

Objective	Inventory Blocking		
Requested By/ Client			
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Functional Area	WMS/Inventory	Type	Functionality
Version	1.4	Author	
Approved By		Approved Date	

Revision History:

Revision	Reason for Change	Date	Author
1.1	Draft		
1.2	Impacted Areas		
1.3	Addition of Priority and few cases		
1.4	Customer Group Added		

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1. Objective:

User can automatically reserve inventory against a channel or a store or B2B customer or Customer group from the available inventory. The reserved inventory cannot be withdrawn from the warehouse for other orders unless the inventory reservation, or part of the inventory reservation, is cancelled. This functionality would empower user to block inventory against a party for a priority scenario from centralized inventory.

Reasons for reserving inventory:

- Avoiding missing out priority orders due to inventory stock out
- Segregating inventory channel wise based on market demand

2. Technical:

a) Screen Changes:

Inventory Reservation screen (New)

WMS>Inventory>Inventory Reservation									Search	Reset	Export	Advance Search	Add New
▼ IR Key	▼ IR Name	▼ Party Type	▼ Party Code	▼ Start Date	▼ End Date	▼ Status	▼ Created Date	▼ Created By					
Sys Generated	Big Billion	Channel	M05	11-04-19	15-04-19	Active	11-04-19	Priyankar					

Inventory Reservation Create/ Edit screen (New)

Inventory Reserve		Snapshot Detail										
IR Key	IR Name	Warehouse location										
Party Type	Party Code: Dropdown as per Party type			Status								
B2B Customer Channel Store Customer Group		Start Date	End Date									
<input type="button" value="Add Data"/> <input type="button" value="Remove Data"/> <input type="button" value="Import"/> <div style="margin-top: 10px;"> <table border="1"> <tr> <td>Reserve Type</td> <td>Reserve Code</td> <td>Planned Type</td> <td>Planned Value</td> </tr> <tr> <td>SKU Category All SKU</td> <td></td> <td>Absolute Quantity Percentage (%)</td> <td>Priority 1 2 3</td> </tr> </table> <p><input checked="" type="checkbox"/> Once reserved inventory against sku reduces to 0, then sku would be part of common pool</p> </div>					Reserve Type	Reserve Code	Planned Type	Planned Value	SKU Category All SKU		Absolute Quantity Percentage (%)	Priority 1 2 3
Reserve Type	Reserve Code	Planned Type	Planned Value									
SKU Category All SKU		Absolute Quantity Percentage (%)	Priority 1 2 3									
<input type="button" value="Add"/> <input type="button" value="Reset"/>												
▼ Reserve Type	▼ Reserve Code	▼ Planned Type	▼ Planned Value	▼ Priority								
SKU	SKU001	Absolute Quantity	37	1								
Category	Apparel	Percentage (%)	37	2								

Reserved Inventory Snapshot

This screen shows final reserved quantity with respect to each sku in the IR key only for active skus. So here user can edit the reserved quantity if needed and which should get update in DB. Only 'Available Reserved Quantity' column is editable.

Inventory Reserve		Snapshot Detail			Search	Export	Release All
▼ Sku Code	▼ Planned Value	▼ Reserved Quantity	▼ Available Reserved Quantity	▼ Common Pool Quantity			
sku1	37	37	4	44			
sku2	100	80	73	0			
sku3	77	77	77	5			
sku4	200	150	12	70			
<input type="button" value="Confirm"/>							

The 'Confirm' button would active only if any data is updated.

Change in Inventory view screen

- A new column 'Reserved Inventory' need to be added showing total reserved quantity against a sku
- The quantity value should be like a hyperlink, on clicking which would give a pop-out box with reserved inventory against 'IR Key'
- Inventory view export also would be updated with necessary changes like addition of Reserved Inventory column.

b) DB changes:

- Inventory Reservation snapshot table would a ledger table as it would keep All unique entry for any change in Inventory Reservation.
- Inventory Reserve column need to be added in 'Invbal' table which will store the cumulative Reserved Inventory for Individual SKU for each respective location. This will be updated whenever an Inventory Reservation gets active/deactive in system.

c) Procedure Changes:

- Inventory push proc need to be updated basis the reservation.
- Allocation proc need to be updated where if there is any order comes against an active reserved inventory then allocation would be done from there only. Inventory would be depleted from both invbal, invbysku as well as from specific Reserved Inventory from snapshot.
- If any order against reserved inventory is cancelled or unallocated, then the freed quantity would be added in both reserved inventories.

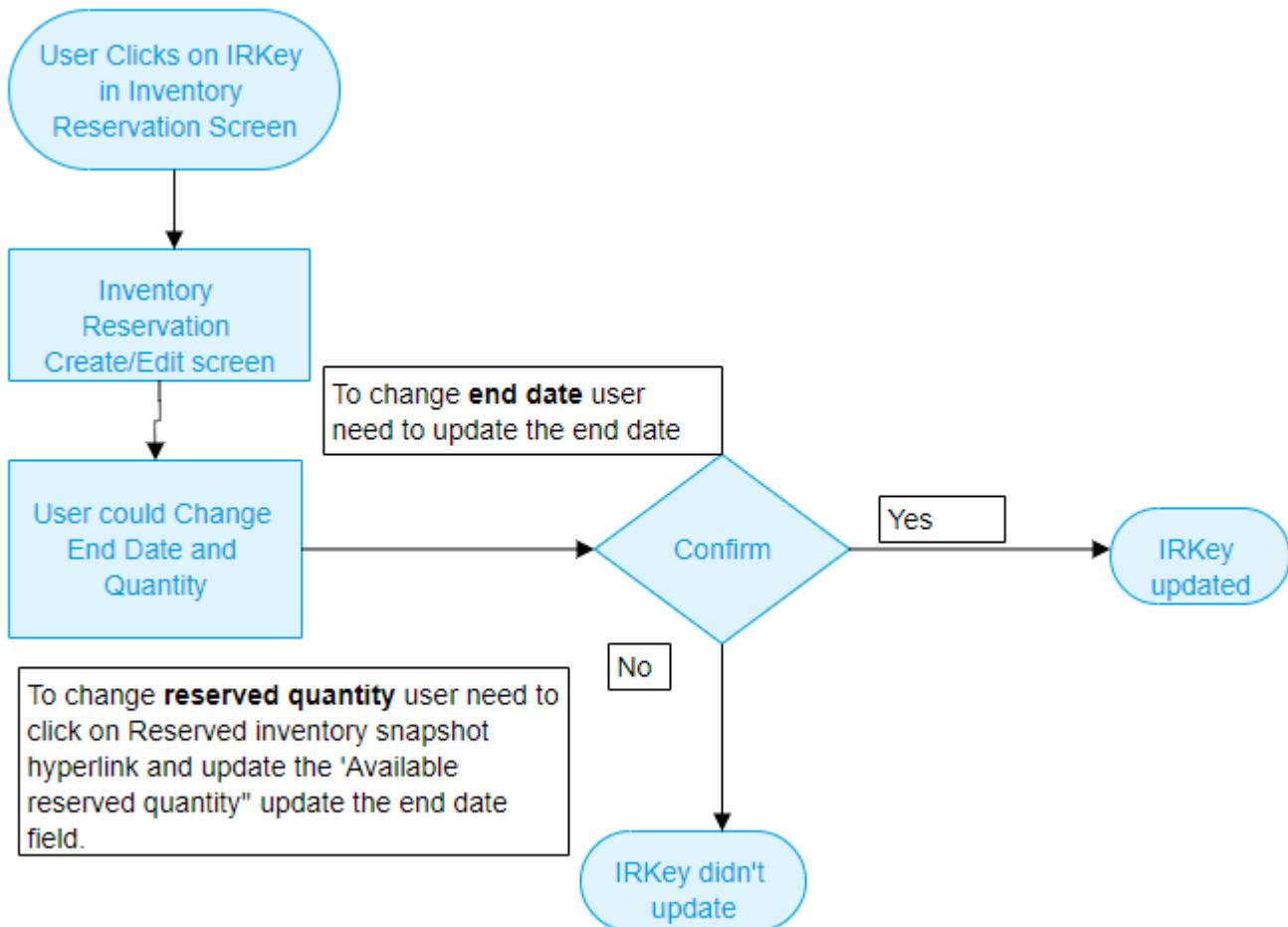
3. User Journey:

a) Happy Flow/ New Inventory Reservation:

- A user would open Inventory Reservations screen then click on Add new
- Inventory Reservation Create/ Edit screen would open
- IRKey is a system generated document no against an entry
- User feels all the field correctly with start date and end date
- Details filling flow Warehouse -> Reservation type -> Sku selected -> Save.
- Post filling data user need to click on 'confirm' to create the record
- As per the start date & End the IRKey would get active or inactive based on blocked inventory and available inventory.

b) Edit Inventory Reservation:

- An IRKey end date and quantity could be changed only.
- User flow—



- Once data is updated against an IRKey, then inventory block would perform as per new details
- The end date could be only from the present date and future dates.

c) Cancel Inventory Reservation:

- For cancelling an IR Key user just need to open the IRkey from Inventory Reservation Key and click on Cancel.
- Once IR is cancelled then the inventory blocked against key would be added back to Common Pool Available quantity.

4. Validations:

a) On Creation:

- In case the user selects "All SKUs" or "Category" to define inventory reservation, the reservation type can only be %ge.
- In case of %ge, a sku can have maximum of 100% inventory.
- User will have the option to select whether the Allocation should continue from Common Pool or not, once the reserved inventory is over.
- Start date calendar should show activate a calendar with next 15 days from date of selection, means user can create an IRkey with starting with in next 15 days.
- End date should be within 90 days of start date
- All the fields are mandatory.
- While user selects sku as Reserve Type, then only bulk import option would come.

- When user selects planned type as absolute then only 'Priority' field should show in screen which should be mandatory.

b) On Confirmation:

- Against a sku cumulative planned value can be maximum of 100% for all the %age type planned type, on a starting date. (Validation)
- Error messages:
 - Sku is already part of active/confirmed IR key of same party code
 - Duplicate IR Name is not allowed
 - Planned value above 100% is not allowed for a reserve code
 - Planned value for for 'XXX' sku is cumulatively above 100%
 - Priority is mandatory for Absolute Quantity type
- IRKey statuses:**
 Saved (IRkey is only created and saved but not confirmed),
 Confirmed (IRkey is confirmed by user),
 Active (IR key is active with respect to date range),
 Inactive (IRkey didn't get active on start date due to inventory shortage or blocked inventory becomes 0 within active date range or end date is passed)
 Cancelled (IRkey is cancelled by the user)

c) On Activation:

- 1 sku would be allowed to be part of only 1 active IR key of same Party Code.
- If a SKU lies in 3 types of reservation i.e. All SKUs, Category and Specific SKU. Priority would be given to Specific SKU. So, priority order for inventory reservation/ activation is 1. Sku, 2. Category, 3. All SKUs
- In case of %age type reserve, IR key would always get active on start date with blocked quantity as respective %age of available quantity on start date
- In case of %age, blocked quantity should be rounded down i.e. if actual blocked quantity comes 32.8 then block quantity should be 32
- For a sku, 'Absolute Quantity' type IR should be given 1st priority and %age should be given 2nd priority.
- For calculating reserve inventory in case of 'absolute quantity' planned type, if available inventory is less than the sum of planned quantity then, quantity should be reserved against a IR key in WACC basis. For example: Let below IRkeys are for sku1 having start date as 21st July. On 21st July available quantity is 300 for SKU1, then below would be the solution.

IR Key	Planned Value	Priority	Available Qty	Actual Blocked
IR1	200	1	300	$300 * 200 / 500 = 120$
IR2	300	1	300	$300 * 300 / 500 = 180$
IR3	200	2	300	0
IR4	20%	NA	300	0

- IRkey's end date and Reserved value is editable even if it is active.
- If inventory is reserved for against any channel, then all the orders of the channel would get allocated against the reserved quantity.
- For all the other channels available inventory from common pool would be pushed
- Once inventory is blocked against an active IRKey, then all the existing processes should consider 'Available quantity' of the common pool data for other processes like for Inventory move, Stock Adjustment, STO etc.

d) On Inactivation:

- On end date, system should inactive the IR Key.
- All the remaining quantity of reserved quantity should get added in common pool and same should be pushed to the marketplaces.

e) General:

- For multiclient environment in all the screens client check need to be added
- Start date would be always future date
- For editing End date would be future date or present date
- IR Key would get active or inactive on Start of the day or End of the day respectively
- In case of edit of the IR key i.e. Quantity or End date, it would update at the data at the moment
- IR Key can be cancelled only if statue is saved or confirmed. To stop an active IR key user should update end day or edit the quantity.
- If user edits IR Key quantity to increase reserve quantity, then added quantity should not be more than available inventory in common pool.

5. Future Scope:

- Inventory could be reserved against SKU group, Merch Hierarchy, Brand
- Alerts in different cases like inventory alert just before 1 day of activation with respect to skus in an IR key etc.
- Allowing inventory blocking with future planned quantity against any PO or STO

6. Impacted Areas:

- Market Place API Changes
- Inventory Push API Changes [Across All Clients]
- Inventory Move
- Inventory Adjustment
- STO
- RTV
- Standard Report