5.1.3.50. Replenishment generator

IReplenishmentGenerator - Generates item based replenishment orders

This replenishment generator starts from the configuration on the item master data. It will try to generate orders where the 'Replenishment Quantity on pick locations' (OITM.U_PMX_RQPL found on the item master data produmex sales tab) is greater than 0.
If there is enough stock on pick locations, no order will be generated.

In case of setting a destination location for the replenishment order:
When the generator has calculated the quantity that should be replenished, it will try to find all pick locations that have this item in the 'Can be replenished' list and where the minimum quantity for that item on the location is higher than zero. It will try to create orders on those locations, ordered by the sequence defined on the location.
If no location can be found, or if there is enough stock on the location(s), *(taking in account the maximum quantity on the location)*, it will not create a replenishment order.

Close open orders first? (Y/N)
When this is checked, the system will first close all open replenishment orders when running the replenishment tool.

No destination location on order? (Y/N)
When this is checked, the system will create replenishment orders without setting the destination location.
The user who executes the replenishment will be able to select a pick location.

Pick list due date range (in days)
The pick list due date range in days. If 'Take in account pick lists' is checked, this setting defines the due date range of all the pick lists that should be taken in account.

Remove SSCC on execution? (Y/N)
When this setting is enabled, the executed move will remove the SSCC of the stock.
This means that the stock that will be stored on the pick location will not contain an SSCC anymore.
This removal of the SSCC can only happen if there is no locking for this SSCC.

Select zone on replenishment flow? (Y/N)
If enabled, the user has to select the zone before selecting the replenishment order. After a zone is selected, only replenishment orders for locations in the zone can be selected. The zones that are shown are the parent zones of the locations that need replenishment.
Please note: If the 'No destination location on order' option is enabled, the zone will not be asked regardless of the 'Select zone on replenishment flow' setting.

Skip stock when LUID is blocked? (Y/N)
When this option is checked, the blocked LUID will not be moved to the pick location. This can be used when the system is configured that the pick list proposal generator already locks stock based on the LUID and if on the pick list controller the option to pick full pallet from bulk location is allowed.

Stock coverage in days
In combination with the configuration on Item master data it will calculate the needed quantities

within the days defined in the stock coverage. If for example you have a stock coverage of 15 days, the generator will calculate the needed quantities for those 15 days, and create replenishment orders *(if needed)* so there will be enough stock on the locations for at least 15 days.

Stock order by
The order of the stock to be used:

- Order by BBD, Batch1, Batch2 (FEFO)
- Order by ItriKey, No LUID, LUID (FIFO)
- Order by BBD, ItriKey (FEFO_ITRI)

Take in account pick lists? (Y/N)
When this option is checked, items that are on pick lists *(with a due date in range)* will be subtracted from the current available stock on the location.

CALCULATION:

A replenishment order will be generated when: *(Stock on pick location – # on pick list) < = (Est. sales qty * (Stock coverage/#days in month))*

Configuration 1:

- ItemA: Quantity on pick locations = 120 (OITM.U_PMX_RQPL)
- ItemA: Estimated sales quantity by month = 100 (OITM.U_PMX_ESQM)
- ItemA: Sum of Stock On Hand on pick locations = 70
- ItemA: Sum of Items on a pick list (in range) = 10
- Generator: Stock coverage = 15

In this example:
*(70 – 10) < (100 * (15/30))* → ***60 < 50***
So we need 50 items to be picked in the 15 days, but there are still 60 available, so no replenishment orders need to be generated.

Configuration 2:

- ItemA: Quantity on pick locations = 120 (OITM.U_PMX_RQPL)
- ItemA: Estimated sales quantity by month = 100 (OITM.U_PMX_ESQM)
- ItemA: Sum of Stock On Hand on pick locations = 40
- ItemA: Sum of Items on a pick list (in range) = 15
- Generator: Stock coverage = 15

In this example:
*(40 – 15) < (100 * (15/30))* → ***25 < 50***
So we need 50 items to be picked in the 15 days, and there are only 25 available, so replenishment orders need to be generated.

The number of items to be replenished is calculated:
(Qty on pick locations – (Stock on pick locations - # on pick list))

In this example:
(120 – (40 – 15)) = ***95***

So 95 items need to be replenished from bulk locations to pick locations.

IReplenishmentGenerator - Generates replenishment orders

This replenishment generator takes in account the items defined on the pick location. When the stock goes below the minimum quantity, it will generate a replenishment order.
The system will create an order so the minimum quantity *(Defined on the location)* is exceeded after the execution of the replenish order. The quantity will be a multiple of the Replenish Qty.

Close open orders first? (Y/N)
When this is checked, the system will first close all open replenishment orders when running the replenishment tool.

Pick list due date range (in days)
If 'Take in account pick lists' is checked, this setting defines the due date range of all the pick lists that should be taken in account.

Remove SSCC on execution? (Y/N)
When this setting is enabled, the executed move will remove the SSCC of the stock.
This means that the stock that will be stored on the pick location will not contain an SSCC anymore.
This removal of the SSCC can only happen if there is no locking for this SSCC.

Select zone on replenishment flow? (Y/N)
If enabled, the user has to select the zone before selecting the replenishment order. After a zone is selected, only replenishment orders for locations in the zone can be selected. The zones that are shown are the parent zones of the locations that need replenishment.

Skip stock when LUID is blocked? (Y/N)
When this option is checked, the blocked LUID will not be moved to the pick location. This can be used when the system is configured that the pick list proposal generator already locks stock based on the LUID and if on the pick list controller the option to pick full pallet from bulk location is allowed.

Stock order by
The order of the stock to be used:

- Order by BBD, Batch1, Batch2 (FEFO)
- Order by ItriKey, No LUID, LUID (FIFO)
- Order by BBD, ItriKey (FEFO_ITRI)

Take in account pick lists? (Y/N)
When this option is checked, pick list lines in status 'Not ready' with a due date in range will be subtracted from the current available stock on the location. This means that only pick list lines without an allocation on location level will be taken into account.

CALCULATION:

A replenishment order will be generated when: *{(Stock on pick location - # on pick list) < = Minimum quantity}.*

Example:

- Stock on pick location= 25
- Minimum quantity = 20
- Maximum quantity = 60
- Replenish quantity = 10
- # on pick list = 12

Configuration 1: Pick list not taken into account/ not within the due date range
In this example: 25 < 20
Since the stock on the pick location exceeds the minimum quantity, no replenishment order needs to be generated.

Configuration 2: Pick list taken into account and within the due date range
In this example: 25-12= 13 < 20
If we take into account the pick list, the quantity on the pick location will fall below the minimum quantity, therefore a replenishment order needs to be generated.

The quantity to replenish in the order will be a multiple of the Replenish Qty. It will be calculated by: {n*(Replenish Quantity) > = Minimum Quantity - Stock on pick location + # on pick list} where n is a non-negative integer.

Example:

- Stock on pick location= 5
- Minimum quantity = 20
- Maximum quantity = 60
- Replenish quantity = 10
- # on pick list = 12

Pick list not taken into account:
*n*10 >= 20-5 → n*10 >=15*
Because the quantity to replenish must be the multiple of the Replenish quantity, 20 items need to be replenished from bulk locations to pick locations.

Pick list taken into account:
*n*10 >= 20-5+12 → n*10>=27*
Because the quantity to replenish must be the multiple of the Replenish quantity, 30 items need to be replenished from bulk locations to pick locations.