

255520

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1 255520



2 255520 - NW-7JZJ2T/ Add Cross Docking to Fixed Routes Part 1

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3 Functiona Overview

3.1 Client Requirement

Change Request Details:

Add cross-docking functionality to Fixed Routes.

Utilising the RTE_USE_CROSSDOCK, when this is set to Y Fixed Routes should also consider Orders that have the Current Location field populated. For example, an Order from RDC02 to Customer01 would currently only be allocated to a Trip from a Fixed Route if both the From and To Locations match, with this change the Order would also be allocated if the From Location was RDC01 but it had been previously cross-docked to RDC02 and hence the Current Location on the Order is RDC02. Note that this means that Orders in a status of SCHED_COLL now need to be considered. Following this logic with the parameter set to "Y" the Orders should always be considered based on the Current Location and then, if null, the From Location. If set to "N" the functionality should be as current. Regarding time window validation, the collection window on the order needs to take into account the cross-dock time and therefore, based on the calculation currently carried out in MTS when cross-docking manually the same validation needs to take place now. I am not sure of the detail but the latest collection time on the order will probably still be valid, the earliest collection time will be the earliest time the order is available from the cross-dock (Current) location.

Note: This is required ASAP for Healthcare UK as it was understood that this code was already available, not sure when or why it was taken out (possibly by Cap Gemini). Any assistance in getting something working quickly will be much appreciated.

Benefits identified as a result of the change:

Improved product offering to existing and potential business. Cross-docking is a key requirement in many operations and the ability to incorporate this into part of an automated solution will be a key factor to the likes of Consumer Network and then also for Healthcare and potential customers in Poland and Portugal.

3.2 Solution

A change will be made to permit route types for cross-docking to be available for fixed route allocation of orders if the existing, but currently non-effective, system parameter ?RTE_USE_CROSSDOCK? is set to ?Y?. If the system parameter is set to ?N? then the following functionality will not apply.

Incorporating this new functionality will involve changes to how they are assessed regarding the assignment of orders.

The fixed route allocation process will now consider orders for cross docking if the order is at status ?SCHED_COLL?. This situation will apply to orders that have a current location as the stop type location of the route for pickup types of ?PK?. The current location will thus be considered in preference to the ?From? location when the system parameter ?RTE_USE_CROSSDOCK? is set to ?Y?.

If a trip is disbanded as it does not pass all validation criteria during its creation then the status of the order will be returned to ?SCHED_COLL? and not automatically to ?UNSCHEDULED? if the order was being cross docked.

3.3 Scope

These reports will be applied to system version 10.6 on HCRTST and once approved HCRPRD.

3.4 Data

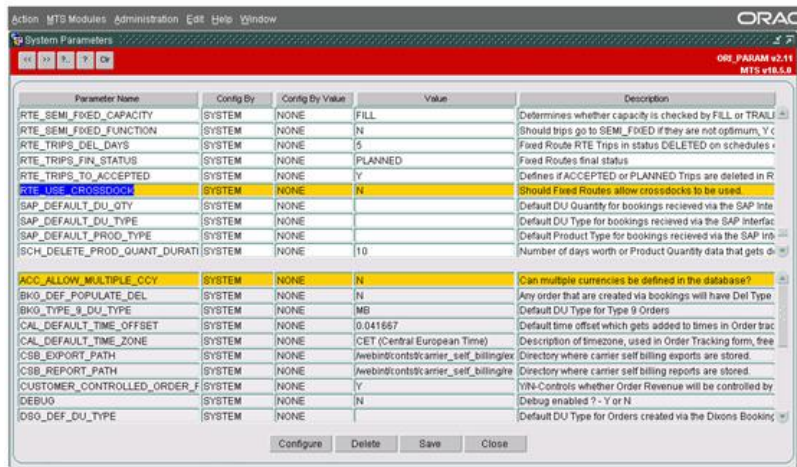
The system parameter ?RTE_USE_CROSSDOCK? should exist in MTS and be set to ?N? for the commencement of testing and to prevent the new functionality being activated.



4 Functional Description

4.1 Description of Change - Set-up

The existing system parameter ?RTE_USE_CROSSDOCK? highlighted in Figure 1 will be utilised for this development:

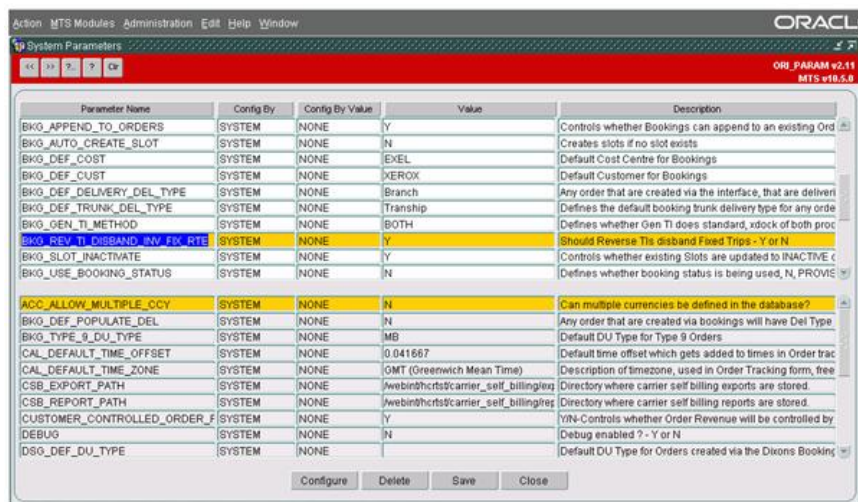


Parameter Name	Config By	Config By Value	Value	Description
RTE_SEMI_FIXED_CAPACITY	SYSTEM	NONE	FILL	Determines whether capacity is checked by FILL or TRAIL
RTE_SEMI_FIXED_FUNCTION	SYSTEM	NONE	N	Should trips go to SEMI_FIXED if they are not optimum, Y or N
RTE_TRIPS_DEL_DAYS	SYSTEM	NONE	5	Fixed Route RTE Trips in status DELETED on schedules
RTE_TRIPS_FIN_STATUS	SYSTEM	NONE	PLANNED	Fixed Routes final status
RTE_TRIPS_TO_ACCEPTED	SYSTEM	NONE	Y	Defines if ACCEPTED or PLANNED Trips are deleted in R
RTE_USE_CROSSDOCK	SYSTEM	NONE	N	Should Fixed Routes allow crossdocks to be used
SAP_DEFAULT_DU_QTY	SYSTEM	NONE		Default DU Quantity for bookings received via the SAP Inte
SAP_DEFAULT_DU_TYPE	SYSTEM	NONE		Default DU Type for bookings received via the SAP Interfac
SAP_DEFAULT_PROD_TYPE	SYSTEM	NONE		Default Product Type for bookings received via the SAP Int
SCH_DELETE_PROD_QUANT_DURATI	SYSTEM	NONE	10	Number of days worth of Product Quantity data that gets o
ACC_ALLOW_MULTIPLE_CCY	SYSTEM	NONE	N	Can multiple currencies be defined in the database?
BKO_DEF_POPULATE_DEL	SYSTEM	NONE	N	Any order that are created via bookings will have Del Type
BKO_TYPE_9_DU_TYPE	SYSTEM	NONE	MB	Default DU Type for Type 9 Orders
CAL_DEFAULT_TIME_OFFSET	SYSTEM	NONE	0.041667	Default time offset which gets added to times in Order trac
CAL_DEFAULT_TIME_ZONE	SYSTEM	NONE	CET (Central European Time)	Description of timezone, used in Order Tracking form, free
CSB_EXPORT_PATH	SYSTEM	NONE	/webin/cntrst/carrier_self_billing/	Directory where carrier self billing exports are stored.
CSB_REPORT_PATH	SYSTEM	NONE	/webin/cntrst/carrier_self_billing/	Directory where carrier self billing reports are stored.
CUSTOMER_CONTROLLED_ORDER_F	SYSTEM	NONE	Y	Y/N-Controls whether Order Revenue will be controlled by
DEBUG	SYSTEM	NONE	N	Debug enabled ? - Y or N
DSO_DEF_DU_TYPE	SYSTEM	NONE		Default DU Type for Orders created via the Dixons Booking

Figure 1

The system parameter ?RTE_USE_CROSSDOCK? is currently not effective within MTS and will be used to consider orders that have been cross-docked to a depot location.

The trips may also be disbanded when reversing transport instructions and the system parameter ?BKG_REV_TI_DISBAND_INV_FIX_RTE? is referenced for this purpose as may be seen in Figure 2 below:



Parameter Name	Config By	Config By Value	Value	Description
BKO_APPEND_TO_ORDERS	SYSTEM	NONE	Y	Controls whether Bookings can append to an existing Ord
BKO_AUTO_CREATE_SLOT	SYSTEM	NONE	N	Creates slots if no slot exists
BKO_DEF_COST	SYSTEM	NONE	EXEL	Default Cost Centre for Bookings
BKO_DEF_CUST	SYSTEM	NONE	XEROX	Default Customer for Bookings
BKO_DEF_DELIVERY_DEL_TYPE	SYSTEM	NONE	Branch	Any order that are created via the interface, that are deliv
BKO_DEF_TRUNK_DEL_TYPE	SYSTEM	NONE	Tranship	Defines the default booking trunk delivery type for any orde
BKO_GEN_TI_METHOD	SYSTEM	NONE	BOTH	Defines whether Gen TI does standard, xdock of both proc
BKG_REV_TI_DISBAND_INV_FIX_RTE	SYSTEM	NONE	Y	Should Reverse TIs disband Fixed Trips - Y or N
BKO_SLOT_INACTIVATE	SYSTEM	NONE	Y	Controls whether existing Slots are updated to INACTIVE c
BKO_USE_BOOKING_STATUS	SYSTEM	NONE	N	Defines whether booking status is being used, N, PROVIDE
ACC_ALLOW_MULTIPLE_CCY	SYSTEM	NONE	N	Can multiple currencies be defined in the database?
BKO_DEF_POPULATE_DEL	SYSTEM	NONE	N	Any order that are created via bookings will have Del Type
BKO_TYPE_9_DU_TYPE	SYSTEM	NONE	MB	Default DU Type for Type 9 Orders
CAL_DEFAULT_TIME_OFFSET	SYSTEM	NONE	0.041667	Default time offset which gets added to times in Order trac
CAL_DEFAULT_TIME_ZONE	SYSTEM	NONE	GMT (Greenwich Mean Time)	Description of timezone, used in Order Tracking form, free
CSB_EXPORT_PATH	SYSTEM	NONE	/webin/cntrst/carrier_self_billing/	Directory where carrier self billing exports are stored.
CSB_REPORT_PATH	SYSTEM	NONE	/webin/cntrst/carrier_self_billing/	Directory where carrier self billing reports are stored.
CUSTOMER_CONTROLLED_ORDER_F	SYSTEM	NONE	Y	Y/N-Controls whether Order Revenue will be controlled by
DEBUG	SYSTEM	NONE	N	Debug enabled ? - Y or N
DSO_DEF_DU_TYPE	SYSTEM	NONE		Default DU Type for Orders created via the Dixons Booking

Figure 2

The trip status also has a flag called ?PRT? (?PERMIT REVERSE TI?) that determines if the transport instructions may be reversed in the ?BOOKINGS? form, this flag is not set for any type of trip status (and is thus considered to be set to ?N?) as may be seen Figure 3 below:



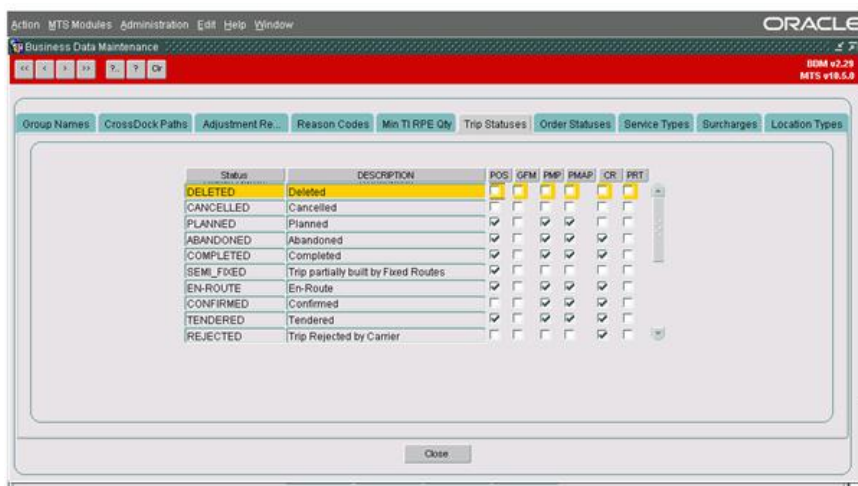


Figure 3

The setup for the fixed routes will not be changed until the proposed development for RIO ?259841 NW-7JZJ2T Add Cross-docking to Fixed Routes Part 2? is implemented, the ?Stop Type? will remain for ?Location? and ?Region? types only as may be seen in Figure 4 below:

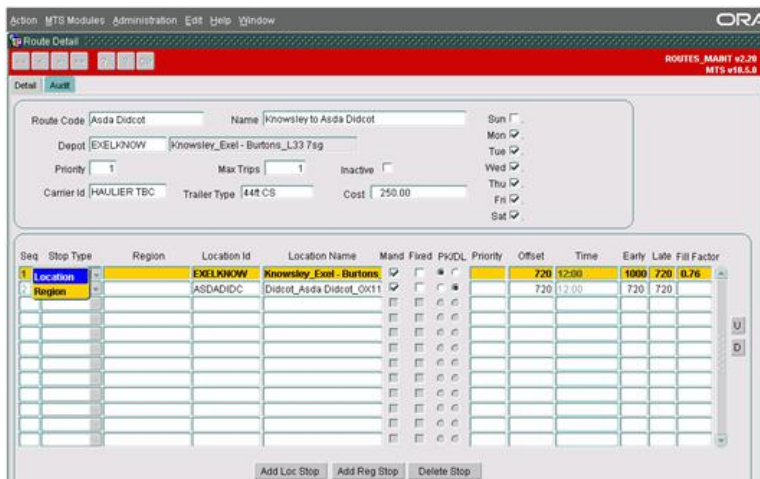


Figure 4

4.2 Description of Change - Processing

Currently, the fixed routes will only assess orders at status ?UNSCHEDULED? and not ?SCHED_COLL? for orders that have been cross-docked; this change will enable the cross-docked orders to be incorporated into the order allocation process for fixed routes.

If the system parameter ?RTE_USE_CROSSDOCK? is set to ?Y? then the order allocation process for fixed routes will be changed to search for the current location of orders that have been cross-docked in preference to the source location. The current location will be used if it is not null, otherwise the source location will be used if the current location is null; i.e. the ?NVL? command may be used for this purpose.

The ?Fixed Routes Execution? process will not be changed as the existing parameters may be passed into the ?SCHEDULE_ROUTES? function in the ?RTE? package as may be seen in Figure 5 below:



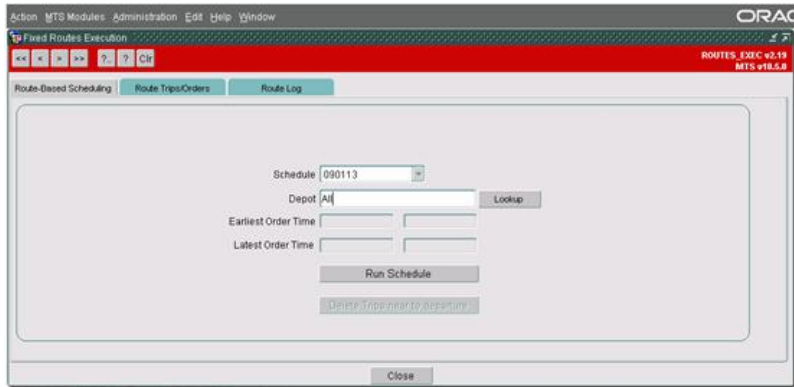


Figure 5

The ?SCHEDULE_ROUTES? function will call the ?PROCESS_STOPS? function in the ?RTE? package to assess whether the order may be allocated or not.

The ?PROCESS_STOPS? function will be changed to enable orders that have been cross-docked to the current location to be selected in the cursor ?C_ORDERS? for the parameter ?C_FROM_LOCATION? passed in.

The current location may be obtained from the column ?CURRENT_DEPOT? on the table ?SCH_ORD? and the source location from the column ?FROM_LOC? on the table ?SCH_ORD?. The current location will be used in preference to the source location in the ?ADD_ORD_TO_TRIP? function in the ?TRM? package.

The early and late times will be assessed differently for orders that have been cross-docked to those that are ?UNSCHEDULED?: the arrival and departure times at the current location will be obtained from the columns ?ACTUAL_ARRIVE?, ?ARRIVE?, ?ACTUAL_DEPART? and ?DEPART? on the table ?SCH_TRIP_STOP? instead of the early arrival and departure times of the order from the columns ?EARLY_AVAIL? and ?EARLY_DEL? on the table ?SCH_ORD? which will be for the source location.

If a trip is disbanded because it is invalid then the order will be returned to the original status of ?UNSCHEDULED? or ?SCHED_COLL? to reflect whether it had been cross-docked or not.

The function ?DISBAND_INVALID_TRIP? in the ?RTE? package will be changed for this purpose if a current location exists for the order as described above.

When the trip is disbanded the function ?DELETE_SHA? in the ?TRM? package will be run to delete the trip and set the current location of the order back to the location of the previous trip stop for the order; therefore, the current location should be retained if the order is not allocated to a trip for the fixed route using the existing functionality. The function ?VALIDATE_ORDER? in the ?OMS? package will be run to set the status of the order; therefore, the status of ?SCHED_COLL? should be retained if the order is not allocated to a trip for the fixed route using the existing functionality.

As the order allocation process for fixed routes will allocate an order to a trip, the transport instructions may not be reversed for an order with the expected setup; thus a change will not be required for this development for the function ?DISBAND_INVALID_TRIPS? in the ?RTE? package to reset the status of the order; it will be assumed that the existing functionality is correct. See Figure 3 for details about the expected setup.

If the system parameter ?RTE_USE_CROSSDOCK? is set to ?N? then the new functionality for this development and the proposed development for RIO ?259841 NW-7JZJ2T Add Cross-docking to Fixed Routes Part 2? will be inactive.

Summary of changes required:

- RTE.PROCESS_STOPS
- RTE.DISBAND_INVALID_TRIP



5 References

Ref No	Document Title & ID	Version	Date
1	EST-255520 NW-7JZJ2T Add cross-docking to fixed routes Part 1 v1.doc	1	13/01/09



6 Document History

Version	Date	Status	Reason	Initials
1a	15/01/09	Draft	Initial version	PDR



7 Authorised By

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