

**279472 v1.1**

Aptean Ltd  
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# Contents

<b>1 279472.....</b>	<b>1</b>
1.1 Client Requirement.....	2
1.2 Solution.....	2
1.3 Scope.....	3
<b>2 Set-up.....</b>	<b>4</b>
2.1 Pre-requisites.....	4
2.2 Menu Structure.....	4
2.3 Data.....	4
<b>3 Functional Description.....</b>	<b>5</b>
3.1 Resources Form (RESOURCES).....	5
3.2 Trip Planning Form (TRIP_PLAN).....	6
3.3 Trip Manipulation Form (TRIPSUM).....	6
3.4 Booking Order Form (BOOKINGS).....	7
3.5 Resources Package (RES).....	7
3.6 Orders Package (OMS).....	8
3.7 Bookings Package (BKG).....	8
3.8 Generate Orders Package (GEN_TI).....	8
3.9 Reports.....	8
<b>4 AUTHORISED BY.....</b>	<b>10</b>

1 279472

**A**aptean

DHL MTS

## RPE Calculation for Different Vendors

### FUNCTIONAL SPECIFICATION - 10.4.7

05/10/2010 - 1.1

Reference: FS 279472 AA-87JJL3

## 1.1 Client Requirement

### Change Request Summary:

RPE calculation for different vendors.

### Change Request Details:

Since OBS is aware and found already in their Saudi visit that we have a lack of weight and dimension information and also we are still not sure when we are going to have this from SAP system. So we have decided that if we can have the Vendor ID and Name in the MTS Resource v2.43 form's page Dispatch Unit Types and then we will manually modify the RPE values of different DU types against vendor (will do this for top 50 vendors) based on our planners knowledge and with vendor helps so that MTS can display the correct RPE for our planners in the Trip Manipulation form.

Attached file name ?RPE Calculation.xls? is the example how we want vendor ID and how we will modify the RPE value. So for example if we receive the order for vendor ?10025538? having DU type ?Carton\_Small? then MTS should show the RPE = 0.10, and if this is for vendor ?10012016? then MTS should show the RPE = 0.3 and if we receive the same for any vendor (who is not in the list) then MTS must use the RPE = 0.35 which is for general use. Note: This will be done for 31 DU Types which are available in SAP Vendor portal, attached file name ?Saudi Aramco - Package Standards in MTS and SAP.xls? shows all the available DU types in SAP vendor portal.

Second we want DU types to be displayed for the planners in the Trip Manipulation form.

### Benefits identified as a result of the change:

Business requirement to improve the vehicle utilisation.

## 1.2 Solution

The ?Despatch Unit Types? page of the ?Resources? screen will be changed to include new columns titled ?Vendor? and ?Vendor Name? between the columns titled ?DU Description? and ?Volume?; the new columns will also be added to the ?Insert? and ?Edit? subscreens; the ?Vendor? code will be validated against the existing location codes in the ?Locations? screen.

The new column ?VENDOR\_CODE? (a maximum of 25 characters in length) will be added to the table ?RES\_DESPATCH\_UNIT\_TYPE? and will form a unique primary key with the column ?DU\_TYPE?; this will allow multiple vendors to exist for the same DU type and to maintain different values for ?RPE?, ?Volume?, etc.

A data fix will be required during implementation to modify the table ?RES\_DESPATCH\_UNIT\_TYPE? and to populate the new combinations of vendor and DU type; the combinations will be based on the information provided in the file ?RPE Calculation.xls?.

The ?Trip Manipulation? and ?Trip Planning? screens will be changed to display a column titled ?DU Type? in the items in the ?Configurable Layout? for the booking reference of the order to be planned.

If a combination of the vendor code for the booking reference of the order and DU type is not found then the values for the ?DU Type? itself will be used for the calculation of the RPE values; the vendor code may be considered to be the source location if an actual vendor code has not been set as it is for ASN packages.

The new combination of vendor and DU type for calculating RPE quantities for the orders will need to be assessed for RPE and DU type equivalents in the following processes:

- ?Booking Order? screen (i.e. ?BOOKINGS? form)
- ?Resources? package (i.e. ?RES?)
- ?Generate TIs? package (i.e. ?GEN\_TI?)

Once an order has been generated with the correct RPE then the trailers, slots, trips, etc should continue to assess capacity as normal.



N.B. Data may exist that expects the same RPE value for a DU type and may require further evaluation / alterations.

### 1.3 Scope

This change will be applied to system version 10.4.7 on SARTST and once approved SARPRD.



## 2 Set-up

### 2.1 Pre-requisites

The tables will need to be altered and a data fix performed for the new combinations of vendor and DU type for the RPE value.

### 2.2 Menu Structure

Unchanged.

### 2.3 Data

The tables will need to be altered as described in Appendix A.



## 3 Functional Description

### 3.1 Resources Form (RESOURCES)

The ?Despatch Unit Types? page of the ?Resources? screen will be changed to include new columns titled ?Vendor? and ?Vendor Name? between the columns titled ?DU Description? and ?Volume?:

Du Type	Du Description	Volume	Vol Collected	Max KG	RPE	Priority	Allow Decimals
CARTON	Carton				1.0000		
CTRN A	Carton A 8x8x8					0.250	
CTRN B	Carton B 12x12x12					0.017	
CTRN C	Carton C 15x15x15					0.033	
CTRN D	Carton D 20x20x20					0.067	
CTRN E	Carton E 25x25x25					0.100	
CTRN F	Carton F 30x30x30					0.130	
CTRN G	Carton G 40x40x40					0.160	
CTRN H	Carton H 50x50x50					0.200	
PLT	Pallet 120x100x100					1.0000	
OVERSIZE	Oversize Pallet					3.0000	
BARREL	BARREL 60X60X60					2.500	
REEL	REEL 120X120X6					1.0000	
CASE	CASE 80X80X85					2.000	
CRATE	CRATE 120X150X83					1.0000	
BOX	BOX 25X110X120					2.2500	
SACK	SACK 70X50X36					1.000	
DRUM	DRUM 47X47X79					1.250	
CYLINDER	CYLINDER 20X20X185					1.000	

The new columns ?Vendor? and ?Vendor Name? will also be added to the ?Insert? and ?Edit? screens as a new line between ?Du Type? and ?Volume?:

Du Type	Du Description	Volume	Max Kg	RPE	Priority	Allow Decimals
BARREL	BARREL 60X60X60			1.0000		
REEL	REEL 120X120X6					
CASE	CASE 80X80X85					
CRATE	CRATE 120X150X83					
BOX	BOX 25X110X120					
SACK	SACK 70X50X36					
DRUM	DRUM 47X47X79					
CYLINDER	CYLINDER 20X20X185					

Du Type	Du Description	Volume	Max Kg	RPE	Priority	Allow Decimals
BARREL	BARREL 60X60X60			1.0000		
REEL	REEL 120X120X6					
CASE	CASE 80X80X85					
CRATE	CRATE 120X150X83					
BOX	BOX 25X110X120					
SACK	SACK 70X50X36					
DRUM	DRUM 47X47X79					
CYLINDER	CYLINDER 20X20X185					

The entry of the ?Vendor? code will be validated against the existing location codes in the ?Locations? screen and the ?Vendor Name? will be obtained automatically from the name of the valid location for display purposes only:



The screenshot shows the Oracle MTS Locations screen. The location record for 'SAUDI REFINERY' is displayed. Key fields include:

- ID:** MDCRNUH
- Name:** SAUDI REFINERY
- Route:** Inactive
- Lat.:** 24.39020
- Long.:** 46.50120
- RDC:** Control Tower
- Account Profile:** DEFAULT
- Booking Rate:** DEFAULT
- Unloading Rate:** DEFAULT
- Planning Reg:** Address
- Address:** Saudi Refinery, Al-Jubail Road, Building 250 Room 106, Ryad
- Country/Region:** Saudi Arabia
- Postal Code:** 23613
- Country (ISO Code):** SA - Saudi Arabia
- Cost Centre:** 1000000000000000000

Buttons at the bottom include: New Location, Save, Cancel, Close.

This will allow multiple vendors to exist for the same DU type and to maintain different values for ?RPE?, ?Volume?, etc for each combination.

## 3.2 Trip Planning Form (TRIP\_PLAN)

The ?Trip Planning? screen will be changed to display a column titled ?DU Type? in the items in the ?Configurable Layout? for the booking reference of the order to be planned.

The new column will not be displayed by default and will have a minimum width of 30.

The ?DU Type? will display the value from item ?SCH\_PRODUCT\_SUMMARY.DU\_TYPE? and the DU type found for the first product line of the booking for the order will be displayed. This is because the DU type is entered at the product level and the order itself is displayed for planning on trips.

The screenshot shows the Oracle MTS Trip Planning Form (TRIP\_PLAN) for Order 100026. The trip record is displayed with the following details:

- Order:** Order 100026
- Carrier:** Carrier ID (highlighted in yellow)
- From:** FROM\_LOC (highlighted in yellow)
- To:** TO\_LOC (highlighted in yellow)
- Depot:** CURRENT\_DEPOT (highlighted in yellow)
- Product:** PRODUCT\_REF (highlighted in yellow)
- Weight:** Weight on Day
- Dimensions:** Dim on Day
- Booking Ref:** Booking Ref
- Do Date:** Do Date

On the left, a configuration table for columns is shown, with 'DU\_TYPE' highlighted in yellow. The table includes columns like ORDER\_ID, CARRIER\_ID, FROM\_LOC, TO\_LOC, CURRENT\_DEPOT, and PRODUCT\_REF.

## 3.3 Trip Manipulation Form (TRIPSUM)

The ?Trip Manipulation? screen will be changed to display a column titled ?DU Type? in the items in the ?Configurable Layout? for the booking reference of the order to be planned.

The new column will not be displayed by default and will have a minimum width of 30.

The ?DU Type? will display the value from item ?SCH\_PRODUCT\_SUMMARY.DU\_TYPE? and the DU type found for the first product line of the booking for the order will be displayed. This is because the DU type is entered at the product level and the order itself is displayed for planning on trips.



### 3.4 Booking Order Form (BOOKINGS)

The check for the maximum configured RPE quantity for a store will need to be changed to account for the different RPE that may exist for a vendor and DU type.

This check is based on the advanced configuration for the locations and product type:

If an advanced quantity exists for the booking then the function ?DU\_EQUIVALENTS? will ensure that the advanced quantity does not exceed the DU equivalent setup for the locations and product type.

The function ?DU\_EQUIVALENTS? will be changed to check if the booking has a vendor and if so it will obtain the RPE for the DU type of the product for the vendor provided, otherwise only the DU type will be used to obtain the RPE for comparison with the advanced quantity set.

### 3.5 Resources Package (RES)

The functions ?RPE\_EQUIVALENT?, ?RPE\_TO\_DU? and ?GET\_DU\_TYPE\_DETAILS? will be changed to check if the booking has a vendor and if so it will obtain the RPE for the DU type of the product for the vendor provided, otherwise only the DU type will be used to obtain the RPE.

The vendor code will be added to the parameters received for the functions.

The functions will be overloaded to receive 2 parameters (I\_DU\_TYPE, I\_QUANTITY) or 3 parameters (I\_DU\_TYPE, I\_QUANTITY, I\_VENDOR\_CODE).

The parameters ?I\_LOCATION\_ID? and ?I\_PRODUCT\_TYPE? will not be used as per the development performed for ?NW-7TBD7M? and the RPE found for this combination will take preference to that found optionally for the vendor.



N.B. The ?Lane Based Order Entry? form (LB\_ORDERS) will call function ?RES.RPE\_TO\_DU? and will pass 4 parameters, it will not need to pass the vendor code as the vendor code is not set for lane-based orders.

## 3.6 Orders Package (OMS)

The function ?VALIDATE\_ORDERS? will be changed to pass the vendor code of the booking of the order to the function ?RES.GET\_DU\_TYPE\_DETAILS? to obtain the volume, collapsed volume, maximum weight and RPE values for the order line.

## 3.7 Bookings Package (BKG)

The function ?AUTO\_SUMMARY? will be changed to obtain the volume and maximum weight values for the order line for the default vendor ?ALL\_VENDORS?.

## 3.8 Generate Orders Package (GEN\_TI)

The functions ?GENERATE\_TIS?, ?GENERATE\_CROSSDOCK\_TIS?, ?CREATE\_BOOKING\_TIS?, ?SINGLE\_CREATE\_BOOKING\_TIS? and ?AUTO\_ADVANCE? will be changed to check if the booking has a vendor and if so it will obtain the RPE for the DU type of the product for the vendor provided, otherwise only the DU type will be used to obtain the RPE.

The vendor code will be added to the parameters passed to the function ?RES.RPE\_EQUIVALENT?; the third and fourth parameters passed will be null.

The cursors ?C\_ORD? will be changed to select ?BKG\_PROD\_SUM\_REC.VENDOR\_CODE? so that it may be used to obtain the RPE for the order.

The cursors ?C\_DU\_TYPE? will be changed to obtain the values from table ?RES\_DESPATCH\_UNIT\_TYPE? using the vendor code of the order and the DU type.

## 3.9 Reports

The following reports will need to be changed to pass the vendor code of the order to function ?RES.RPE\_EQUIVALENT?:

- DRIVER\_ITINERARIES (Function CF\_RPE\_TO\_DELIVERFORMULA)
- HAULIER\_CONFIRM\_FAX (Function CF\_RPE\_EQUIVFORMULA)
- INBOUND\_SCHEDULE (Function CF\_RPE\_EQUIVFORMULA)
- LOC\_DEL\_PRE\_WARNING (Function CF\_RPE\_EQUIVFORMULA)
- SAR\_INBOUND\_SCHEDULE (Function CF\_RPE\_EQUIVFORMULA)
- TRIP\_SUMMARY (Function CF\_TOTAL\_RPEFORMULA)
- UNPLANNED\_PRODUCT (Function CF\_RPE\_EQUIVFORMULA)

N.B. All reports except ?SAR\_INBOUND\_SCHEDULE? have been designed to obtain the RPE on the combination of location and product type.

Report ?UNPLANNED\_PRODUCT? may use the vendor code of the booking and not the order.

### Table Updates Required

The new column ?VENDOR\_CODE? may be added to table ?RES\_DESPATCH\_UNIT\_TYPE? using the following script:

---

```
-- Alter table --
alter table RES_DESPATCH_UNIT_TYPE add VENDOR_CODE VARCHAR2(25);
-- Need to alter unique key index PK_RES_DESPATCH_UNIT_TYPE to be DU_TYPE, VENDOR_CODE
```

The unique key index ?PK\_RES\_DESPATCH\_UNIT\_TYPE? will need to be changed to be ?DU\_TYPE,



VENDOR\_CODE?.

A data fix will be required to enable some DU types to have different RPE values for different vendors as may be seen in the spreadsheet provided:

Vendor ID	Vendor Name	DU_Type	DU_Desc	RPE
10025538	JARIR BOOKSTORE_5538	Carton_SmalA	Carton Small 12X12X12	0.01
10025538	JARIR BOOKSTORE_5538	Carton_SmalB	Carton Small 15X15X15	0.025
10025538	JARIR BOOKSTORE_5538	Carton_Small	Carton Small	0.1
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_SmalA	Carton Small 12X12X12	0.025
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_SmalB	Carton Small 15X15X15	0.1
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_Small	Carton Small	0.3
		Carton_Small	Carton Small	0.35
10025538	JARIR BOOKSTORE_5538	Carton_MdmA	Carton Medium 30X30X30	0.035
10025538	JARIR BOOKSTORE_5538	Carton_MdmB	Carton Medium 40X40X40	0.045
10025538	JARIR BOOKSTORE_5538	Carton_Medium	Carton Medium	0.1
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_MdmA	Carton Medium 30X30X30	0.045
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_MdmB	Carton Medium 40X40X40	0.1
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_Medium	Carton Medium	0.25
		Carton_Medium	Carton Medium	0.5
10025538	JARIR BOOKSTORE_5538	Carton_Large	Carton Large 80X80X80	0.5
10012016	AL-MAKTABA COMPANY LIMITED_2016	Carton_Large	Carton Large 80X80X80	0.65
		Carton_Large	Carton Large	0.75

## References

Ref No	Document Title & ID	Version	Date
1	EST-279472 AA-87JJL3 RPE Calculation for Different Vendors v1.0.doc	1.0	10/08/10

## Document History

Version	Date	Status	Reason	Initials
0.1	02/09/10	Draft	Initial version	PDR
1.0	06/09/10	Issued	Reviewed & Issued	MJC
1.1	01/10/10	Update	Corrected table for VENDOR_CODE in section 3.6	PDR



## 4 AUTHORISED BY

<b><i>Matt Crisford</i></b>	Development Manager
<b><i>Peter Greer</i></b>	TMSCC MTS Product Manager

