

CNV-1051 TM-Locations

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|--------------|--------------------|
| 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 |
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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).

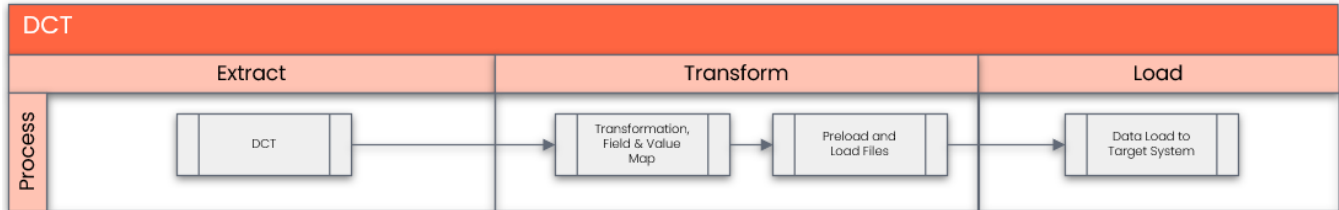
| ID | Criticality | Error Message/Report Description | Rule | Output | Source System |
|----|-------------|----------------------------------|------|--------|---------------|
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Conversion Process

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 |
|----------------------|----------------|----------------|-------------|-------------------------|
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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 |
|------------|-------------------|------|
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Extraction Dependencies

Not applicable.

| Item # | Step Description | Team Responsible |
|--------|------------------|------------------|
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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_ADDR | 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. |
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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. |
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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. |
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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 |
|------------------------------------|---|

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.

Workflow history

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

| May 08, 2026 | Actor | Type | Activity | Version |
|---------------------------|--|-------|---|---------|
| Approved |  MCARDLE-ext, Edward | State | changed state to Approved at 11:14 am | v25 |
| Revision under Review |  MCARDLE-ext, Edward | State | gave <i>Minor change</i> approval at 11:14 am | |
| | | State | changed state to Revision under Review at 11:14 am | v25 |
| Mar 18, 2026 | | | | |
| Revision in Progress |  WENNINGER-ext, Sascha | State | changed state to Revision in Progress at 5:42 pm | v25 |
| Jan 13, 2026 | | | | |
| Edited following Approval |  OMER-ext, Mohammed | Edit | updated the page at 3:28 pm <i>Corrected the table name for field SMTP_ADDR</i> | |
| | | State | changed state to Edited following Approval at 2:28 pm | v25 |
| Nov 03, 2025 | | | | |
| Approved |  MUTHUSAMY-ext, Kunalan | State | changed state to Approved at 10:20 am (State override) <i>[PMO Comments] Conversion Spec completed as per CS register and functional review completed</i> | v24 |