

ERP-791 Mobility-HU Stock Type Change

Status	Approved
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Jira Request ID	 ERP-399 - Jira project doesn't exist or you don't have permission to view it.
Jira Development ID	 ERP-791 - Jira project doesn't exist or you don't have permission to view it.

High- Level Specification

Parameter	Value
Application System	SAP S4/HANA SyWay
Business Process Reference	06.10 Manage Inventory and Logistics 06.11 Manage Warehouse and Logistics

Functional Overview

The business requires the ability to change the stock type of a handling unit using the Logistics Neptune Mobility Solution. This transaction will allow stock type changes such as unrestricted to blocked stock for the contents of the handling unit.

Handling units will represent pallets, boxes or rolls etc. and a barcode label on the packaging will normally have the handling unit number in a 2D GS1 Data Matrix barcode format, but other barcode symbologies will also be supported.

Scope and Objectives

The scope of this document is limited to the development of the Neptune mobility transaction to allow stock type status changes at handling unit level. The Neptune mobile transaction will facilitate performing the stock type change at HU level (applicable to all the contents in the HU).

This app will support stock type changes of handling units in IM handling unit managed storage locations and EWM storage locations.

Process Flow Diagram

Step	Description	Comment
1	Choose required stock type	
2	Scan handling unit(s) for stock type change	
3	Post stock type change(s) to SAP	

Assumptions

None

Dependencies

None

Security, Integrity and Controls

None

Configuration Requirements

None

Language Requirements

This app will be available in all SyWay languages.

[KDD055 - Multi-Language Support](#)

Special Requirements

None

Design Rationale

The Syensqo business requires the ability to transfer the stock of handling units into different stock types. This is identified as a business requirement within the scope of Neptune mobile transactions. This transaction will be new screen to be developed in Neptune mobile app that will support the user interface to execute the transaction and the background processing of the data to transfer the stocks into required stock type using posting change.

Functional Requirements

This app will show on the launchpad for the Logistics Mobile Solution.

Initial Screen

The first screen will prompt to enter the destination stock type and then to scan/enter the handling units to be changed.

The stock type can be selected from a drop down list. The list of allowed destination stock types for the plant are stored in the Allowed Stock Type Changes custom table. See the custom tables section. The values shown in the drop down will be the description field from the custom table.

Handling units in the warehouse must be entered, by scanning or typing. The handling unit number may be an SSCC number or other number.

The user can either scan highest level HUs or lower level HUs for processing. Mixed stock types on a higher level HU are allowed.

When scanning, an enter key will be added automatically to the scanned value. This allows rapid scanning of multiple handling units.

For scanning, the HU field needs to support 2D GS1 data matrix barcodes, code 128 barcodes and other agreed formats. Application identifier 00 will be present in the case of SSCC numbers. Otherwise the entire content of the scanned barcode is to be considered the HU number.

For manual input the user needs to press Enter to process the HU.

Each valid HU scanned will be added to a scanned list. The scanned list will show a counter of the number of HUs scanned.

The scanned list will show, the HU number, the packaging material, the material number, the batch number, the storage location (for IM HU) or the storage bin (For EWM HUs), the cumulated quantity on the HU, the current stock type and the new stock type.

If the HU contains more than one material, the material description will show "<Mix>".

If the HU contains more than one batch, the batch number will show "<Mix>".

If the HU contains more than one stock type, the stock type will show "<Mix>".

Determine if HU is IM or EWM and calculate the cumulated content

See ERP-1003 for this shared logic.

Handling Unit Validation (IM)

Field	Table-Field name	Comments / Calculation / Field Manipulation / Input / Output / Validation rule / Value help
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HU number	VEKP-EXIDV	The handling unit must exist otherwise display an error "Handling Unit <hu> does not exist."
HU Plant	VEKP-WERKS	The HU must belong to the plant of the user otherwise display an error "Plant of HU <hu> is <x>".
HU Object Assignment	VEKP-VPOBJ	The HU must be unassigned (VEKP-VPOBJ = 12) otherwise display an error "HU <hu>has status <VEKP-BPOBJ> <VEKP-VPOBJKEY>"
HU System Status	Status Management	If the HU system status contains "INIV" display an error "HU <hu> is active for physical inventory".
HUM SLoc	VEKP-HU_LGORT	The HU must be in a HU managed storage location (VEKP-HU_LGORT = X) otherwise display an error "HU <hu> in non-HU Storage Location".
Destination Stock Type	Custom table	The destination stock type record in the custom table must have an IM Source Stock Type, an IM Destination Stock Type and an IM Process code, otherwise display an error "Stock Type <x> not applicable for IM HU <hu>".
HU Stock Type	VEPO-BESTQ	If the current stock type of the entire Handling Unit is the same as the destination stock type display an error "HU <hu> already has stock type <9999>"
HU Stock Type	VEPO-BESTQ	If the current stock type of the Handling Unit does not exist in the Allowed Stock Type Changes custom table in conjunction with the selected destination stock type, show an error "Transfer from <IM source stock type> to <IM destination stock type> not permitted". When the handling unit contains mixed stock types, all combinations for the stock type change must exist in the custom table for stock type changes.
HU number (Already Processed)	VEKP-EXIDV	If the HU entered has already been processed with a stock type change pending on the scanner, show an error "HU <hu> already processed for transfer to sloc <x>".

Handling Unit Validation (EWM)

Field	Table-Field name	Comments / Calculation / Field Manipulation / Input / Output / Validation rule / Value help
HU EWM number	/SCWM /HUHDR-HUIDENT	The handling unit must exist otherwise display an error "Handling Unit <hu> does not exist."
HU Warehouse	/SCWM /HUHDR-LGNUM	The HU must belong to the warehouse of the user otherwise display an error "Warehouse of HU <hu> is <9999>".
HU System Status	Status Management	If the HU system status does not include "PORT", display an error "HU <hu> is not in warehouse".
HU Object Assignment (PID)	/SCWM /HUREF-GUID_HU	The HU must be not have a reference to a document, otherwise display and error "HU <hu> is assigned to <Doc Category short description> <Document number of reference GUID>". For the reference document number, lookup /SCWM/HUREF-DOCID on table /SCDL/DB_REFDOC and use value /SCDL/DB_REFDOC-REFDOCNO. For document categories PDI, PDO and SPC select reference document category ERP on table /SCWM/HUREF-DOCID. For document category PMR, select the first record with reference document category RES.
Destination Stock Type	Custom table	The destination stock type record in the custom table must have an EWM Source Stock Type and an EWM Destination Stock Type, otherwise display an error "Stock Type <x> not applicable for EWM HU <hu>".
HU EWM Stock Type	/SCWM /STOCK_I W02-CAT	If the stock type of the entire Handling Unit is the same as the destination storage stock type, display an error "HU <hu> already has stock type <9999>"
HU EWM Stock Type	/SCWM /STOCK_I W02-CAT	If the current stock type of the Handling Unit does not exist in the Allowed Stock Type Changes custom table in conjunction with the selected destination stock type, show an error "Transfer from <EWM source stock type> to <EWM destination stock type> not permitted". When the handling unit contains mixed stock types, all combinations for the stock type change must exist in the custom table for stock type changes.

HU number (Already Processed)	/SCWM /HUHDR- HUIDENT	If the HU entered has already been processed for a stock type change pending on the scanner, show an error "HU already processed for change to stock type <x>".
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Logic to retrieve stock types(s) for EWM HU

- Lookup HU on table /SCWM/HUHDR to get HUGUID for HU
- Lookup HUGUID on table /SCWM/HUREF to get the document ID for the HU
- Lookup document ID on table /SCWM/QUAN to get the GUID stock values for the quants of the HU
- Lookup the GUID stock values on table /SCWM/STOCK_IW02 to get the stock types of the HU
- For nested HUs this process needs to be repeated for all HUs in the nested structure

Detail screen

For any HU scanned, the HU details can be displayed by selecting the HU in the list of HUs already scanned.

With this option the user will navigate to the HU display app ERP-788.

Processing data

A summary of the HUs already scanned will be listed on the HU entry screen. The most recently scanned HU will be shown at the top of the list. The list will also show the source and destination stock types. A counter will show the number of HUs already scanned.

The user can branch to the HU details screen from the summary by clicking on an item.

Provide an option for the user to delete transactions captured. E.g. The user may elect to delete a record in the case that an HU was processed by mistake.

The user will press a Save button to post the transactions in SAP.

IM HU Stock Type change

- Post the goods movement(s) in SAP using the function module HU_CREATE_GOODSMVT_RFC.
- For the purposes of the Function Module the process code depends on the stock type change being performed. Use the process code from the custom table. e.g. 0005 to transfer from unrestricted use stock to blocked stock.
- This posting will create a material document and the stock type change of the handling unit(s) is complete.

EWM HU Stock Type change

- Perform a Posting Change for the handling units(s) for the required stock type change. This is the equivalent of the transaction /SCWM /POST for the handling unit, entering the destination EWM stock type, as per the custom table.
- All the quantities for the posting change are always set to the full quantity of each quant.
- The warehouse process type is set to warehouse supervision.

If the posting is successful display the message returned from SAP. E.g. "Material document 4900001957 was created".

If the posting is not successful display the error message returned from SAP.

In all cases a log of the transaction will be posted to a custom table in SAP (See ERP-1003). This information can later be viewed in the Handheld Manager transaction on SAP.

Recommended UI Technology

This app will be developed using Neptune DXP Open Edition. The app will appear on the Neptune launchpad.

Application Screen

Wireframe or Mock-Up

See example screens in Functional Requirements section.

Screen Behavior

No special behavior required.

Screen Navigation

Standard navigation.

Data Integration

Field	Table-Field Name	Comments / Calculation / Field Manipulation / Input / Output / Validation rule / Value help

Custom Tables

A custom table will store the allowed stock type changes for the plant. IM and EWM entries can be entered independently.

Allowed Stock Type Changes table

Field	Format	Description
Plant	CHAR (4)	The plant for the allowed stock type change. **** to mean valid for all plants.
IM Source Stock Type	CHAR (1)	Stock Type THUWBBWART-BESTQ. The user must choose a stock type that is present for the selected process code on table THUWBBWART
EWM Source Stock Type	CHAR (2)	Stock Type (EWM values) e.g. F2 for unrestricted use stock.
IM Destination Stock Type	CHAR (1)	Stock type (Using IM values as per THUWBBWART-BESTQ)
EWM Destination Stock Type	CHAR (2)	Stock Type (EWM values) e.g. B6 for blocked stock.
IM Process Code	NUM (4)	Process number from THUWBBWART-HUWBEVENT
Description	CHAR (20)	Description of destination stock type. Used for the drop down on the initial screen. e.g. "Blocked Stock".

Master data

Field	Description	Data Type/Length	Validation rule / Value help

Configuration table

Field	Description	Data Type/Length	Validation rule / Value help

Tooltips

None

Front-End

This app can be executed on a mobile device or in desktop mode.

Mobile Services

Not applicable.

Authentication & Authorization

The user must have material document create access for the selected plant. Check object M_MSEG_WMB for Activity 01 and the selected plant. If no access, show the message "No authorization for plant <9999>".

Accessibility

Not applicable.

Volumetrics

This solution will be used at approximately 100 plants. The total users is estimated to be around 800.

Error Handling

Errors to appear in a pop up window that needs to be acknowledged by the user.

Testing

How to Test

Test Conditions and Expected Results

ID	Condition	Expected Result
1	Transfer highest level HU in IM sloc to blocked stock	HU stock type change successful
2	Transfer lowest level HU in IM sloc to blocked stock	HU stock type change successful
3	Transfer highest level HU in IM sloc to unrestricted use stock	HU stock type change successful
4	Transfer lowest level HU in IM sloc to unrestricted use stock	HU stock type change successful
5	Transfer highest level HU in EWM sloc to blocked stock	HU stock type change successful
6	Transfer lowest level HU in EWM sloc to blocked stock	HU stock type change successful
7	Scan/Enter HU that does not exist	Error issued
8	Attempt to transfer HU to blocked stock, when HU is already in blocked stock	Error issued
9	Attempt to transfer HU to blocked stock, when HU is active for physical inventory	Error issued
10	Attempt to transfer HU to blocked stock, when HU is already assigned to delivery	Error issued

Test Considerations/Dependencies

None

Other Information

Development Details

Package

Package Name	Parent Package

UI Implementation

UI Type	UI Name	Fiori Catalogue	Design Rationale Reference

API Implementation

API Type	API Name	Purpose / High Level Logic	API Product	Design Rationale Reference

Other Development Objects

Object Type	Object Name	Purpose/High Level Logic	Design Rationale Reference

Appendix

See also



Change log

Version	Published	Changed By	Comment
CURRENT (v. 22)	Dec 17, 2025 12:31	BIRSE-ext, Gary	
v. 21	Dec 11, 2025 11:36	BIRSE-ext, Gary	
v. 20	Dec 09, 2025 14:04	BIRSE-ext, Gary	
v. 19	Dec 09, 2025 13:42	BIRSE-ext, Gary	
v. 18	Dec 09, 2025 13:39	BIRSE-ext, Gary	
v. 17	Dec 09, 2025 12:58	BIRSE-ext, Gary	
v. 16	Dec 08, 2025 17:22	BIRSE-ext, Gary	
v. 15	Dec 08, 2025 17:04	BIRSE-ext, Gary	
v. 14	Dec 08, 2025 16:52	BIRSE-ext, Gary	
v. 13	Dec 08, 2025 16:50	BIRSE-ext, Gary	

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Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Dec 18, 2025	Actor	Type	Activity	Version
Approved	 VENKAT-ext, Rama	State	changed state to Approved at 11:10 am	v22
Lead Approval	 VENKAT-ext, Rama	State	<p>gave <i>POD Lead Review</i> approval at 11:10 am</p> <p><i>Reviewed and Approved for Development</i></p>	

	BIRSE-ext, Gary	State	assigned approval <i>POD Lead Review</i> to  VENKAT-ext, Rama at 8:10 am	
	Kas	MAKKAY-ext,	State	changed expiry date to '25 Dec, 2025 03:47 am' at 3:47 am
			State	changed state to Lead Approval at 3:47 am v22
Edited following Tech Review	Kas	MAKKAY-ext,	State	gave <i>Minor change</i> approval at 3:47 am