

CNV-1051 TM-Locations

Status	Approved
Owner	OMER-ext, Mohammed
Stakeholders	

Purpose

The purpose of this document is to define the conversion approach to create TM-Locations in S/4 HANA TM (Transportation management).

In SAP Transportation Management (TM), a location represents a physical or logical place where goods or resources are handled or stored. These locations are fundamental to transportation planning, serving as source, destination, or intermediate stops within the transportation network.

Locations are the most granular objects in the transportation network. They are used for further definitions, such as transportation lanes, and so on. They are classified using a location type.

TM locations can be created in S4 from plants, shipping points, suppliers, customers etc using standard SAP report /SAPAPO/CREATE_LOCATION. For the cases where Locations need to be separately created e.g. incoterm locations, the data for TM Locations in S/4 would need to be constructed in the data collection template (DCT).

Conversion Scope

The scope of this document covers the approach for creating TM Locations in S/4HANA following the TM-Locations Master Data Design Standard. This includes:

- Capturing and using the TM Locations data in data collection template (DCT).
- Applying transformation logic via Syniti to conform with the S/4 HANA data model.
- Loading the transformed data into SAP S/4 HANA while ensuring data integrity.

The data from legacy system includes:

1. N/A (Manual data collection)

The data from legacy system excludes:

1. N/A (Manual data collection)

List of source systems and approximate number of records

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
DCT	Creation of TM Locations	TBD	S/4 HANA (TM)	TBD

Additional Information

Multi-language Requirement

Location description will be made available in English.

Multi language is supported for locations. Login via a different language will show the description displayed in the logon language if the language key is maintained.

Document Management

Not Applicable

Legal Requirement

Not Applicable

Special Requirements

Not Applicable

Target Design

The complete information of the key fields that hold the TM Location information follows the Master Data Standard document.

The technical design of the target for this conversion approach.

Table	Field	Data Element	Field Description	Data Type	Length	Requirement	Notes
/SAPAPO/LOC	LOCNO	LOCNO	Location	CHAR	20	Mandatory	Location no would be input by user
/SAPAPO/LOC	LOCTYPE	LOCTYPE	Location Type	CHAR	4	Mandatory	
/SAPAPO /LOCT	SPRAS	SPRAS	Language Key	CHAR	1	Mandatory	Multi language is supported for locations.
/SAPAPO /LOCT	DESCR40	DESCR40	Location Description	CHAR	40	Mandatory	
/SAPAPO/LOC	TZONE	TZONE	Timezone	CHAR	6	Optional	
/SAPAPO/LOC	UNLOCODE	UNLOCODE	UN/LOCODE	CHAR	5	Optional	
/SAPAPO/LOC	IATACODE	IATACODE	IATA Code	CHAR	3	Optional	
/SAPAPO/LOC	PARTNER_GUID	PARTNER_GUID	BusinessPartner	CHAR	16	Optional	
/SAPAPO/LOC	ADV_SHP_RECV_RLV	ADV_SHP_RECV_RLV	Advanced Shipping and Receiving Relevance	CHAR	1	Optional	Values: 1 or empty Syensqo Locations with EWM we put 1, rest "empty"
ADRC	TITLE	TITLE	Title	CHAR	4	Optional	
ADRC	NAME1	NAME1	Name 1	CHAR	40	Optional	
ADRC	HOUSE_NUM1	HOUSE_NUM1	House Number	CHAR	10	Optional	
ADRC	STREET	STREET	STREET	CHAR	60	Optional	
ADRC	CITY1	CITY1	City	CHAR	40	Optional	
ADRC	POST_CODE1	POST_CODE1	City postal code	CHAR	10	Optional	
ADRC	COUNTRY	COUNTRY	COUNTRY	CHAR	2	Optional	
ADRC	REGION	REGION	REGION	CHAR	3	Optional	
ADRC	SORT1	SORT1	Search Term 1	CHAR	20	Optional	
ADRC	LANGU	LANGU	Language	CHAR	1	Optional	
ADRC	TEL_NUMBER	TEL_NUMBER	Telephone	CHAR	30	Optional	
ADR6	SMTP_ADDR	SMTP_ADDR	Email	CHAR	241	Optional	
/SAPAPO /LOCMAP	WM_LOGSYS	WM_LOGSYS	SAP EWM Target System	CHAR	10	Optional	
/SAPAPO /LOCMAP	WM_WH_NUMBER	WM_WH_NUMBER	SAP EWM Warehouse Number	CHAR	4	Optional	
/SAPAPO/LOC	TIME_RES	TIME_RES	Operating Time Inbound	CHAR	22	Optional	
/SAPAPO/LOC	TIME_RES_OUT	TIME_RES_OUT	Operating Time Outbound	CHAR	22	Optional	

Data Cleansing

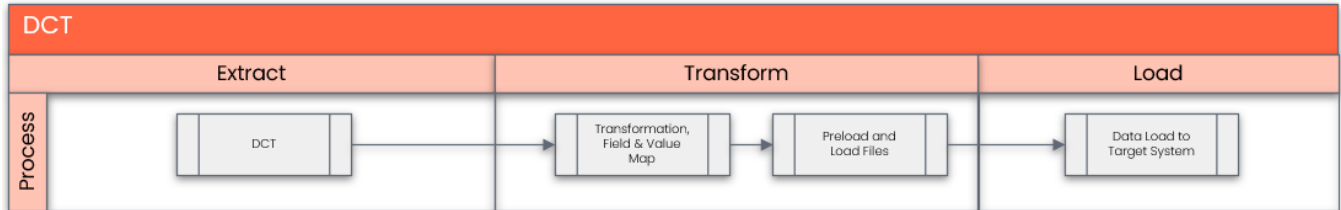
TM Location data will be populated directly in the Data Collection Template (DCT).

ID	Criticality	Error Message/Report Description	Rule	Output	Source System

Conversion Process

The high-level process is represented by the diagram below:

Please note that the data may have to be loaded in multiple target systems (US instance, China instance and RoW).



Data Privacy and Sensitivity

Extraction

The data does not exist (or cannot be converted from its current state). The data is manually collected by the business directly in Syniti Migrate. This is to be conducted using DCT (Data Collection Template) in Syniti Migrate.

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
1	Data is populated in the DCT or uploaded from downloaded Excel template	Data owner (Business)
2	If the data is uploaded to DCT in bulk via excel template, any upload errors need to be reviewed and corrected	Data owner (Business), Syniti/ Data Team
3	The data which has passed validation checks in DCT will be used for transformation/further processing	Syniti

Selection Screen

Selection Ref Screen	Parameter Name	Selection Type	Requirement	Value to be entered/set

Data Collection Template (DCT)

A Target Ready Data Collection Template will be created for the required data, except for fields that need transformation as per the defined transformation rules. It will follow the format required by the target S/4HANA TM Location.

Please find below the DCT details (main DCT page and another page for non English descriptions).

DCT Rules

Please refer to the above Google sheet for the DCT rules.

Field Name	Field Description	Rule

Extraction Dependencies

Not applicable.

Item #	Step Description	Team Responsible

Transformation

The Target fields are mapped to the applicable Legacy field that will be its source, this is a 3-way activity involving the Business, Functional team and Data team. This identifies the transformation activity required to allow Syniti platform to make the data Target ready:

1. Perform value mapping and data transformation rules.
 - a. Legacy values are mapped to the to-be values (this could include a default value)
 - b. Values are transformed according to the rules defined in Syniti platform
2. Prepare target-ready data in the structure and format that is required for loading via prescribed Load Tool. This step also produces the load data ready for business to perform Pre-load Data Validation

Transformation Run Sheet

Item #	Step Description	Team Responsible
1	Capture the data for TM Location in DCT. Review and correct any errors if bulk uploading data via downloaded excel DCT template.	Business team
2	Ensure the mapping tables which are needed during transformation have been reviewed and signed off by business.	Business team, Data Team (SCM)
3	Obtain DCT Sign-off from Business	Data Team (SCM)
4	Generate Pre-Load reports	Data Team (Syniti)
5	Review and Validate Error and Preload Reports	Data Team (SCM)
6	Log errors as defects, if any and address resolutions.	Data Team (SCM)
7	Re-transform and re-validate the Pre-load reports if necessary.	Data Team (SCM), Data Team (Syniti)
8	Obtain preload validation sign-off from Business	Business + Functional (SCM) + Data Team (SCM)
9	Generate Load Files	Data Team (Syniti)

Transformation Rules

Please check the attached file for the complete source-to-target field mapping, validation checks and proposed error messages. The validation checks list is not exhaustive and may change over time as the design and configuration of the system evolves.

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic	Notes
1051-001	DCT				S/4 HANA	/SAPAPO /LOC	LOCNO	Location	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	LOCTYPE	Location Type	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOCT	SPRAS	Language Key	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOCT	DESCR40	Location Description	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	TZONE	Timezone	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	UNLOCODE	UN/LOCODE	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	IATACODE	IATA Code	Direct Mapping	
	DCT				S/4 HANA	N/A	zLegacySys	Source system	This will be used together with legacy vendor or customer in determining the new (S4) BP number	
	DCT				S/4 HANA	/SAPAPO /LOC	PARTNER_GUID	Business Partner	Value mapping: Use the legacy to SAP vendor and customer mapping table to determine the new (S4) BP number	Business partner should exist in SAP.
	DCT				S/4 HANA	/SAPAPO /LOC	ADV_SHP_RECVR_LV	Advanced Shipping and Receiving Relevance	Direct Mapping	
	DCT				S/4 HANA	ADRC	TITLE	Title	Direct Mapping	
	DCT				S/4 HANA	ADRC	NAME1	Name 1	Direct Mapping	
	DCT				S/4 HANA	ADRC	HOUSE_NUM1	House Number	Direct Mapping	
	DCT				S/4 HANA	ADRC	STREET	Street	Direct Mapping	
	DCT				S/4 HANA	ADRC	CITY1	City	Direct Mapping	
	DCT				S/4 HANA	ADRC	POST_CODE1	Postal code	Direct Mapping	Country specific postal code check should be made to validate the accuracy.
	DCT				S/4 HANA	ADRC	COUNTRY	Country	Direct Mapping	
	DCT				S/4 HANA	ADRC	REGION	Region	Direct Mapping	
	DCT				S/4 HANA	ADRC	SORT1	Search Term 1	Direct Mapping	
	DCT				S/4 HANA	ADRC	LANGU	Language	Direct Mapping	
	DCT				S/4 HANA	ADRC	TEL_NUMBER	Telephone	Direct Mapping	
	DCT				S/4 HANA	ADR6	SMTP_ADDRESS	Email	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOCMAP	WM_LOGSYS	SAP EWM Target System	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOCMAP	WM_WH_NUMBER	SAP EWM Warehouse Number	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	TIME_RES	Operating Time Inbound	Direct Mapping	
	DCT				S/4 HANA	/SAPAPO /LOC	TIME_RES_OUT	Operating Time Outbound	Direct Mapping	

List of Custom Target Reports for this object is maintained here: [Conversion Specification - Custom Reports Register](#).

Transformation Mapping

Field Name	Mapping Table Name	Mapping Table Description
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PARTNER_GUID	Vendor Number and Customer Number	i) LIFNR: Old Vendor Code to New Vendor Code cross reference ii) KUNNR: Old to New Customer No.

Transformation Dependencies

List the steps that need to occur before transformation can commence

Item #	Step Description	Team Responsible
1	Ensure DCT tables completeness	Data Team (SCM)
2	Value Mappings are according to the latest design	Functional Team (SCM) + Data Team (SCM)
3	SAP Transportation management configuration for TM Locations is complete	Functional Team (SCM) + Data Team (SCM)
4	Dependent Master Data records for Resources and Business Partners are loaded	Functional Team (SCM) + Data Team (SCM)

Pre-Load Validation

Project Team

Completeness

Task	Action
Check Values	Validate the pre-load data confirming the values are aligned with target system format
Validate template structure and required field population	Ensure mandatory fields like Location, Location type, Description are filled
Verify Record Count	SCM Data Team to verify that the total number of relevant records from the DCT is equal to the total number of records in the Preload and Load Sheets

Accuracy

Task	Action
Conversion Accuracy	SCM Data Team to verify that all fields below meet pass the checks: <ol style="list-style-type: none"> 1. Mandatory Fields 2. Field and Value Mapping Correctness 3. Null Checks 4. Text Length Checks
Perform format validation (date, currency, decimal separators)	Standardize format to match SAP accepted input (e.g., YYYYMMDD for dates)
Review Error Reports	Review and correct the errors. Achieve a zero-error record count as much as possible. Raise defects for data remediated and requiring a correction in the source data.
Conduct dry runs using LTMC or BAPIs and review logs	Analyze load results and correct format or conversion errors

Business

Completeness

Task	Action
Verify Record Count	Business Data Owner/s to verify that the total number of relevant records from the the DCT is equal to the total number of records in the Preload validation file.

Accuracy

Task	Action
Conversion Accuracy	Business Data Owner/s to verify that all the data in the preload validation file is accurate as per endorsed transformation /mapping rules (and signed-off DCT data). Review error reports in tool for any mismatch or missing transformed values.

Load

The load process includes:

1. Execute the automated data load into target system using load tool or produce the load file if the load must be done manually
2. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation with side by side check of each fields in scope of the objects with fields to be displayed as XXXX_DCT, XXXX_S4HANA, XXXX_MATCH (As TRUE or FALSE) with an additional column denoting fields not matching and status of loading in S/4HANA as LOADED_IN_S4HANA (As TRUE or FALSE)

Function Loader_Inlay program or Custom Migration Cockpit Object (LTMOM) will have to be used for automated load of default routes to SAP S/4 HANA TM. There is no standard object available in SAP Migration Cockpit for Default routes. The load file format can be finalized when development system is available.

BAPI: BAPI_LOCSRVAPS_SAVEMULTI2

Load Run Sheet

Item #	Step Description	Team Responsible
1	Ensure the load tools are transported into the correct system/instance.	Data Team (SCM)
2	Ensure Pre-load sign-offs are obtained.	Data Team (SCM)
3	Execute upload of TM Locations using Function Loader_Inlay program or Custom Migration Cockpit Object.	Data Team (SCM)
4	Validate few records loaded by accessing standard transactions from S/4HANA E.g. Fiori app 'Define Location'.	Data Team (SCM)
5	Generate the post load reports in tool. The following fields should be used to form a key for postload comparison: /SAPAPO/LOC-LOCNO /SAPAPO/LOC-LOCTYPE	Data Team (SCM), Data Team (Syniti)
6	Log errors as defects, if any and address resolutions. Close defects.	Data Team (SCM)
7	Resolve defects by reupload and re-generate post load reports if necessary.	Data Team (SCM), Data Team (Syniti)
8	Business to validate the post load files as part of post-load validation, raise data defects or provide the post-load sign-off.	Business team
9	Repeat steps 5 to 7 if necessary.	Data Team (SCM), Data Team (Syniti)

Load Phase and Dependencies

TM Locations data will be loaded in the pre-cutover window.

Configuration

Item #	Configuration Item
1	SAP Transportation management configuration for Location <ul style="list-style-type: none">Define IATA location codes (Table: /SCMTMS/C_IATAC)Define UN/LOCODE (Table: /SCMTMS/C_UNLOC)Define Geocoding levels (Table: /SAPAPO/LOC_GL)Define GIS zone (Table: /SCMB/GIS_ZONE)
2	T002 - Language Keys

Conversion Objects

Object #	Preceding Object Conversion Approach
1195	TM Resources (only for the specific Locations where Operating time inbound/outbound fields are going to be maintained)
3007	Business Partners - General

Error Handling

As part of the TM Locations data load to S/4HANA using the Syniti data migration tool, various data quality, configuration, and technical challenges may arise.

The following table outlines the most commonly observed error types during data load, and the corrective actions typically taken to resolve them. This helps ensure consistency in issue handling, improves traceability during cutover, and supports smooth end-to-end execution of the default routes load.

Error Type	Error Description	Action Taken
Configuration	Invalid or missing SAP TM Locations configuration	Engage Functional team to expedite and fix the error in the system
Formatting Errors	One or more key fields are incorrectly formatted	Ensure formatting is done correctly
Authorization Errors	Lack of access to execute load in target client/system	Raised access request; obtained necessary authorizations
Transformation Miss	Required transformation logic not applied before load	Re-applied transformation rules and revalidated source-target mapping
Technical Load Failure	File not processed due to syntax/format error or system issue	Reviewed logs; regenerated file; re-executed load after resolving issue

Post-Load Validation

Project Team

Completeness

Task	Action
Run Fiori app/tcode to check loaded data in SAP	Run Fiori app 'Define Location' to check if data has been loaded
Compare uploaded data against source file values	Use Custom reconciliation tools e.g. SQL Server or Excel based comparison tools to validate the number of records loaded against the load file record volume

Check for load errors in load tool	Review custom load tool or Legacy Transfer Migration Cockpit LTMC logs for any failures
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Accuracy

Task	Action
Compare uploaded data against source file values	Use automated postload validation report or standard reports from S/4 HANA to validate field by field value match across all loaded records

Business

Completeness

Task	Action
Verify Count	Download Postload validation reports from Syniti and verify that the record count loaded in the target S/4 HANA is the same count as of the endorsed load file.
Review loaded TM Locations	Access the S/4HANA system (via Fiori app Define Location) to view loaded TM Locations

Accuracy

Task	Action
Compare Against Approved Load File	Cross-check data in S/4HANA against the final business-approved load file used for migration
Validate Accuracy of Converted/Transformed Data	Review any transformed fields (e.g., business partner number) for correctness
Log and Report Discrepancies	Use provided discrepancy log format or defect management tool to report any findings

Key Assumptions

- Master Data Standard is up to date as on the date of documenting this conversion approach and data load.
- TM Location is in scope based on data design and any exception requested by business.
- Data entries in DCT are target-ready data unless a specific transformation rule is stated for that field in the transformation rules.
- The list of validation checks in transformation section is not exhaustive and may change over time as the design and configuration of the system evolves.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 25)	Jan 13, 2026 15:28	OMER-ext, Mohammed	Corrected the table name for field SMTP_ADDR
v. 24	Oct 17, 2025 14:46	OMER-ext, Mohammed	Listed the fields which can be used for postload records comparison
v. 23	Oct 06, 2025 09:30	OMER-ext, Mohammed	
v. 22	Sept 26, 2025 07:31	OMER-ext, Mohammed	

v. 21	Sept 24, 2025 16:47	OMER-ext, Mohammed
v. 20	Sept 24, 2025 15:05	OMER-ext, Mohammed
v. 19	Sept 23, 2025 16:39	OMER-ext, Mohammed
v. 18	Sept 22, 2025 16:27	OMER-ext, Mohammed
v. 17	Sept 18, 2025 17:57	OMER-ext, Mohammed
v. 16	Sept 17, 2025 17:26	OMER-ext, Mohammed

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Workflow history

Title	Last Updated By	Updated	Status
There are no pages at the moment.			
