA
  - Netherlands
- Two ocean lines connecting Asia, Europe and USA
  - Freedom line
  - Dragon line
- Two partners operating the Dragon line jointly
  - EU Shipping Lines Inc. based in Rotterdam
  - North Pacific Ocean Shipping based in Vancouver

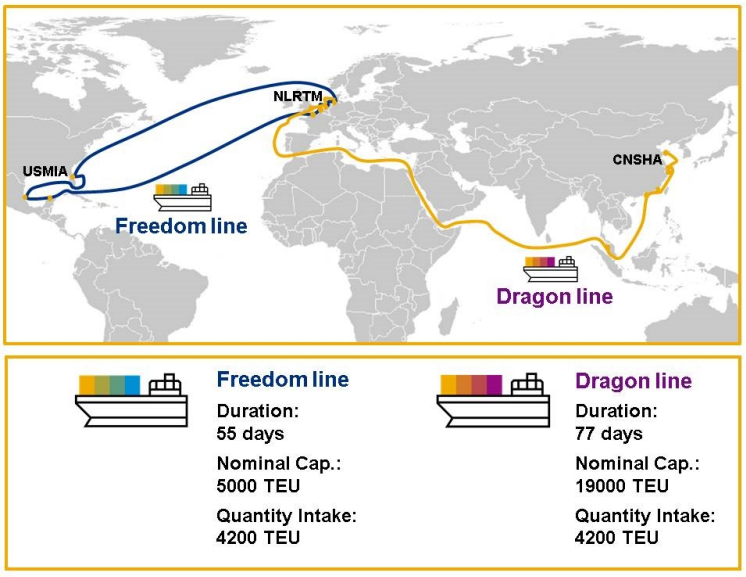



Figure 13: The Demonstration Scenario Ocean Routes

## The Demonstration Scenario Intermodal Routes

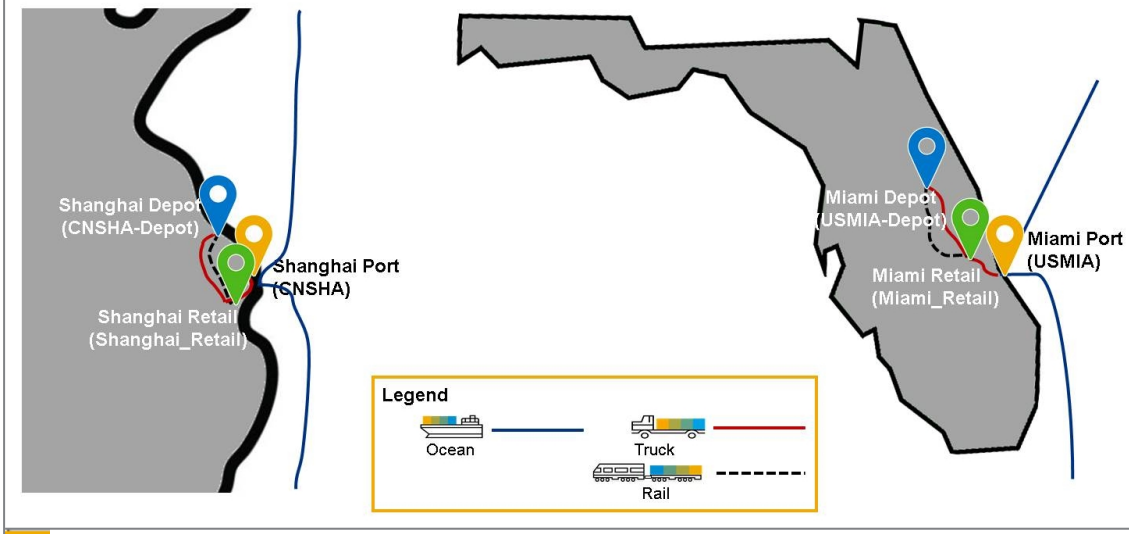
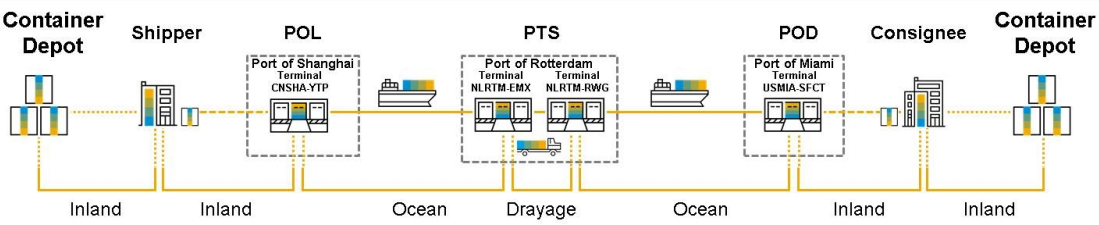



Figure 14: Demonstration Scenario - Intermodal

## The Booking for the Demonstration Scenario




- The customer booking is to ship a dry 20ft container containing electronics from a shipper in Shanghai to a consignee in Miami.
- The empty container is provided by the depot in Shanghai, and returned to the depot in Miami.
- The route is to move the empty container from the depot in Shanghai to the shipper location, and load the container in Shanghai at the shipper premises. Then, perform a transshipment in Rotterdam and have the cargo discharge in Miami. Next, return the empty container to the depot in Miami.

Figure 15: Demonstration Scenario Booking – Booking and Routing 1 of 2

## The Network of the Demonstration Scenario

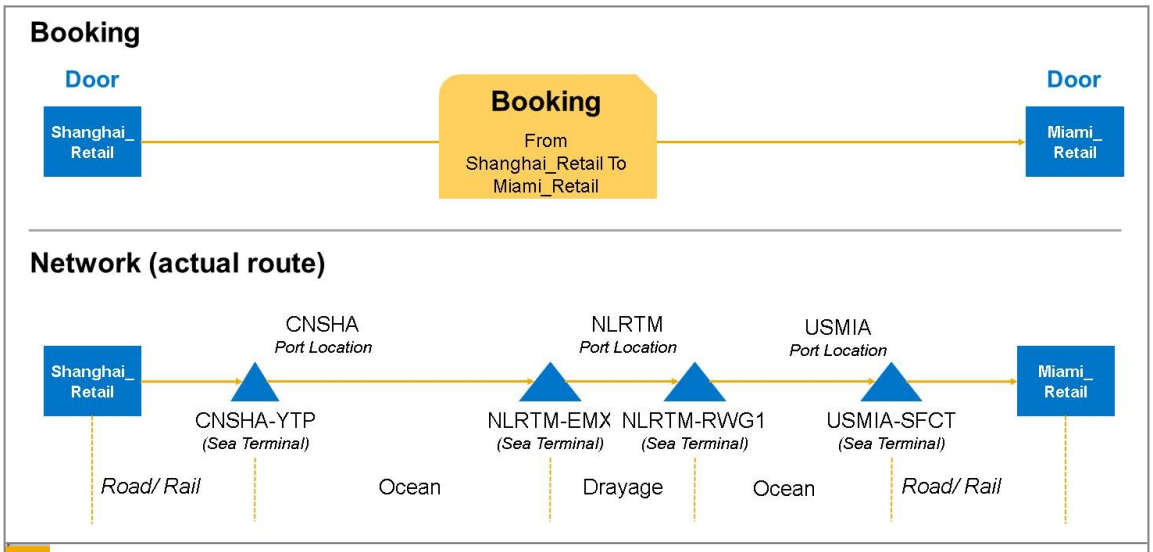



Figure 16: Network (Actual Route) – Booking and Routing 2 of 2

## The CSL Default Flow for the Demonstration Scenario

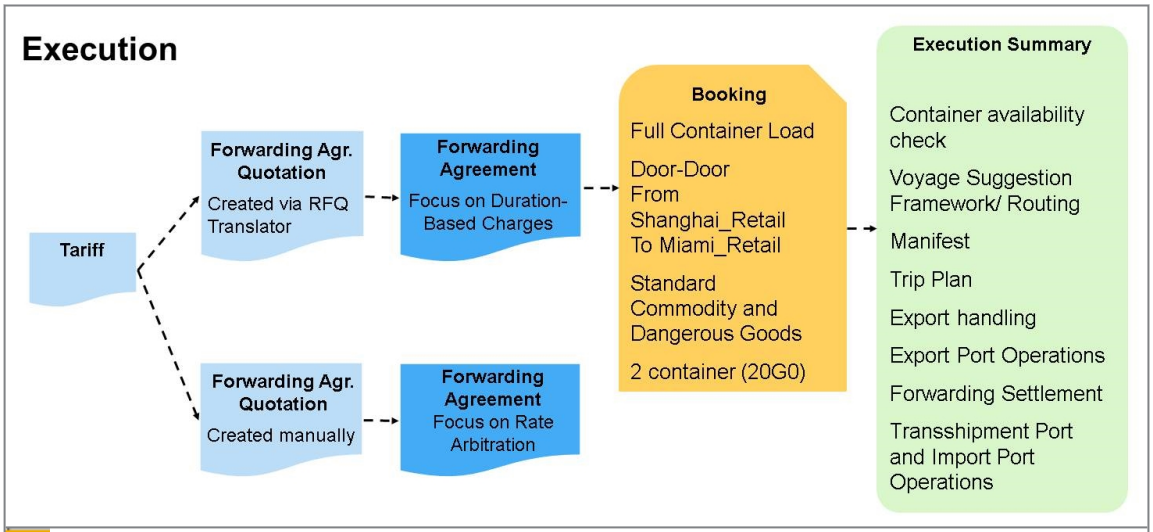



Figure 17: The NAO Default Flow for the Demonstration Scenario

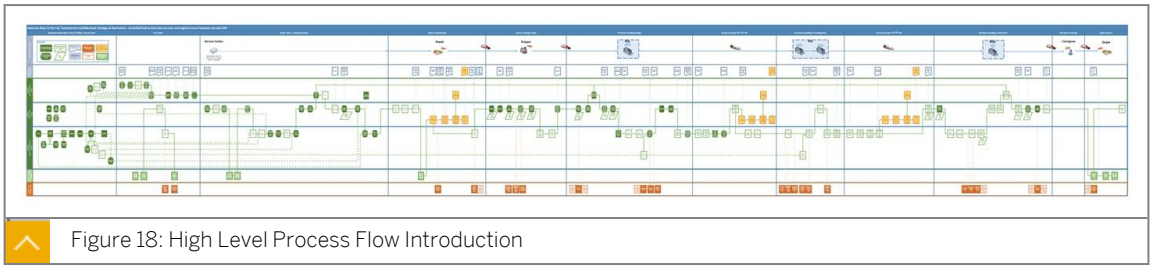


Figure 18: High Level Process Flow Introduction

## LESSON SUMMARY

You should now be able to:

- Explain the training scenario, including the process and functionality
- Demonstrate the creation, functionality, conversion, and update of FWAQ
- Demonstrate duration-based charging functionality in FWAQ with an example of DDSM
- Describe pricing and booking execution

# UNIT 4 Master Data Introduction and Setup



**UNIT OBJECTIVES**

- Explain CSL location and its associated master data types
- Explain partner location profiles
- Review terminal location profiles
- Describe the CSL location hierarchy
- Describe the roles of business partners in CSL
- Explain carrier profiles
- Explain vessel master data
- Explain the manifest profile
- Explain default vessel services
- Describe the planning and executing organization for CSL
- Outline the commodity hierarchy concept in L2A and O2C
- Explain the concept of zones in pricing

Unit 4
Lesson 1

# Introducing CSL-Specific Master Data and Profiles

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain CSL location and its associated master data types
- Explain partner location profiles
- Review terminal location profiles
- Describe the CSL location hierarchy
- Describe the roles of business partners in CSL
- Explain carrier profiles
- Explain vessel master data
- Explain the manifest profile
- Explain default vessel services

## CSL-Specific Location Master Data

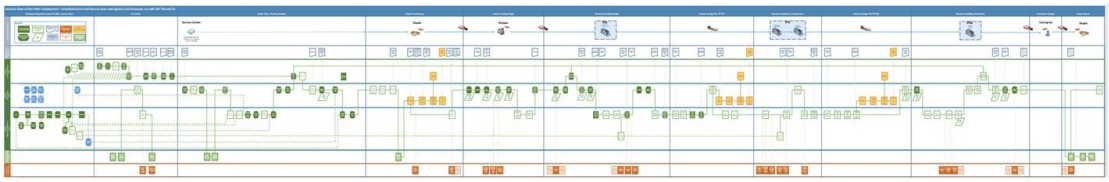


Figure 19: High Level Process Flow Master Data

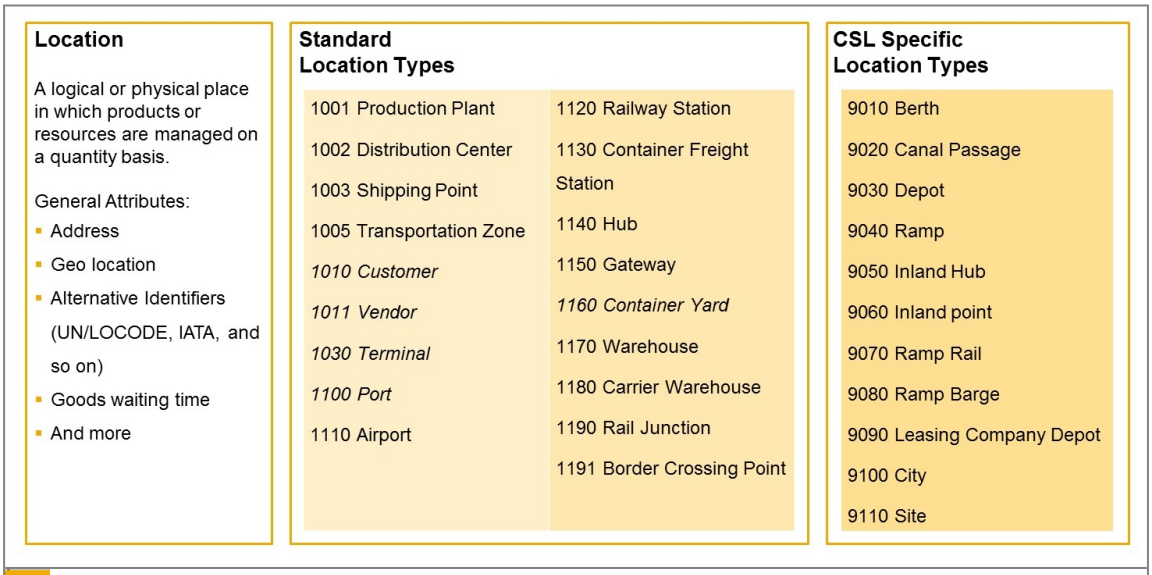



Figure 20: CSL-Specific Location Master Data

## The Berth Location

The berth location identifies the berthing, or docking, location of a vessel at a terminal. The berth location is used in Transportation Management in a number of ways.

### The Berth Location (9010)

- A berth location is created to identify the berthing, or docking, location of a vessel at a terminal.

  Multiple berth locations can be assigned per terminal in the location hierarchy.

- In the location profile, the only variable is the length of the berth location, which identifies the space available for a vessel at a quay.

  In a terminal location, you set a berth plan as optional, required, or not required.

- In berth planning, you assign a location to a berth window for a vessel voyage.

  Here, you can plan the arrival, departure and so on from the point of view of a terminal. This is only relevant if the carrier owns the terminal.

## The Canal Passage Location

### Canal Passage (9020)

It is a location type that identifies canals, such as the Suez Canal, the Panama Canal, and others. It is used in Line Studies and voyages with the call type = Operational. It identifies the time and distance required to travel through a canal or strait (both of which can also include locks).

## The Depot and Leasing Company Depot Locations

### The Depot (9030) and the Leasing Company Depot (9090)

These are location types that identify depots where empty containers are stored.

SAP Transportation Resource Planning (TRP) is used to manage stock at either of these location types.

## The City and Site Locations

### The City (9100) and the Site (9110)

These are location types that identify customer sites or generic customer locations. Typically, a carrier does not create pricing per customer location, but per city area or zone. Source and destination addresses are maintained only in a booking. A large customer that has a large site might be identified separately.

## The Partner Location Profile

A profile developed for the TM CSL solution to record additional country, location and business partner data, such as the following:

**Partner**

- Container substitution allowed
- Auto create B/L
- Invoicing Agent
- Print option

**Location**

- Cargo/documentation cut-offs
- Storage capacity
- Vessel services
- Place of payment
- Berth length

**Country**

- Same as location, country profile is used if no specific location profile exists

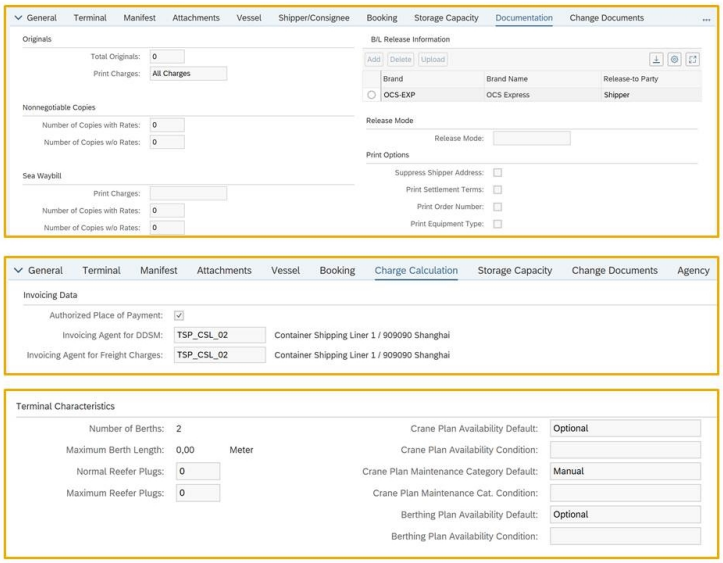



Figure 21: The Partner Location Profile

## The Terminal Location Profile

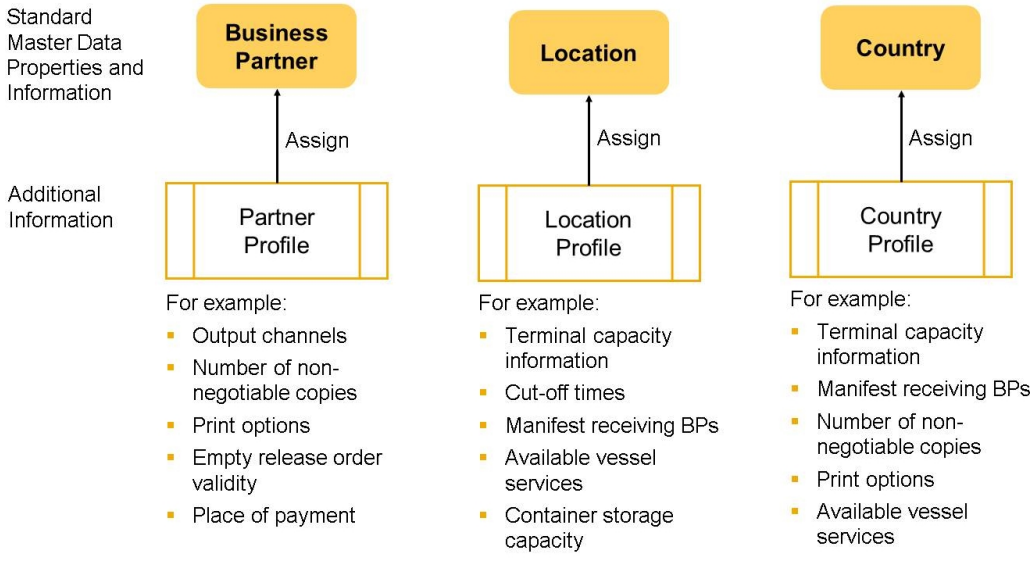



Figure 22: Location Profiles and Services

# The CSL Location Hierarchy

### Location Hierarchy

- The location hierarchy has been incorporated into the standard hierarchy functionality, whereas in the standard TM the system uses a transportation zone hierarchy to link lower level zones to higher level zones during planning.
- This was also needed on location level. For example, although a booking might be placed using a port as a source location, the vessel departs from a terminal. A location hierarchy was needed to create the possibility of finding all possible departures of each terminal based on a port.
  The same applies to cities and ramps.
- The location hierarchy also allows you to determine the berthing length available at a terminal, and makes a link between terminal and berthing locations.

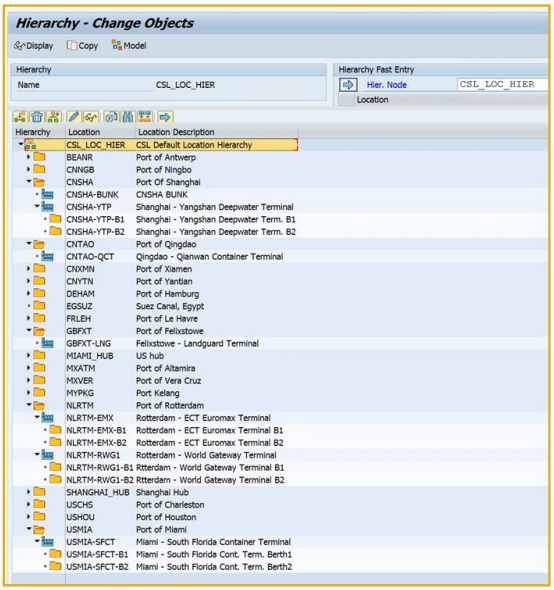



Figure 23: The CSL Location Hierarchy

Depending on the information available at the time of action (planning or execution), either the terminal or berth of the port is identified using the location hierarchy:

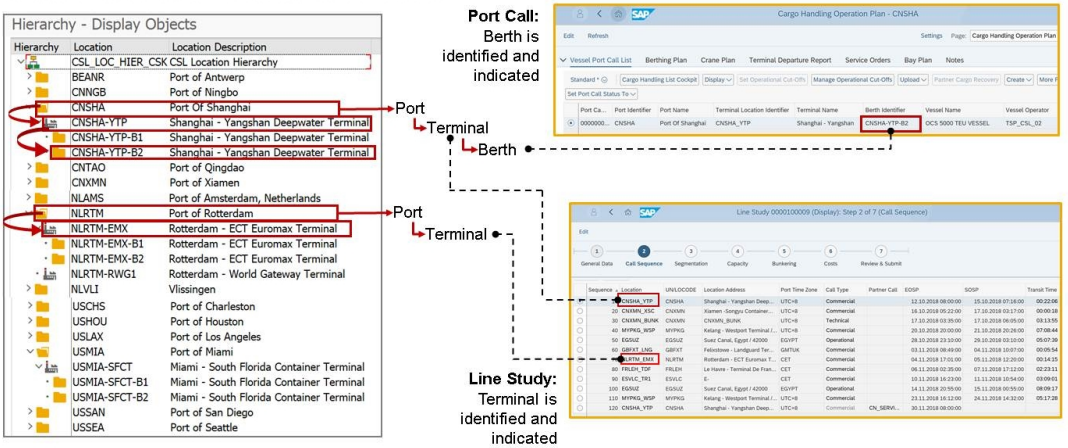



Figure 24: Location Hierarchy – Sample

## The Definition of Business Partners and Roles

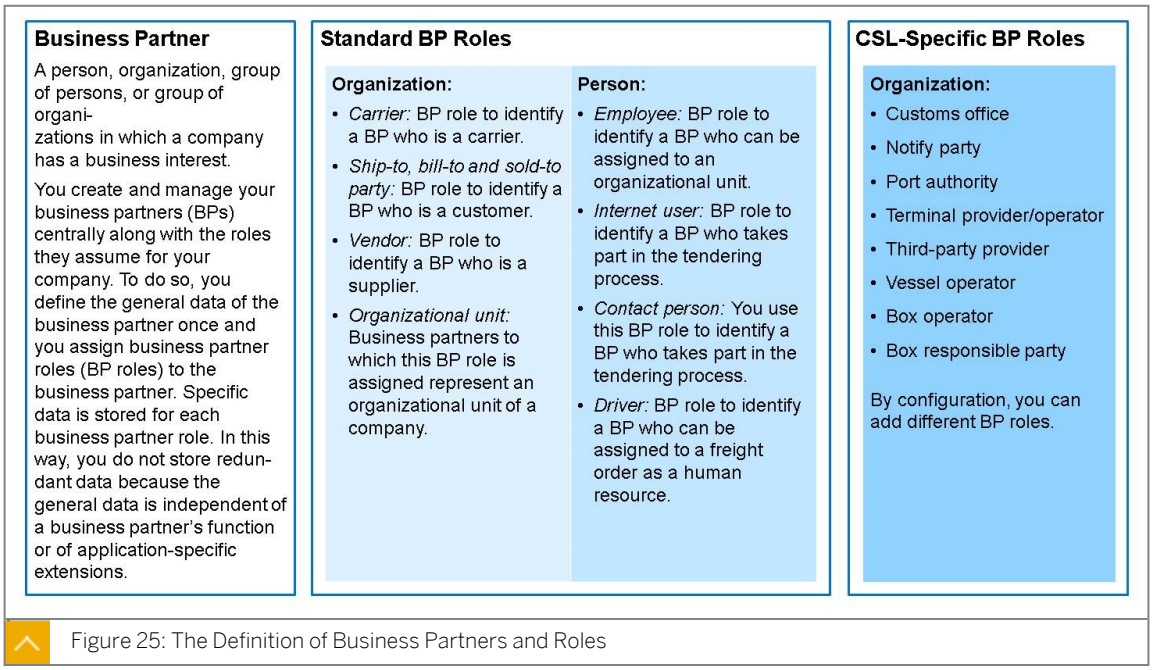



Figure 25: The Definition of Business Partners and Roles

## Business Partner Roles in CSL

Table 1: Business Partner Roles in CSL

| Business Partner | Role |
|---|---|
| Customs Office | This is used in the Manifest profile. This is a business partner linked to the Customs responsible at a terminal or country. |
| Box Operator | This is the carrier that took the booking. |
| Box Responsible Party | This is the carrier responsible for the cargo. It is the partner in cargo scenario. |
| Port Authorities | This is used in the Manifest profile. It is the business partner linked to the Port. |
| Terminal Operator | This is the business partner that operates a terminal location. In vessel and port-related services, this is the vendor. |

## The Carrier Profile

**Carrier Profile:**

- A profile with which you characterize the transportation capabilities of a carrier.
- You use this object to store information that is used in a similar constellation for multiple carriers. Carriers are business partners (BPs) to which you have assigned the business partner role carrier. You can only create one profile for each carrier.
- You can store the following objects in a carrier profile:
  - Freight code sets
  - Transportation lane and carrier-specific parameters
  - Product freight groups
  - Transportation groups
  - Equipment groups and equipment types
  - Fixed transportation costs
  - Dimension costs

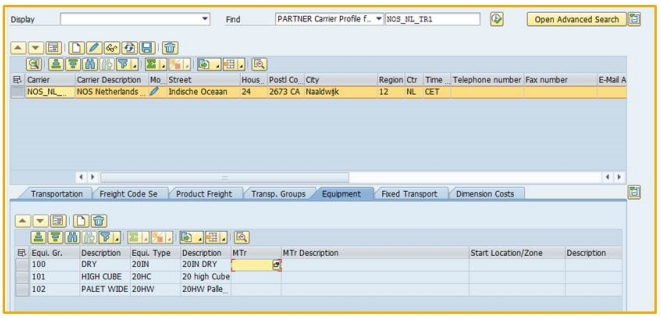


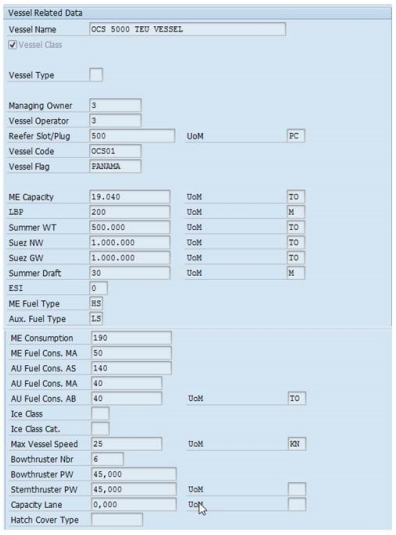

Figure 26: Carrier Profile

## Vessel Master Data

**Vessel master data:**

Additional fields added for vessel are used in schedule management for the following:

- Vessel identification
- Vessel characteristics
- Bunker relevant information
- Capacity




**Fuel types**

Fuel type assignment to resource

Including

- Max capacity in tons
- Unpumpable stock in tons

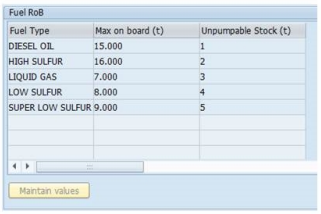



Figure 27: Vessel Master Data: CSL-Specific Fields

## The Manifest Profile

**Manifest profile:**

The manifest profile was created in CSL to record the customs office preferences per country/port.

Here you can identify the requirements for each document type separately:

**Attributes include:**

- Language dependent attributes
- Format of the manifest
- Mandatory key elements
- List of documents required
- Logic for first port of entry
- Document cutoffs

The profile can also be used to see a summary of all manifests created using the information from the profile

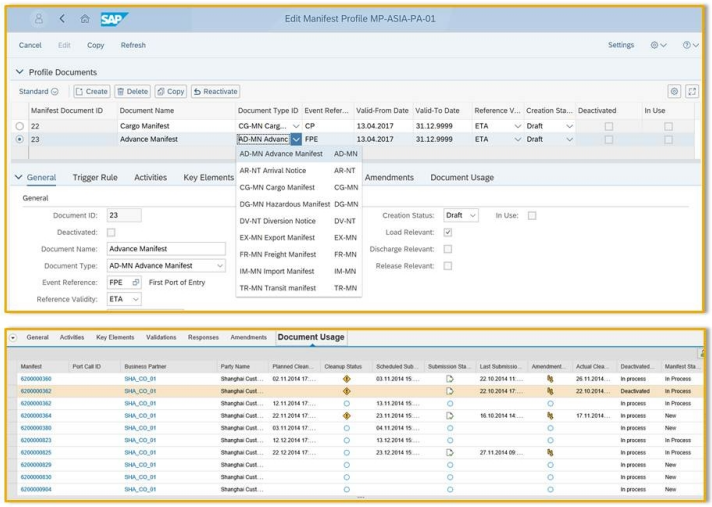



Figure 28: The Manifest Profile

## Default Vessel Services

Default vessel services are defined in the location profile. The services are automatically included in the line study for the particular location and can be used for cost estimation.

Upon creation of the trip plan (booking confirmation), a service order is created for each service using the default service provider and defined service agreement.

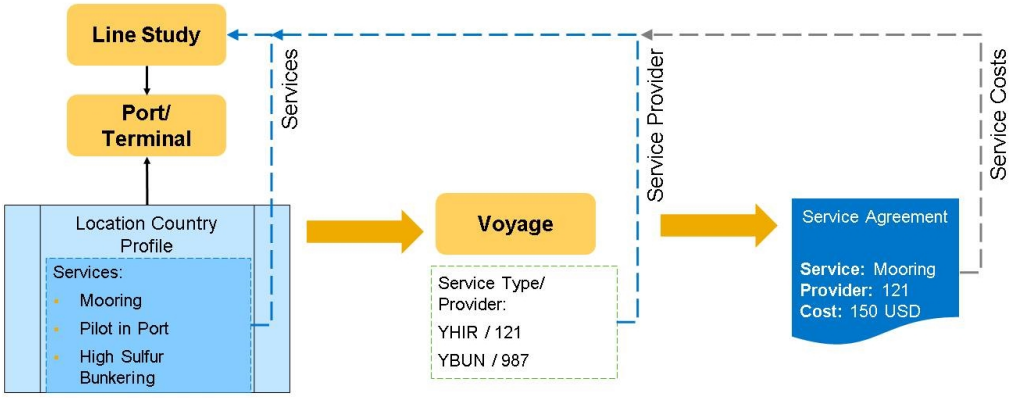



Figure 29: Default Vessel Services

## LESSON SUMMARY

You should now be able to:

- Explain CSL location and its associated master data types
- Explain partner location profiles
- Review terminal location profiles
- Describe the CSL location hierarchy

- Describe the roles of business partners in CSL
- Explain carrier profiles
- Explain vessel master data
- Explain the manifest profile
- Explain default vessel services

# Describing the Planning and Executing Organization

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe the planning and executing organization for CSL

## The Planning and Executing Organization

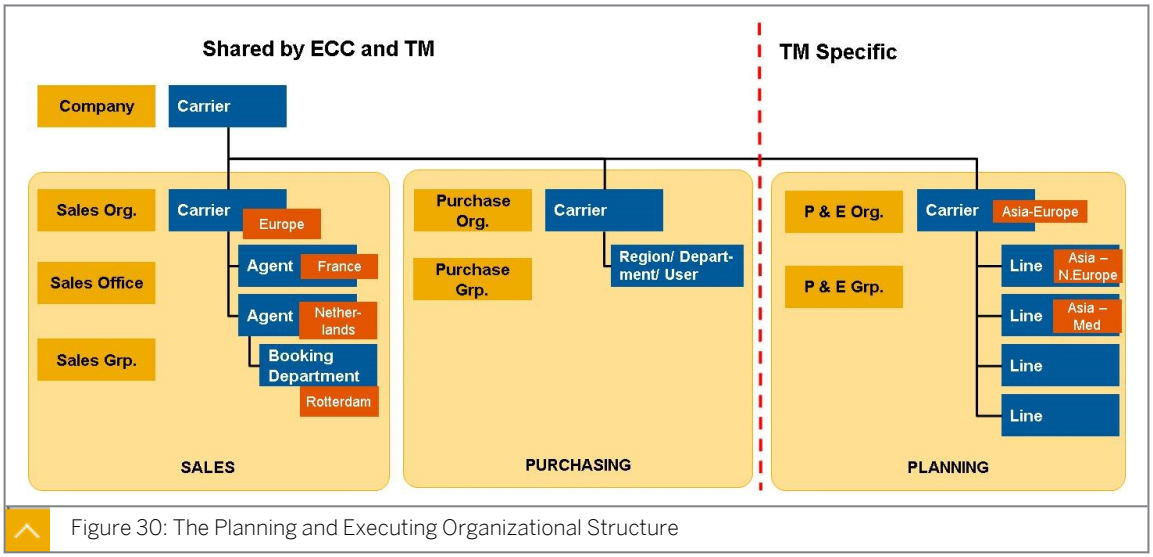



Figure 30: The Planning and Executing Organizational Structure

## The Segregated Organizational Structure in CSL

The organizational structure in CSL is segregated. This means that each carrier is handled as a separate company:

- Lines, bookings, capacities, port call, and so on are separated:
  - There is a separate ocean network.
- Users belonging to one organization can view or use data from the other organization.

From a line perspective, this means that partnership agreements are needed between two internal carriers. and lines need to be replicated.

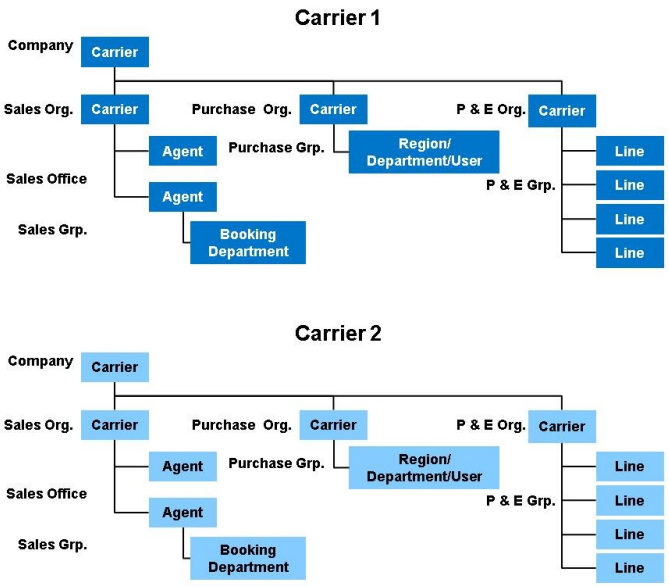



Figure 31: Segregation in the Organizational Structure

## LESSON SUMMARY

You should now be able to:

- Describe the planning and executing organization for CSL

# Understanding Commodity Hierarchies

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Outline the commodity hierarchy concept in L2A and O2C

## The Commodity Hierarchy Concept in L2A

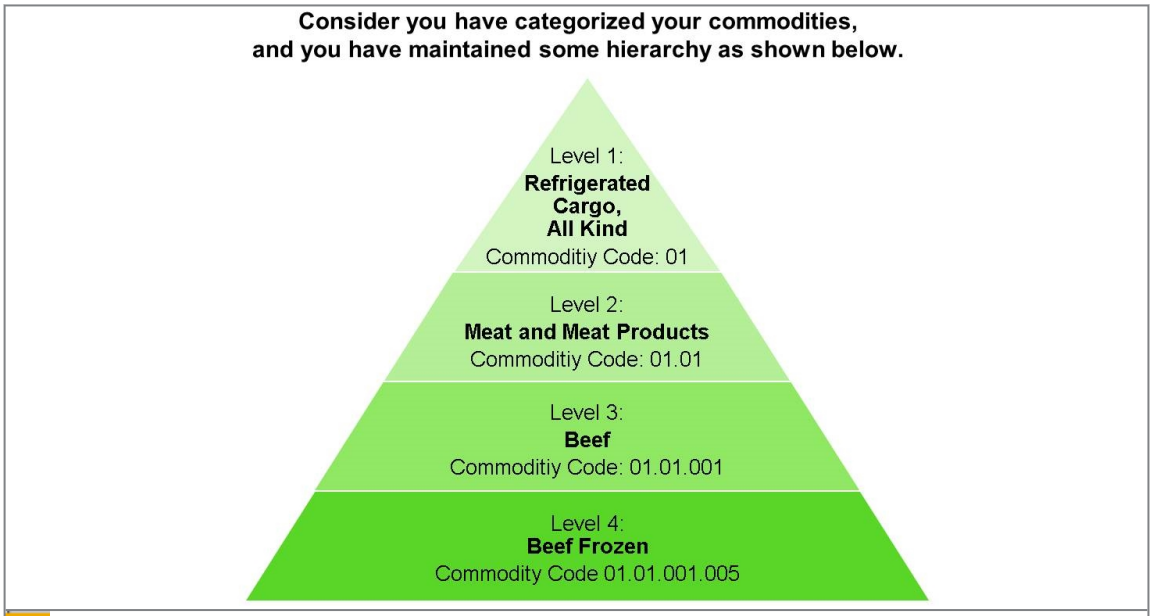



Figure 32: The Commodity Hierarchy

## Charge Calculation with Commodity Traversal

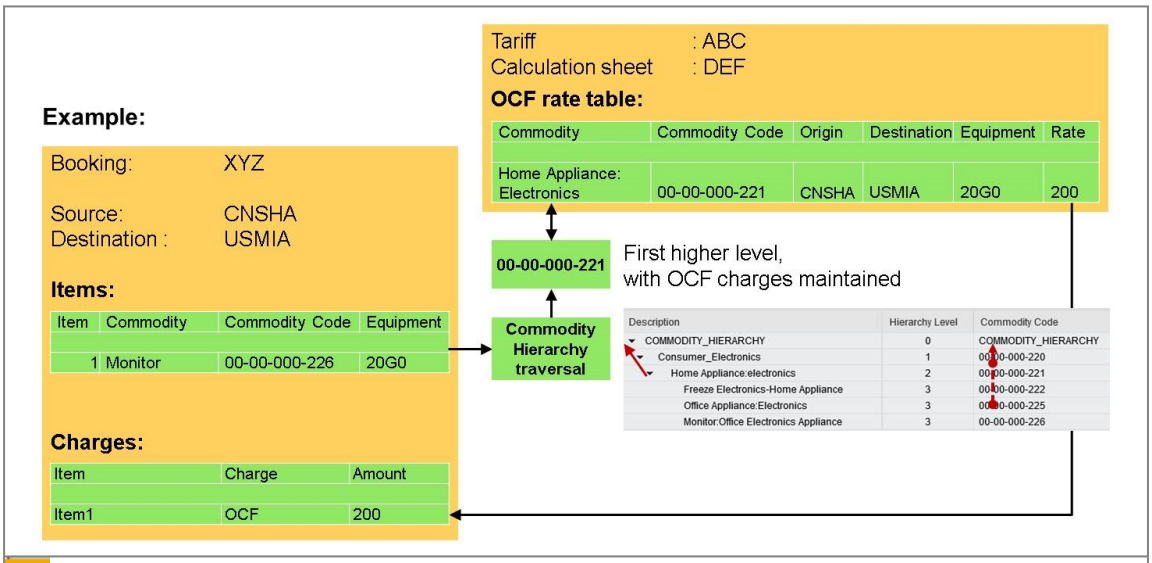



Figure 33: Charge Calculation with Commodity Traversal

## The Commodity Master


Figure 34: Commodity Master

## LESSON SUMMARY

You should now be able to:

- Outline the commodity hierarchy concept in L2A and O2C

Unit 4
Lesson 4

# Understanding Location and Transportation Zones

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the concept of zones in pricing

### Location and Transportation Zones in Pricing and Booking

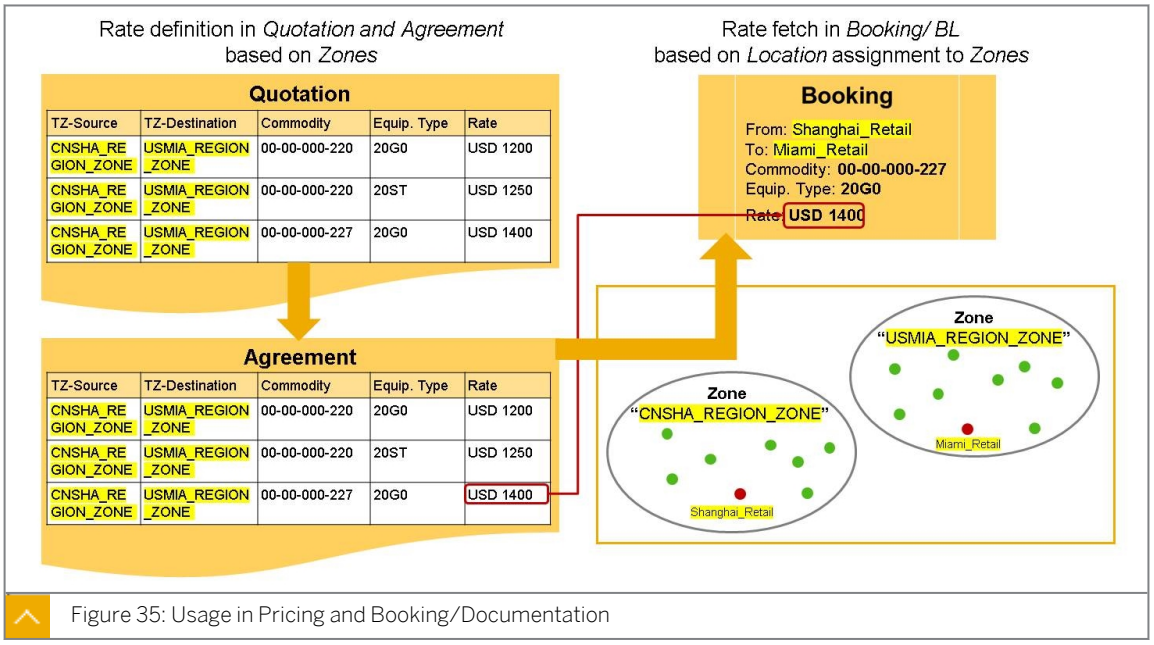



Figure 35: Usage in Pricing and Booking/Documentation

## LESSON SUMMARY

You should now be able to:

- Explain the concept of zones in pricing

# Learning Assessment

1. What kind of location types can be linked together in a location hierarchy? Choose the correct answers.

   *Choose the correct answers.*

   - ☐ A Transportation Zone
   - ☐ B Port
   - ☐ C Terminal
   - ☐ D Berthing Location

2. Why is a manifest profile required? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A Definition of Document Cut-Offs per port call
   - ☐ B Assignment of vessel capacity per port-pair
   - ☐ C Display all manifests created from a profile

3. What are default vessel services? Choose the right answer.

   *Choose the correct answers.*

   - ☐ A Planned maintenance services of a vessel
   - ☐ B Vessel related services derived from a location profile per port call (for example, pilot in, mooring)
   - ☐ C Services provided by the vessel crew after berthing

4. A Line is assigned to the organizational model on the level of..... Choose the right answer.

   *Choose the correct answers.*

   - ☐ A Sales Organization
   - ☐ B Purchase Organization
   - ☐ C Planning and Execution Organization

# Learning Assessment - Answers

1. What kind of location types can be linked together in a location hierarchy? Choose the correct answers.

   *Choose the correct answers.*

   - [ ] A Transportation Zone
   - [X] B Port
   - [X] C Terminal
   - [X] D Berthing Location

2. Why is a manifest profile required? Choose the right answers.

   *Choose the correct answers.*

   - [X] A Definition of Document Cut-Offs per port call
   - [ ] B Assignment of vessel capacity per port-pair
   - [X] C Display all manifests created from a profile

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   - [ ] C Services provided by the vessel crew after berthing

4. A Line is assigned to the organizational model on the level of..... Choose the right answer.

   *Choose the correct answers.*

   - [ ] A Sales Organization
   - [ ] B Purchase Organization
   - [x] C Planning and Execution Organization

# UNIT 5 Scenario Preparation for NAO and L2A



UNIT OBJECTIVES

- Explain the purpose of Line Studies
- Describe the creation of Line Studies

- Summarize Network Capacity Management
- Explain Partnership Agreements
- Describe POL/POD profiles
- Describe allocation features and management
- Describe line maintenance and how it integrates with Documentation
- Outline the line maintenance creation process
- Associate line maintenance tasks with the functions of the Schedule Monitor
- Demonstrate how simulation voyages are supported in the Schedule Monitor
- Describe how NAO integrates with Booking and Trip Plan and Documentation
- Summarize the features of the Utilization Cockpit
- Discuss the maintenance of Partnership Agreements from a utilization perspective
- Review key terms of Network Utilization Management
- Navigate Utilization Cockpit views
- Navigate the Partner Agreement Monitor
- Compare the CSL Service Product to the standard TM product
- Summarize the features and benefits of the CSL Service Product
- Define the main documents of the pricing data model
- Describe process flows in the pricing data model
- Summarize the enhancements to the pricing data model in Transportation Management for CSL
- Explain rate construction
- Explain arbitraries and inland tariffs
- Describe how tariffs are managed in Transportation Management for CSL
- Describe the documents and flow associated with cost distribution

Unit 5
Lesson 1

# Understanding Line Studies

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain the purpose of Line Studies
- Describe the creation of Line Studies

## Overview of Line Studies

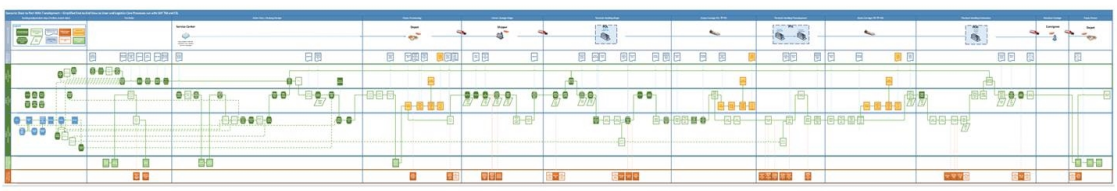


Figure 36: High-Level End-to-End Process Flow

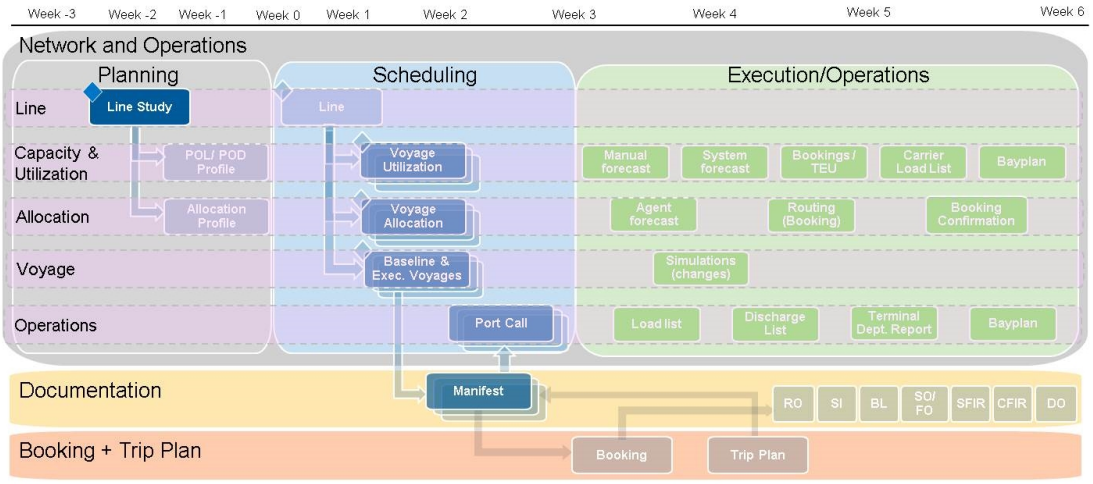



Figure 37: Line Study Overview

## Definition of Line Study and Line

- The **line study** is a template schedule that serves as the basis for generating the executable schedule. It simulates the call sequence, the bunker and cost calculation. It enables the operations manager to estimate the respective values and costs.
- The **line** is a transportation service. It defines the line study used in a line, the cycle position definition and the departure rules. The executable voyages and long-term schedule are generated based on the definition with actual call sequence and time.

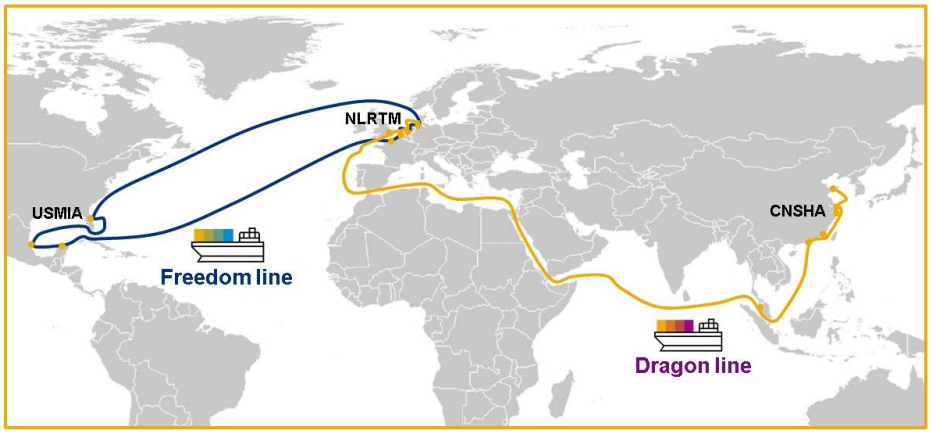



Figure 38: Definition of Line Study and Line

## Line Study Creation Process

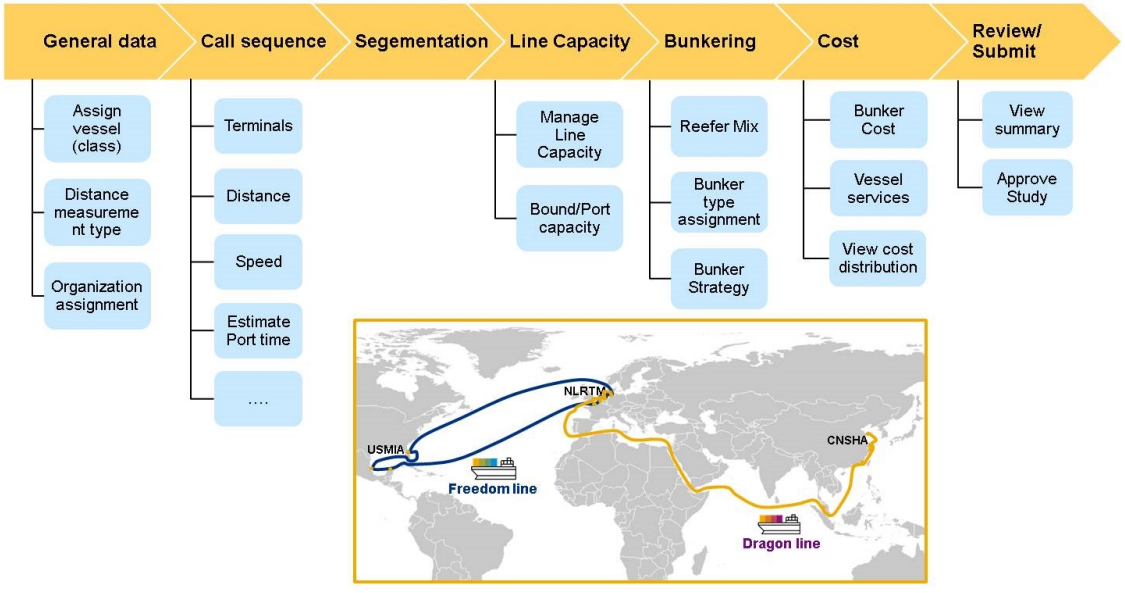



Figure 39: The Line Study Creation Process

## Distance Types and Distance Tables

**Distance Types**

**Great Circle:**
Shortest distance from one point to another on a sphere

**Rhumb Line:**
The path of a vessel that maintains a fixed compass direction.

**Seasonal**:
Distance based on a validity date due to season/weather

***Further Customizable***

**Distance Tables**

Maintenance table for entering the different point-to-point distances on port level

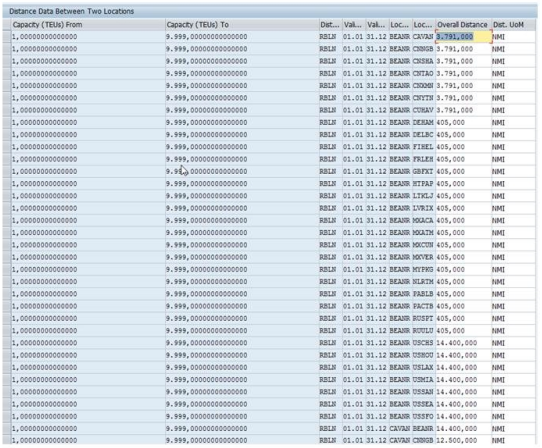



Figure 40: Line Management – Distance Types and Distance Tables

## Call Types

**Commercial:**
- Used for commercial call for loading and discharging containers. Can also be used for bunkering and other technical activities.

**Technical:**
- Used for maintenance, repair and bunkering.
- No loading and discharging on this stop.

**Operational:**
- Used for operational moves like canal passages.
- No loading and discharging on this stop.

Figure 41: Call Types

## LESSON SUMMARY

You should now be able to:

- Explain the purpose of Line Studies
- Describe the creation of Line Studies

Unit 5
Lesson 2

# Explaining Network Capacity Management

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Summarize Network Capacity Management
- Explain Partnership Agreements
- Describe POL/POD profiles
- Describe allocation features and management

## Network Capacity Management Overview from a Line Study Perspective

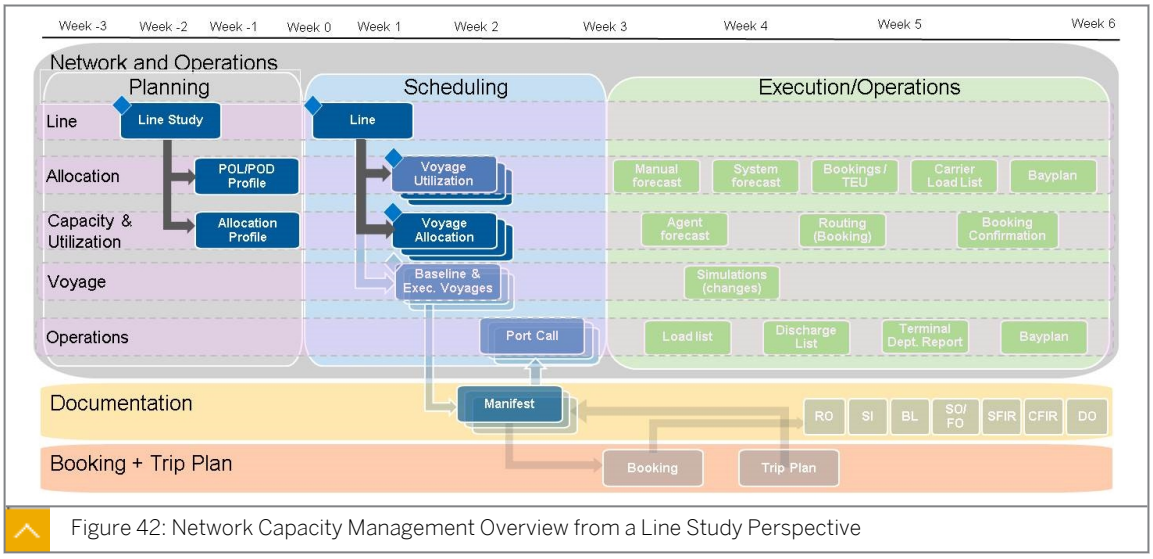



Figure 42: Network Capacity Management Overview from a Line Study Perspective

## Definition of Capacity Management

### Network Capacity Management

The objective of the capacity management process is to achieve the optimal utilization of a vessel. You establish a capacity model of the network by capturing capacity information for vessels on specific executable schedules. Capacity is managed using the following features:

- Partnership Agreements – You manage capacity for each carrier independently by defining Partnership Agreements. After taking into consideration all the existing Partnership Agreements on a service, the system calculates the carrier operational capacity for each voyage segment of a service.
- POL/POD Profiles – You capture detailed capacity information from port to port and on the Port of Loading (POL) to Port of Discharge (POD) level by defining POL/POD profiles

## Partnership Agreements

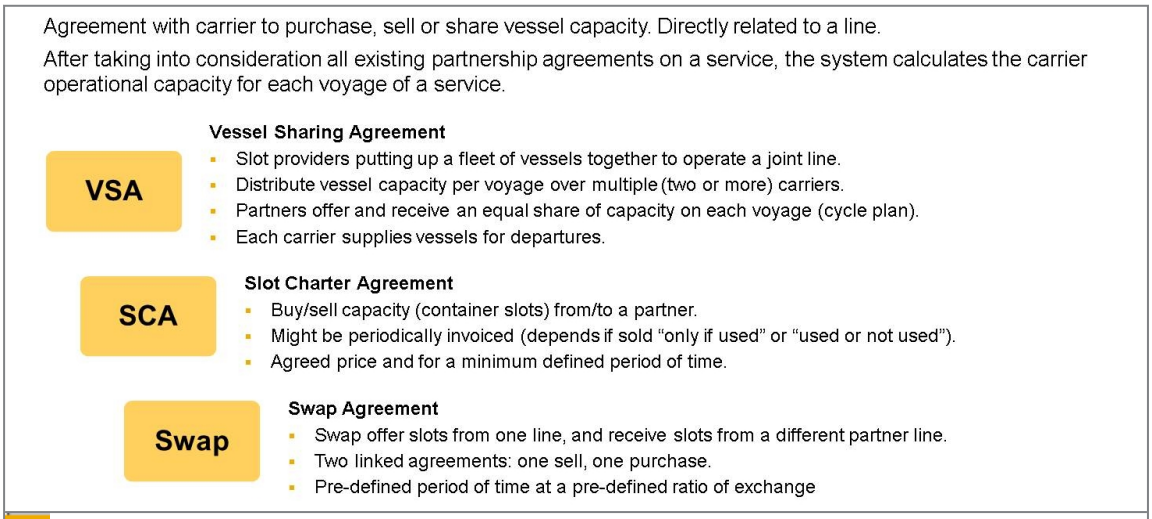



Figure 43: Partnership Agreements

## Port of Loading/Port of Discharge Profile

### POL/POD Profile

A Port of Loading (POL)/Port of Discharge (POD) profile is assigned to a Line Study and divides the available capacity of a vessel between the POL and POD pairs of a voyage. In the POL/POD Profile screen, you specify the number of containers that are to be loaded at a particular POL and then discharged at a particular POD. The POL/POD Profile screen includes the following tabs:

- POL/POD Supply Plan: On this tab, you enter the capacity for the POL/POD pairs in terms of twenty-foot equivalent units (TEUs), weight, and plugs.
- Remain on Board (ROB) Capacity View: This tab displays the fill rate of a vessel based on the containers flowing in and out of the vessel. It indicates the available slots at entering and exiting a terminal.

## Types of Allocation

### Types of Allocation

Allocation is used for reserving capacity on a specific line.

- Commercial allocations are defined according to voyage, and can be divided into trade, brand, booking agent, and more. The allocated quantity can be less or more than the actual carrier capacity.
- Operational capacity allocations are defined per voyage, and can be divided according to POL/POD. These allocation quantities represent the actual carrier capacity.
- Customer allocations are defined according to time period, and can also be divided according to port. This type of allocation is used to protect space, such as for important customers.

## Allocation Levels

**Levels, which can be used to define Allocation quantities:**

- Trade
- Brand
- Agent
- Sub-Agent
- Port of Loading
- Port of Discharge
- Container Type
- Commodity
- Empties


Figure 44: Allocation Levels

## Example of an Allocation Hierarchy

**Commercial Hierarchy:**


**Customer Hierarchy:**


**Voyage Allocations (Commercial and Operational Capacity):**

- Different levels of defining allocations, linked in hierarchical structure
- Different kinds of allocations on the same level
- Different allocation structure per voyage, bound and leg type (short/long)
- Further specific attributes such as allowance and miinimum quantity

**Customer Allocations:**

- Defined per period of time and per port of loading, independentof voyage.

Figure 45: Allocation Hierarchy

## Booking Confirmation

At booking entry and confirmation, check and reserve quantity based on the following allocation categories:

- **Commercial allocations** – defined per voyage, can be further split per trade, brand, agent, and more. Allocated quantity can be less or more than carrier actual capacity.
- **Customer allocations** – defined per time period, can be further split per port of loading (open topic). Used to protect space for important customers.

| Commercial Allocation | Customer Allocation | Booking Confirmation |
|---|---|---|
| ✓ | ✓ | ✓ |
| ✓ | ✗ | ✓ |
| ✗ | ✓ | ✓ |
| ✗ | ✗ | ✗ |

**Only the booking confirmation consumes the allocation!**

Figure 46: Booking Confirmation

## Sample of Allocation Utilization as an Agent Forecast

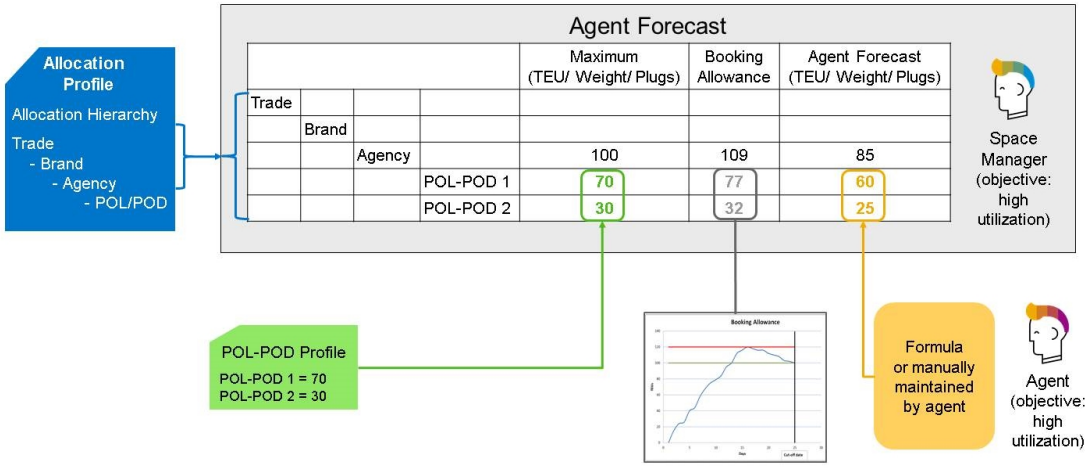



Figure 47: Allocation Utilization as Agent Forecast (sample)

## LESSON SUMMARY

You should now be able to:

- Summarize Network Capacity Management
- Explain Partnership Agreements
- Describe POL/POD profiles
- Describe allocation features and management

# Explaining Line Maintenance

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe line maintenance and how it integrates with Documentation
- Outline the line maintenance creation process

## Overview of Line Maintenance and Integration with Documentation

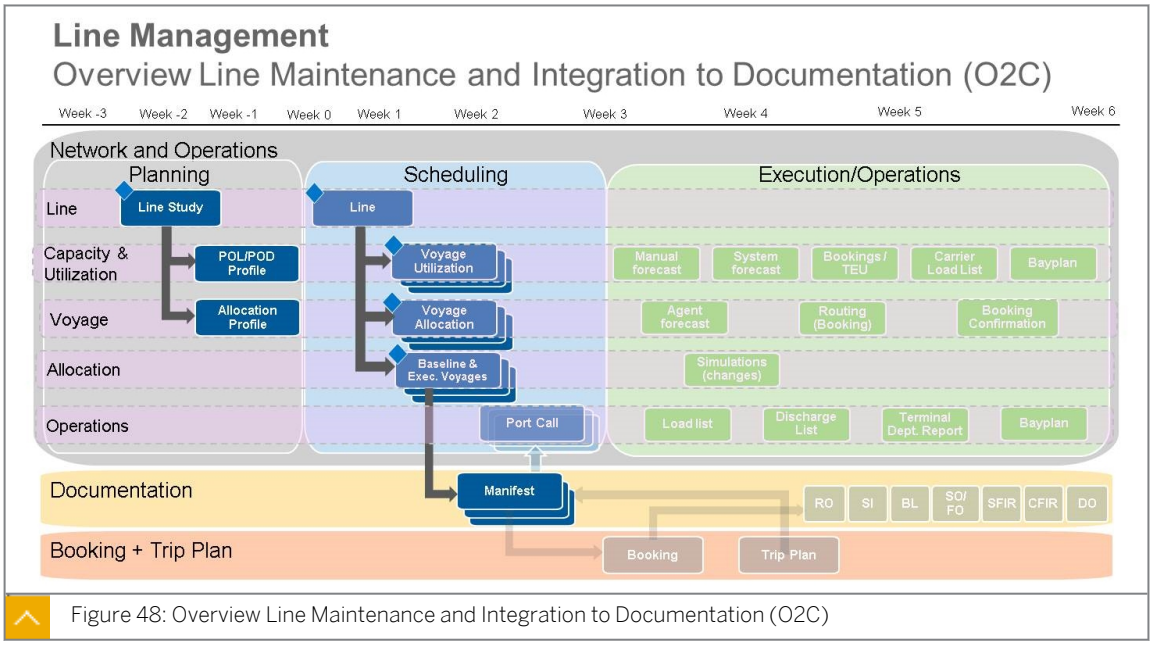



Figure 48: Overview Line Maintenance and Integration to Documentation (O2C)

## Definition of Line Maintenance

**Line maintenance defines a carrier service in a particular time frame (validity). The objective of a line is to generate voyages from a cycle plan definition (CPD) combined with rules. The following objects are defined by a line:**

- **Line Study**: To generate voyages, a line study should be introduced. The line study serves as a template that you can use to simulate voyages from the schedule and cost perspective. It is created for a particular line and a line may have multiple line studies to generate voyages with different attributes (for example, a different port call sequence or bunkering requirement). (See also the definition in the figure Definition of Line Study and Line).
- **Cycle Plan Definition:** A CPD defines a cycle plan in a given timeframe with (or without) proper frequency and assigns a preferred line study to generate voyages at the CPD level. There could be multiple CPDs per line, but none of these CPDs can overlap in the given timeframe.
- **Rules:** Rules will be created based on each CPD. A line study is mandatorily assigned to each rule. When generating voyages from a CPD, the settings defined in the rules will be applied. Voyages could be generated at the rule level if the CPD does not require a frequency.
- **Schedule:** The line is a transportation service. It defines the line study used in a line, the cycle position definition and the departure rules. The executable voyages and long-term schedule are generated based on the definition with actual call sequence and time.

Figure 49: Definition of Line Maintenance

## Commercial and Alternative Voyage Numbers

**Before voyages are generated, the system proposes a commercial voyage number to provide additional meaning to the voyage number, e.g. to identify the (external) carrier of the voyage.**

The commercial voyage number has the following characteristics:

- It is composed of nine alphanumeric characters and follows a fixed format that must be configured for each line.
- Its format and rules must be configured for each line.
- The system proposes each commercial voyage number upon voyage creation following the configured format and rule.
- It can be changed manually in Line Maintenance during voyage generation, and in the Simulation Cockpit.
- It must be unique, so each number can only be used once.
- It is released for reuse after the deletion of the voyage.
- It can have the following statuses: (1) Initial (newly generated number); (2) Assigned (to a voyage); (3) Unassigned (previously used for another voyage but deleted or changed).

**The alternate voyage number is a free-text field, where users can enter any value without validations being performed.**

Figure 50: Commercial and Alternative Voyage Numbers

## The Line Maintenance Creation Process

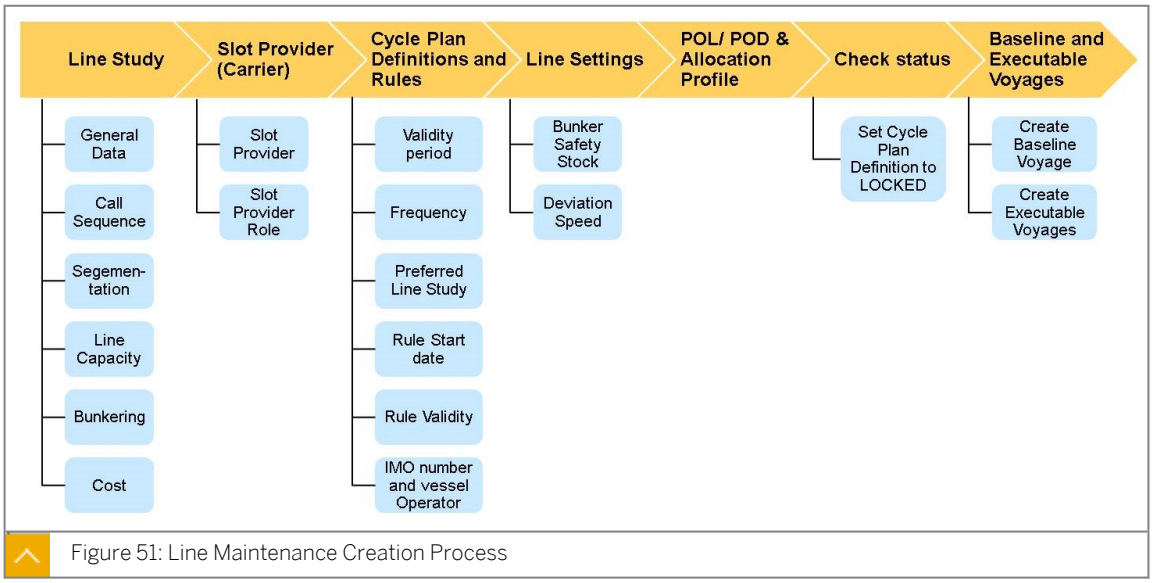



Figure 51: Line Maintenance Creation Process

### LESSON SUMMARY

You should now be able to:

- Describe line maintenance and how it integrates with Documentation
- Outline the line maintenance creation process

Unit 5
Lesson 4

# Performing Line Management Tasks in the Schedule Monitor

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Associate line maintenance tasks with the functions of the Schedule Monitor
- Demonstrate how simulation voyages are supported in the Schedule Monitor

## The Capabilities of the Schedule Monitor

**After the executable voyages are generated, their execution status and details can be checked using the Schedule Monitor.**

The following actions can be performed in the Schedule Monitor:

- **Gantt Chart**: displays information of voyage groups graphically. Compare each activity and milestone of the baseline voyage and executable voyage per port.
- **Current vessel plan at port call**: displays vessel plan information, such as incoming reports, call sequence information, integration logs, and bunker information for each port in the executable voyage.
- **Compare voyage types:** compare information about executable voyages, baseline voyages, and calculated voyages (using Gantt chart or listed information).
- **Voyage simulations:** simulate changes of executable voyage such as port omission, phase-in/phase-out, port sequence changes etc. with cargo and cost indications.

Figure 52: The Schedule Monitor

## Simulation Voyages in the Schedule Monitor

**In addition to the baseline or executable voyage, you can create a simulation voyage to simulate changes to an executable voyage, with cargo and cost considerations, before updating the executable or baseline voyage.**

The following actions are supported in the Simulation Cockpit:

- **Simulation Voyage**
  - Phase-In
  - Phase-Out
  - Add Voyage
  - Add/ Omit Call
  - Change port sequence
  - Change of speed, EOSP, SOSP
- **Executable voyage**
  - Adjust Cycle Definition

**Changes to the simulation voyage can be saved, applied to the executable voyage, or dismissed.**

Figure 53: Creating Simulation Voyages

## LESSON SUMMARY

You should now be able to:

- Associate line maintenance tasks with the functions of the Schedule Monitor
- Demonstrate how simulation voyages are supported in the Schedule Monitor

# Performing Utilization Management Tasks

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe how NAO integrates with Booking and Trip Plan and Documentation
- Summarize the features of the Utilization Cockpit
- Discuss the maintenance of Partnership Agreements from a utilization perspective
- Review key terms of Network Utilization Management
- Navigate Utilization Cockpit views
- Navigate the Partner Agreement Monitor

## Integration of NAO with Booking and Trip Plan

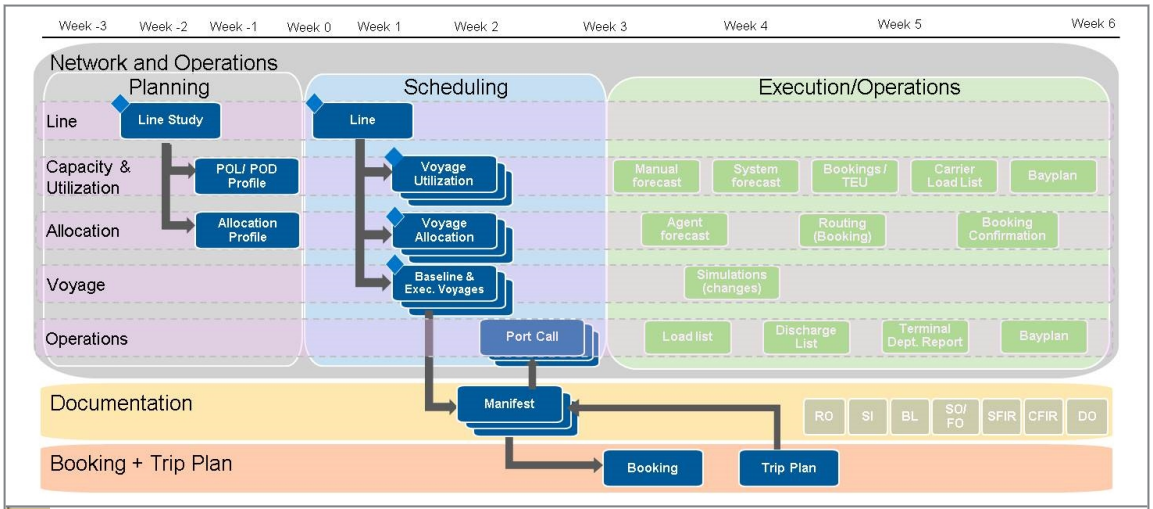



Figure 54: Integration of NAO with Booking (O2C) and Trip Plan

## Integration of NAO with Execution or Operations and Documentation

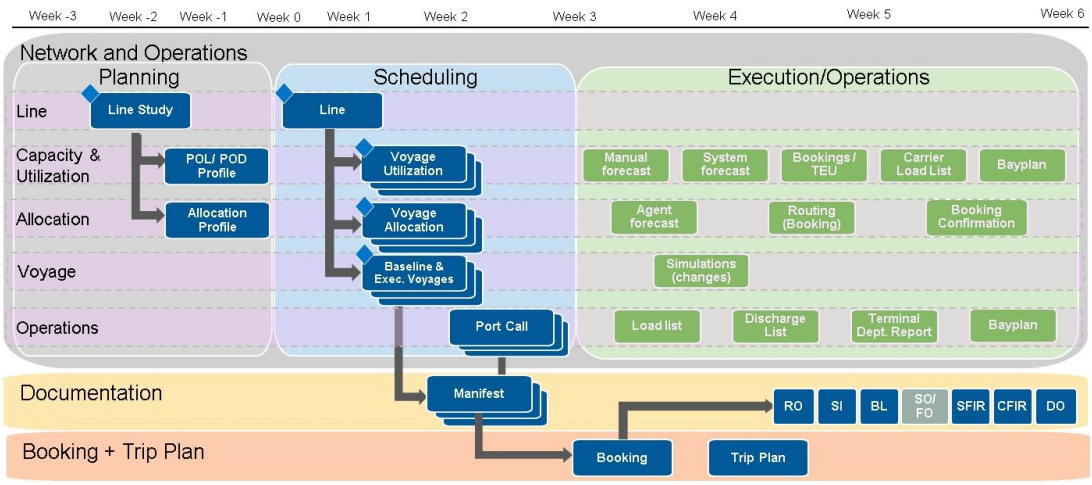



Figure 55: Integration of NAO with Execution or Operations and Documentation

## Features of the Utilization Cockpit

Utilization Management has features to monitor the use of capacity and allocations for partnership agreements, voyage capacity, and POL-POD pairs.

These features include the following:

**Voyage Utilization**

- The Voyage Utilization Cockpit allows you to monitor capacity requirements from existing (own) bookings compared to available capacity per voyage.

**Partner Utilization**

- The Partner Agreement Monitor allows you to manage the utilization of partner agreements.
- The Utilization Cockpit allows you to monitor utilization of your own space with consideration of partner cargo.

Figure 56: Features of the Utilization Cockpit

## Partnership Agreements from the Utilization Perspective

- **Partnership Agreement:** Agreement with partner to buy, sell or share capacity (see also Introduction to Partnership Agreements in the chapter Network Capacity Management).
  - **Vessel Sharing Agreement:** An agreement between two or more slot providers putting up a fleet of vessels together to operate a joint line. The general principle is that each slot provider receives, on all vessels of a cycle plan, a total declared capacity equal to its provision of contractual capacity in the cycle plan.
  - **Slot Charterer Agreement:** Buy from a partner or sell to a partner a defined capacity (space / weight) in general on an "as used/ used or not" basis at an agreed price and for a minimum defined period of time.
  - **Slot SWAP agreement:** Exchange with another service operator a defined amount of space from each other's service for a pre-defined period of time at a pre-defined ratio of exchange.
- **Net Agreed Capacity:** Aggregated capacity of one partner in case multiple contracts are valid for this partner on the same service. It is the sum of capacity based on all structural partnership agreements (VSA, SCA, SWAP) and additional capacity (SCA, SWAP) with term "used or not."
- **Partnership Agreement Monitoring:** Utilization work items shall be created for use in the Partner Agreement Monitor (PAM) to measure under/overutilization. These work items shall be based on the actual load list/departure bayplan information, which is retrieved from port call operations, and the information from the partner agreements.

Figure 57: Partnership Agreements from Utilization Perpsective

## Key Terms in Utilization Management

**Sources of Information for PAM:**

- Bayplan: Generated by the terminal and then maintained by the stow planner. The departure bayplan is generated after operations are complete. It shows the container position, type and container ID. It also contains a list of restowed containers.

**Measurement Types:**

- POL Loaded: The utilization is measured separately port by port. Excess figures are measured for each port separately. All the containers loaded at the respective port are taken for calculation.
- POL Onboard: The utilization is measured separately port by port. Excess figures are measured for each port separately. All the containers remaining on board (or out) are considered.
- Leg Type: The utilization is measured for each leg type. Different calculation rules can apply for calculation of the specific utilization figures per leg type. Excess figures are measured per leg.

Figure 58: Network Utilization Management Terminology

## Utilization Cockpit with Carrier View

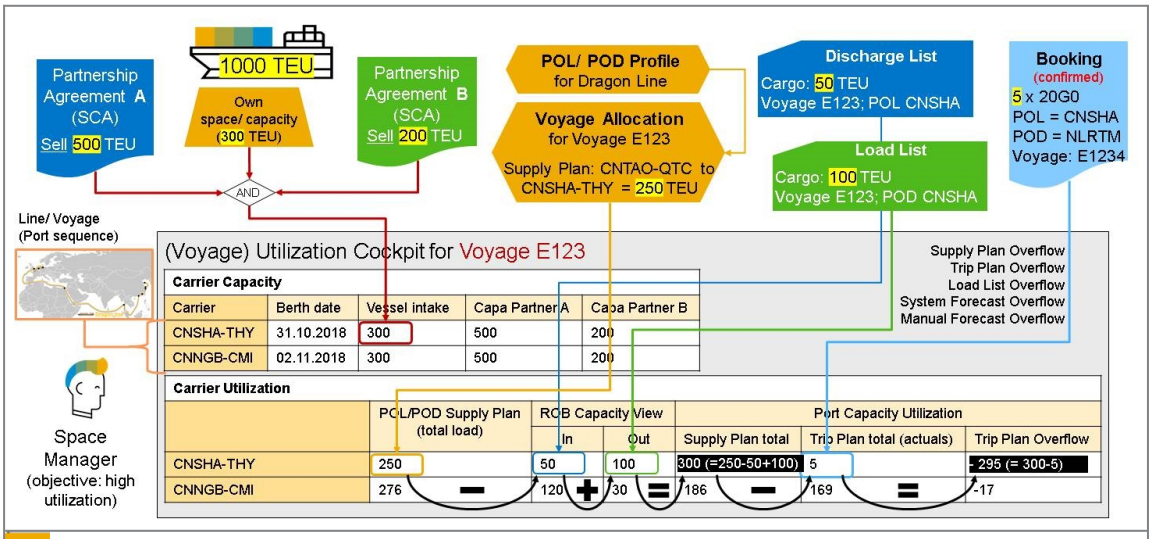



Figure 59: Utilization Cockpit with Carrier View

## Utilization Cockpit with Partner View

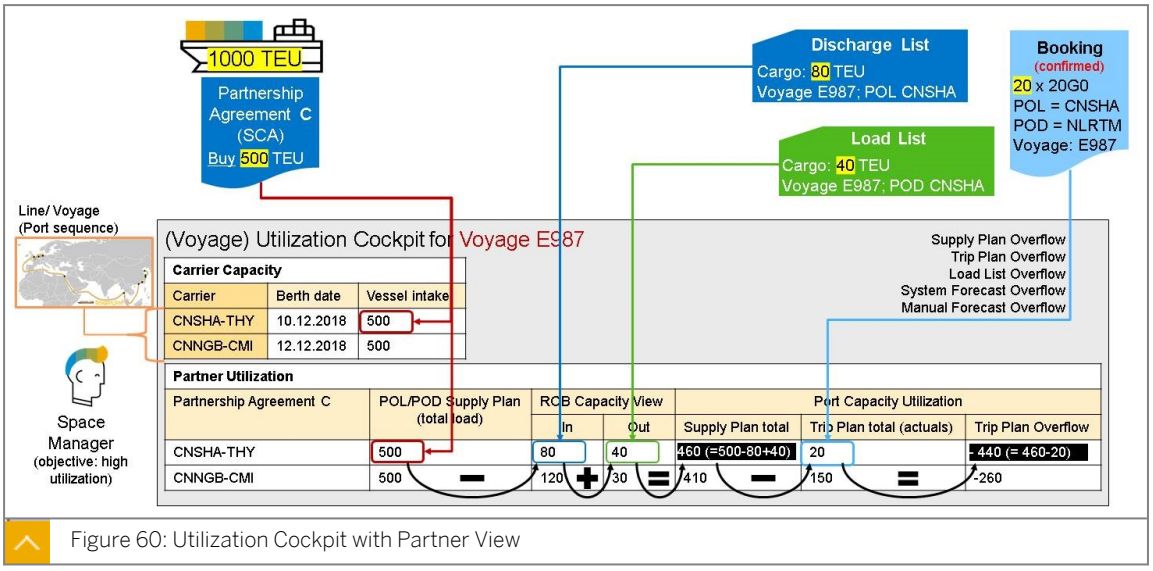



Figure 60: Utilization Cockpit with Partner View

## The Partner Agreement Monitor

The system calculates the final balance on the capacity purchased and sold and enables you to manage the required follow-up actions.

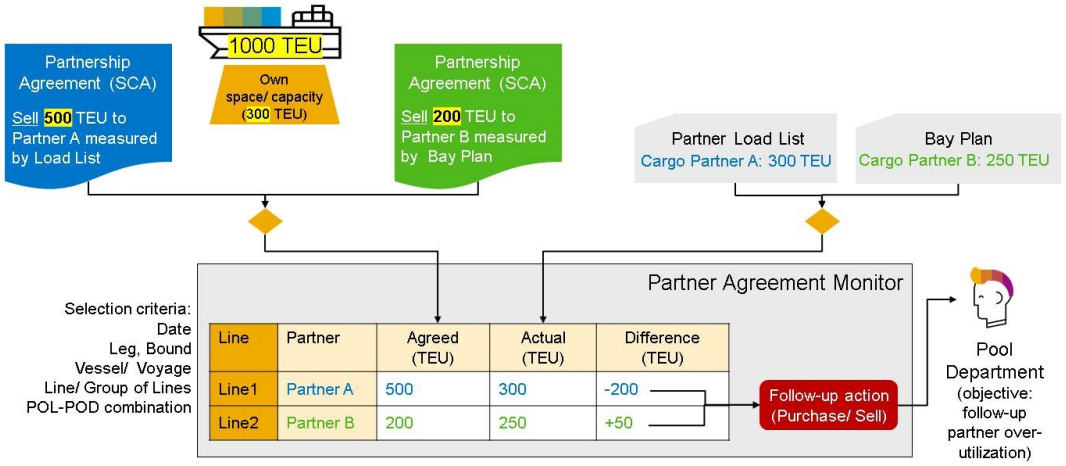



Figure 61: Partner Agreement Monitor (PAM)

Figure 62: High Level Process Flow Lead to Agreement

## LESSON SUMMARY

You should now be able to:

- Describe how NAO integrates with Booking and Trip Plan and Documentation
- Summarize the features of the Utilization Cockpit
- Discuss the maintenance of Partnership Agreements from a utilization perspective
- Review key terms of Network Utilization Management
- Navigate Utilization Cockpit views
- Navigate the Partner Agreement Monitor

Unit 5
Lesson 6

# Evaluating the CSL Service Product

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Compare the CSL Service Product to the standard TM product
- Summarize the features and benefits of the CSL Service Product

## CSL Service Product Compared with a Standard TM Product

Table 2: Comparing Standard and CSL-Specific TM Products

| CSL Service Product | TM Standard Product |
|---|---|
| The product represents a single point-to-point connection (or one point-to-point route option). | The product represents a zone-to-zone corridor (or several zone-to-zone route options). |
| There is no catalog, the object is a service product. | A service product catalog with service products exists. |
| The product is a routing product without value-added services (VAS) or instructions. | The product is a commercial product, including mandatory and possibly optional VAS and instructions. |
| VAS can be linked from the service catalog. | VAS flow from product to agreement and/or quote, to booking, to trip plan (event handler) to freight order or service order. |
| The product is referred to in OCF rate table lines (or rate table node) in the tariff, quotation, or agreement. Each rate OCF table line refers to an individual product. | The product is referred to in tariff, quotation, and agreement items. |

## The CSL Service Product

- The CSL service product **represents a corridor** within a trade.
- The service product is **based on voyages** available in the network. No allocation or capacity is considered.
- The service product represents a **point-to-point** route (from/to port/CFS/ramp/door).

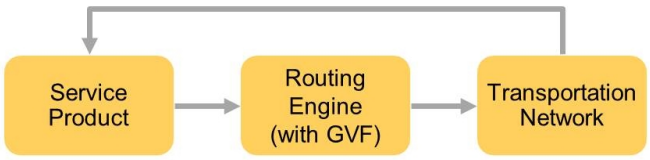
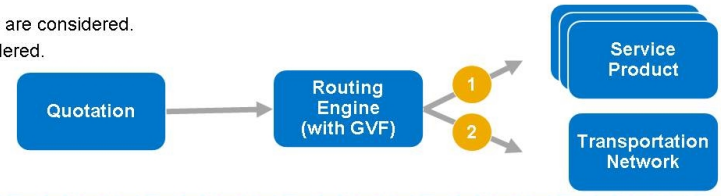



Figure 63: CSL Service Product Definition

## How the CSL Service Product is Consumed in Quotation and Booking

**Quotation**

- The quotation calls the Routing Engine, checks the CSL service product (stitches the missing legs based on transportation network).
- Preferred route and alternative routes are considered.
- Allocation and capacity are not considered.
- An undated route is returned.




**Booking/ BL**

- The booking calls the Voyage Suggestion Framework to conduct several checks, including allocation and capacity check.
- Routing engine checks the CSL service product (stitches missing legs based on transportation network).
- Assign the route from the agreement as the default route.
- Validate the ordered route against the CSL service product preferred route and alternative routes.
- Allocation and capacity are considered.
- A dated route is returned.

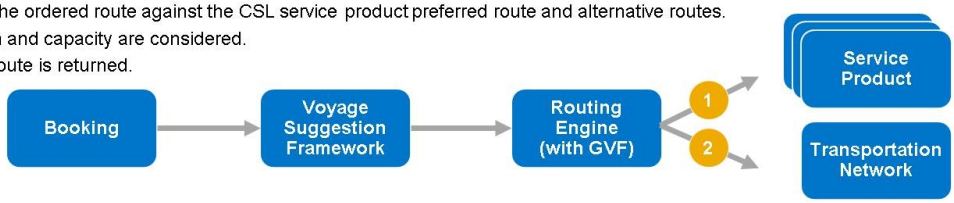



Figure 64: CSL Service Product Consumption in Quotation and Booking and B/L

## Service Product Types

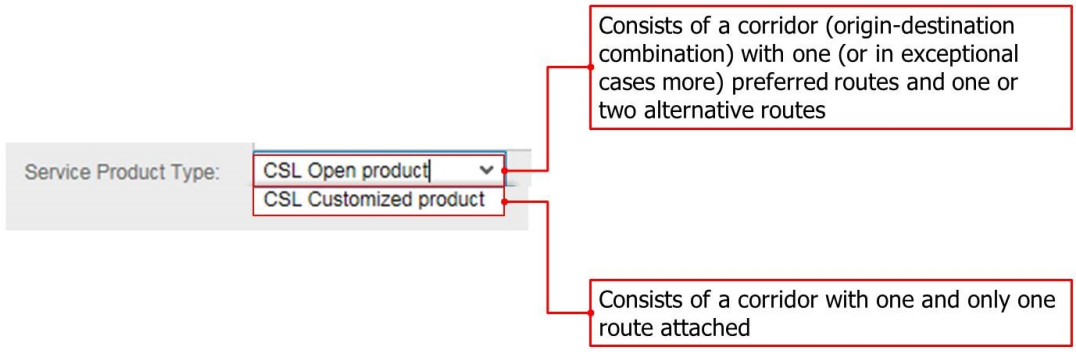



Figure 65: Service Product Types

## A Status Scheme

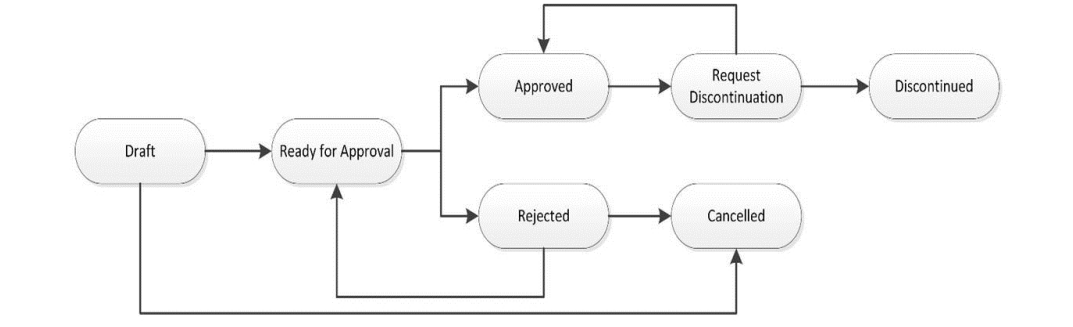



Figure 66: CSL Service Product Status Scheme

## Cessation of a Service Product

**When ceasing a CSL service product, the system will determine how many forwarding agreement quotations and forwarding agreements are affected.**

Applying discontinuation means to set status to:

- Request Discontinuation
- Discontinued

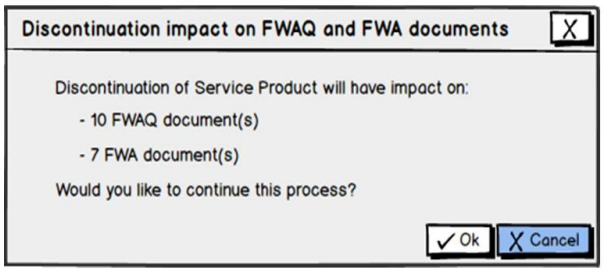



Figure 67: Cessation of a Service Product

## LESSON SUMMARY

You should now be able to:

- Compare the CSL Service Product to the standard TM product
- Summarize the features and benefits of the CSL Service Product

Unit 5
Lesson 7

# Understanding the Pricing Data Model

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Define the main documents of the pricing data model
- Describe process flows in the pricing data model
- Summarize the enhancements to the pricing data model in Transportation Management for CSL
- Explain rate construction
- Explain arbitraries and inland tariffs

## The Main Documents of the Pricing Data Model

### Tariffs

Tariffs are the documents that state the rules, rates, and charges for optional services associated with the movement of cargo. Tariffs have the following features:

- They are filed with the authorities but are publicly available to any company that meets the conditions of the tariff.
- They form the basis for the agreement of carriage between the shipper, consignee, and shipping line.
- Using a tariff does not commit either part to ship a specific volume of cargo, but this also means that the price is not fixed and can change as market conditions change.

A general rate increase is an increase across all rates for a trade and is usually filed at least thirty days before it takes effect.

### Forwarding Agreement Quotation

A forwarding agreement quotation is an individual business document used to bid for the provision of future transportation services for a defined period. Features of a forwarding agreement quotation include the following:

- A container shipping line (CSL) receives or proactively sends a forwarding agreement quotation when bidding to provide services. For example, the CSL might receive it from a shipper or send it to a logistics service provider.
- The rates of a forwarding agreement quotation are based on or lower than tariff rates.

## Quotation or Agreement Creation and Consumption in Booking

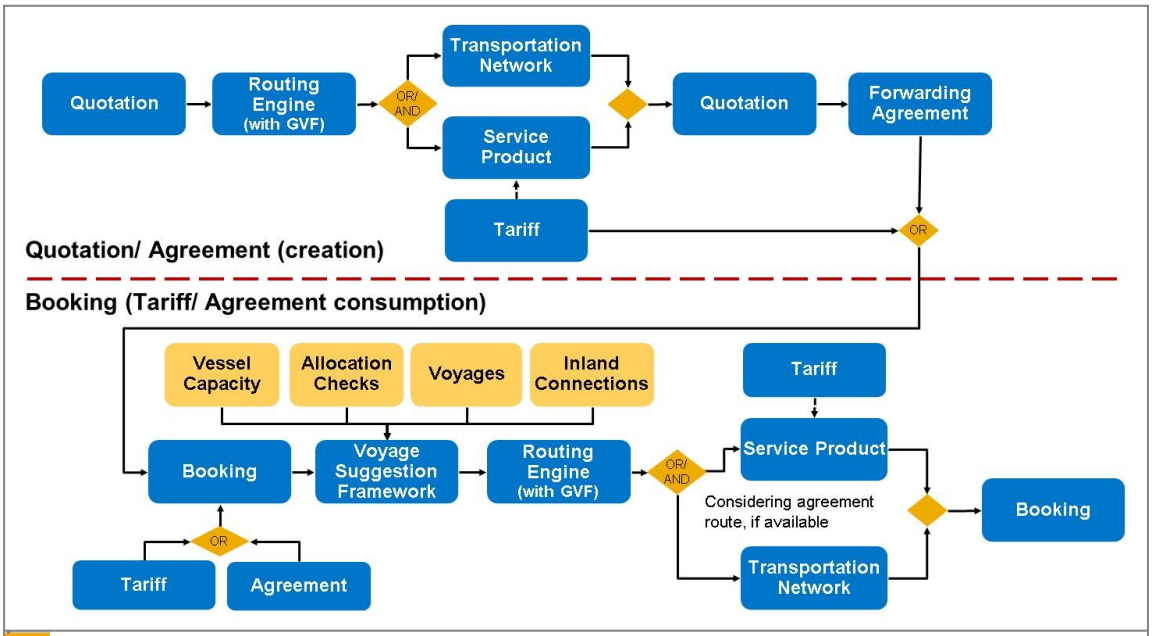



Figure 68: Quotation or Agreement Creation and Consumption in Booking and B/L

## The Process from Tariff to Forwarding Agreement

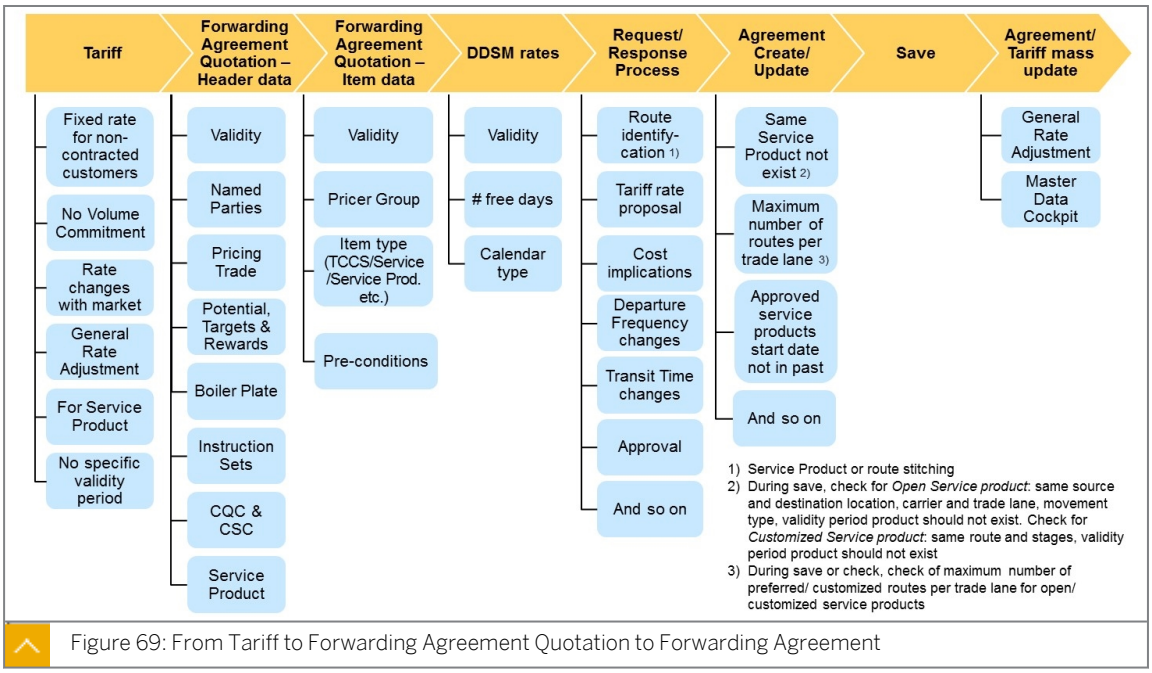



Figure 69: From Tariff to Forwarding Agreement Quotation to Forwarding Agreement

## Transportation Charge Management Structure

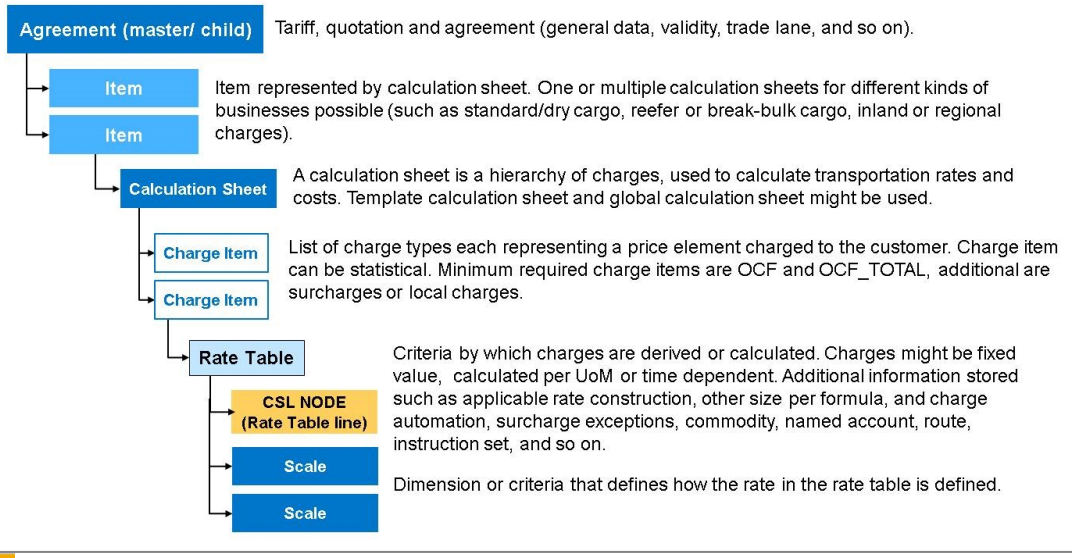



Figure 70: Transportation Charge Management Structure

## Summary of CSL Enhancements

| Field Name | | Functionality |
|---|---|---|
| Mother-Child FWAQ | Quotation Header | - One FWAQ (child) can be assigned to another FWAQ (mother)<br>- Assignments (child quotations) can, for example, be that multiple FWAQ exists for same carrier or LSP with different ID's. Assignment to mother quotation provides one (mother) FWAQ ID be used as central reference |
| Other Size Per Formula (OSPF) | | - Calculate charge in booking based on reference equipment type<br>- Even if equipment type is not (valid) in rate table, rate can be calculated based on other (valid) equipment type in the rate table |
| Charge Automation | Quotation Item | - Automatic inclusion of surcharge type and rate for special cargo type |
| Pricer Group | | - FWAQ assignment ID (child quote) created for each pricer group<br>- RFQ upload: separate FWAQ Item created for each pricer group |
| Cargo Type | | - For every cargo type a separate Agreement Item is created during Agreement conversion |
| Assignment Status | | - FWAQ assignment status is shown at newly introduced tab "Activity Status" |
| Exceptions to Tariff | Rate Table | - The rate table contains the details of the charges for the charge items. Rate tables have been enhanced to support multiple additional functions (Rate validity split, e-business integration, detention, demurrage, storage, and monitoring (DDSM), payment information, pricer group) |

Figure 71: Summary of CSL Enhancements to the Pricing Data Model

| Field Name | | Functionality |
|---|---|---|
| Quotation Flat View | Quotation Flat View | - Screen (UI) that combines the information from multiple business objects used in pricing<br>- The tender-node is an object that allows storage of more rate data in a rate table |
| Request Lines | | - Holds the detail of a customer request to a FWAQ<br>- Request lines are associated with the rate lines of leading charge type (OCF) and it can be created manually or via RFQ Translator (Excel Upload).<br>- Request lines are visible on Flat View, each request line has unique ID which is known as tender line ID. |
| Response Lines (see the figure CSL Enhancements – Quotation Response Lines) | Response Line | - Contain rates from an applicable tariff considering the request line details.<br>- Provides the responsible person with a guidance for rate offer to shipper or LSP for FWAQ<br>- Can be generated for each request line in a FWAQ but only a unique response can be approved and sent to shipper or LSP<br>- See the figure CSL Enhancements – Quotation Response Lines |
| Rate Construction | | - Arbitrary logic to stitch pricing route if no through rate available<br>- See the figure CSL Enhancements – Quotation Response Lines |
| Rate Simulation | | Rates (sales proposed rates) in response lines can be viewed simulated and adjusted using various methods (view, overwrite, use exceptions, charge update) |
| Surcharge conditions | | Surcharge conditions specify the rules for determining the source of the surcharge amount and calculate surcharge amount in the calculation of ocean freight charges |

Figure 72: Summary of CSL Enhancements to the Pricing Data Model – Continued

## CSL Enhancements to Quotation Response Lines

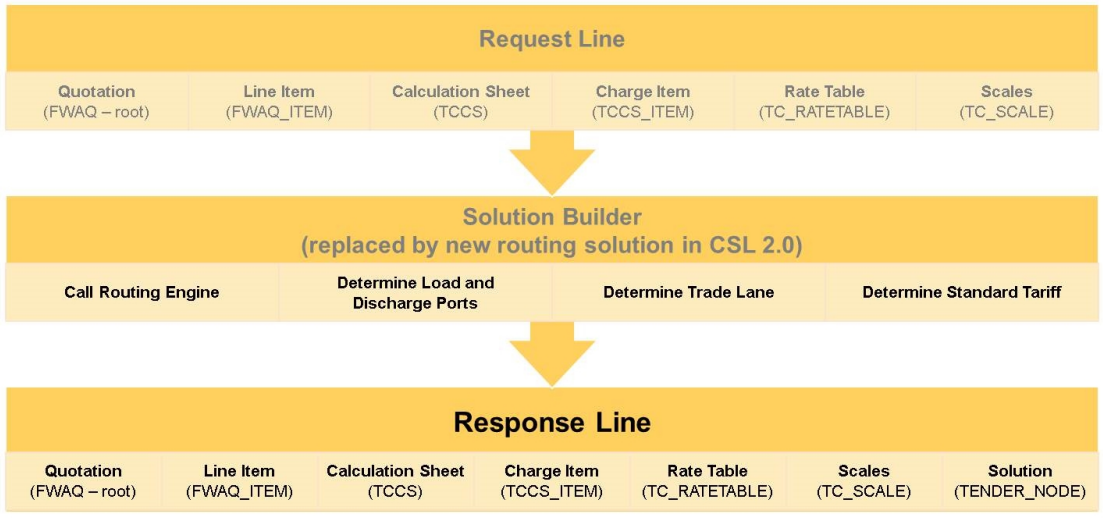



Figure 73: CSL Enhancements to Quotation Response Lines

## Rate Construction

### Features of Rate Construction

Rate construction is a process for building the rate for an Ocean Freight Charge (OCF), where the through-rate is not available for the given origin and destination during charge calculation. In the rate construction process, the system attempts to construct a rate using inland and arbitrary charges. This process applies in the following scenarios:

- Forwarding agreement quotation response generation
- Booking charge calculation

## Tailored Tariff for Port Arbitraries

### Features of Tailored Tariffs for Port Arbitraries (TTAD/TTAO)

An ocean pricer can create a tailored tariff for port arbitraries for a specific customer. Port arbitraries are modeled in SAP TM as charge type, and the related rates are stored in rate tables. This applies to the port arbitraries of the standard tariff and the tailored tariff. At the time of quotation, the customer can negotiate the tailored tariff for port arbitraries, which will be included in the agreement. At the time of quotation, the system checks if the rate table for the tailored tariff is available for the given customer. If the rate table is available, the system applies the arbitrary logic first, using the rates from the tailored tariff rate table. If no matching rate is found, the search falls back to the rate of the standard tariff.

## Arbitraries and Inland Tariffs in Ordered and Physical Routes

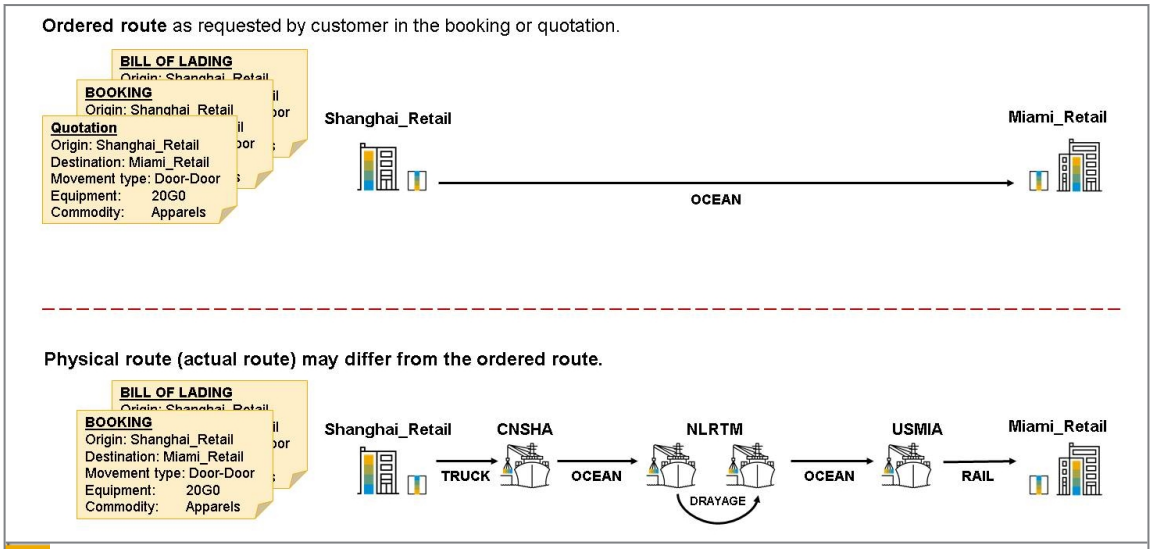



Figure 74: Arbitraries and Inland Tariffs: Ordered and Physical Routes

## Arbitraries and Inland Tariffs in Pricing Routes

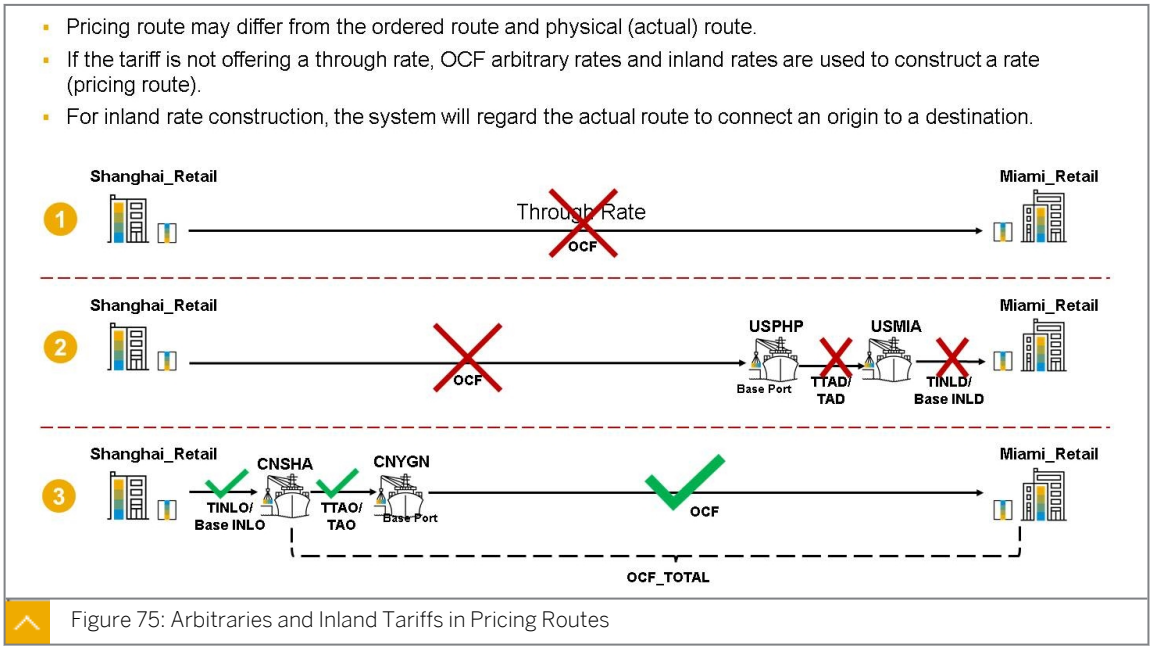



Figure 75: Arbitraries and Inland Tariffs in Pricing Routes

## LESSON SUMMARY

You should now be able to:

- Define the main documents of the pricing data model
- Describe process flows in the pricing data model
- Summarize the enhancements to the pricing data model in Transportation Management for CSL
- Explain rate construction
- Explain arbitraries and inland tariffs

# Summarizing Tariff Management

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe how tariffs are managed in Transportation Management for CSL

## Standard Tariff

- Used to maintain rate for various charge types.
- Assigned to a trade lane and carrier for a particular period.
- Used in quotation and booking for charge calculation purpose.

Maintenance View for Active Standard Tariff

| Trade Lane | Sales Org. | Valid From | Valid To | Tariff Number | Trade La |
|---|---|---|---|---|---|
| 1000000000 | 50001109 | 01.01.2018 | 31.12.2020 | CSL_STD_TARIFF_EU-EA | EU-EA |
| 1000000001 | 50001101 | 01.01.2017 | 31.12.2099 | CSL_STD_TARIFF_CN-US | CN-US |

Figure 76: Standard Tariff

## Options for Tariff Maintenance

### Options for Maintaining Tariff Rates as a Mass Update

The following options are available:

- Master Data Cockpit/Governing Tariffs
  - This tool allows you to perform mass updates on amounts in rate tables.

    You can filter for any charge management-related master data to identify the appropriate rate table. The criteria for filtering depend on the master data on which the search is based, but can include sales organization, agreement ID, named account, commodity code, calculation resolution base, charge type, and more.
- GRA (GRI/GRD) Rules
  - This allows you to adjust rates in a tariff, or any other agreement.

    Attributes can be defined to specify which rate is to be updated and when, and to specify whether the rate increases or decreases by a fixed amount or a percentage.

## Tariff Maintenance in the Master Data Cockpit

Depending on the filter criteria (filter precision), one particular rate line or multiple rate lines in one or several rate tables gets updated.

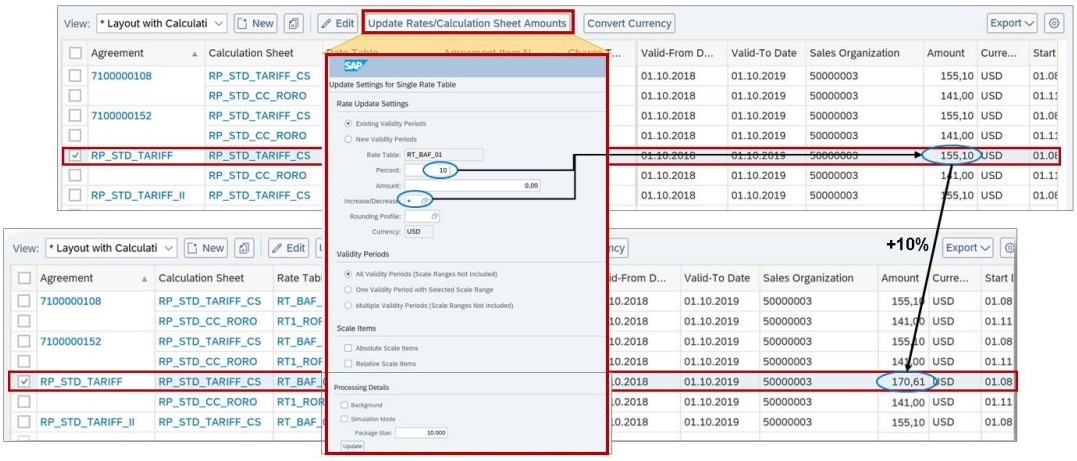



Figure 77: Tariff Maintenance: Master Data Cockpit

## General Rate Adjustment

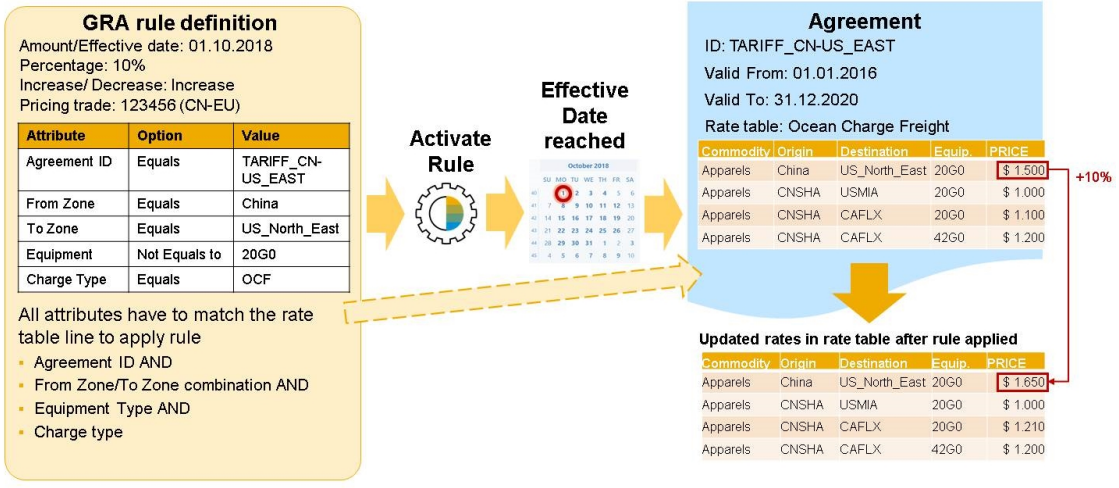



Figure 78: Tariff Maintenance: General Rate Adjustment

## LESSON SUMMARY

You should now be able to:

- Describe how tariffs are managed in Transportation Management for CSL

# Outlining the Settlement Process

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe the documents and flow associated with cost distribution

## Example of the Organizational Structure Required for Cost Distribution

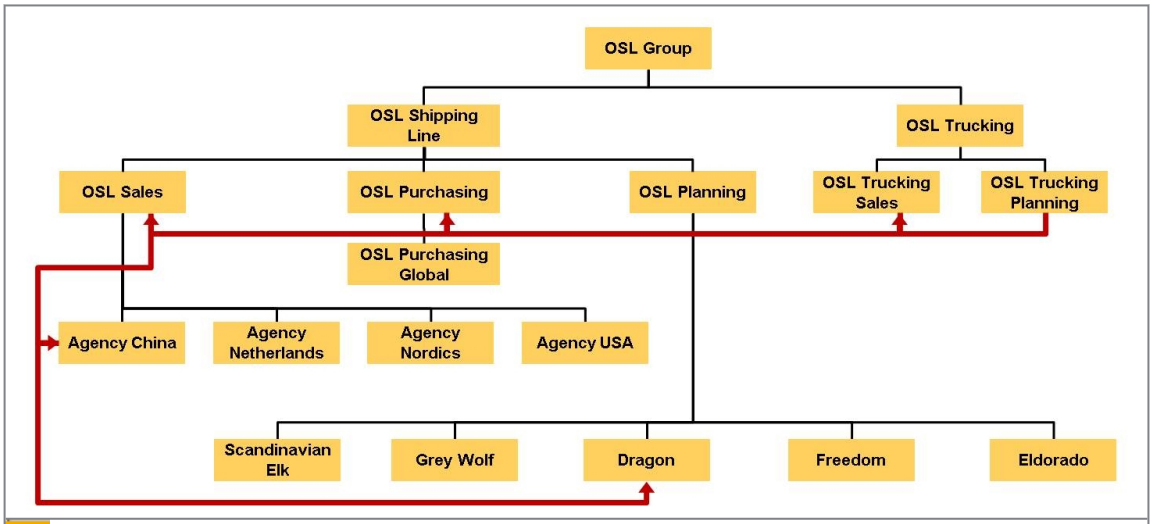



Figure 79: Settlement Cost Distribution: Sample Organizational Structure (Prerequisite)

## Cost and Documents Flow

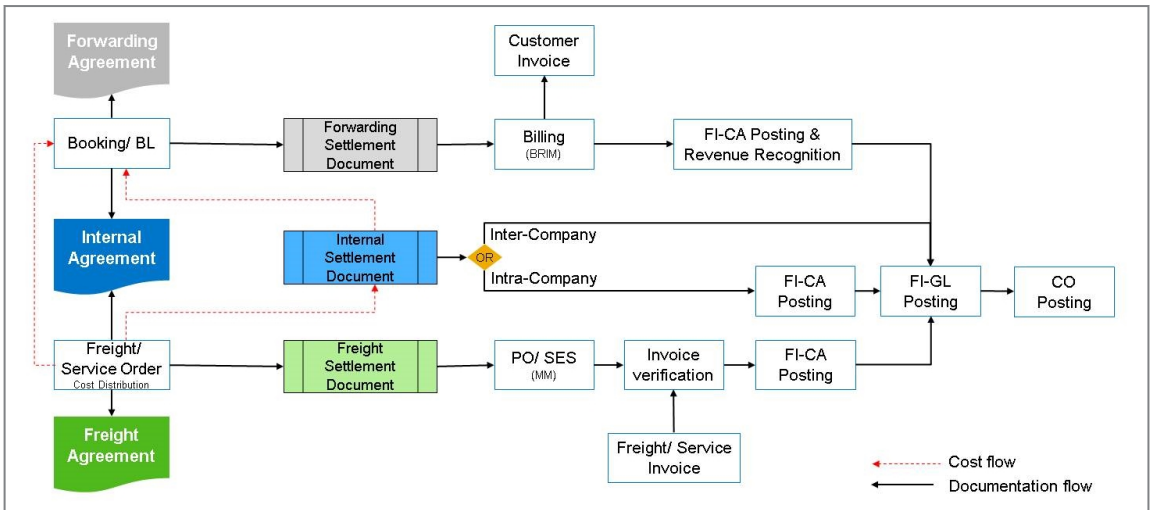



Figure 80: Settlement Cost Distribution: Cost and Documents Flow

## Documents and Distribution Flow

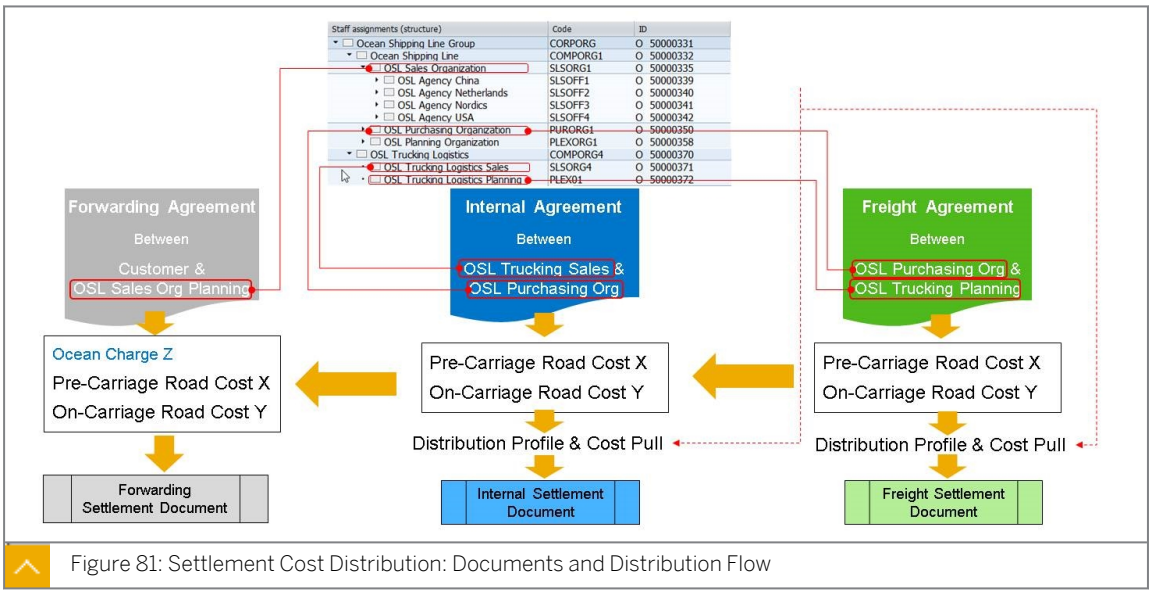



Figure 81: Settlement Cost Distribution: Documents and Distribution Flow

### LESSON SUMMARY

You should now be able to:

- Describe the documents and flow associated with cost distribution

# Learning Assessment

1. What is a "Line Study" required for? Please choose the right answer.

   *Choose the correct answers.*

   - ☐ A Planning of Port Call Sequence and Capacity
   - ☐ B Generation of Voyages
   - ☐ C Monitoring of Vessel Utilization

2. Which kind of Port Call Types are available? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A Technical Port Call
   - ☐ B Dry Dock Port Call
   - ☐ C Commercial Port Call
   - ☐ D Operational Port Call

3. What Partnership Agreements Types can be chosen? Choose the right answer.

   *Choose the correct answers.*

   - ☐ A Leasing Agreement
   - ☐ B Slot Charter Agreement
   - ☐ C Vessel Sharing Agreement
   - ☐ D Vessel Charter Agreement
   - ☐ E SWAP Agreement

4. When can a booking be confirmed based on the allocation check results? Choose the right answer.

   *Choose the correct answers.*

   - ☐ A Commercial Allocation: failed, Customer Allocation: failed
   - ☐ B Commercial Allocation: passed, Customer Allocation: failed
   - ☐ C Commercial Allocation: failed, Customer Allocation: passed
   - ☐ D Commercial Allocation: passed, Customer Allocation: passed

5. What is a Line required for? Choose the correct answer.

   *Choose the correct answers.*

   - ☐ A Planning of Cycle Plan and Allocation Profile
   - ☐ B Generation of Voyages
   - ☐ C Monitoring of Vessel Utilization

6. Which situations can be simulated in the Schedule Monitor? Choose the correct answers.

   *Choose the correct answers.*

   - ☐ A Vessel Phase-In
   - ☐ B Vessel Phase-Out
   - ☐ C Add new Port Calls
   - ☐ D Add Voyages
   - ☐ E Omit Port Calls
   - ☐ F Change Port Call sequence
   - ☐ G Change Vessel Speed

7. Is it true that the Utilization Cockpit cannot be used together with Partnership Agreements or for Partner Cargo? Choose the right answer.

   *Choose the correct answer.*

   - ☐ A Yes. As Partnership Agreements or Partner Cargo are not part of capacity and allocation definition, utilization cannot be monitored
   - ☐ B No. SAP Transportation Management Portfolio of Solutions for Container Shipping Lines provides capabilities to monitor the utilization for own and partner owned cargo. The utilization cockpit can monitor own and partner managed space.

8. Which are the main documents of the pricing data model? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A Rate
   - ☐ B Tariff
   - ☐ C Forwarding Agreement Quotation

9. What are Tailored Tariffs for Port Arbitraries?

   *Choose the correct answer.*

   - ☐ A Additional charges added to agreed Through Rates in case of door-to-door trades.
   - ☐ B Charges at port of loading or port of destination which will be used by the system to construct a rate in case no Through Rate has been agreed upon for a door-to-door trade.

10. Which options are available for maintaining tariff rates as a mass update? Choose the correct answers.

    *Choose the correct answers.*

    - ☐ A Tariff maintenance in the master data cockpit (updates on amounts in the rate tables)
    - ☐ B Automatic update of tariffs at exchange rate change
    - ☐ C Increase or decrease of rates based on general rate adjustment rules

11. Which of the following outlines the scope of Settlement Process within SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

    *Choose the correct answers.*

    - ☐ A Service Order based Freight Settlement Document towards Service Provider
    - ☐ B Settlement Document based creation of Billable Items
    - ☐ C Booking (respectively B/L) based Freight Settlement Document towards Customers
    - ☐ D Invoicing of Billable Items
    - ☐ E Financial posting of invoices
    - ☐ F Internal Settlement Documents for Intra- or Inter-Company costs

# Learning Assessment - Answers

1. What is a "Line Study" required for? Please choose the right answer.

   *Choose the correct answers.*

   - [X] A Planning of Port Call Sequence and Capacity
   - [ ] B Generation of Voyages
   - [ ] C Monitoring of Vessel Utilization

2. Which kind of Port Call Types are available? Choose the right answers.

   *Choose the correct answers.*

   - [X] A Technical Port Call
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   - [X] E SWAP Agreement

4. When can a booking be confirmed based on the allocation check results? Choose the right answer.

   *Choose the correct answers.*

   - [ ] A Commercial Allocation: failed, Customer Allocation: failed
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   - [ ] C Commercial Allocation: failed, Customer Allocation: passed
   - [x] D Commercial Allocation: passed, Customer Allocation: passed

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6. Which situations can be simulated in the Schedule Monitor? Choose the correct answers.

   *Choose the correct answers.*

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   - [x] C Add new Port Calls
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   *Choose the correct answer.*

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    *Choose the correct answers.*

    - [X] A Tariff maintenance in the master data cockpit (updates on amounts in the rate tables)
    - [ ] B Automatic update of tariffs at exchange rate change
    - [X] C Increase or decrease of rates based on general rate adjustment rules

11. Which of the following outlines the scope of Settlement Process within SAP Transportation Management Portfolio of Solutions for Container Shipping Lines? Choose the correct answers.

    *Choose the correct answers.*

    - [X] A Service Order based Freight Settlement Document towards Service Provider
    - [ ] B Settlement Document based creation of Billable Items
    - [X] C Booking (respectively B/L) based Freight Settlement Document towards Customers
    - [ ] D Invoicing of Billable Items
    - [ ] E Financial posting of invoices
    - [X] F Internal Settlement Documents for Intra- or Inter-Company costs

# UNIT 6 FWAQ Creation with Conversion and Update of Agreement



**UNIT OBJECTIVES**

- Explain how to create a FWAQ with RFQ translator using SAP Application Interface Framework (SAP AIF)
- Describe the flat view of a FWAQ
- Explain the CSL Route Generator and response lines
- Review tariff exceptions
- Explain eligible agreements and target agreements
- Describe how to convert and merge FWAQ to FWA
- Describe the Revise Agreement and refresh General Rate Adjustment functionality

# Creating a FWAQ using RFQ Translator and SAP Application Interface Framework

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain how to create a FWAQ with RFQ translator using SAP Application Interface Framework (SAP AIF)

## The RFQ Translator Tool

Figure 82: High Level Process Flow Pre-Order

**The Forwarding Agreement Request for Quotation (RFQ) Translator is a tool that can translate data in Microsoft Excel files into forwarding agreement quotations (FWAQs) in the SAP Transportation Management (SAP TM) system.**

**RfQ files delivered by the customer in an unknown format can be structured and mapped into an SAP TM known format.**

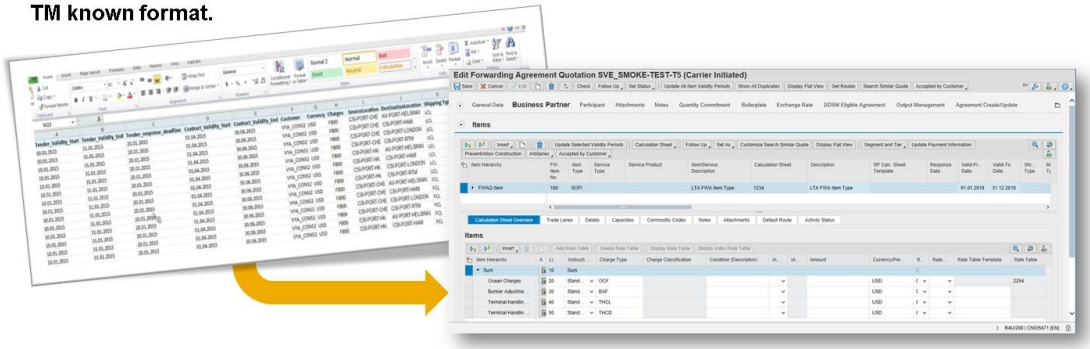



Figure 83: The RFQ Translator

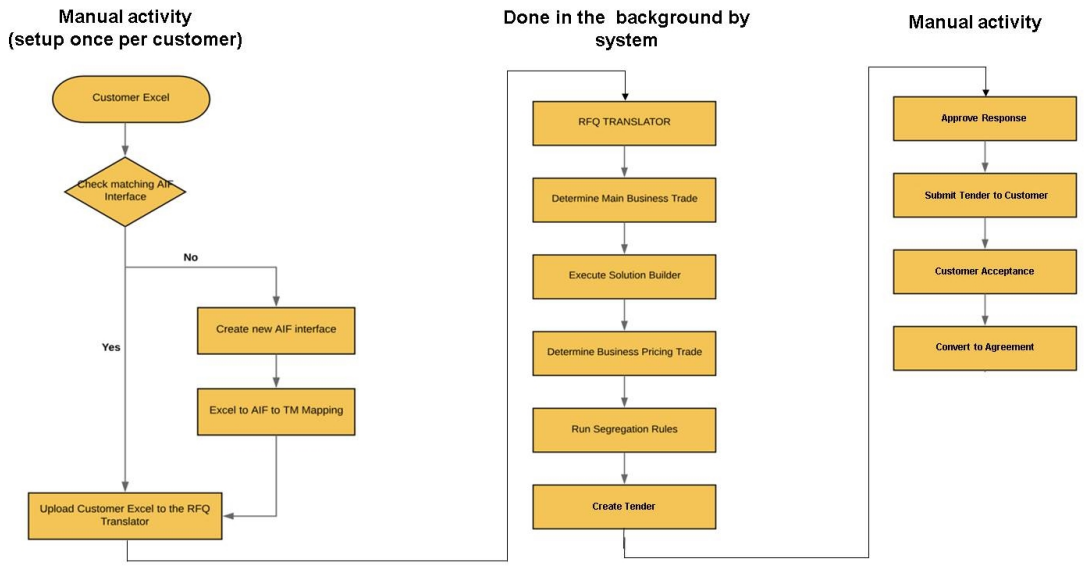



Figure 84: The RFQ Translator Process Flow

Generate AIF Interface from MS Excel. This is a one-time setup activity that needs to be done before you can upload a Microsoft Excel file.

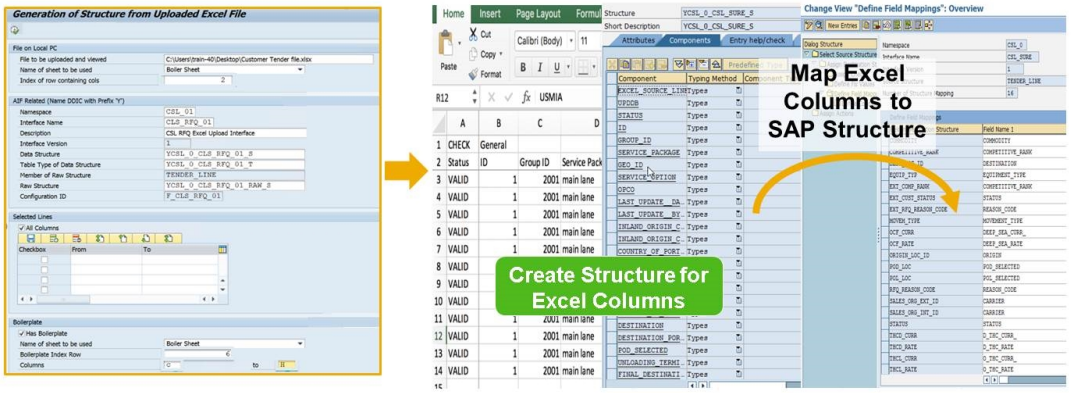



Figure 85: RFQ Translator Upload Process

The RFQ Translator: Excel Upload screen is composed of the following sections

1. **Uploading Mode**
2. **Rate Lines**
3. **Boiler Plate**
4. **RFQ Maintenance**
5. **Related FWAQ**

**After upload:**
Error Log Monitoring; readable, understandable and interpretable for business users

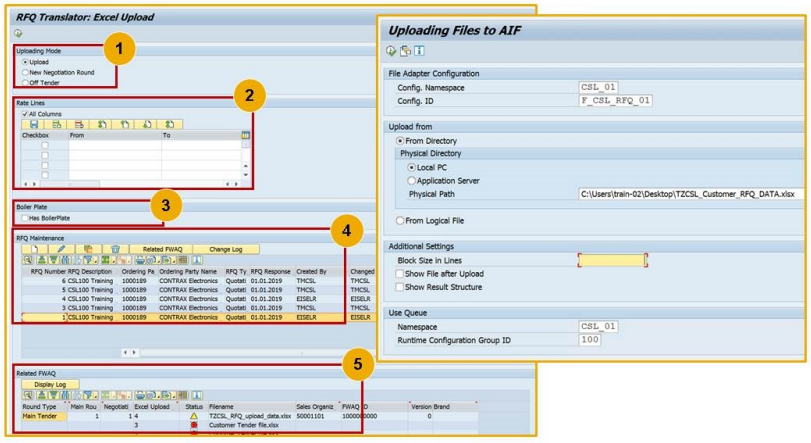



Figure 86: RFQ Translator: Excel Upload

The **Segregation Rule** is used to determine the pricer group and charge calculation sheet template.

It is a BRF+ rule (for example, columns in the table) which can be changed according to organizational needs.

| TRADE | EQUIP_TYP | COMMODITY_GROUP | BUSINESS_PRIC_TRADE | PRICER_GROUP |
|---|---|---|---|---|
| =00000000001000000000 | =20G0 (20 ft Dry Cont, 20x8) | =00-00-000-320 (Chemicals) | =00000000001000000001 | 50001116 |
| =00000000001000000000 | =22G0 (20 ft Dry Cont, 20x8.6) | =00-00-000-320 (Chemicals) | =00000000001000000001 | 50001116 |
| =00000000001000000000 | =20G0 (20 ft Dry Cont, 20x8) | ... | =00000000001000000001 | 50001114 |
| =00000000001000000000 | =22G0 (20 ft Dry Cont, 20x8.6) | ... | =00000000001000000001 | 50001114 |
| =00000000001000000000 | =22G1 (20 ft Dry Cont, passive, 20x8.6) | =00-00-000-320 (Chemicals) | =00000000001000000001 | 50001116 |
| =00000000001000000000 | =20G1 (20 ft Dry Cont, passive, 20x8) | =00-00-000-320 (Chemicals) | =00000000001000000001 | 50001116 |
| =00000000001000000000 | =22G1 (20 ft Dry Cont, passive, 20x8.6) | ... | =00000000001000000001 | 50001115 |
| =00000000001000000000 | =20G1 (20 ft Dry Cont, passive, 20x8) | ... | =00000000001000000001 | 50001115 |

Figure 87: RFQ Translator Segregation Rule

## FWAQ Creation with RFQ Translator

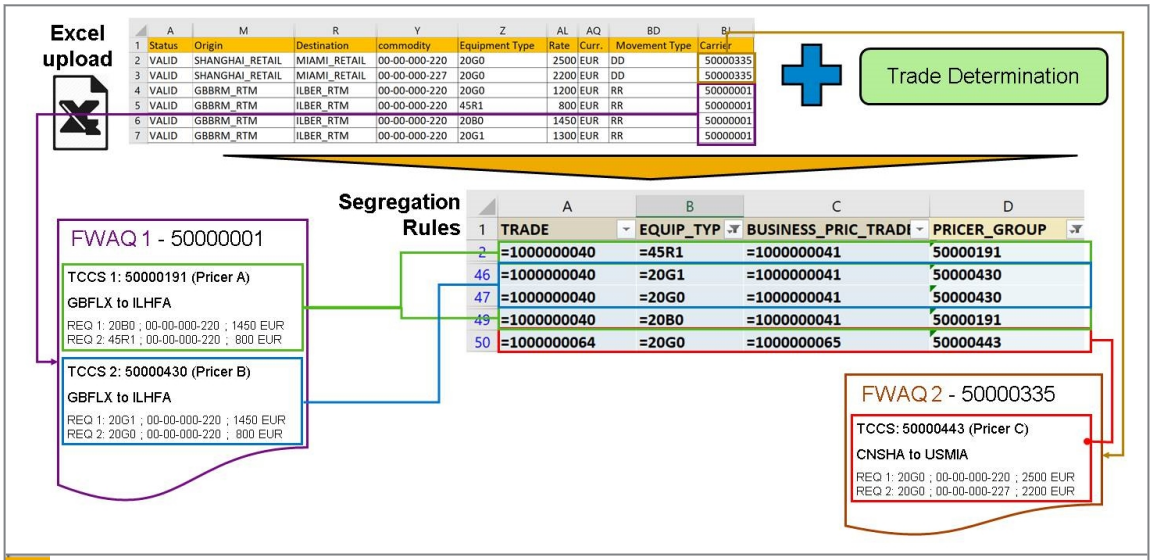



Figure 88: FWAQ Creation from Tender via RFQ Translator

## LESSON SUMMARY

You should now be able to:

- Explain how to create a FWAQ with RFQ translator using SAP Application Interface Framework (SAP AIF)

# Managing Quotations

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe the flat view of a FWAQ
- Explain the CSL Route Generator and response lines
- Review tariff exceptions

## The Quotation Flat View

**FLAT VIEW is a screen (UI) that combines the information from multiple business objects used in pricing.**

This enables you to see a broader view of the FWAQ to make quick and efficient decisions about rates based on logistical information.

**The Tender-node is an object that allows the storage of more rate data in a rate table.**

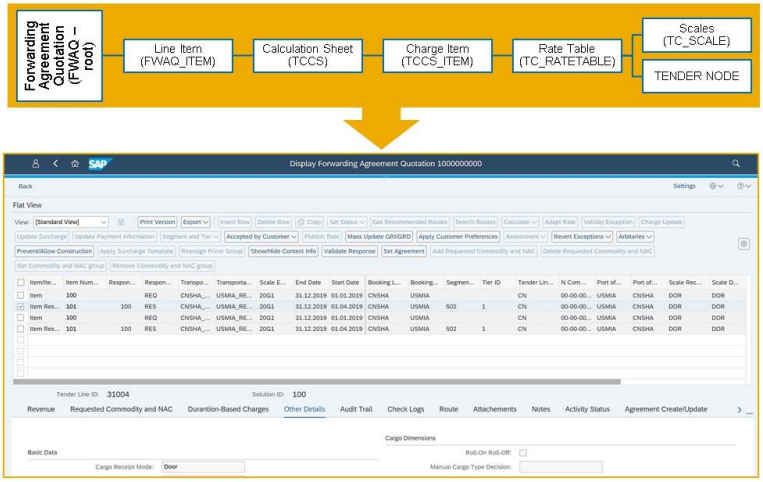



Figure 89: Forwarding Agreement Quotation: Quotation Flat View

## Quotation Request Lines

**Request lines:** They hold the detail of a customer request to a forwarding agreement quotation.

Request lines are associated with the rate lines of leading charge type (OCF) and it can be created manually or via RFQ Translator (Excel Upload).

Request lines are visible on Flat View. Each request line has a unique ID, known as the tender line ID.

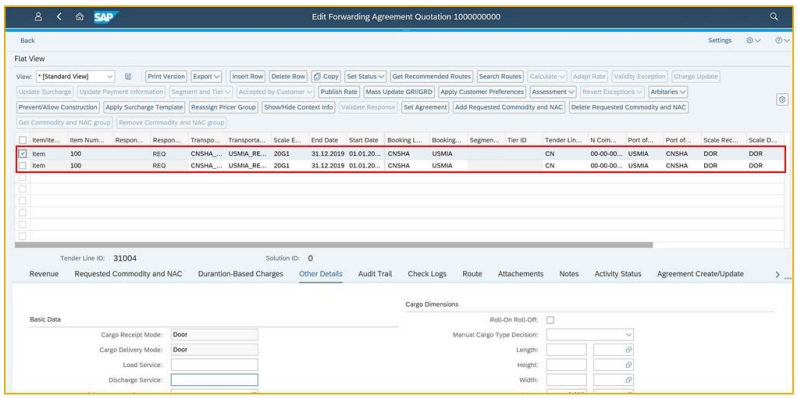



Figure 90: Forwarding Agreement Quotation: Quotation Request Lines

## The CSL Route Generator

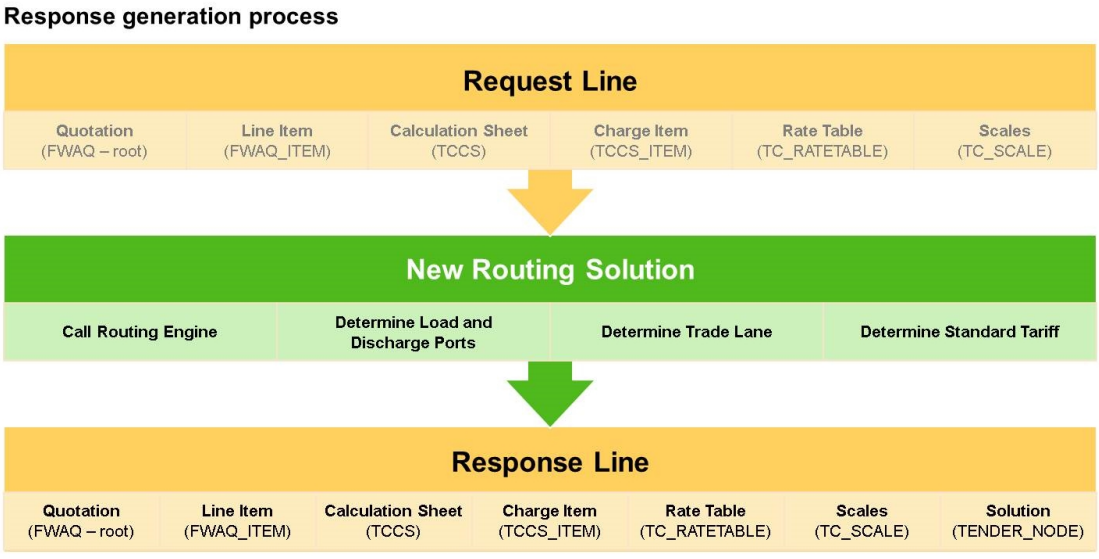



Figure 91: New Routing Solution

## Quotation Response Lines

**Request lines:** Response line is generated when system returns route with tariff rates.

There are two ways to generate a response line:

1. Search Routes: route options presented to user (one REQ line)
2. Get Recommended Route: the system selects most suitable route option in the background (multiple REQ lines)

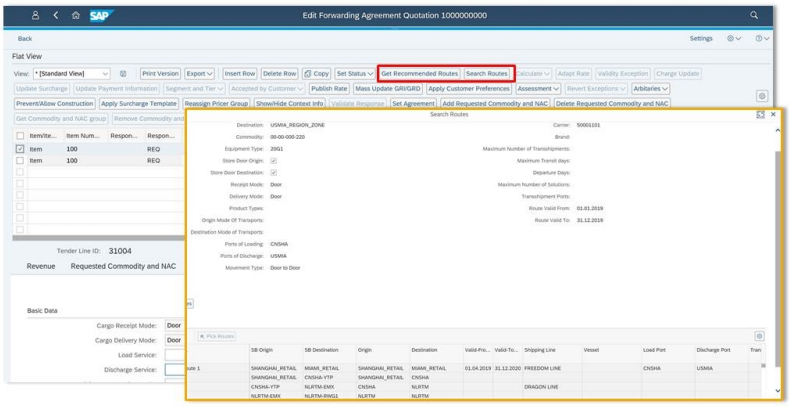



Figure 92: Forwarding Agreement Quotation: Quotation Request Lines

**Response lines:** Response lines contain route and applicable tariff rates as basis for pricer to adapt rates to be offered to shipper or LSP in FWAQ.

Response line(s) can be generated for each request line in a forwarding agreement quotation but only a unique response can be approved and sent to shipper or LSP

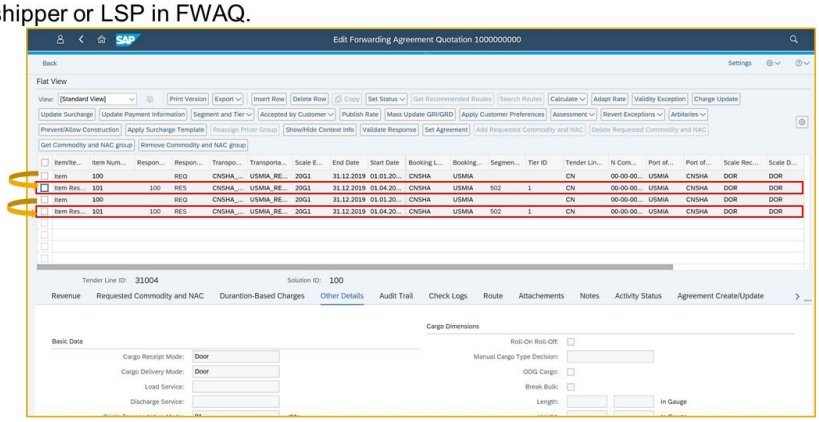



Figure 93: Forwarding Agreement Quotation: Quotation Response Lines

## Creation of Response Lines

**Revenue** tab shows the combined charge structure of both customer and tariff

Tariff rates (initial sales proposed rates) can be changed by providing a reason code

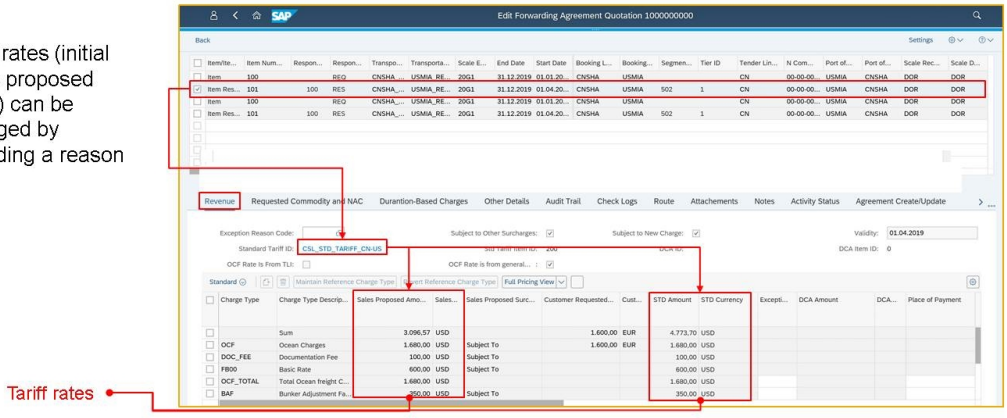



Figure 94: Forwarding Agreement Quotation: Response Line – Tariff Rates and Customer Rates

Set Agreement: Link the quote response line to a specific forwarding agreement. Used to:
- Pull rates from specific agreement
- Forced merge/ update with specific agreement

1. Determine eligible agreements (FWAQ Header)
2. Press *Set Agreement*
3. Provide a reason code
4. Select agreement

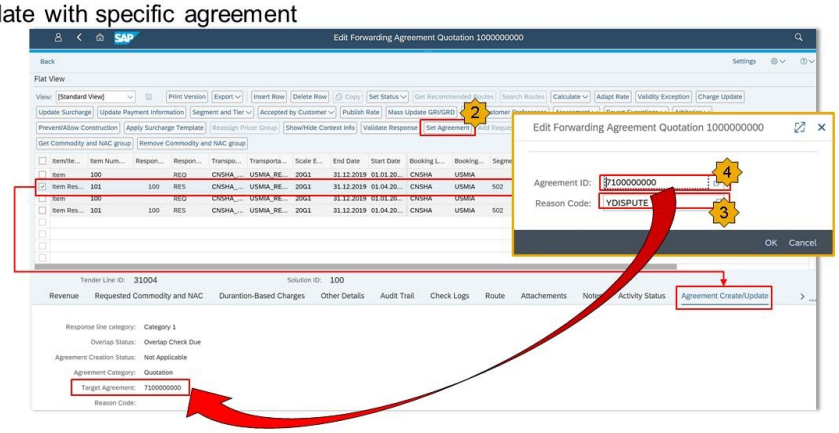



Figure 95: Forwarding Agreement Quotation: Response Line – Merge/ Update with Specific Eligible Agreement

**Adapt rate**: overwriting the sales-proposed rate with a standard tariff or an existing agreement. You can also overwrite the rates with the customer-requested rate

The *Calculate* option is provided to pull in charge structure and amounts from agreement, tariff and tariff for a given date

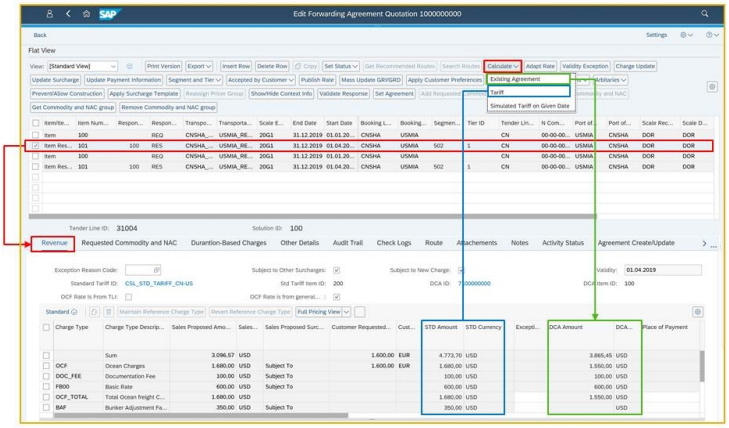



Figure 96: Forwarding Agreement Quotation: Response Line – Get Rates from Specific Agreement

**Adapt rate**: overwriting the sales-proposed rate with a standard tariff or an existing agreement. You can also overwrite the rates with the customer-requested rate

*Adapt* functionality copies either the agreement, tariff or customer-requested charge structure and amounts into the *Sales Proposed* column

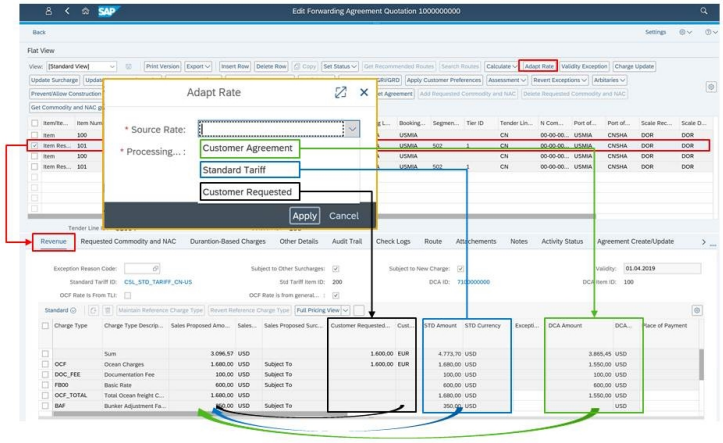



Figure 97: Response Line – Get Rates from Specific Agreement: Adapt Functionality

**Context Information** (Show/Hide Context Info)**:** Pricers can use the context information feature to get more information when building rates. Context information displays any other FWA and FWAQ that have the same…

Header data:
- Named Account
- Sales Organization

Tender line data:
- CODE for OCF rate
- Segment ID
- Equipment Type
- Pricing Trade ID
- DG/ OOG/ RORO/ BB Flag
- (within) Validity dates

…as the selected tender line

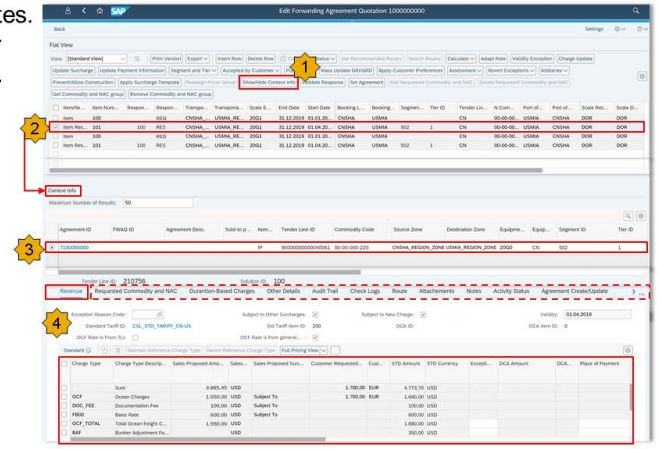



Figure 98: Forwarding Agreement Quotation: Response Line – View Previously Proposed Customer Rates

Request Line: Separate approval required for changes in tab

1. Set status
2. *Approve*

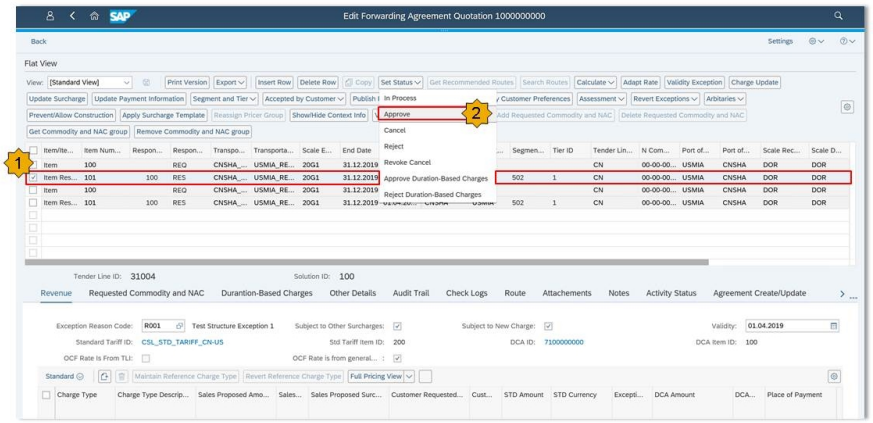



Figure 99: Forwarding Agreement Quotation: Response Line – Approvals

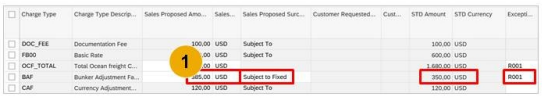
## Refresh Tariff Exceptions

REFRESH of Pricing Data Model

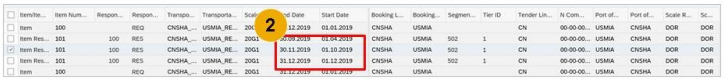
**Exception Processing in Bookings**

The charge calculation in booking only considers the charge types from the customer agreement for which an exception is taken during the quotation process and the explicit rates are maintained by the pricer and transferred to the relevant agreement. In all other cases, the system retrieves the rate from the standard tariff.

1. **Amount exception:** Exception to the standard tariff determined rate amount. Use an amount exception to manually change the sales-proposed amount in a response line. Reason code must be provided.




2. **Validity exception:** A validity exception is an exception to the validity start or end date of the response line. A variety of validity exceptions can be used to split a response line into one or more new lines with different validity periods.




3. **Tier & Segment exception:** A segment is an exception to the system determined segment and tier for the response line. Used to change the segment and tier ID in a response line.


4. **Structure exception:** Exception to the standard tariff determined surcharge condition on the charge type. Can be applied to a single or multiple response lines to add charge types to the response line. Reason code required.

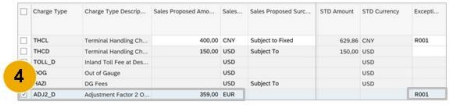



Figure 100: Refresh Tariff Exceptions: Manage Exceptions to Tariff

## LESSON SUMMARY

You should now be able to:

- Describe the flat view of a FWAQ
- Explain the CSL Route Generator and response lines
- Review tariff exceptions

Unit 6
Lesson 3

# Creating Forwarding Agreements

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain eligible agreements and target agreements
- Describe how to convert and merge FWAQ to FWA
- Describe the Revise Agreement and refresh General Rate Adjustment functionality

## Determination of Eligible Agreements

Determine a list of existing forwarding agreements that are eligible for conversion from the forwarding agreement quotation in the tab **Agreement Create/Update**.

The system determines the matching agreement for the current FWAQ by considering the following parameters:

1. Validity Dates
2. Business Partners
3. Activity Status (active only)
4. Carrier
5. Affiliate
6. Named Account

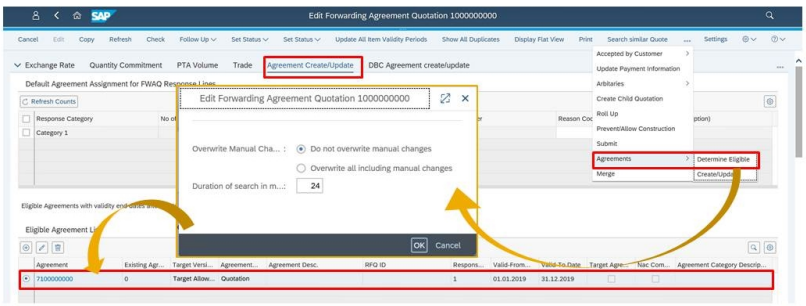



Figure 101: Determine Eligible Agreements

## Creation of Target Agreements

If there are no eligible FWAs, the system automatically creates a placeholder agreement number ($1) for a new FWA to be created. Where eligible agreements exist but a quotation should result in a new agreement, aplaceholder agreement can be created manually.

The $1 agreement is listed on the **Agreement Create/Update** tab in the eligible agreement list.

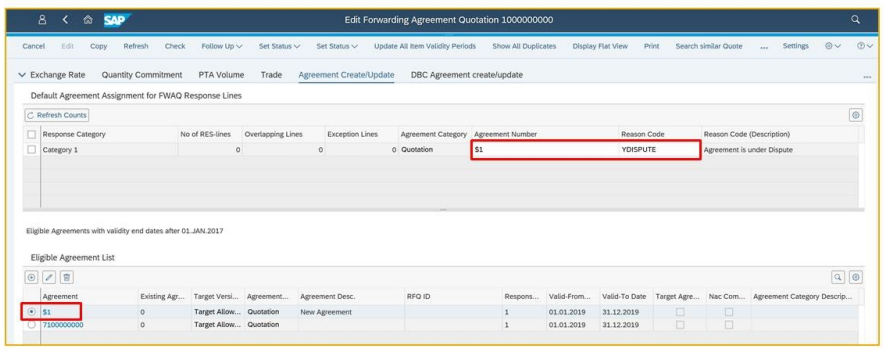



Figure 102: Creation of Target Agreements

## Target Agreement Functionality

Assign Target Agreement:
Assign specific forwarding agreements (FWA) to individual response lines in a forwarding agreement quotation (FWAQ). When the FWAQ is converted to a FWA, the individual response lines are added to the assigned FWA.

- Target agreement at response lines are set after Determine eligible action.
- Target Agreement can be changed via 'SET Agreement'.

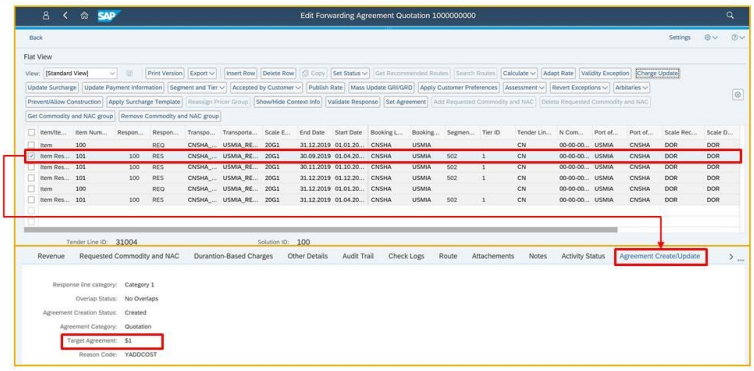



Figure 103: Target Agreement Functionality

## Checks when Merging Agreements

**Overlap check:** During the approval of the response line, the system performs an overlap check to discover similar rate lines in existing (eligible) agreements.

- If multiple overlaps are found, an error is generated.
- If just one overlap is found, the system allows the approval without error and the target agreement is changed.

**Duplicate check:** When approving response items or when converting quotations into agreements, the system performs a duplicate check for each individual item selected.

If duplicate response lines are found in the quotation, an error is generated.

If the overlap check and duplicate checks are successful:

- Agreement creation status is changed to allowed.
- Target Agreement flag is set in the Eligible List and that agreement appears in the DDSM tab.

Figure 104: Checks when Merging Agreements

## Quote to Agreement Conversion

FWAQ to FWA Conversion: This is the process to transfer/convert finalized response lines of quotation into a new forwarding agreement or to an exiting forwarding agreement.

**Process steps to create an agreement:**

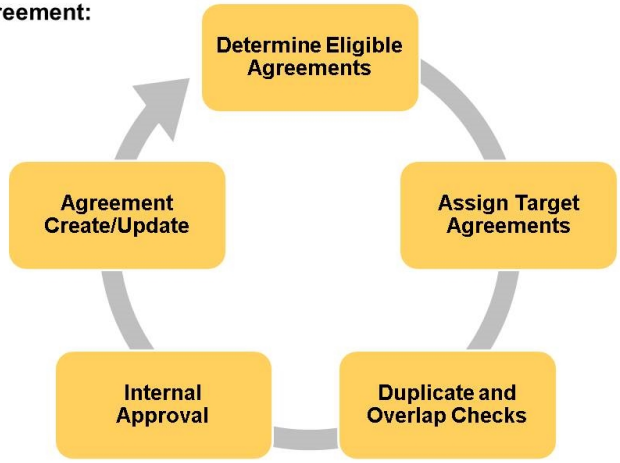



Figure 105: Quote to Agreement Conversion

## 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 forwarding agreement rate lines.

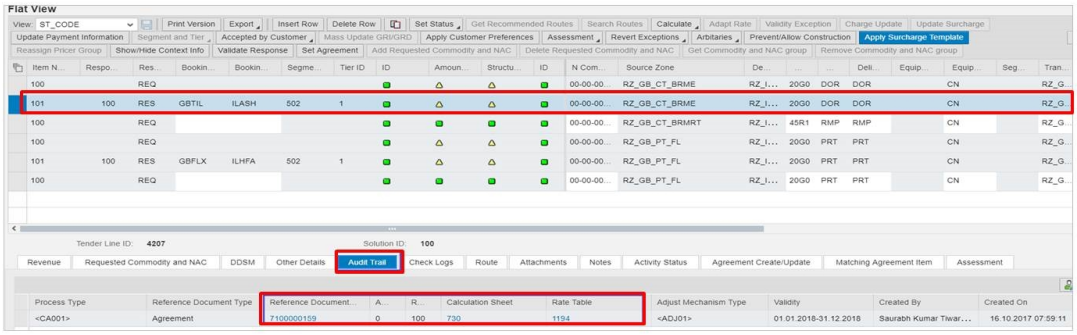



Figure 106: Audit Trail

## Revise Agreement

**Revise agreement:** It provides the facility to create a FWAQ from individual rate lines in the leading charge type rate table in a forwarding agreement. You can then amend the rates in the FWAQ before converting the FWAQ back to the same FWA.

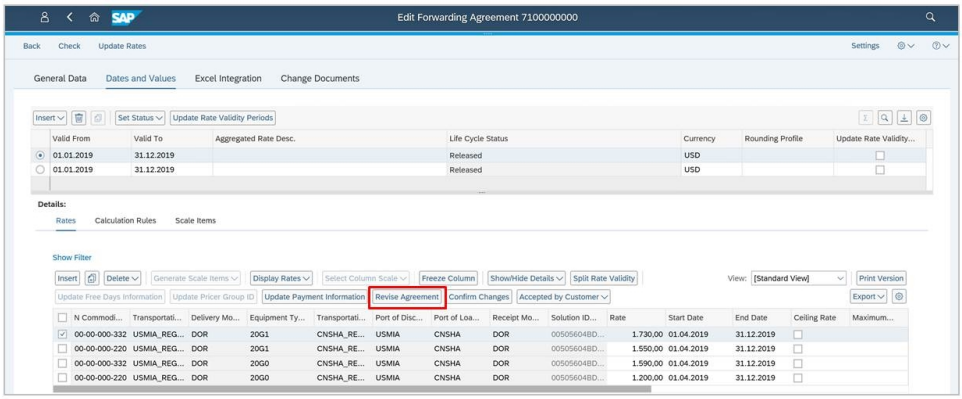



Figure 107: Forwarding Agreement: Revise Agreement

## Refresh General Rate Adjustment

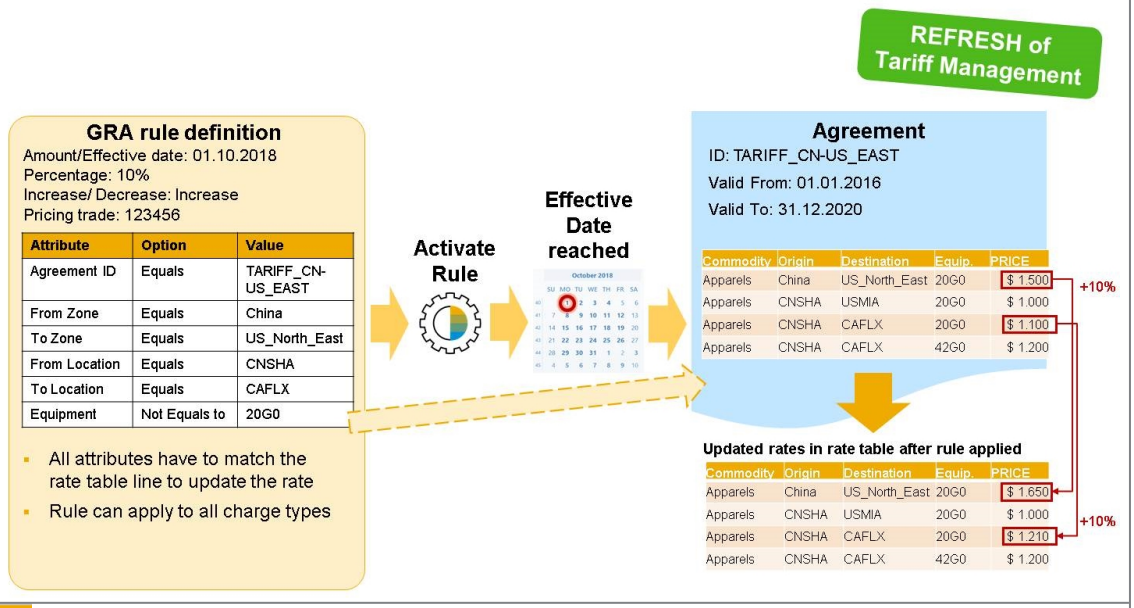



Figure 108: Refresh General Rate Adjustment

## LESSON SUMMARY

You should now be able to:

- Explain eligible agreements and target agreements
- Describe how to convert and merge FWAQ to FWA
- Describe the Revise Agreement and refresh General Rate Adjustment functionality

# Learning Assessment

1. What is the purpose of the RFQ Translator?

   *Choose the correct answer.*

   - ☐ A Translate incoming RFQ of any language into the end-user's language
   - ☐ B Translate incoming RFQ of any Microsoft EXCEL based structure into SAP Transportation Management Portfolio of Solutions for Container Shipping Lines like structures

2. Why is a route relevant before responding to an RFQ? Choose the correct answer.

   *Choose the correct answer.*

   - ☐ A The route is not relevant as it cannot be determined at time of quotation anyway
   - ☐ B Without information coming from undated routes, instrumental information are missing to come up with a response to the quote
   - ☐ C A route cannot be determined based on data coming from a quotation as for example, the concrete date is lacking

3. What information is included in a response line?

   *Choose the correct answers.*

   - ☐ A Route information and applicable tariff rates
   - ☐ B Manually adjusted rates including reason codes
   - ☐ C Existing forwarding agreements for the same customer

4. What are 'Eligible agreements'? Choose the right answer.

   *Choose the correct answer.*

   - ☐ A A forwarding agreement with ID '$1'
   - ☐ B List of all existing and valid forwarding agreements
   - ☐ C List of existing forwarding agreements that are eligible for conversion from a specific forwarding agreement quotation

5. How does the 'overlap check' work? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A It checks at the time of response line approval if there are similar rate lines in existing eligible forwarding agreements
   - ☐ B It rejects approval in case of one overlap detected
   - ☐ C It rejects approval in case of multiple overlaps detected

6. How does the 'duplicate check' work? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A It checks at time of response line approval if there are similar rate lines in existing eligible forwarding agreements
   - ☐ B It checks at time of forwarding agreement quotation conversion into forwarding agreements if there are duplicate rate lines in existing eligible forwarding agreements
   - ☐ C It allows approval in case of only one duplicate detected

7. What is logged in the audit trail of Forwarding Agreement Quotations? Choose the right answer.

   *Choose the correct answer.*

   - ☐ A Changes that have been done by users within the Forwarding Agreement Quotation
   - ☐ B Destination of response lines and origin of the Forwarding Agreement rate lines

8. What's the meaning of the abbreviation 'GRA' in the context of SAP Transportation Management Portfolio of Solutions for Container Shipping Lines?

   *Choose the correct answer.*

   - ☐ A Gender Recognition Act
   - ☐ B General Rate Adjustment
   - ☐ C Gamma Ray Astronomy

# Learning Assessment - Answers

1. What is the purpose of the RFQ Translator?

   *Choose the correct answer.*

   - [ ] A Translate incoming RFQ of any language into the end-user's language
   - [x] B Translate incoming RFQ of any Microsoft EXCEL based structure into SAP Transportation Management Portfolio of Solutions for Container Shipping Lines like structures

2. Why is a route relevant before responding to an RFQ? Choose the correct answer.

   *Choose the correct answer.*

   - [ ] A The route is not relevant as it cannot be determined at time of quotation anyway
   - [x] B Without information coming from undated routes, instrumental information are missing to come up with a response to the quote
   - [ ] C A route cannot be determined based on data coming from a quotation as for example, the concrete date is lacking

3. What information is included in a response line?

   *Choose the correct answers.*

   - [x] A Route information and applicable tariff rates
   - [x] B Manually adjusted rates including reason codes
   - [x] C Existing forwarding agreements for the same customer

4. What are 'Eligible agreements'? Choose the right answer.

   *Choose the correct answer.*

   - [ ] A A forwarding agreement with ID '$1'
   - [ ] B List of all existing and valid forwarding agreements
   - [x] C List of existing forwarding agreements that are eligible for conversion from a specific forwarding agreement quotation

5. How does the 'overlap check' work? Choose the right answers.

   *Choose the correct answers.*

   - [X] A It checks at the time of response line approval if there are similar rate lines in existing eligible forwarding agreements
   - [ ] B It rejects approval in case of one overlap detected
   - [X] C It rejects approval in case of multiple overlaps detected

6. How does the 'duplicate check' work? Choose the right answers.

   *Choose the correct answers.*

   - [X] A It checks at time of response line approval if there are similar rate lines in existing eligible forwarding agreements
   - [X] B It checks at time of forwarding agreement quotation conversion into forwarding agreements if there are duplicate rate lines in existing eligible forwarding agreements
   - [ ] C It allows approval in case of only one duplicate detected

7. What is logged in the audit trail of Forwarding Agreement Quotations? Choose the right answer.

   *Choose the correct answer.*

   - [ ] A Changes that have been done by users within the Forwarding Agreement Quotation
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   *Choose the correct answer.*

   - [ ] A Gender Recognition Act
   - [X] B General Rate Adjustment
   - [ ] C Gamma Ray Astronomy

# UNIT 7 Duration-Based Charging Functionality in FWAQ

**Lesson 1**



## UNIT OBJECTIVES

- Outline duration-based charging in quotations

Unit 7
Lesson 1

# Understanding Duration-Based Charging in Quotations

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Outline duration-based charging in quotations

## Planned and Actual Events

**Expected event:** Activities that are planned (expected) to happen. Sometimes called planned events. Examples include: Container Gate-in/ Gate-out, vessel arrival/departure, BL release, invoice paid.

**Reported event:** Reported when the event actually happens. Can be before, after or at the date/time it was expected.

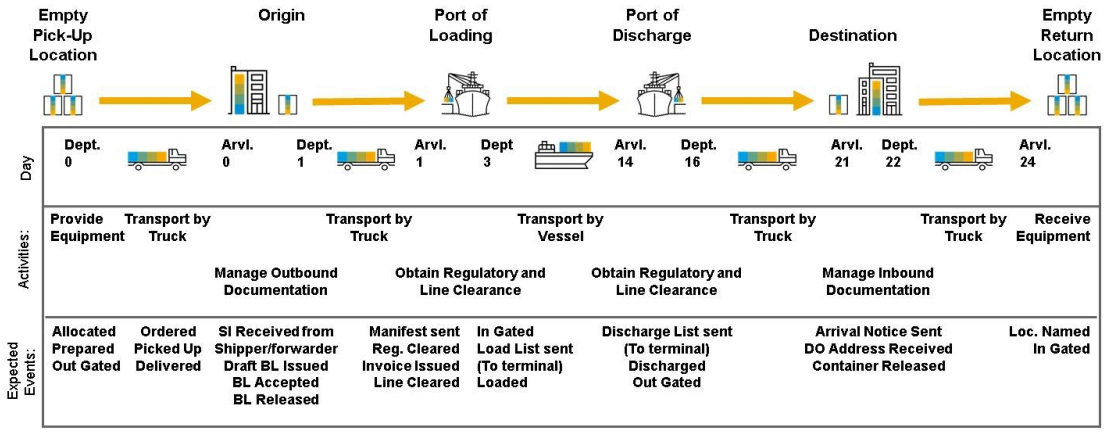
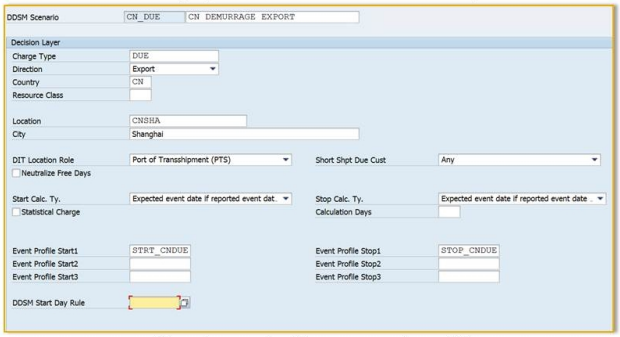



Figure 109: Duration-Based Charges (in) Quotation: Planned and Actual Events

## Duration-Based Charging Scenario with an Example of Detention/Demurrage

Duration-Based Charging (example of **Detention/ Demurrage**) scenario can be defined per

- Direction (*Imp.*, *Exp.*, *Transit*)
- Country
- Location
- Location type
- City
- Movement type
- Stuffing on quay
- Charge type (such as storage, monitoring, demurrage, detention)
- Resource family (such as reefer, dry, special, and so on)
- COD service after manifest creation date
- Short shipment due to customer fault
- Customs location role (such as Provisioning Depot, Port of Loading, (Inland) Ramp)




Event Profile at the example of "Gate-In at POL" event" for Demurrage Export

Figure 110: Duration-Based Charging Scenario Setup for Detention/Demurrage

## Event Profile for Duration-Based Charging with an Example of Detention/ Demurrage

Events can be assigned to **event profiles** and calculation type. Each event can be either *Expected* or *Reported*. It is mandatory to enter at least one *Expected* event.

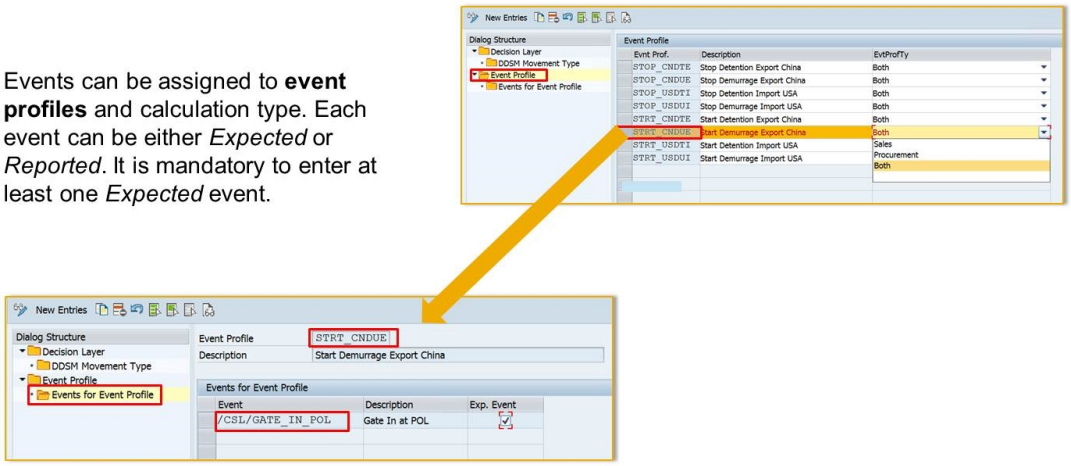



Figure 111: Duration-Based Charges (in) Quotation: Example of an Event Profile for Detention/Demurrage

## Response Line Including DDSM Charges

**DDSM** tab at Response Line: shows DDSM Tariff free days details

Number of Free days, validity and definition of chargeable days (calendar/ working) by providing reason code

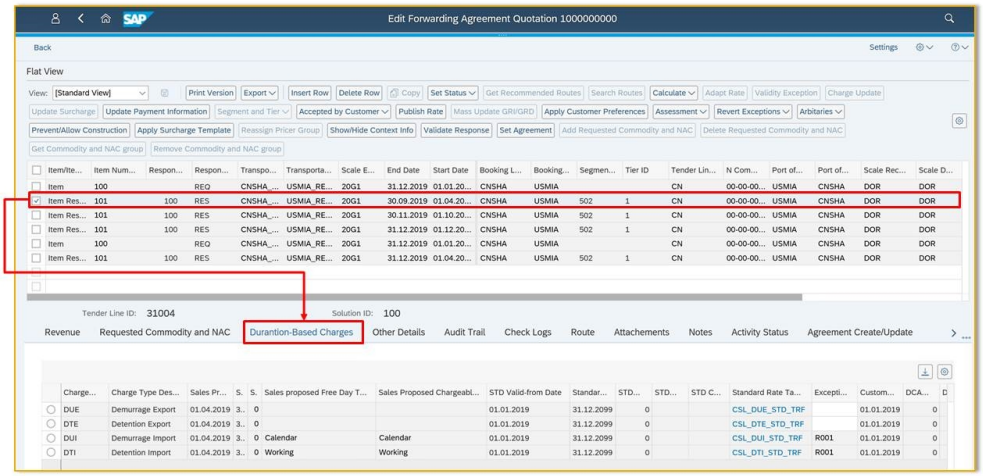



Figure 112: DDSM Free Days Details on Response Line

Request Line: DDSM charges and exceptions can be added at the forwarding agreement quotation response line.

Separate approval is required for changes in the tab DDSM.

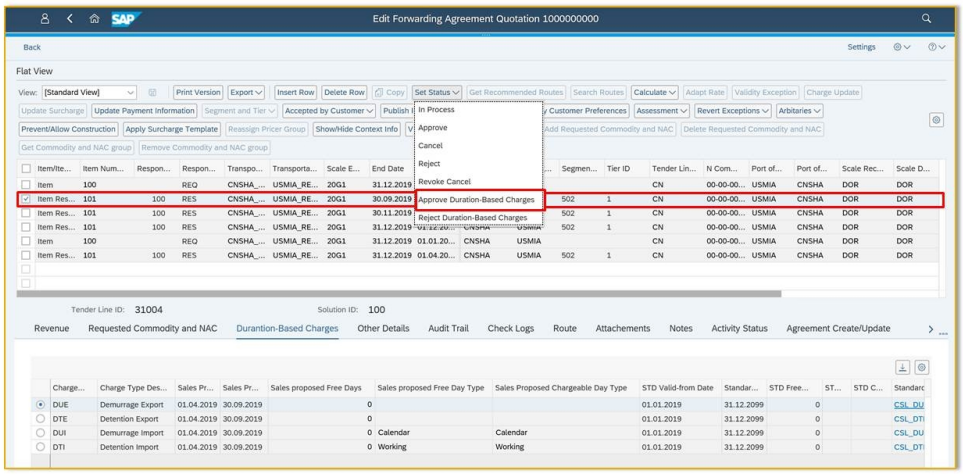



Figure 113: Duration-Based Charges (in) Quotation: DDSM Approvals for Response Line

## DDSM Eligible Agreement Functionality

The **DDSM Eligible Agreement** tab on the header of the forwarding agreement quotation lists the agreements that are eligible for DDSM charges. You can update eligible agreements in the list or add agreements to the list.

DDSM charges and exceptions can be added at the forwarding agreement quotation header level.

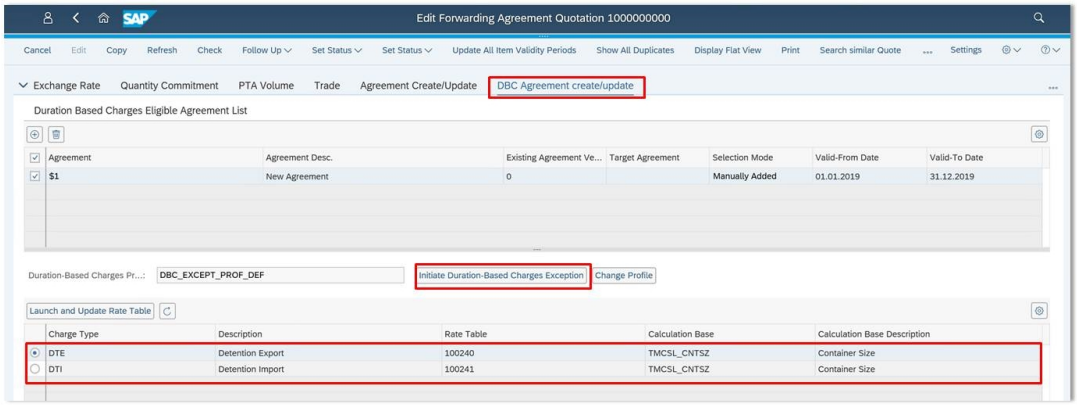



Figure 114: DDSM Eligible Agreement Functionality

## DDSM Exception Profile

This is a master data object used to maintain the Named Accounts, Business Partner and DDSM relevant charges.

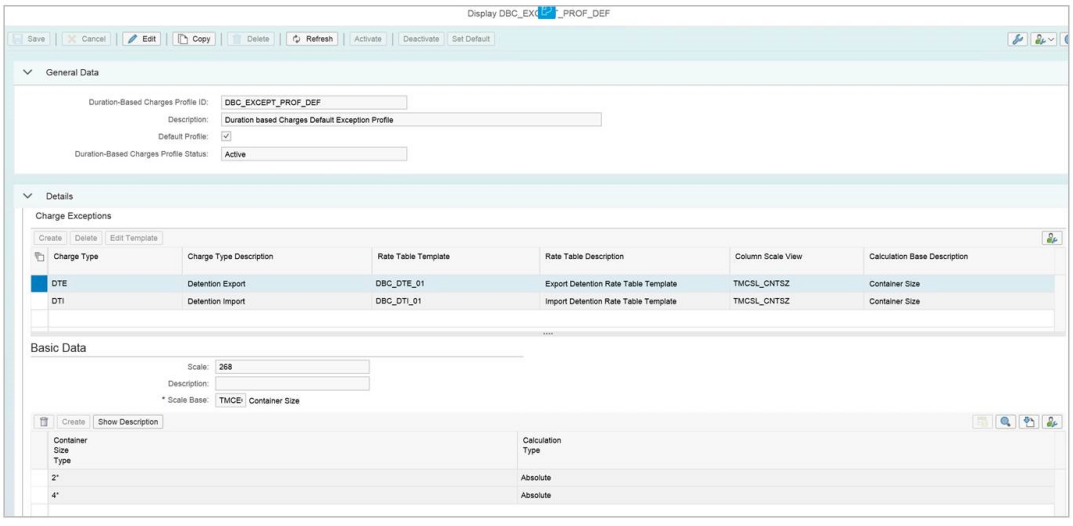



Figure 115: Duration-Based Charges (in) Quotation: DDSM Exception Profile

## Use of Exception Profile and Free Days in FWAQ

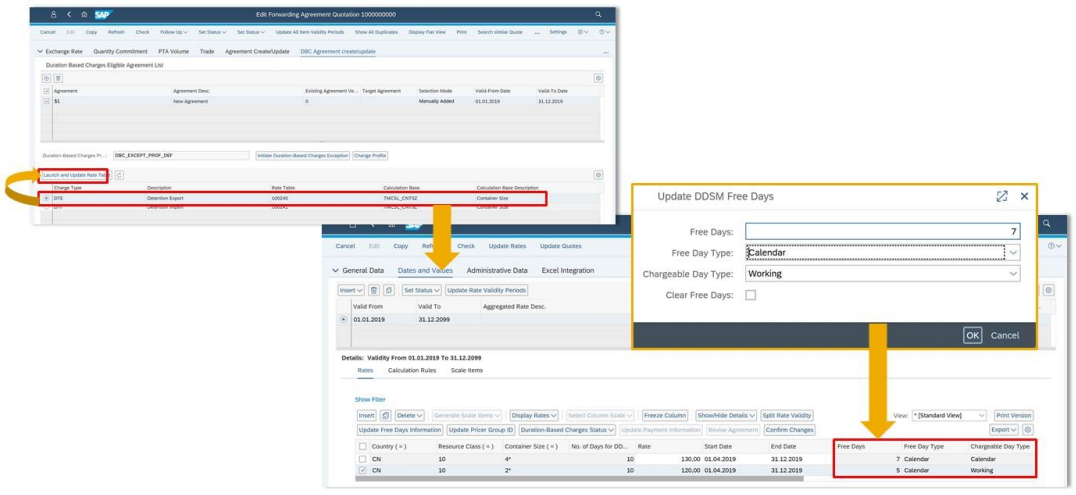



Figure 116: Duration-Based Charges (in) Quotation: DDSM Charge Exception Definition on Quotation Header Level

## DDSM Status

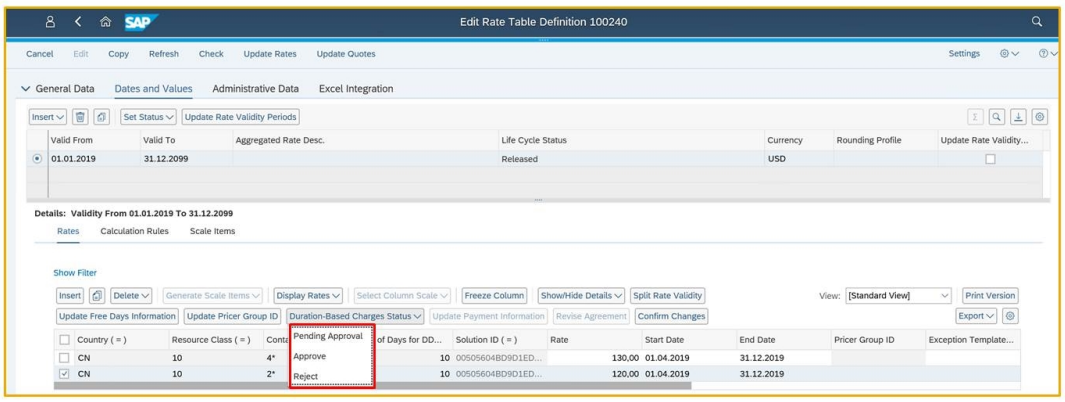



Figure 117: Duration-Based Charges (in) Quotation: DDSM Status

## Quote to Agreement Conversion (DDSM)

Changes on DDSM tariff information on the response line level require DDSM approval.

**Process steps to create an agreement:**

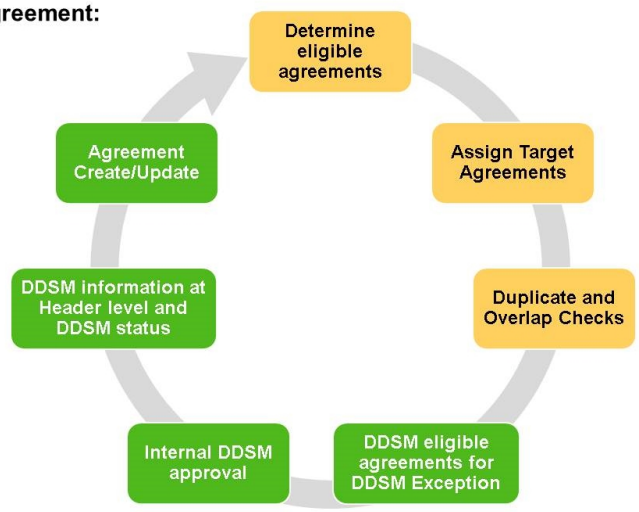



Figure 118: Quote to Agreement Conversion (DDSM)

## LESSON SUMMARY

You should now be able to:

- Outline duration-based charging in quotations

# Learning Assessment

1. Which of the following are examples of duration based charges? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A Storage costs for containers
   - ☐ B Costs for vessel waiting time before berthing
   - ☐ C Detention respective demurrage costs

2. Are duration based charges transferred into a Forwarding Agreement?

   *Choose the correct answer.*

   - ☐ A Yes. Duration based charges are part of the Forwarding Agreement that contains other charges
   - ☐ B Yes. Duration based charges will land in specific Forwarding Agreement for such charges only

# Learning Assessment - Answers

1. Which of the following are examples of duration based charges? Choose the right answers.

   *Choose the correct answers.*

   - [X] A Storage costs for containers
   - [ ] B Costs for vessel waiting time before berthing
   - [X] C Detention respective demurrage costs

2. Are duration based charges transferred into a Forwarding Agreement?

   *Choose the correct answer.*

   - [ ] A Yes. Duration based charges are part of the Forwarding Agreement that contains other charges
   - [X] B Yes. Duration based charges will land in specific Forwarding Agreement for such charges only

# UNIT 8 A Complete DD FCL Booking

UNIT OBJECTIVES

- Describe standard booking types and the booking life cycle
- Locate booking statuses on the Status Tab
- Open a DD FCL booking
- Review container item information in the booking
- Review package item information in the booking
- Review line items in the booking
- Give an overview of the Generic Validation Framework
- Outline the process of container availability checks
- Explain how the VSF generates a route
- Review route proposals and select one route
- Describe forwarding agreements and tariffs
- Calculate charges based on the agreement and booking data
- Confirm a booking
- Review manifests
- Generate a trip plan
- Outline freight settlement for VAS and port or vessel services
- Describe cargo readiness statuses
- Explain shipping instructions
- Describe standard B/L types
- Review the B/L life cycle
- Locate B/L statuses on the Status tab
- Explain port operations
- Explain transshipment and import port operations

Unit 8
Lesson 1

# Describing the Life Cycle of a Booking

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe standard booking types and the booking life cycle
- Locate booking statuses on the Status Tab

## Standard Booking Types

Figure 119: High Level Process Flow Order Entry and Booking Receipt

Checks and follow-up as well as exception processes can be defined per booking type, such as DIT, diversion or other document types, release order type, whether the ordered route should be determined, HBL number range definition, or which checks are relevant to set the booking to confirmed.

Change View "Booking Type": Overview

New Entries

Booking Type

| BookingTy. | Booking Type Description |
|---|---|
| 01 | Commercial |
| 02 | Government |
| 03 | Non Commerical |
| 04 | Laden-Inland |
| 05 | Settlement |

- ✓ Commercial bookings are bookings for which a customer shall be invoiced. They include non-vessel operating common carrier (NVOCC), household, and non-profit (NPO) bookings.
- ✓ The Government bookings are placed by an governmental authority.
- ✓ Non-commercial bookings can be for empty container reposting or containers with spare parts for own usage by the vessel operator and/or owner.
- ✓ For inland or intermodal transport requests, laden-inland bookings are created. All other booking types must have an ocean leg involved.
- ✓ Settlement bookings are created solely for the purpose of invoice creation and no planning or execution is involved.

Figure 120: Standard Booking Types

Various booking subtypes can exist. Each booking subtype can be assigned to one booking type.

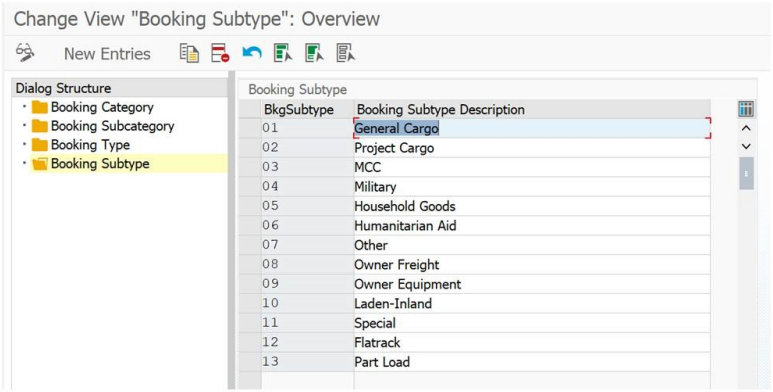



Figure 121: Standard Booking Types: Subtypes

## The Booking Life Cycle

| Life Cycle Status | Description |
|---|---|
| **New** | Initial status. |
| **Draft** | The Booking has been saved in draft. |
| **Pending Confirmation** | Booking can't be confirmed.<br>• GVF (approvals required, PnR check failed, etc.)<br>• Equipment unavailable |
| **Confirmed** | The booking has been confirmed successfully to the customer. Shipping instructions can be processed. |
| **Completed** | The (draft) bill of lading is produced. |
| **Canceled** | The booking has been canceled (considering constrictions). |
| **Pending Cancellation** | The cancellation process is blocked by follow-up actions. The booking shall be cancelled once the follow-up actions are completed. |
| **Discarded** | The booking won't be reused, and the discarded status can't be changed. A booking with the discarded status can be archived. |


Figure 122: The Booking Life Cycle

## The Status Tab in Booking

The Status tab lists all booking, operational and financial statuses that can be checked. General status values include:

- Not Checked
- Passed
- Failed
- Not required

(or similar)

Values that influence the status can be received from external systems. Some status can be set from outside CSL via API

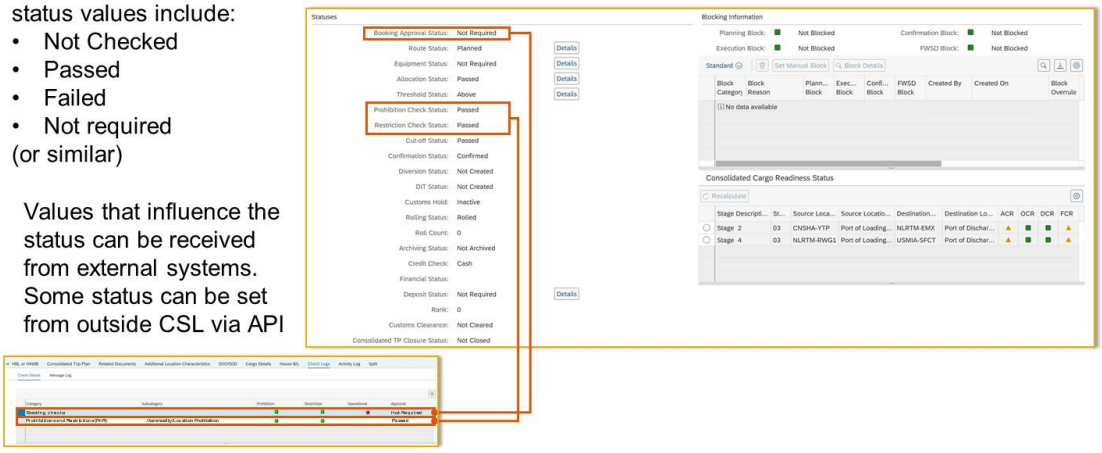



Figure 123: Status Overview in Booking

**LESSON SUMMARY**

You should now be able to:

- Describe standard booking types and the booking life cycle
- Locate booking statuses on the Status Tab

# Opening a DD FCL Booking

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Open a DD FCL booking
- Review container item information in the booking
- Review package item information in the booking
- Review line items in the booking

## Cargo Item Information in Booking

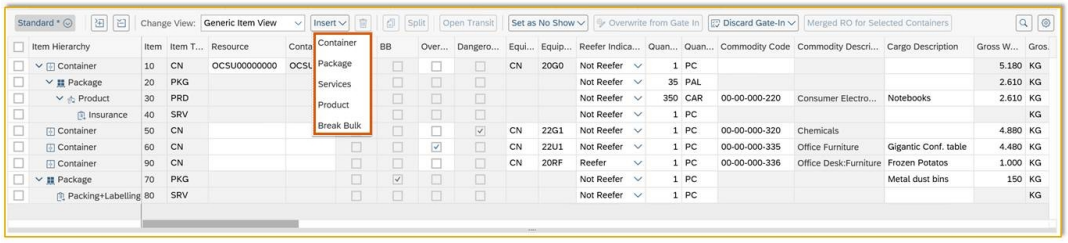
A booking contains information about the requested transportation of cargo.

| Equipment Type | Quantity Unit of... | Quantity | Gross Weight | Gross Weight U... | Gross Volume | Gross Volume... | Net Weight | Net Weight UoM |
|---|---|---|---|---|---|---|---|---|
| 20G0 | PC | 1 | 5.180 | KG | | M3 | 2.610 | KG |
| | PC | 1 | 150 | KG | 0,000001 | M3 | 150 | KG |
| 22G1 | PC | 1 | 4.880 | KG | | M3 | 2.310 | KG |
| 22U1 | PC | 1 | 4.480 | KG | | M3 | 1.910 | KG |
| 20RF | PC | 1 | 1.000 | KG | | M3 | | KG |

Figure 124: Cargo Item Information in Booking

## Cargo Types in Booking

Customizable cargo item types allow the usage of multiple cargo types in bookings.




After booking confirmation, the shipping instructions, containing all the details of cargo (packages, products, and so on), can be processed and the draft bill of lading is produced.

Figure 125: Cargo Types in Booking

## Container Details in Booking

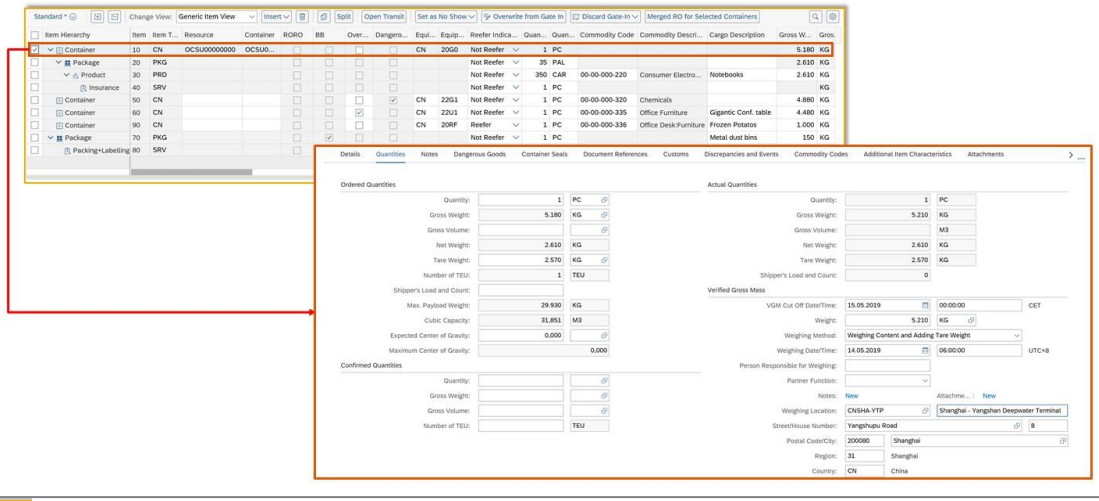


Figure 126: Container Details in Booking

## Package Details in Booking

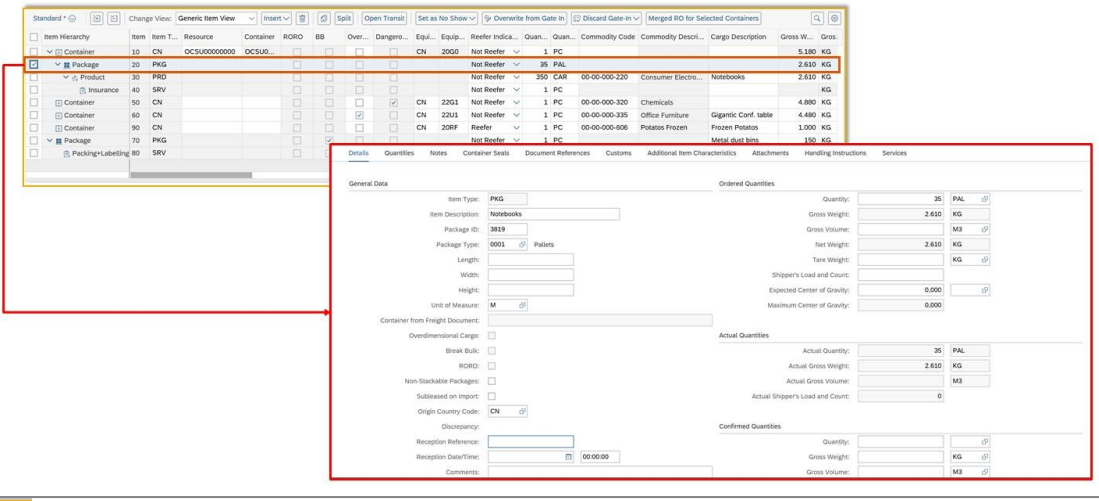


Figure 127: Package Details in Booking

## Dangerous Goods Details in Booking

Automatic dangerous goods identification of booking item based on commodity code setting. Additional DG check system can be integrated, for example, SAP EH&S for Classification (Text) and DG compliance during loading/ unloading, transport, storage and packing, DG document generation.

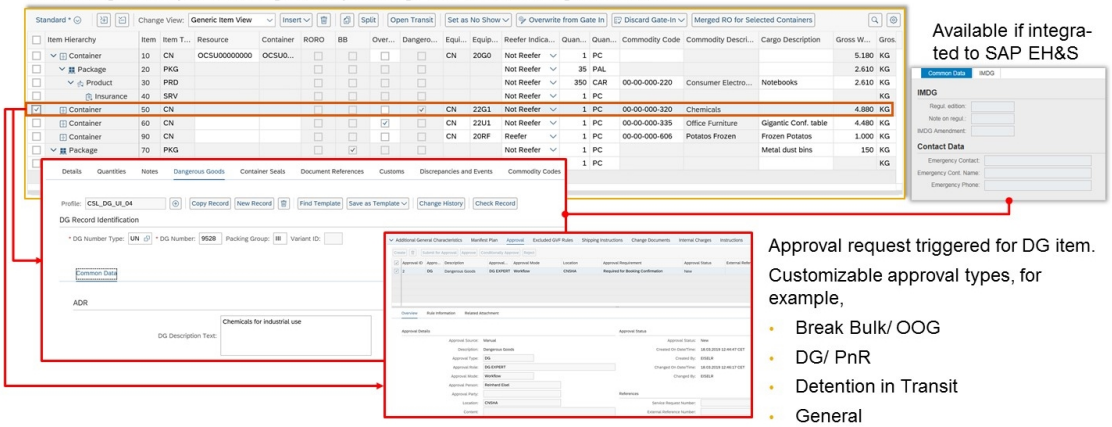



Figure 128: Dangerous Goods Details in Booking

## Out-of-Gauge Details in Booking

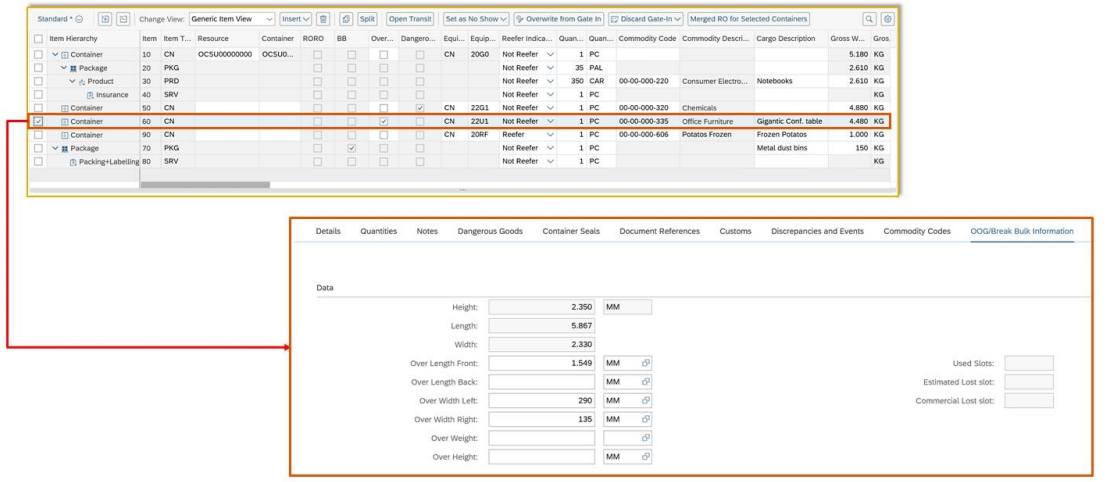


Figure 129: OOG Details in Booking

## Ro-Ro, Vehicle, and Reefer Details in Booking

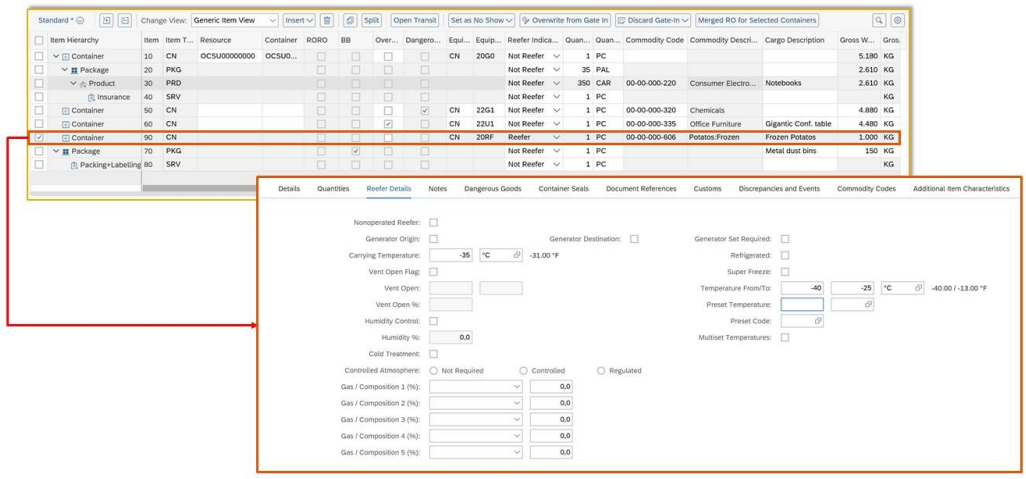



Figure 130: OOG Details in Booking

## Break Bulk Details in Booking

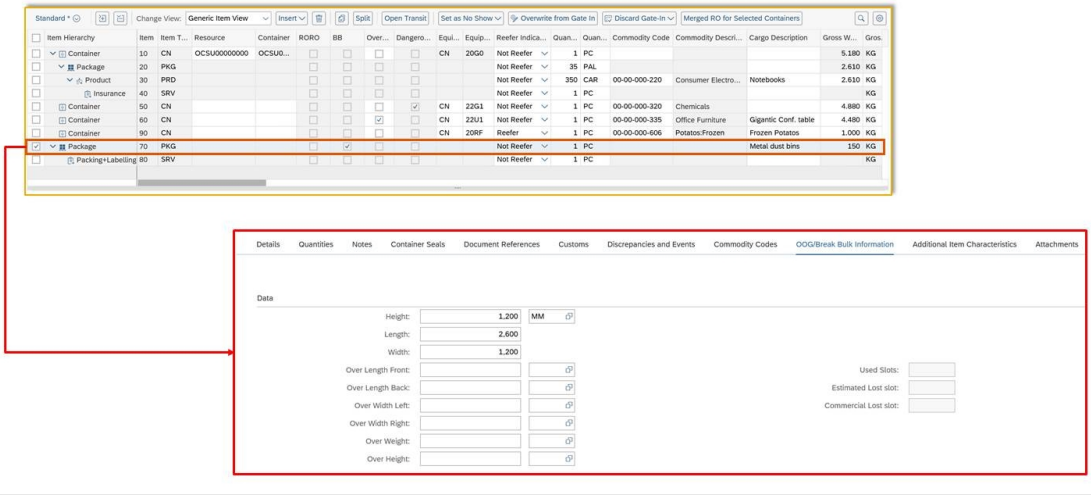



Figure 131: Break Bulk Details in Booking

## Service Details in Booking

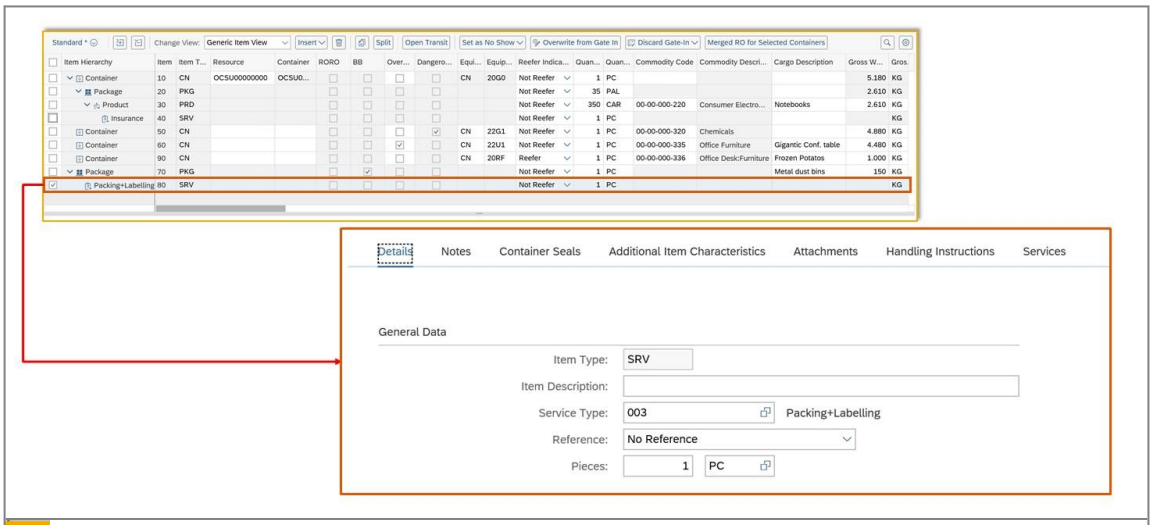



Figure 132: Service Details in Booking

## LESSON SUMMARY

You should now be able to:

- Open a DD FCL booking
- Review container item information in the booking
- Review package item information in the booking
- Review line items in the booking

Unit 8
Lesson 3

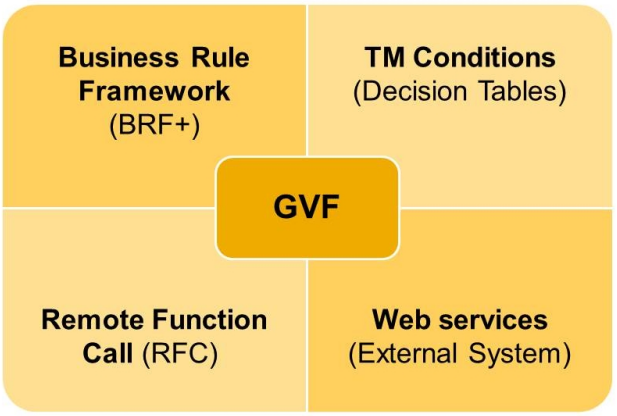
# Explaining the Generic Validation Framework

**LESSON OBJECTIVES**
After completing this lesson, you will be able to:

- Give an overview of the Generic Validation Framework

## The Generic Validation Framework (GVF)

The Generic Validation Framework (GVF) executes customizable business rules, and messages (successful, warnings and errors) are logged. Approval Items can be created. The GVF rules are executed at save or check of the booking.




Samples of GVF rules:

- Compliance checks
- Prohibition and restriction checks
- Approval items
- Booking confirmation rules

Figure 133: Generic Validation Framework

**LESSON SUMMARY**
You should now be able to:

- Give an overview of the Generic Validation Framework

# Performing Container Availability Checks

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Outline the process of container availability checks

## Empty Provision and Empty Return

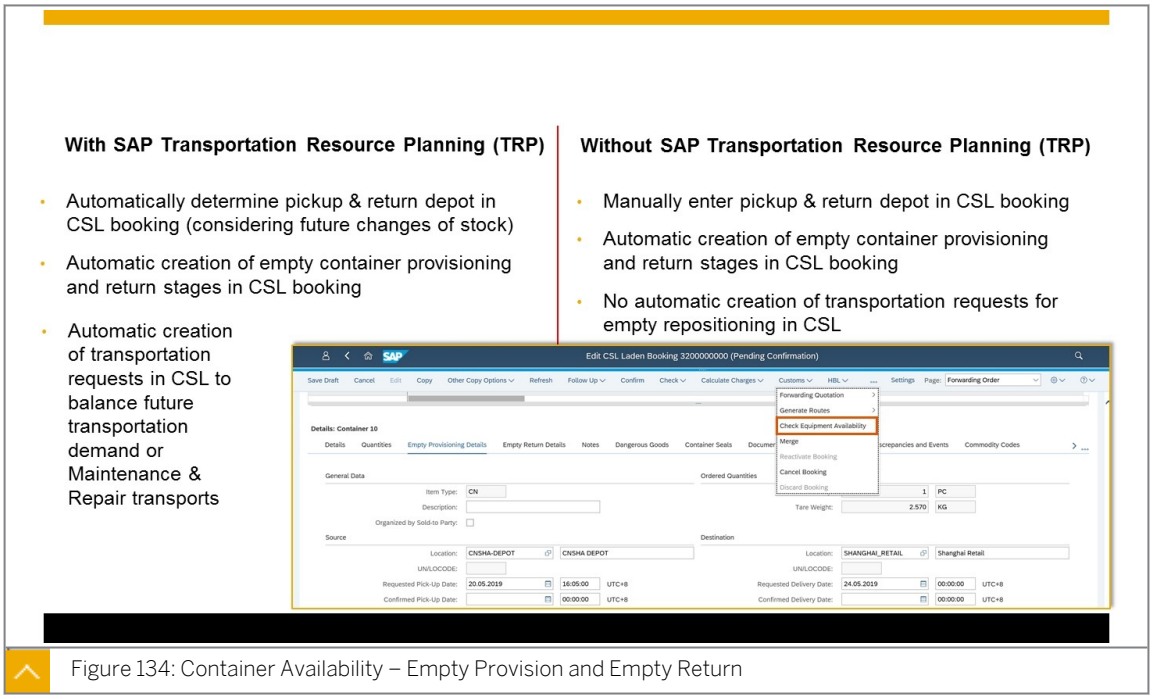



Figure 134: Container Availability – Empty Provision and Empty Return

## The Transportation Resource Life Cycle

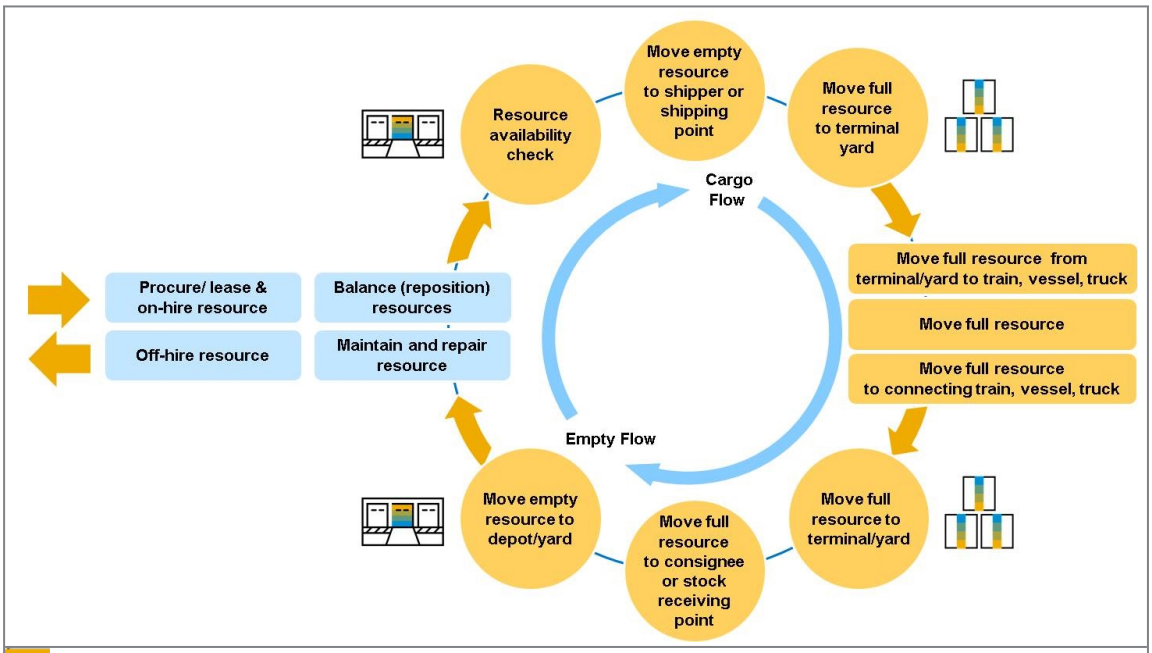



Figure 135: The Transportation Resource Lifecycle

## LESSON SUMMARY

You should now be able to:

- Outline the process of container availability checks

Unit 8
Lesson 5

# Determining the Route with the Voyage Suggestion Framework

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain how the VSF generates a route
- Review route proposals and select one route

## The Voyage Suggestion Framework

The **Voyage Suggestion Framework** (VSF) is a services calling framework that schedules separate tasks in order to generate valid route proposals.

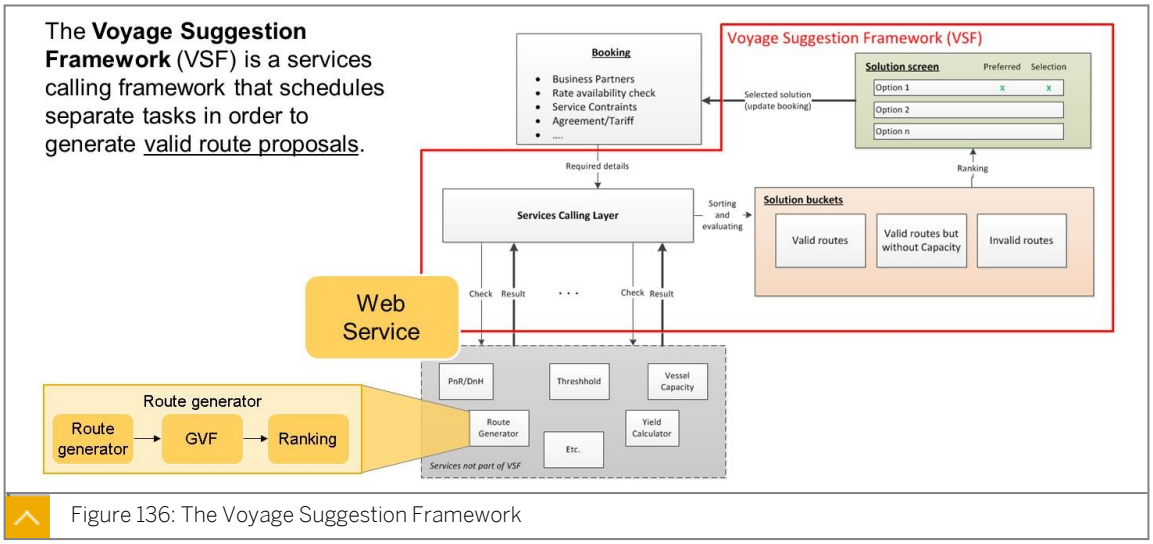



Figure 136: The Voyage Suggestion Framework

## Automatic End-to-End Routing

**Default route definitions**

**Route determination with various criteria**

- Number of transshipments
- Preferred, excluded relay ports
- Preferred carriers, trade & brand

**Routing generator**

- Integrated route determination
  - Product Catalog (CSL Service Product)
  - Quotation
  - Booking
  - Re-plan
- Prohibitions and restrictions (GVF)
- Dangerous and hazardous checking (GVF)
- Ranking
- Capability for partial route determination to recover in-transit delay or missed connections (replan)

**Route Validator**

- Connection Time Validator

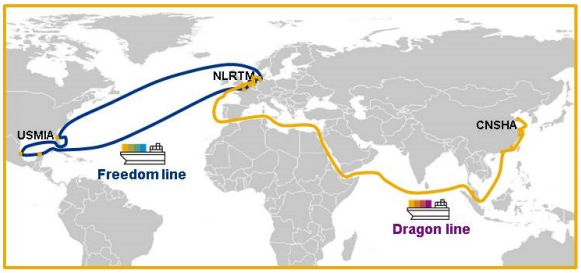
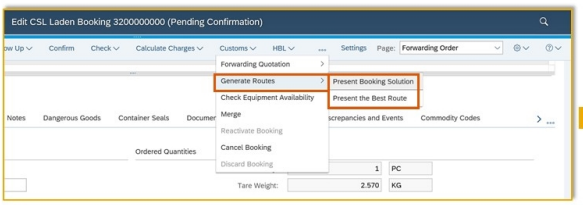
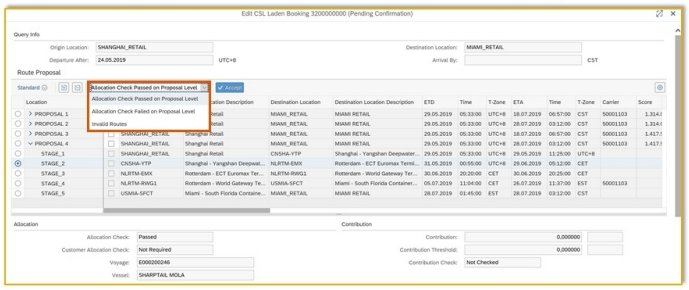



Figure 137: Automatic End-to-End Routing

## Route Determination in a Booking and B/L




**Services Calling Layer**
(Stitches all voyages and inland lanes to end-to-end route. Evaluates each route option against various checks such as DnH, PnR, allocation and so on, and ranks the valid routes)



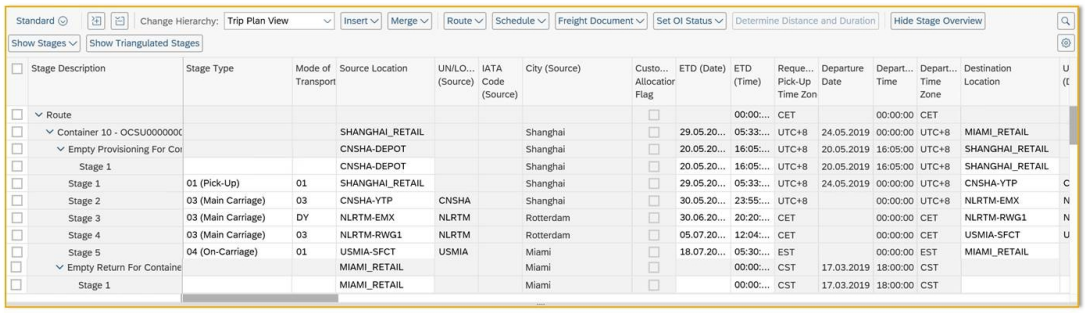
All valid routes are presented to the user in a ranked sequence and assigned to one of the following categories available as drop-down menu:

- Route passed allocation check
- Route failed allocation check
- Invalid routes

Figure 138: Voyage Suggestion Framework: Route Determination in Booking and BL

## Route Selection Result in a Booking and B/L

The actual route section in the booking or B/L is updated considering the route information selected during route determination.




| Stage Description | Stage Type | Mode of Transport | Source Location | UN/LO... (Source) | IATA Code (Source) | City (Source) | Custo... Allocation Flag | ETD (Date) | ETD (Time) | Reque... Pick-Up Time Zon | Departure Date | Depart... Time | Depart... Time Zone | Destination Location | U (D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Route | | | | | | | | | 00:00:... | CET | | 00:00:00 | CET | | |
| Container 10 - OCSU0000000 | | | SHANGHAI_RETAIL | | | Shanghai | | 29.05.20... | 05:33:... | UTC+8 | 24.05.2019 | 00:00:00 | UTC+8 | MIAMI_RETAIL | |
| Empty Provisioning For Cor | | | CNSHA-DEPOT | | | Shanghai | | 20.05.20... | 16:05:... | UTC+8 | 20.05.2019 | 16:05:00 | UTC+8 | SHANGHAI_RETAIL | |
| Stage 1 | | | CNSHA-DEPOT | | | Shanghai | | 20.05.20... | 16:05:... | UTC+8 | 20.05.2019 | 16:05:00 | UTC+8 | SHANGHAI_RETAIL | |
| Stage 1 | 01 (Pick-Up) | 01 | SHANGHAI_RETAIL | | | Shanghai | | 29.05.20... | 05:33:... | UTC+8 | 24.05.2019 | 00:00:00 | UTC+8 | CNSHA-YTP | C |
| Stage 2 | 03 (Main Carriage) | 03 | CNSHA-YTP | CNSHA | | Shanghai | | 30.05.20... | 23:55:... | UTC+8 | | 00:00:00 | UTC+8 | NLRTM-EMX | N |
| Stage 3 | 03 (Main Carriage) | DY | NLRTM-EMX | NLRTM | | Rotterdam | | 30.06.20... | 20:20:... | CET | | 00:00:00 | CET | NLRTM-RWG1 | N |
| Stage 4 | 03 (Main Carriage) | 03 | NLRTM-RWG1 | NLRTM | | Rotterdam | | 05.07.20... | 12:04:... | CET | | 00:00:00 | CET | USMIA-SFCT | U |
| Stage 5 | 04 (On-Carriage) | 01 | USMIA-SFCT | USMIA | | Miami | | 18.07.20... | 05:30:... | EST | | 00:00:00 | EST | MIAMI_RETAIL | |
| Empty Return For Containe | | | MIAMI_RETAIL | | | Miami | | | 00:00:... | CST | 17.03.2019 | 18:00:00 | CST | | |
| Stage 1 | | | MIAMI_RETAIL | | | Miami | | | 00:00:... | CST | 17.03.2019 | 18:00:00 | CST | | |

Figure 139: Voyage Suggestion Framework Route Selection Result in Booking and B/L

## LESSON SUMMARY

You should now be able to:

- Explain how the VSF generates a route
- Review route proposals and select one route

Unit 8
Lesson 6

# Calculating Charges in a Booking

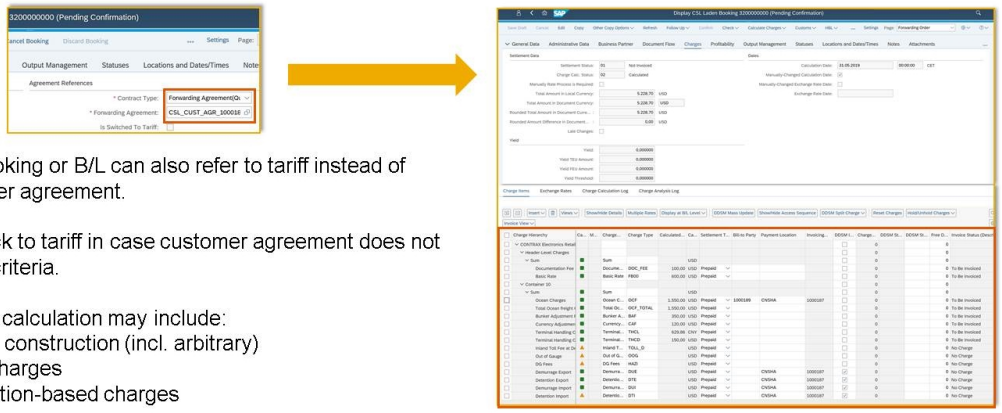
**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Describe forwarding agreements and tariffs
- Calculate charges based on the agreement and booking data

## Forwarding Agreement and Tariff

When the charge calculation has been executed, (automatically done after trigger VSF), the **Charges** tab shows all charges as of the tariff or forwarding agreement mentioned in the booking.




The booking or B/L can also refer to tariff instead of customer agreement.

Fall back to tariff in case customer agreement does not match criteria.

Charge calculation may include:
- Rate construction (incl. arbitrary)
- Surcharges
- Duration-based charges

Figure 140: Charge Calculation in Booking or B/L -- Forwarding Agreement and Tariff

## Ordered Route, Actual Route and Pricing Route

- The pricing route may differ from the ordered route and physical, or actual, route.
- If the tariff or customer agreement does not offer a through rate, OCF arbitrary rates and inland rates are used to construct a rate (pricing route).
- For inland rate construction, the system will reference the actual route to connect an origin to a destination.

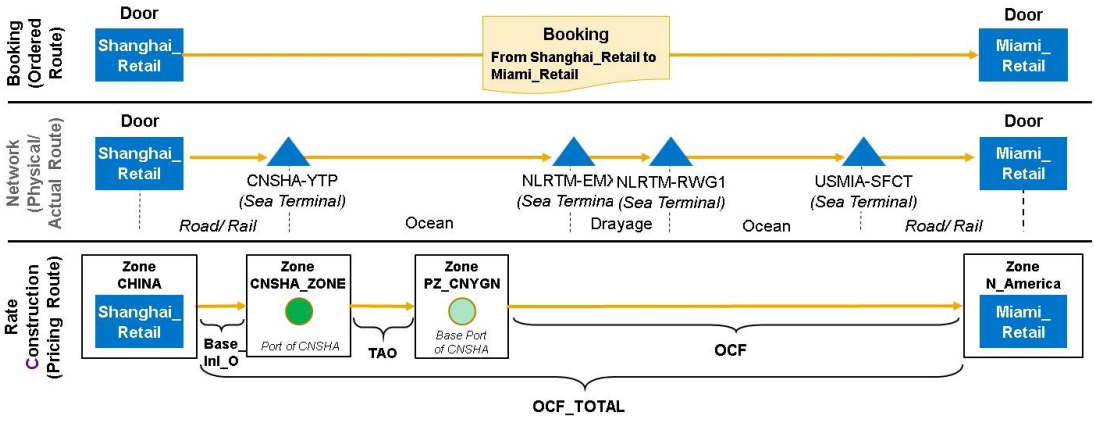



Figure 141: Charge Calculation in Booking or B/L -- Ordered Route, Actual Route and Pricing Route

## LESSON SUMMARY

You should now be able to:

- Describe forwarding agreements and tariffs
- Calculate charges based on the agreement and booking data

# Confirming a Booking

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Confirm a booking

## Confirmation of Booking

A booking is confirmed once accepted by both the ordering party and the carrier. As part of the confirmation process, the system performs a number of validation checks:

| Status Check | Customizing Setting | Description |
|---|---|---|
| **Route Status** | Relevant | The booking can only be confirmed if the route status is Planned. |
| **Charge Calculation Status** | Calculated | The booking can be confirmed only when the charge calculation status is Calculated. |
| | Calculated or Calculation Error | The booking can be confirmed when the charge calculation status is Calculated or Calculation Error. |
| **Equipment Status** | Available or Substituted | The booking can only be confirmed when the equipment availability status is Available, or Substituted. |
| **Threshold Status** | Above / Below | The booking can be confirmed when threshold status is Above or Below. |
| **Prohibition Status** | Relevant | The booking can only be confirmed when the prohibition status is Passed. |
| **Restriction Status** | Relevant | The booking can be confirmed only when the restriction status is Passed. |
| **Booking Approval Status** | Relevant | The booking can only be confirmed when the booking approval status is Not Required, Approved, or Conditionally Approved. |
| **Allocation Status** | Relevant | The booking can only be confirmed when the allocation status is Passed. |
| **A check might be "Not Required". In this case, the check is not conducted.** | | |

If all confirmation checks are successful, the system assigns the container units to the manifest, consumes the allocated capacity, and a trip plan is created. The status of the booking is changed to Confirmed.

Figure 142: Booking Confirmation

## LESSON SUMMARY

You should now be able to:

- Confirm a booking

Unit 8
Lesson 8

# Generating a Manifest

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Review manifests

## The Manifest

- Customs, port, border, and other authorities of all countries across the globe have different regulatory requirements for cargo entering their country, leaving their country, and moving within their territory.
- The Manifest Profile lists these requirements and stores manifest documents (for example, export manifest, import manifest and so on) and documenting rule required for a particular business partner at a particular location.

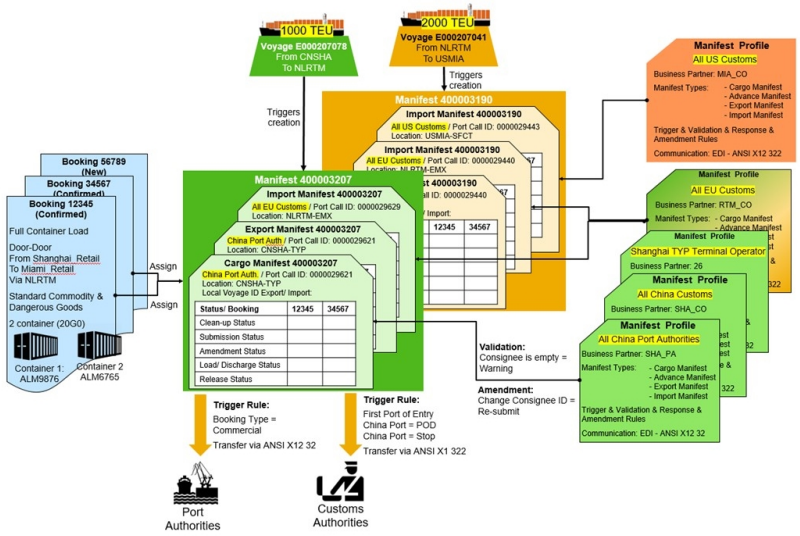



Figure 143: Manifest Introduction

## LESSON SUMMARY

You should now be able to:

- Review manifests

# Creating a Trip Plan

**LESSON OBJECTIVES**

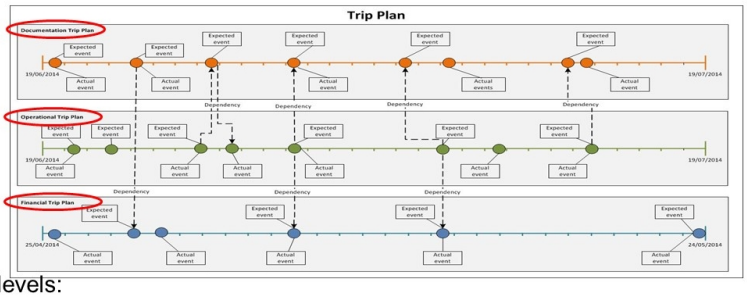
After completing this lesson, you will be able to:

- Generate a trip plan

## Views of the Trip Plan

At booking confirmation, a trip plan is created for each line item of the booking. A plan of expected events is created based on locations, cargo, equipment, planning, legal requirements, customer and so on. Every planned event can be initiated into different activity area (Documentation, Financial, Operational).

- It is used to view the planning/execution on consolidated on booking/BL and cargo unit level.
- It is the central collection point of all execution steps.




The trip plan is used for tracking cargo from origin to destination on the following levels:

- Operational (from first to last operational move)
- Documentation (from first to last document created)
- Financial (from first to last financial transaction)

Figure 144: Views of the Trip Plan

## The Monitoring and Alerting Framework

During transportation, the events are monitored according to time of completion or failure to be completed. Based on whether an event has completed or failed, the system takes preconfigured actions to change the status, inform the responsible users, perform operational replanning, and so on. Short and Long Text with variables can be defined

Sample of monitoring scenarios

| Monitoring Scenario | Alerting |
|---|---|
| Instruction(for example, Receive SI, Release B/L) with a due date but overdue | Send an alert as notification |
| Monitor if an instruction(task) is completed | Send an alert as notification |
| Monitor if the status of an expected event changed to “overdue event“ | Send an alert as notification |
| Monitor if an unexpected event (for example, cargo arrival delay at POL) is created and reported | Send an alert as notification (To agency operation, will affect load list) |

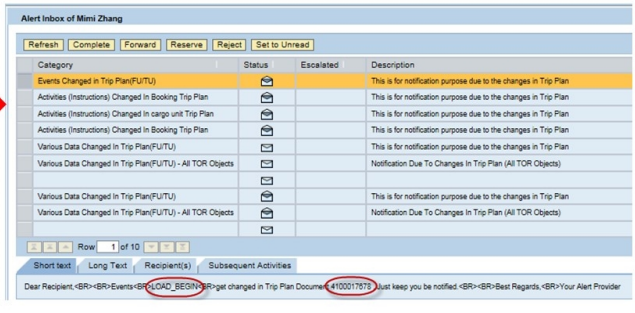



Figure 145: Trip Plan -- Monitoring and Alerting Framework

## Broken Trip Plan and Operational Re-planning

When a milestone cannot be met, the trip plan breaks. A broken trip plan can be replanned by operational replanning, which can involve renominating cargo to be shipped on the same line a day or a week later, or even by proposing an entirely new connection. As a result of operational replanning, a new route is generated to fulfill (as closely as possible) the commercial promise from the booking.

The **Trip Plan Issues Worklist:**

- Provides overview of the first broken stages of trip plans
- Provides an opportunity to display or manually or automatically execute the replanning functionality for one or several items. Route proposal is shown and applied.
- The user is able to select/search a list of broken trip plans by various groupings
- Broken maritime trip plan stages can be queried (either under Own Responsibility or Partner Responsibility).

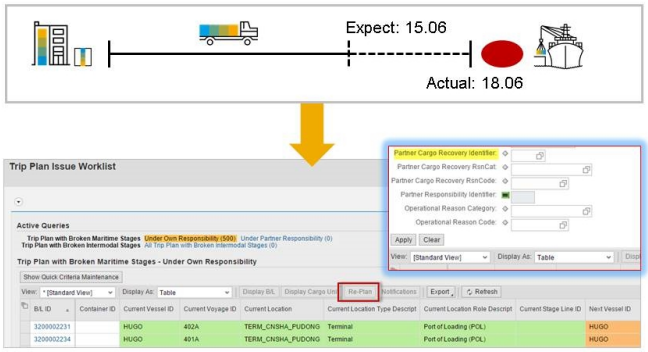



Figure 146: Broken Trip Plan and Operational Replanning

## LESSON SUMMARY

You should now be able to:

- Generate a trip plan

# Performing Freight Settlement Services

## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Outline freight settlement for VAS and port or vessel services

## Freight Settlement for Value-Added Services

Forwarding settlement document creation for pre-paid and collect all freight charges, surcharges and VAS charges is triggered from within the booking. In SAP ECC (BRIM), BITS are generated and charges grouped for invoicing. Further settlement processing and posting is done in SAP FI (CA/GL) and SAP CO.

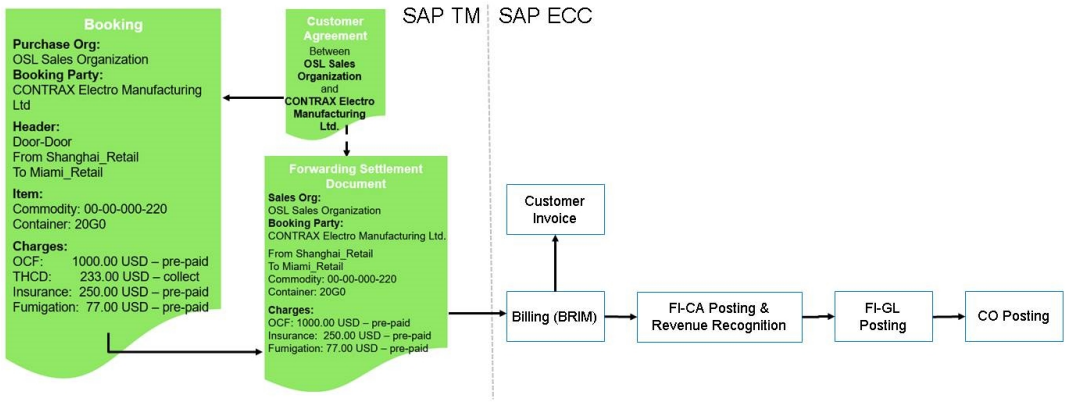



Figure 147: Freight Settlement for Value-Added Services

## Freight Settlement for Port or Vessel Services

Service order creation can be triggered from the Cargo Handling Operations Cockpit. Depending on the service order type, a freight settlement document is generated from within the service order, and the PO and SES created in ECC for invoice verification. Further settlement processing and posting is done in SAP FI (CA/GL) and SAP CO.

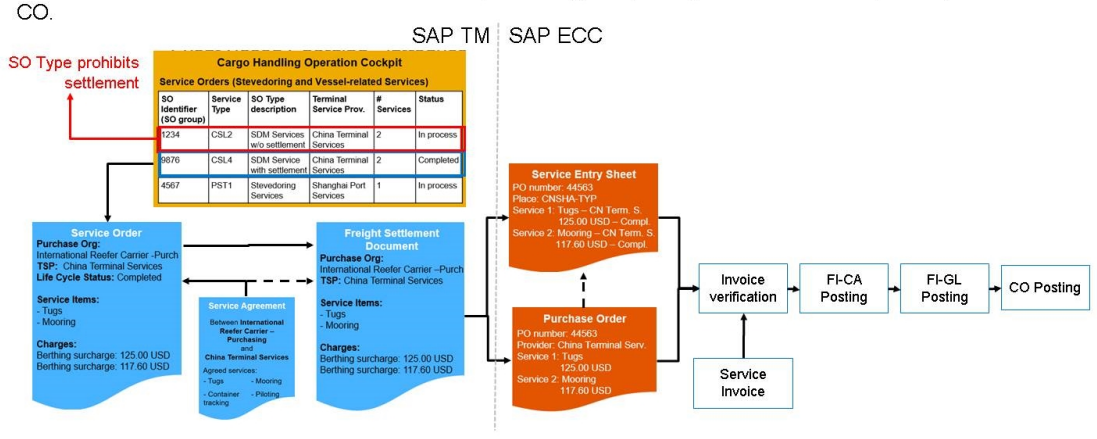



Figure 148: Freight Settlement for VAS and Port or Vessel Services

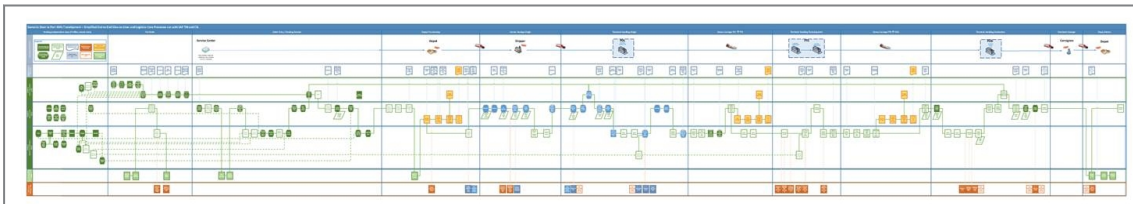


Figure 149: High Level Process Flow Order Export Handling

**LESSON SUMMARY**

You should now be able to:

- Outline freight settlement for VAS and port or vessel services

# Viewing Cargo Readiness Statuses

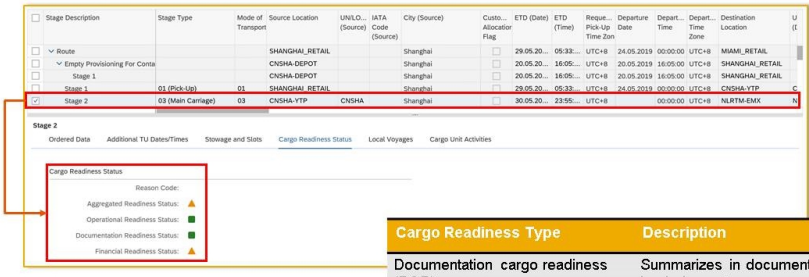
## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe cargo readiness statuses

## Cargo Readiness Statuses

Cargo readiness is a traffic light status that summarizes whether cargo can be loaded or not. This status serves to optimize the communication between the commercial and the operational teams.




Readiness can be expressed in terms of the cargo's operational state (that is, where it is), documentation (in terms of bill of lading and any regulatory requirements), and financial state (in terms of invoicing, collections, and credit).

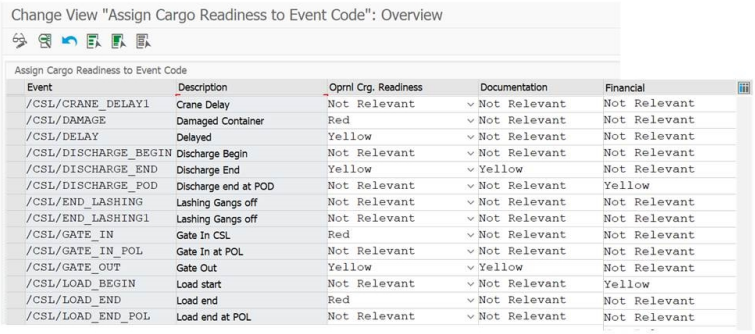
The cargo readiness status is determined automatically and stored in the system at the **Consolidated Trip Plan** tab actual route in the booking/ BL.

| Cargo Readiness Type | Description |
|---|---|
| Documentation cargo readiness (DCR) | Summarizes in documentation terms whether cargo can be loaded or not. |
| Operational cargo readiness (OCR) | Summarizes in operational terms whether cargo can be loaded or not. |
| Financial cargo readiness (FCR) | Summarizes in financial terms whether cargo can be loaded or not. |
| Aggregated cargo readiness (ACR) | Summarizes the documentation, operational, and financial cargo readiness statuses at stage level for a cargo unit. |

Figure 150: Cargo Readiness Statuses

## Events and Cargo Readiness Status Determination

Cargo readiness can be determined based on specific operational, documentation, and financial-based instructions, events, and other rules. In the customizing, the cargo readiness relevance of each defined event can be defined.




For each type of cargo readiness, the following options are available. The absence of the actual event (reported) leads to the defined status:

- Not Relevant
- Yellow
- Red

Figure 151: Cargo Readiness Status Determination – Events

## Instructions and Cargo Readiness Status Determination

- Whether instructions are executed or not can also influence the cargo readiness status.
- In customizing, the cargo relevance of an instruction set can be defined and assigned to one of the three cargo readiness areas.

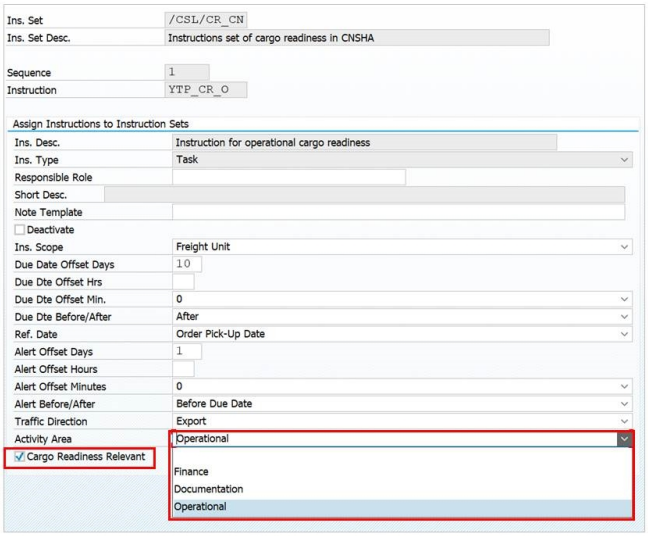



Figure 152: Cargo Readiness Status Determination – Instructions

### LESSON SUMMARY

You should now be able to:

- Describe cargo readiness statuses

Unit 8
Lesson 12

# Creating Bills of Lading

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain shipping instructions
- Describe standard B/L types
- Review the B/L life cycle
- Locate B/L statuses on the Status tab

## Shipping Instructions and Bill of Lading

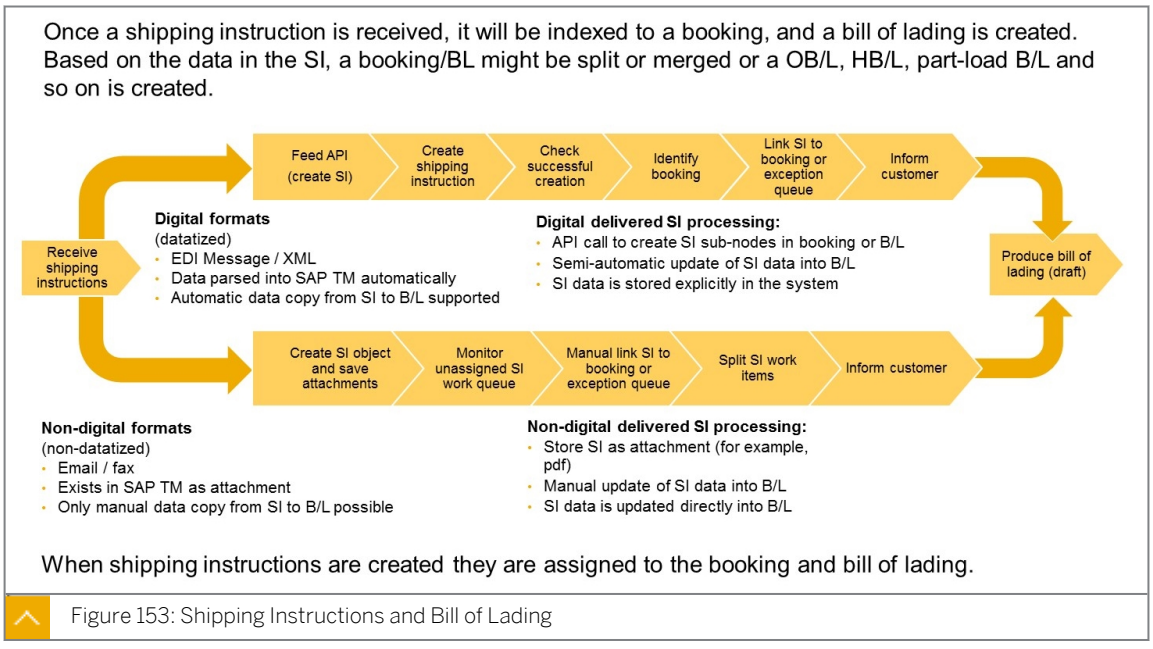



Figure 153: Shipping Instructions and Bill of Lading

## Standard Bill of Lading Types

The B/L document is created from either the shipping instruction or the booking. Checks and follow-up as well as exception processes can be defined per bill of lading type, such as diversion, DIT, and so on, document types, delivery order type, number range defintion, or whether or not the B/L needs to be surrendered.

B/L Type

| B/L Type | B/L Description |
|---|---|
| MBL | Memo Bill of Lading |
| OBL | Original Bill of Lading |
| SWB | Sea Waybill |

- ✓ A memo B/L is not relevant for charge calculation and invoicing. When a flat rack booking is created, a memo B/L is automatically created for it. Furthermore, a memo B/L is not relevant for short shipment and cannot be released. It can be created without a reference to other bookings or B/Ls, for example, for shipping ship spares, empty containers, or returned cargo.
- ✓ An original B/L can only be created with connection to a booking. The OBL ensures that the exporter receives the payment and importer receives the merchandise. The OBL is negotiable.
- ✓ A sea waybill is same as an original B/L. However, is not needed for cargo delivery and is only issued as a cargo receipt. It is not negotiable and cannot be assigned to a third party. The cargo will be delivered at destination to the person or company described as consignee in the sea waybill.

Figure 154: Standard Bill of Lading Types

Various B/L subtypes can exist. Each B/L subtype can be assigned to one or multiple B/L types.

B/L Type

| B/L Type | B/L Description | Secure B/L | SurNotReq |
|---|---|---|---|
| MBL | Memo Bill of Lading | ☐ | ☑ |
| OBL | Original Bill of Lading | ☑ | ☐ |
| SWB | Sea Waybill | ☐ | ☑ |

Assignment of B/L Subtypes to B/L Types

| B/L Type | B/L Description | Subtype | Subtype Desc. | B/L Category |
|---|---|---|---|---|
| MBL | mo Bill of Lading | EMP | Empty Container | Empty Container Bill of Lading |
| MBL | Memo Bill of Lading | GEN | General | Memo Bill of Lading |
| MBL | Memo Bill of Lading | HIT | Hitchment | Hitchment Bill Of Lading-Memo |
| OBL | Original Bill of Lading | GEN | General | Original Bill of Lading |
| OBL | Original Bill of Lading | HIT | Hitchment | Hitchment Bill Of Lading Master |
| OBL | Original Bill of Lading | MOR | Manifest Order | Manifest Order |
| OBL | Original Bill of Lading | SWT | Switch | Switch Bill of Lading |
| SWB | Sea Waybill | GEN | General | Sea Wall Bill of Lading |
| SWB | Sea Waybill | MOR | Manifest Order | Manifest Order |
| SWB | Sea Waybill | SWT | Switch | Switch Bill of Lading |

Figure 155: Standard Bill of Lading Types – Subtypes

## Bill of Lading Life Cycle

| Life Cycle Status | Description |
|---|---|
| **New** | Initial status. Booking is created from new or amended SI or manually created with reference from a booking. |
| **Pending Approvals** | PnR check(s) have failed and/or open approval items exist. |
| **Draft** | The B/L checks are successfully executed, approval items are cleared. The B/L might be sent to the customer for approval. |
| **B/L Complete** | The bill of lading is approved by the customer. |
| **Export Finalized** | All export operational statuses are successfully executed (or not required). |
| **Import Finalized** | All export operational statuses are successfully executed (or not required). |
| **Pending Cancellation** | The cancellation process is blocked by follow-up actions. The booking shall be cancelled once the follow-up actions are completed. |
| **Canceled** | The B/L has been canceled. The system conducts check if cancellation is possible (for example, no follow-up actions required). |
| **Void** | Merging a B/L into another B/L results in voiding the original B/L. |
| **DIT Active** | A detention in transit request is created for the bill of lading. |


Figure 156: Bill of Lading Life Cycle

## Bill of Lading Creation

A Bill of Lading can be created in one of the following ways:

1. Directly from a booking
   - Create B/L with reference to an existing confirmed booking. Booking data will be copied to the B/L.
2. From a booking through a shipping instruction
   - A successfully processed shipping instruction will create a B/L based on data in SI.
3. From a booking and a B/L template
   - Create a B/L from a confirmed booking and a B/L template to copy all of the relevant data from the booking, and then overwrite the booking data with the corresponding data from the template.
4. From a booking and an existing B/L
   - Create a B/L from a confirmed booking and an existing B/L to copy all of the relevant data from the booking, and then overwrite certain fields with the corresponding fields from the existing B/L.
5. As a memo B/L (with no booking reference)
   - Create a memo B/L without any reference to a booking or another B/L, for example, for shipping ship spares, empty containers, or returned cargo.

Figure 157: Bill of Lading Creation

## Bill of Lading Status Overview

The Status tab in the Bill of Lading lists all operational statuses that can be checked. General status values are:

- Not Checked
- Passed/ Above
- Failed
- Not Required

(or similar)

Values that influence the status can be received from external systems. Some statuses can be set from outside CSL via API

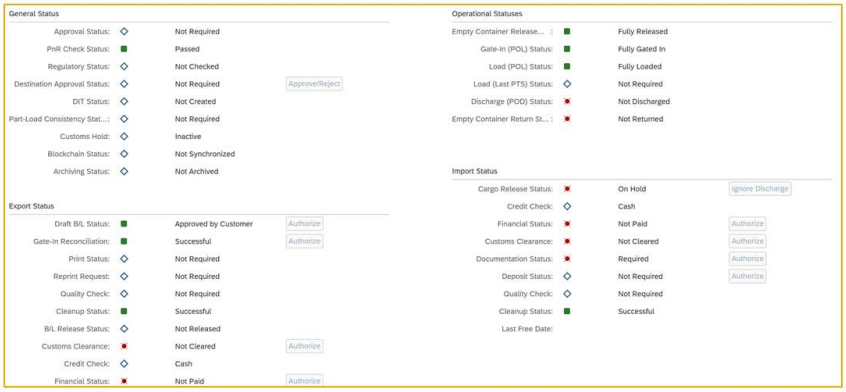
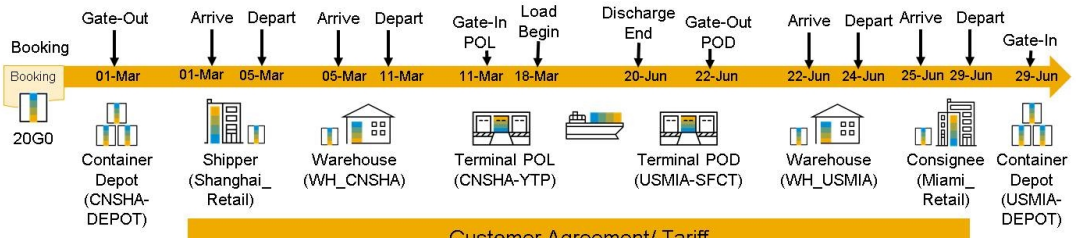



Figure 158: Status Overview in the Bill of Lading

## Duration-Based Charge Calculation in B/L

Duration for duration-based charging is calculated based on start event and stop event as defined in the scenario, considering the negotiated free days. Dates are based on booking/BL data/events. Charge details can be viewed in the **Charges tab.**




Duration-relevant rates are maintained in the tariff or customer agreement

Customer Agreement/ Tariff

| Scenario | Start event | Stop event | Container Type | Location | Free days | Rate/ day |
|---|---|---|---|---|---|---|
| Storage Export | Container arrive WH | Container depart WH | 20G0 | WH_CNSHA | 2 | 35 USD |
| Storage Import | Container arrive WH | Container depart WH | 20G0 | WH_USMIA | 3 | 45 USD |
| Detention Export | Gate-Out CY | Gate-In POL | 20G0 | CNSHA | 12 | 17 USD |
| Demurrage Export | Gate-In POL | Load Start POL | 20G0 | CNSHA | 0 | 25 USD |
| Demurrage Import | Discharge End POD | Gate-Out POD | 20G0 | USMIA | 2 | 22 USD |
| Detention Import | Gate-Out POD | Gate-In CY | 20G0 | USMIA | 10 | 17 USD |
| Monitoring Temp. | Depart Shipper | Arrive Consignee | 20G0 | | 5 | 22 USD |

Figure 159: Duration-Based Charge Calculation in B/L -- Introduction

## Detention and Demurrage Charges with Sample Calculation

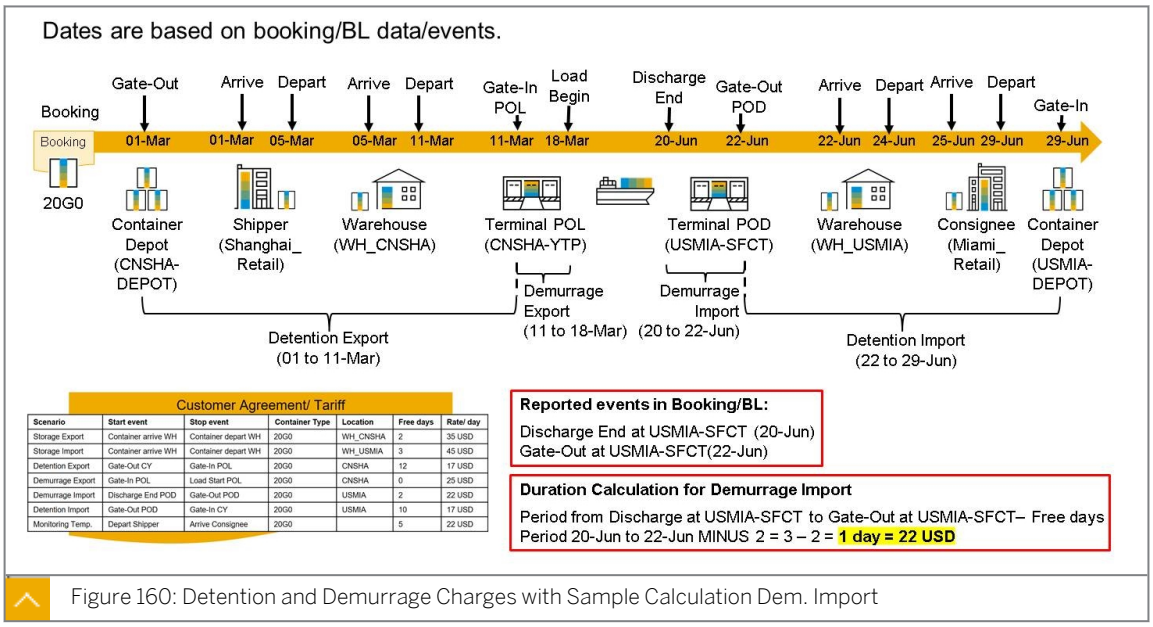



Figure 160: Detention and Demurrage Charges with Sample Calculation Dem. Import

## Calculation of Demurrage Export Charges

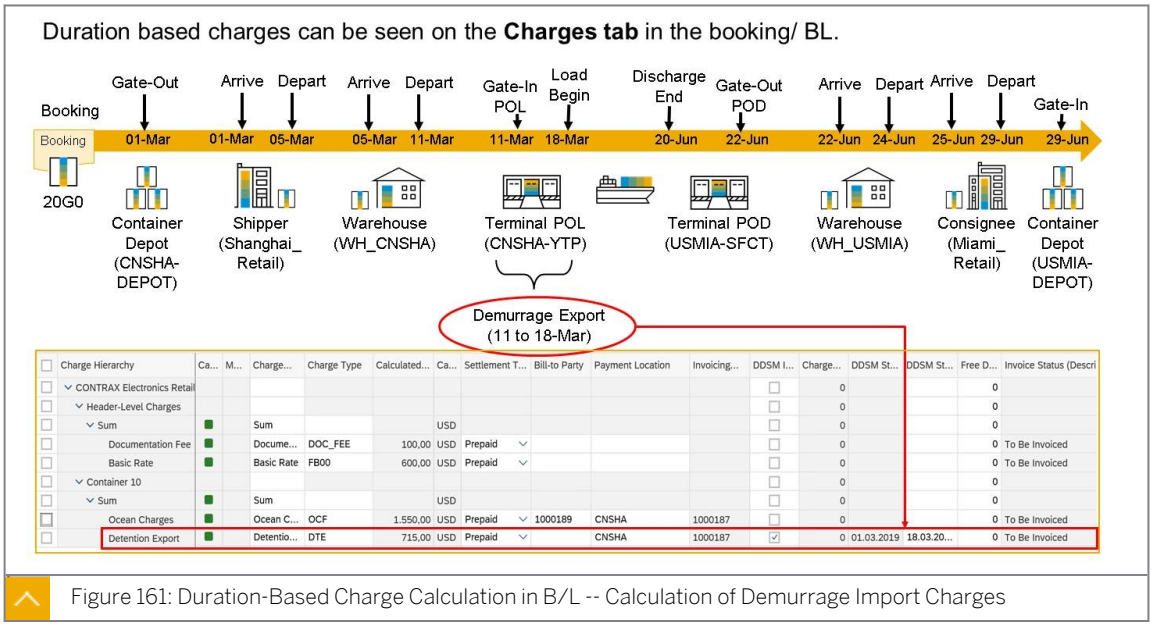



Figure 161: Duration-Based Charge Calculation in B/L -- Calculation of Demurrage Import Charges

## Storage and Monitoring Charges with Sample Calculation

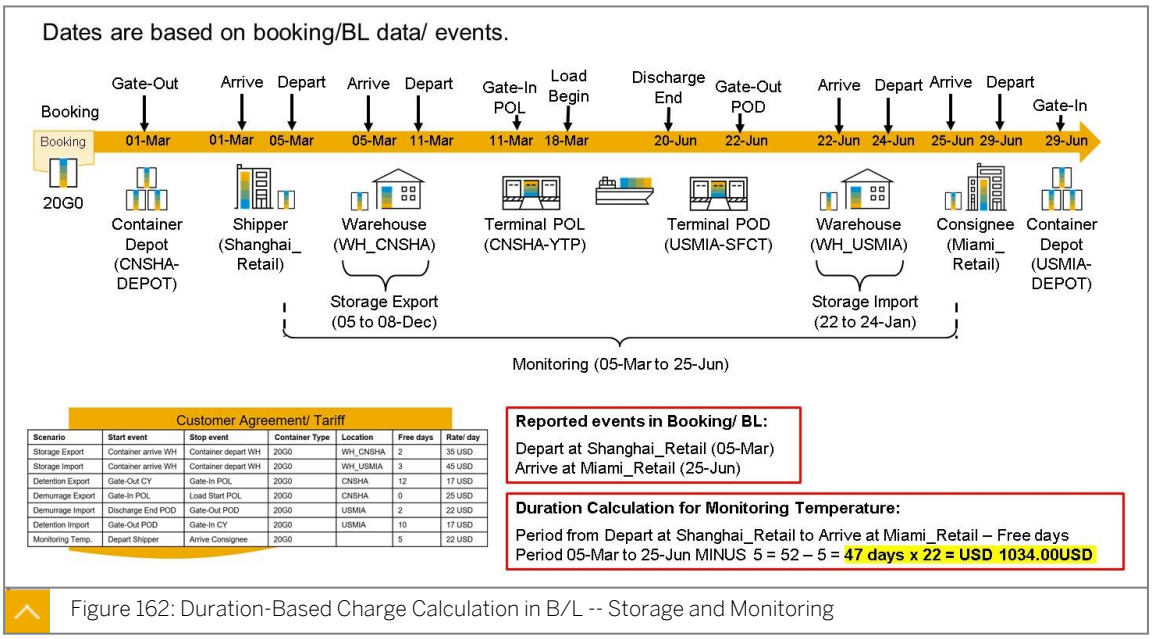



Figure 162: Duration-Based Charge Calculation in B/L -- Storage and Monitoring

## LESSON SUMMARY

You should now be able to:

- Explain shipping instructions
- Describe standard B/L types
- Review the B/L life cycle
- Locate B/L statuses on the Status tab

Unit 8
Lesson 13

# Describing Port Operations

**LESSON OBJECTIVES**

After completing this lesson, you will be able to:

- Explain port operations
- Explain transshipment and import port operations

## Port Call Operations

**Managing operations for call of vessels:**

- Load list management
- Discharge list management
- Restow management
- Cargo reconciliation
- Agreements and invoicing of service providers
- Crane planning
- Non-standard cargo handling
  - DG/hazardous
  - Out of gauge
  - Break bulk
  - Reefer
- Berthing
- Partner cargo handling

Figure 163: Port Call Operations

## Export Port Operations

Port call operations allows port call services to be provided as well as the cost of these services.

The following two cockpits support the management of cargo handling operations and services at a port location:

- **Cargo Handling List Cockpit:** allows you to maintain and manage lists for the stevedoring cargo handling operations (loads and discharges) and Bay Plan related to a specific vessel port call.
- **Cargo Handling Operation Cockpit:** allows you to manage the services requested and received for a given port call. This includes the berthing plan and crane plan, reconciliation of departure bay plan and terminal departure report (TDR), along with the overall monitoring of the port call progress. Services can be ordered and carried out from the Cargo Handling Operation Cockpit as well as charge-related calculations executed and settlement documents created.

Figure 164: Introduction to Export Port Operations

## The Cargo Handling List Cockpit

The user interface of the Cargo Handling List cockpit has a header line (Vessel Port Call List). If selected, the corresponding items are displayed at the item level, such as load list, discharge list, bay plan and output management.

Information in the Cargo Handling List Cockpit is collected from various documents:

- POL/POD profile
- Booking
- Load ranking profile
- Partnership agreement

Bay plan and partner load list can be uploaded; the load list is generated and sent to the terminal as defined in the location profile.

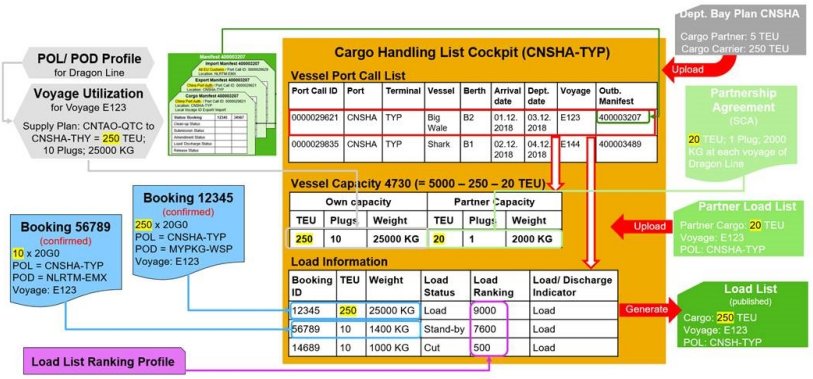



Figure 165: Export Port Operations – Cargo Handling List Cockpit

## The Cargo Handling Operation Cockpit

The berthing plan is a summary of stevedoring operations and the berth timing for the specific vessel port call from the voyage. The crane plan provides an overview of the crane services provided at the port for movement of cargo from the vessel to the terminal or vice versa. Resource handling is also managed in the crane plan.

The listed service orders are solely vessel related and derived from the line study.

Terminal related information, such as operating hours, available cranes and their performance have to be provided by the terminal operator and stored in the line study, location profile or other related master data.

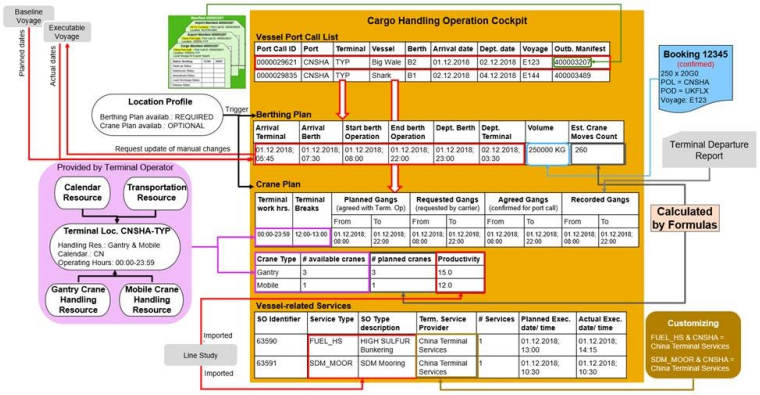



Figure 166: Export Port Operations Cargo Handling Operation Cockpit – Berthing Plan, Crane Plan, Services

Service orders contain only the services provided by the terminal service provider based on the service agreement. The service agreement contains all of the services provided by the terminal service provider at that terminal. The service orders have following characteristics:

- The type of the service order is determined based on the customizing setting.
- A service order can be created for settlement or “only” for cost calculation purposes.
- Based on information in the TDR the service orders can be created or not.

The restow list, bay plan and terminal departure report can be uploaded to the cockpit.

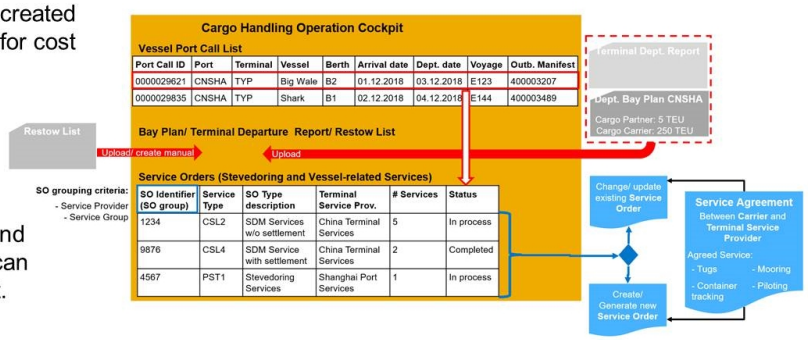



Figure 167: Export Port Operations Cargo Handling Operation Cockpit -- Service Orders, Bay Plan and TDR

Figure 168: High Level Process Flow Transshipment and Import Port Operations

## Transshipment in the Cargo Handling List Cockpit

Containers that needs to be transshipped are indicated as “Transshipment” in the discharge list and load list. As they are moving from one voyage to another, they are assigned to a different manifest and vessel port call in the port call list.

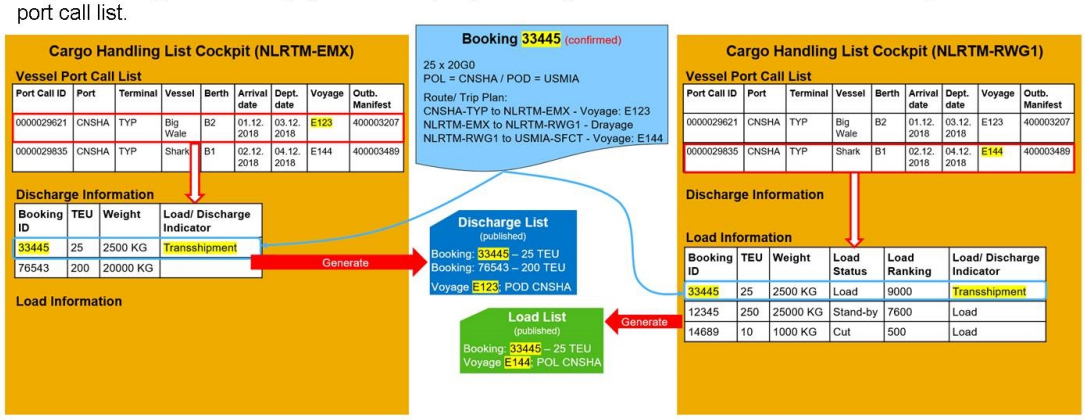
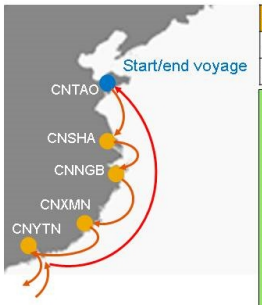



Figure 169: Transshipment Port Operations in the Cargo Handling List Cockpit

## Connecting Manifests

A booking is placed for a 20G0 container from CNNGB to CNSHA. The route proposal will determine a connection in which the container is loaded at CNNGB on voyage/manifest E12345677/ 400003207 and stays on the vessel until it finishes the voyage at CNTAO. In CNTAO, the container remains on the same vessel but gets assigned to a new voyage/manifest (E12345678/ 400006735) to reach CNSHA for discharge. The transshipment at CNTAO is “virtual”, meaning the container does not appear on the discharge list or load list at CNTAO. This stop is only required to connect the manifests.




| Voyage | Bound | Manifest | Vessel | Line |
|---|---|---|---|---|
| E12345677 | East | 400003207 | Gray Wale | OCS DRAGON LINE |
| E12345678 | East | 400006735 | Gray Wale | OCS DRAGON LINE |

POL = CNNGB
POD = CNSHA
1 x 20G0

**Booking 5555 (Confirmed)**

**Consolidated Trip Plan (actual route):**

| Load Port-Terminal | Departure Date | Discharge Port-Terminal | Arrival Date | Vessel | Voyage | Manifest | Load Port Call | Discharge Port call |
|---|---|---|---|---|---|---|---|---|
| CNNGB-CMI | 23.11.2018; 10:00 | CNTAO-OCT | 27.11.2018; 13:00 | Gray Wale | E12345677 | 400003207 | 0000029653 | |
| CNTAO-OCT | 27.11.2018; 23:00 | CNSHA-YTP | 28.11.2018; 09:00 | Gray Wale | E12345678 | 400006735 | | 0000049875 |

Figure 170: Connecting Manifest

## Connecting Manifests – System Behavior

- ✓ Routing does not calculate transit time on the connecting port (for example, CNTAO). It is considered a stop, for which only the time at port is included.


- ✓ At the time of confirmation, the booking automatically will be assigned to multiple manifests/ voyages. In the consolidated trip plan, two stages are created each with one manifest and one voyage assigned.


- ✓ On the stages, the first stage has only a loading call and the second stage only a discharge port call. In the end this is the indicator of “connecting manifest” functionality.
- ✓ The cargo is not assigned to the load list or discharge list at the connecting port (for example, CNTAO) as it remains onboard the same vessel.
- ✓ Any disruption on the first voyage will have an impact on the second voyage because they are executed by the same vessel. Replanning (simulation in schedule monitor) considers the connection of the two voyages.

Figure 171: Connecting Manifest – System Behavior

## Import Port Operations and the Cargo Handling List Cockpit

The discharge list contains information from the containers/ bookings to be discharged at that port call. The partner discharge list is generated based on the departure Bay Plan of the previous port call.

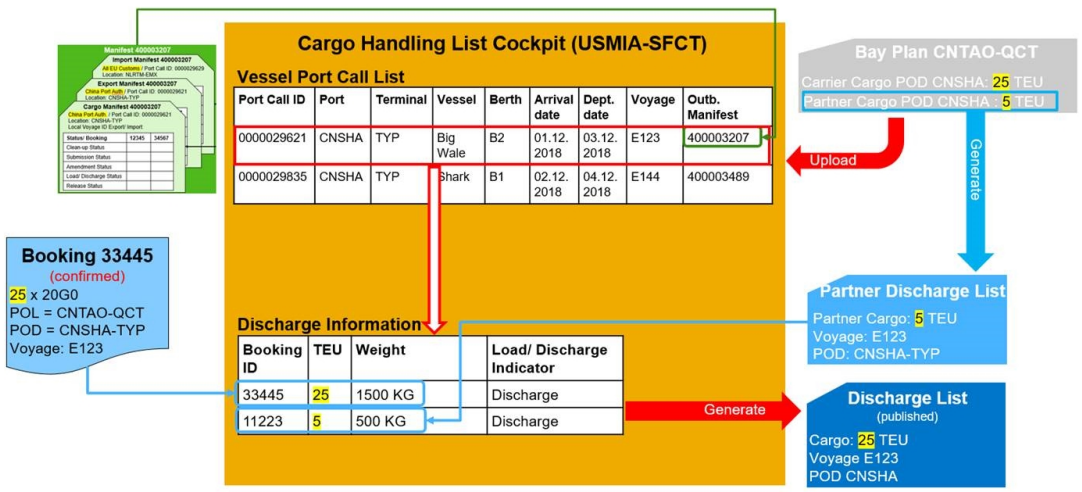



Figure 172: Import Port Operations and the Cargo Handling List Cockpit

## LESSON SUMMARY

You should now be able to:

- Explain port operations
- Explain transshipment and import port operations

# Learning Assessment

1. Which of the following booking types will result in invoices towards customers? Choose the right answers.

   *Choose the correct answers.*

   - [ ] A Commercial Booking
   - [ ] B Government Booking
   - [ ] C Non-Commercial Booking
   - [ ] D Laden-Inland Booking
   - [ ] E Settlement Booking

2. Which of the following booking types will result in planning and execution activities? Choose the right answers.

   *Choose the correct answers.*

   - [ ] A Commercial Booking
   - [ ] B Government Booking
   - [ ] C Non-Commercial Booking
   - [ ] D Laden-Inland Booking
   - [ ] E Settlement Booking

3. Which of the following units can be modelled as 'item types' in a booking? Choose the correct answers.

   *Choose the correct answers.*

   - [ ] A Vessel
   - [ ] B Container
   - [ ] C Railcar
   - [ ] D Package
   - [ ] E Break Bulk

4. Can a service such as packaging or labeling be included in a booking?

   *Choose the correct answer.*

   ☐ A Yes. One or multiple of such services can be included as separate items in the booking.

   ☐ B No. Such services need to be added in separate Service Orders which can be connected to a Booking.

5. When is the Generic Validation Framework executed? Choose the right answer.

   *Choose the correct answers.*

   ☐ A At time of responding to an RFP

   ☐ B At time of create or change of a Forwarding Agreement

   ☐ C At time of create or change of a booking

6. How can an empty container provisioning for a commercial booking be maintained? Choose the right answers.

   *Choose the correct answers.*

   ☐ A SAP Transportation Management Portfolio of Solutions for Container Shipping Lines does not offer any option to maintain a pick-up location for empty containers in a booking.

   ☐ B In SAP Transportation Management Portfolio of Solutions for Container Shipping Lines users can manually maintain a pick-up location and date/time for empty containers in a booking.

   ☐ C SAP Transportation Management Portfolio of Solutions for Container Shipping Lines can be connected to SAP Transportation Resource Management where an automatic availability check for empty containers can be performed based on which the booking will automatically be updated with pick-up location and date/time.

7. Why is the Route Generator not an integral part of the Voyage Suggestion Framework?

   *Choose the correct answers.*

   ☐ A The Route Generator is part of the CSL basic layer whereas the Voyage Suggestion Framework is part of SAP Transportation Management, Order to Cash for Container Shipping Lines

   ☐ B The Route Generator has to be called from various sources whereas the Voyage Suggestion Framework can be called from a booking only.

   ☐ C The Voyage Suggestion Framework is not capable of calling the Route Generator

8. Which routes can be returned by the Route Generator to the booking? Choose the right answers.

   *Choose the correct answers.*

   - ☐ A Existing but invalid routes
   - ☐ B Valid routes that successfully have passed the allocation check
   - ☐ C New proposals for routes that fit to the booking but are not available in the network yet
   - ☐ D Valid routes that have failed the allocation check
   - ☐ E Fragments of routes if there are no end-to-end connections available in the network

9. What is the difference between planned route and actual route?

   *Choose the correct answer.*

   - ☐ A The planned route is on a less granular level (for example, port) than the actual route (for example, terminal).
   - ☐ B The planned route is just an example whereas the actual route is the one chosen for a booking.

10. On which of the following can the booking calculate charges? Choose the correct answers.

    *Choose the correct answers.*

    - ☐ A Based on an assigned Forwarding Agreement
    - ☐ B Based on the charges determined by the Voyage Suggestion Framework
    - ☐ C Based on an assigned Tariff

11. What is the difference between actual route and pricing route?

    *Choose the correct answer.*

    - ☐ A The actual route is the physical route whereas the pricing route can be seen as a constructed rate (for example, in case of no through rate is available in neither Tariff nor Forwarding Agreement).
    - ☐ B The actual route is the physical route whereas the pricing route is the representation of payment streams.

12. What prerequisites are required before a booking can be confirmed?

    *Choose the correct answers.*

    - ☐ A Shipping Instruction has arrived
    - ☐ B Allocation check successful performed
    - ☐ C Export Declaration cleared
    - ☐ D Empty container successfully provided
    - ☐ E Generic Validation checks successfully performed

13. What steps will automatically triggered after booking confirmation?

    *Choose the correct answers.*

    - ☐ A Trip Plan creation
    - ☐ B Manifest assignment
    - ☐ C Settlement Document creation
    - ☐ D Consumption of Allocation
    - ☐ E Load List publication

14. What is a trip plan? Choose the correct answer.

    *Choose the correct answer.*

    - ☐ A A trip plan represents the voyage of a vessel.
    - ☐ B A trip plan represents the journey of a container/TU within a booking.

15. What is the purpose of a trip plan? Choose the correct answer.

    *Choose the correct answer.*

    - ☐ A The trip plan is used for planning a container/TU from origin to destination.
    - ☐ B The trip plan is used for tracking a container/TU from origin to destination.

16. Trip plan is based on expected events. Why is that? Choose the correct answers.

*Choose the correct answer.*

- ☐ **A** Expected events are the most reliable information. In case the time of an expected event is reached, the trip plan can be promoted to the next stage and respective actions can be taken.
- ☐ **B** The time of any expected event can be compared with the time stamp of the actual event. If there is a delay of the actual event which might have an impact on the trip, the trip plan gets broken and users can take actions, (for example, re-plan operations).

17. Customer facing Freight Settlement Documents can contain the multiple item types. Which item types are contained in Customer facing Freight Settlement Documents ? Choose the correct answers.

*Choose the correct answers.*

- ☐ **A** Freight Charges
- ☐ **B** Port Services
- ☐ **C** Value added Services
- ☐ **D** Surcharges
- ☐ **E** Vessel Services

18. Supplier and Service Partner facing Freight Settlements Document can contain the multiple item types. Which item types are contained in Supplier and Service Partner facing Freight Settlements Document ? Choose the correct answers.

*Choose the correct answers.*

- ☐ **A** Freight Charges
- ☐ **B** Port Services
- ☐ **C** Value added Services
- ☐ **D** Surcharges
- ☐ **E** Vessel Services

19. What is the purpose of the Cargo Readiness Status? Choose the right answers.

    *Choose the correct answers.*

    ☐ A Aggregate multiple status into one: documentation, operational and financial status

    ☐ B Support consistent communication between ocean carrier's commercial and operational teams

    ☐ C Inform the captain that cargo has been loaded and is ready to sail.

20. Complete the following sentence: The Cargo Readiness Status determination is ...? Choose one of the following:

    *Choose the correct answer.*

    ☐ A Hard coded per cargo readiness type (documentation, operational and financial) based on industry best practices, for example, once a specific event per readiness type has arrived, the aggregated status will be set to 'green'.

    ☐ B Each cargo readiness type (documentation, operational and financial) can be configured due to business requirements, for example, the aggregated status will switch to 'green' once all configured events have arrived.

21. How are instructions and Cargo Readiness Status connected? Choose the right answer.

    *Choose the correct answer.*

    ☐ A Instructions are not part of bookings and hence have no impact on the determination of the Cargo Readiness Status.

    ☐ B Instructions are part of bookings but are neither related to documentation, operational nor financial flows and hence have no impact on the determination of the Cargo Readiness Status.

    ☐ C On the instruction set level, it can be configured, if there is a cargo readiness relevance or not. In case of instruction sets being relevant the respective cargo readiness type can be assigned. For instructions belonging to relevant instruction sets, their execution will be monitored and hence instructions can have an impact on the Cargo Readiness Status.

22. What can be controlled on Bill Of Lading Type level? Choose the right answers.

*Choose the correct answer.*

- ☐ **A** The Bill of Lading type can be configured and defines, for example, charge calculation relevance, connection to booking required, negotiability.
- ☐ **B** The Bill of Lading type defines how many copies of a Bill of Lading need to be issued to whom.
- ☐ **C** Based on the settings per Bill of Lading type a document can be output via blockchain, as an attachment to an email or as a print-out.

23. From the following list, choose examples for Bill of Lading Subtypes:

*Choose the correct answers.*

- ☐ **A** Memo Bill of Lading
- ☐ **B** Hitchment Bill of Lading
- ☐ **C** Switch Bill of Lading
- ☐ **D** Sea Waybill

24. How will duration based charges be calculated in a Bill of Lading? Choose the right answer.

*Choose the correct answer.*

- ☐ **A** Duration based charges need to be entered manually in the Bill of Lading
- ☐ **B** Duration based Charges are calculated automatically based on the actual time stamps of start and stop events. Agreed free days need to be deducted manually.
- ☐ **C** Duration based Charges are calculated automatically based on the actual time stamps of start and stop events including automatic consideration of agreed free days by the system.

25. Which cockpits are available for Cargo Handling? Choose the correct answers.

*Choose the correct answers.*

- ☐ **A** Cargo Handling Operation Cockpit
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- ☐ **C** Trip Plan Monitor
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- ☐ A Containers to be transshipped appear on both a 'discharge list' and a 'load list'.
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