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| COA-ALL-1353 COA–Consume COA by Bookings [Convert OOG booking equipment into TEU]  Functional Specification | |
| Department: CMA CGM Commercial Allocation  Project: *DATAWAYS*  JIRA ID: ALL-1353  Author(s): *Infosys* | |
| Doc Reference:  Date:  Version:  Status: | DATAWAYS- COA-ALL-1353 COA–Consume COA by Bookings [Convert OOG booking equipment into TEU]  23-Sep-2024 0.3 Approved |
| Classification: **Internal** | |

REVISIONS

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Subject** |
| 0.1 | 27-Jun-2024 | Kumar Abhishek | Document creation |
| 0.2 | 20 Aug 2024 | Akshita Ahuja | Document Revision:   * TEU Sales to be calculated in PAM and retrieved by Dataways * Amendment to input criteria |
| 0.3 | 23-Sep-2024 | Kumar Abhishek | Document Revision: Including Input, output and matching parameters across PAM and Dataways to get TEU values |

APPROVALS

|  |  |  |  |  |  |
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# - Requirements

|  |  |
| --- | --- |
| **Requirement ID** | **User Story / Requirement Description** |
| [ALL-110;601; 602; 603; 604; 605; 11092; 1132](https://cmacgmgroup.sharepoint.com/:w:/r/sites/CMA-DataWays/Shared%20Documents/COA/02%20-%20Detailed%20User%20Stories/ALL-110;%20601;%20602;%20603;%20604;%20605;%201092;%201132%20-%20COA%20-%20Consume%20COA%20by%20Bookings.docx?d=w9c704469b6c34a16b796fada632a236f&csf=1&web=1&e=LAakCx) | COA - Consume COA by Bookings |

## 

### Document References

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reference** | **Description** | **Version** | **Date** | **Author** |
| ALL-605 | COA – Consume COA by Bookings (Convert booking equipment size type into TEU) | JIRA | NA | Savli Tapre |
| ALL-12 | COA-Retrieve or Maintain TEU conversion Factors | JIRA | NA | Akshita Ahuja |

### New or Modified Objects

|  |  |
| --- | --- |
| **Components involved and purpose (Part of technical Document)** | |
| NA |  |

### Acronyms & Glossary

|  |  |  |
| --- | --- | --- |
| **Term** | **Acronym** | **Definition** |
| Booking Consumption | Booking Consumption | It is the consumption of TEUs, Tons and no. of units that is captured under each booking. |
| Out of Gauge | OOG | Cargo that cannot be loaded on a dry container due to its dimensions (height, width, and length) or weight is called Out of Gauge (OOG) cargo. This type of cargo is transported on an open top container or flat rack container. |

# - Detailed Designs

### Business Context and Scope

This document provides detail on the various rules that are to be considered to consume and allocate Commercial bookings having OOG types of shipments and how they have to be converted into TEUs for booking consumption, it has been explained in “**ALL-1353 COA–Consume COA by Bookings [Convert OOG booking equipment into TEU]**”.

### Business Constraints or Assumptions

* Assumption is that the payload .xml file received from LARA should have correct booking consumption data.
* Data fields in payload file should be up to date.

### Functional Solution Risk

NA

### Requirement Details

User wants to be able to consume commercial bookings as per the defined and listed rules. These rules take into consideration various factors like size and shape of a shipment, in this case it is related to **OOG or Out of Gauge** items which are **oblique in its weight, height, length and cannot be loaded on a dry container**. User wants to **convert all such shipments into TEUs** so that such **commercial bookings can be then consumed**.

### Process Flow and Domain Entities

NA

### UI / UX Design

NA

### Validation and Rules

Below are the detailed definitions for attributes, buttons, and error messages in search & display and editing boundary templates.

| SR | Label or Fields | Description | F | A | D | List | Rules |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |

**Legend**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Format | CB | Check Box | Attribute | M | Mandatory | Display | D | Field disabled |
| FA | Field alpha | O | Optional | E | Field Enabled |
| FN | Field numeric |  |  | R | Read Only |
| LOV | List of Value |  |  | H | Hidden |
| DA | Date |  |  |  |  |
| BT | Button |  |  |  |  |
| DT | Date Time |  |  |  |  |

### Setups and configurations

Not Available

### Processing definition

Following business rules must be implemented:

|  |  |
| --- | --- |
| **ALL-1353: COA – Consume COA by Bookings [Convert OOG booking equipment into TEU]** | |
| **~~BR01~~** | **~~Vessel Operator:~~** ~~If the Vessel Operator of the Voyage is NOT the Service’s main carrier, system will call PAM application~~ **~~(Ref: ALL-605: COA – Consume COA by Bookings (Convert booking equipment size type into TEU))~~**  **~~Steps:~~**   1. ~~Booking Payload received from LARA will have a reference point “‘Call’ > ‘voyage’”.~~ 2. ~~This reference point will provide a Voyage number for any commercial booking.~~ 3. ~~Voyage number will be used to identify and match ‘Operator’ and ‘Main Carrier’ name.~~ 4. ~~Shipcompcode or ‘shippingCompany’ will be referenced from Payload file to identify Main Carrier name.~~ 5. ~~For the identified Voyage number, PAM will provide ‘Operator’ name.~~   ~~PAM will provide the given input against each equipment type:~~   1. ~~PAM TEU Standard~~ 2. ~~PAM TEU Lost Slots Factor~~ 3. ~~PAM TEU Count (aka TEU Sales in COA) per container/cargo item~~   **~~Note: Operator & Main Carrier will be also available in CFS.~~** |
| **BR02** | **Determination of Output from PAM or Internal COA Database:**  Slot Provider and Slot Receiver inputs will determine if the output has to be retrieved from PAM or internal COA database needs to be referred here.   |  |  |  | | --- | --- | --- | | **Slot Provider Trigram** | **Slot Receiver Trigram** | **Output from** | | Partner | Partner | PAM | | CMA CGM Group carrier | Partner | PAM | | Partner | CMA CGM Group carrier | PAM | | CMA CGM Group carrier | CMA CGM Group carrier | Internal COA Database | |
| **BR03** | **Outputs from PAM:** Once a booking is being created, enrichment will give inputs to COA for retrieving TEU Sales values per equipment per leg.  Based on the Slot Provider and Slot Receiver values, COA checks if TEU sales calculation has to be retrieved from PAM or internal COA database.  **For PAM:**   * If the Slot Provider and Slot Receiver are NOT same i.e. it has a mix of Partner to CMA CGM Group carriers, then the system shall call the PAM application  |  |  | | --- | --- | | **Slot Provider Trigram** | **Slot Receiver Trigram** | | Partner | Partner | | CMA CGM Group carrier | Partner | | Partner | CMA CGM Group carrier |  * Once the PAM application is called, COA will send the following inputs to PAM to get the TEU Sales which are received from enrichment for a booking:   **A** **If OOG Flag is 'N'**  1**.** Slot Receiver Trigram  2. Voyage Number  3. Equipment Type  4. OOG Flag  **B** **If OOG Flag is 'Y'**  1.Slot Receiver Trigram  2. Voyage Number  3. Equipment Type  4. Over Height  5. Over Width (Left, right)  6. Over Length (rear, back)  7. Stowage (Under Deck by default)  8. Weight per Equipment (in tons)   |  |  |  | | --- | --- | --- | | **Input Parameter** | **Datatype** | **Mandatory/Optional** | | Slot Receiver Trigram | Character (3) | Mandatory | | Voyage Number | Character (15) | Mandatory (CVN of the main carrier) | | Equipment Type | Character (4) | Mandatory | | OOG Flag (‘N’ by default) | Character (1) | Optional (‘N’- Default) | | Over Height | Number (2 - digits, 2 - decimals) | Optional (‘1’ as default) | | Over Width Right | Number (2 - digits, 2 - decimals) | Optional | | Over Width Right | Number (2 - digits, 2 - decimals) | Optional | | Over Length Rear | Number (2 - digits, 2 - decimals) | Optional | | Over Length Back | Number (2 - digits, 2 - decimals) | Optional | | Stowage (Under Deck by default) | Character (10) | Optional (‘Under Deck’ – Default) | | Weight per Equipment (in Tons) | Number (2 - digits, 2 - decimals) | Optional |   **Note:**   * ‘Voyage Number’ input value to PAM is the ‘CVN of the main carrier’ which will be sent from COA. * If all of the dimensions (over height, over width Right, Over Width Left, Over Length Rear, over length Back) are missing in the input then, ‘Over Height’ value will be set as ‘1’ by default. However, if any of the dimension values are present then whatever value is present will be sent and rest of the fields related to dimension will be kept ‘null’. * The optional Input parameters will not be available in the input as they may or may not be present in the booking per cargo item during allocation checks it will be available only when Booking Confirmation is received. * If PAM suggests 2 different Lost slot values then the **‘Min’** value of the two has to be selected.   Based on these inputs, PAM will provide below mentioned Output back to Enrichment:   * TEU Standard/TEU Conversion Factor * TEU Lost Slots Factor * TEU Count or TEU Sales per Equipment type |
| **BR04** | **Consumption Calculation based on inputs from PAM:** For every OOG item that will be booked and shipped through a vessel, there will be utilization of extra slots that will be considered as **‘Lost slots’** to accommodate the oblique dimension of OOG shipment.   * Once the input is provided to PAM application for bookings that have **Main Carrier different than Vessel Operator** (excluding CMA groups), PAM calculates the provided dimensions and validate it with the Partnership agreement terms to calculate the **‘Lost slots’ that would be added as a ‘Penalty’** over and above the actual TEUs. This revised summed up TEU of the booking will be the overall consumption or in other word the TEU Sales value.     **Note:**   * **Depending on the weight of the container, the PAM will return either ‘Lost Slots within Weight (TEU)’ or ‘Lost Slots above Weight (TEU)’. Max value of either has to be selected.** * **If the PAM system does not return a Lost slot TEU result, the COA system shall apply the rule described in BR 02, even if the Vessel Operator is NOT the Main Carrier of the service.** |
| **BR05** | **Outputs From Internal COA Database:**   * If the Slot Provider and Slot Receiver are same i.e. within CMA CGM Group carriers, then the system shall call internal COA Database.  |  |  | | --- | --- | | **Slot Provider Trigram** | **Slot Receiver Trigram** | | CMA CGM Group carrier | CMA CGM Group carrier |  * Internal COA database stores the OOG Lost Slot TEU values under below mentioned table headers which will be matched with enrichment inputs to retrieve TEU Sales value per equipment per leg:  |  |  |  |  | | --- | --- | --- | --- | | **S. No.** | **Field name** | **Details** | **Matching Logic** | | 1 | Service ID | This will represent service ID, Pre-filled as ‘\*’ for manually added records.  **Non-editable field.** | Not relevant as the manual record is applicable for all services since it is pre-filled with ‘\*’. | | 2 | Slot Provider Trigram | It is a Trigram value used to identify the Carrier who is providing the slot. Pre-filled as ‘CMA CGM Group’ for manually added records  **Non-editable field.** | Matched with enrichment input ‘slotProvider’ to get matching record | | 3 | Slot Receiver Trigram | It is a Trigram value used to identify the Carrier who is receiving the slot. Pre-filled as ‘CMA CGM Group’ for manually added records  **Non-editable field.** | Matched with enrichment input ‘slotReceiver’ to get matching record | | 4 | Valid From | To be selected by user as DD.MM.YYYY | This will be determined by referring to the ‘StartOfSeaPassageDate’ of the POL present in enrichment input to get the validity period of the record identified. | | 5 | Valid To | Pre-filled as ‘unlimited’, editable in the format DD.MM.YYYY | | 6 | Bound | Drop down with list of values (EB, WB, SB, NB, RT), no multiple selection allowed | Matched with enrichment input ‘cargoFlowBoundForPol’ to get matching record | | 7 | Equipment Type | User entry, as per Masterdata in LARA, limited to the type of equipment | Matched with enrichment input ‘equipmentType’ to get matching record | | 8 | Over Height | Business input, number with two decimal places. UOM Meters | Optional field, enrichment input might not have details to match from ‘overHeight’ | | 9 | Max Height | Business input, number with two decimal places. UOM Meters | Optional field | | 10 | Sides over width | Business input: **one side or both sides, list of value** | Optional field, enrichment input might not have details to match for this. ‘overWidthLeft’ & ‘overWidthRight’ values if present will determine if it is ‘One side’ or ‘Both side’ | | 11 | Max Width | Business input, number with two decimal places. UOM Meters | Optional field | | 12 | Sides Over length | Business input: **one side or both sides, list of value** | Optional field, enrichment input might not have details to match for this. ‘overLengthRear’ & ‘overLengthBack’ values if present will determine if it is ‘One side’ or ‘Both side’ | | 13 | Max Length | Business input, number with two decimal places. UOM Meters | Optional field | | 14 | Stowage | Business input: **under deck, on deck, irrelevant** | Optional, but by default ‘Under deck’ will be present | | 15 | Max Weight | Business input, number with two decimal places. UOM Tons | ‘weight’ input received from enrichment will check the Max weight value present in this column and then it will be determined if Lost Slot (TEU) will be picked from Column 16 or 17. Since it is an optional field, by default ‘1’ will be the value considered if we don’t get it in the input. | | 16 | Lost Slots (TEU) within Weight | Business input, number with two decimal places | If ‘weight’ < Max weight then Lost Slots (TEU) present in this column will be the selected value | | 17 | Lost Slots (TEU) above Weight | Business input, number with two decimal places | If ‘weight’ > Max weight then Lost Slots (TEU) present in this column will be the selected value |   Based on the above-mentioned matching logic, output from COA local database to enrichment would be:   * TEU Standard/TEU Conversion Factor * TEU Lost Slots Factor * TEU Count or TEU Sales per Equipment type |
| **BR06** | **Consumption Calculation based on setup in COA application:** Based on internal rule that will be maintained in COA application, every OOG shipment with its **Cargo dimension, weight of containers, under deck or on deck details** will be referenced to get the Lost Slots (TEU) details. This Lost Slot (TEU) or ‘Penalty’ will be summed up with the actual TEU and this total value of TEU will be the overall consumption of COA for this booking i.e. TEU Sales.  **Multi-tiered selection of Lost Slots details:**   * Initial check for Lost slots or ‘Penalty’ has to be done on PAM. * If no value is retrieved from PAM then, internal COA configuration has to be checked. * If the internal COA configuration also doesn’t provide a value then, it will be checked via Estimated Lost slots reference in LARA payload file.  |  |  |  | | --- | --- | --- | | **Description** | **Reference** | **Type** | | Lost Slot information for OOG | 'outOfGauge' > 'properties' > 'lostSlot' | Number |  * If the payload file also fails to provide Lost slots TEUs then, standard booking data available in LARA will be considered.   **Note:**   * **If no rule is found, the system shall read the TEU and Lost Slots from LARA Booking. The system shall add both and consume COA accordingly.** |
| **Note** | **Refresh Consumption:** A user can Update or Refresh Booking Consumption of a specific Voyage by making a selection on the **‘Service ID’** and clicking on **‘Refresh Consumption’**. **(Ref: BR07 & BR08 ALL-112 Maintain a list of COA on Voyage (Screen Headers))** |

### Functional Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case #** | **Rule** | **Functional Test** | **Expected Results** |
| **ALL-1353: COA – Consume COA by Bookings [Conver OOG booking equipment into TEU]** | | | |
| **TC01** | BR01,  BR02, BR03, BR04,  BR05,  BR06 | Vessel Operator;  Determination of Output from PAM or Internal COA Database;  Output from PAM;  Consumption Calculation based on inputs from PAM;  Outputs From Internal COA Database;  Consumption Calculation based on setup in COA application | Every logic and calculations mentioned in the respective BR should provide the expected output. |

# - Technical Details (Optional)

Technical solution will be done by architect and development teams.

- End of document –