CNV-3005 Customer Hierarchy

Status	Approved
Owner	RUAN-ext, Eric
Stakeholders	CIRULE, Anita

Purpose

The purpose of this document is to define the conversion approach to create Customer Hierarchy in S4 HANA.

There are different scenarios for the customer hierarchy information in various legacy systems.

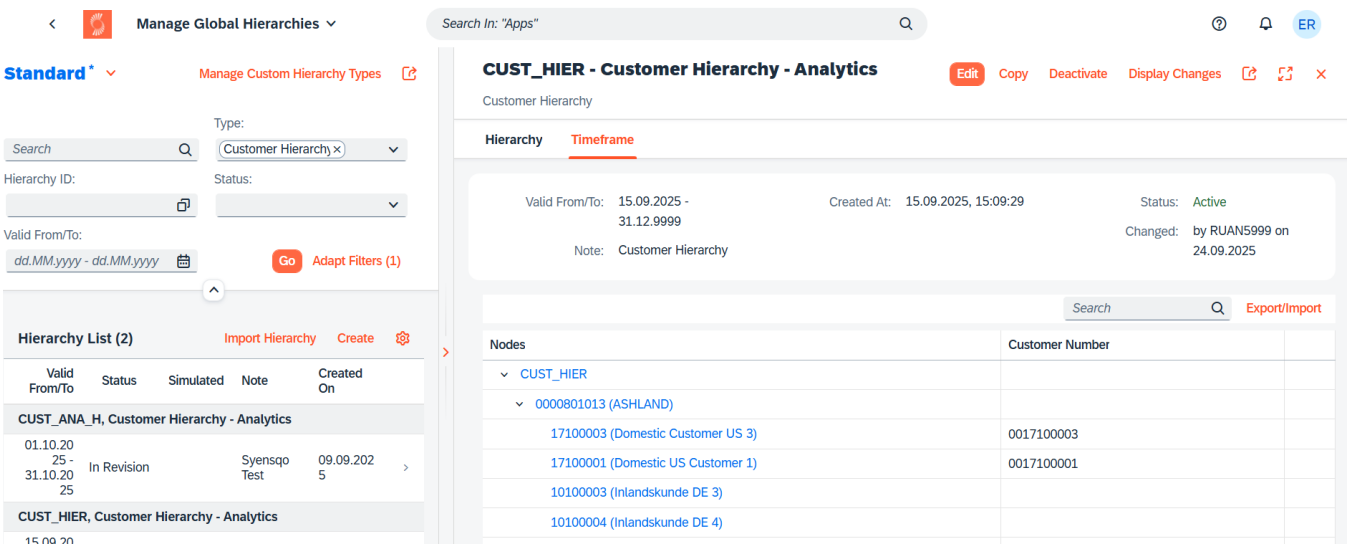
- First scenario is in SAP ECC, customer hierarchy is used to save the hierarchy information. The customer hierarchy is a tree-like hierarchy where each node is a customer (including parent and child customers). The primarily purpose is used for pricing, rebates, and reporting across related customers. It is maintained via transaction code VDH1N.
- Second scenario is in Customer General data, the field Group Key is used to assign the Parent company to each customer. The Group key is defined in PRS system, and synced to SAP ECC (WP2/PF2) in a custom table (ZZRGROUP in PF2. ZWPUT068 in WP2).
- Third scenario is in Salesforce, Corporate group is defined as a type of Account in Salesforce, then it is used to link related accounts (such as Prospect) accordingly. The Corporate Group definition is the same as Group Key mentioned in the second scenario.

In SAP S4 HANA, customers or prospect are managed as Business Partners (BP), enabling a more flexible and integrated data model. In the meantime, Global Hierarchies are used in the the new S4 Hana design. Global hierarchies are any characteristic hierarchies that are maintained centrally in the Fiori app Manage Global Hierarchies. This conversion spec will capture on the migration approach on how to convert the ECC customer hierarchies/group key and Salesforce Corporate group to S4 Hana Global Hierarchies. In the S4 Hana global hierarchy design, the sales area assignment between Business Partners are not required.

The table below summarizes the three scenarios and the S4 solution to be used to manage the customer hierarchy information.

Scenario	Legacy System	Legacy System Data Source	Partner Type	Sales Area Related	S4 Hana Data Object
1	ECC (WP2 only)	The customer hierarchy is used, maintained via t-code VDH1N	Customer	Relevant	This will no longer be used in S4 Hana, therefore it is not in the migration scope.
2	ECC (WP2 /PF2)	Group Key (KNA1-KONZS) field is used in customer general data	Customer	Not Relevant	Global Hierarchies will be used and maintained via Fiori App Manage Global Hierarchies. Sales Area data will not be applicable for the data maintenance.
3	Salesforce (iCare and Core CRM)	Related Accounts is used to link the Corporate group (Parent Company) with the Accounts (Prospect)	Prospect	Not Relevant	Global Hierarchies will be used and maintained via Fiori App Manage Global Hierarchies. Sales Area data will not be applicable for the data maintenance.

The screenshot below is the demo of Fiori App "Manage Global Hierarchies".



Conversion Scope

The scope of this document covers the approach for converting active Customer Hierarchy from Legacy Source Systems into S4 HANA following the document "DD-FUN-050 Master Data Standard_3005-Customer Hierarchy".

The Customer hierarchy data from legacy systems includes:

Scenario	Legacy System	Legacy System Data Source	Relevancy Rule
1	ECC (WP2 /PF2)	Group Key (KNA1-KONZS) field is used in customer general data	1. Customer general data is in migration scope, and defined as Business Partner in S4 Hana system, which will have dependency on CNV-3007 Business Partners - General (Role 000000). 2. Group Key is not blank 3. Group Key Status (ZZRGROUP-ZZRDEL) is not 'D' Invalid
2	Salesforce (iCare and Core CRM)	Related Accounts is used to link the Corporate group (Parent Company) with the Accounts (Prospect)	1. Prospect is in migration scope and defined as Business Partner in S4 Hana system, which will have dependency on CNV3009-Business Partners - Prospect (BUP002) 2. There is related Account information maintained for the prospect 3. Group Key Status (ZZRGROUP-ZZRDEL) is not 'D' Invalid

The customer hierarchy data from legacy system excludes:

1. For child node, the Business Partner General data is not in migration scope of the Customer or Prospect
2. For parent node, the Corporate Group / Group key is not in migration scope of S4 Hana system when the status is marked as D - Invalid in PF2 table ZZRGROUP
3. For ECC (WP2 only), the customer hierarchy maintained via t-code VDH1N

List of source systems and approximate number of records

Scenario	Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
2	WP2	Group Key in customer general data	31835	S4 Hana ROW/China~~/CUI~~*20260222 remove CUI	31835
2	PF2	Group Key in customer general data	26150	S4 Hana ROW/China~~/CUI~~*20260222 remove CUI	26150

3	iCare	Corporate Group and related accounts	338	S4 Hana ROW/China~~/CUI~~*20260222 remove CUI	338
3	Core CRM	Corporate Group and related accounts	2167	S4 Hana ROW/China~~/CUI~~*20260222 remove CUI	2167

Additional Information

Multi-language Requirement

N/A

Document Management

N/A

Legal Requirement

N/A

Special Requirements

There will be 3 SAP instances, ROW (Rest of the World), China~~, CUI~~. This data object will be replicated to all 3 SAP instances.

Target Design

The technical design of the target for this conversion approach.

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
HRRP_DIR_N	HRYTYP		Hierarchy Type	CHAR	4	Mandatory
HRRP_DIR_N	HRYVALTO		Valid To	DATS	8	Mandatory
HRRP_DIR_N	HRYVALFROM		Valid From	DATS	8	Mandatory
HRRP_DIR_N	HRYSID		Hierarchy ID	CHAR	20	Mandatory
HRRP_DIRT_N	HRYTXT		Hierarchy Description	CHAR	50	Mandatory
HRRP_ATTR_NODE_N	HRYNODE		Hierarchy Node	CHAR	50	Mandatory
HRRP_ATTR_NODE_N	PARNODE		Hierarchy Parent Node	CHAR	50	Mandatory
	Type		Type for Upload template only			Mandatory

Data Cleansing

ID	Criticality	Error Message /Report Description	Rule	Output	Source System
3005-1	C1	Customer with Deleted Corporate Group(Group Key)	Group Key Status (ZZRGROUP-ZZRDEL) is 'D' Invalid, but it is assigned to a customer in migration scope	Customer/Name1/Country/Street/Group Key/Group Key description/Region/Leading GBU* 20260312 update	WP2/PF2
3005-2	C1	Prospect with Deleted Corporate Group(Group Key)	Group Key Status (ZZRGROUP-ZZRDEL) is 'D' Invalid, but it is assigned to a prospect in migration scope	Prospect/Account Name/Country/Address/Corporate Group /Corporate Group description/Region/Leading GBU* 20260312 update	iCare/Core
3005-3	C2	Customer with blank Corporate Group (Group Key)	Customer in migration scope, but the group key is blank	Customer/Name1/Country/Street/Group Key/Region /GBU* 20260312 update	WP2/PF2
3005-4	C2	Prospect with blank Corporate Group (Group Key)	Prospect in migration scope, but the group key is blank	Prospect/Account Name/Country/Address/Group Key /Region/GBU* 20260312 update	iCare/Core

Conversion Process

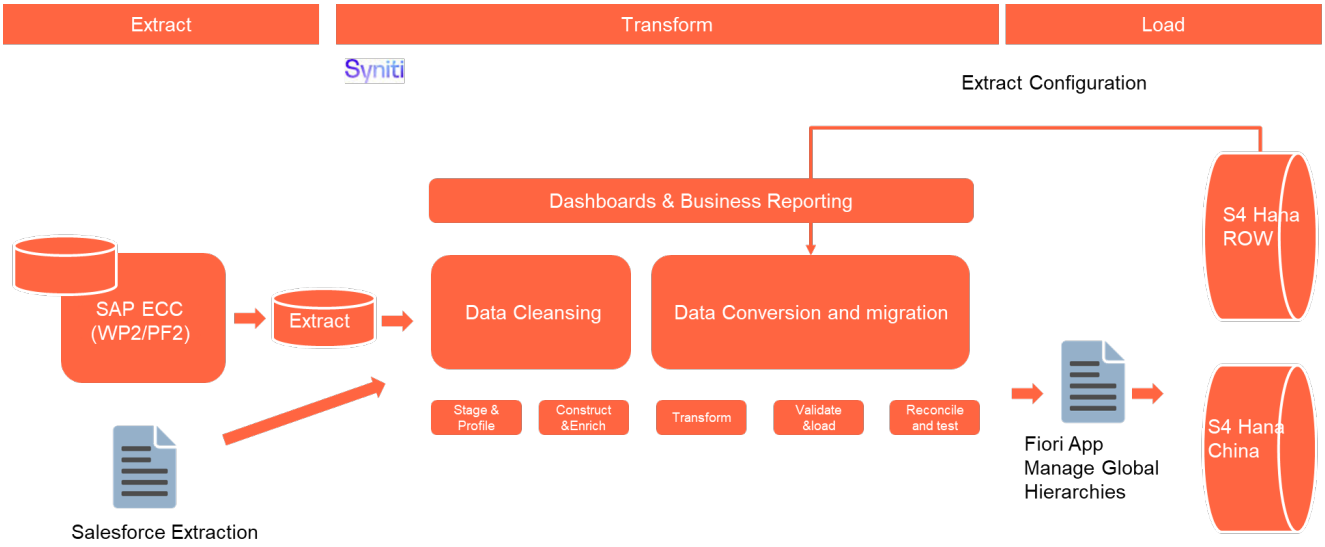
The high-level process is represented by the diagram below:

The ETL (Extract, Transform, Load) process is a structured approach to data migration and management, ensuring high-quality data is seamlessly transferred across systems. Here's a breakdown of its key components:

1. **Extraction**
For SAP ECC, the process begins with extracting raw data (KNA1) from source systems, such as Syensqo ECC system (i.e., WP2/PF2) . The extracted data is then staged for transformation. For Salesforce, a flat file including Related Accounts information will be shared, then staged for transformation.

2. **Transformation**
Once extracted, the data undergoes cleansing, consolidation, and governance. This step ensures data integrity, consistency, and compliance with business rules. The transformation process includes:
- Data validation to remove inconsistencies.
- Standardization to align formats across datasets.
- Business rule application to refine data for operational use.

3. **Loading**
The transformed data is then loaded into the target S4 Hana system.



Data Privacy and Sensitivity
N/A

Extraction

Extract data from a source into Syniti Migrate for SAP S4 Hana. Syniti Migrate connects to the source and loads the data into Syniti Migrate. There are 2 methods:

a. Perform full data extraction from relevant tables (KNA1) in the SAP ECC (WP2/PF2).

b. Data is loaded to the repository from the Salesforce system extract/report.

The agreed Relevancy criteria is applied to the extracted records to identify the records that are applicable for the Target loads.

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
3005-001	- Identify the source systems (WP2/PF2) and databases involved. - Define the data objects (tables such as KNA1, fields, records) to be extracted. - Establish business rules for data selection.	Syniti Syniti / L2C Data team
3005-002	- Specify the extraction approach (full, incremental, or delta extraction). - Determine the tools and technologies used. - Define data filtering criteria to exclude irrelevant records.	Syniti
3005-003	- Establish execution timelines and batch processing schedules. - Assign responsibilities for extraction monitoring. - Document dependencies on other migration tasks.	Syniti
3005-004	- Define error handling mechanisms for extraction failures.	Syniti

Selection Screen

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

Data Collection Template (DCT)

Target Ready Data Collection Template will be created for data with exception of some fields which require transformation as mentioned in the transformation rule.

DCT Rules

Field Name	Field Description	Rule
N/A		

Extraction Dependencies

Item #	Step Description	Team Responsible
1	**Source System Availability** • Ensure that the source database or application is accessible. • Confirm that necessary credentials and permissions are granted	Syensqo IT
2	**Data Structure** • Identify relationships between tables, views, and stored procedures.	Syniti
3	**Referential Integrity** • Ensure dependent records are extracted together.	Syniti

4	**Extraction Methodology** • Define whether extraction is full, incremental, or delta-based. • Establish batch processing schedules for large datasets.	Syniti
5	**Performance and Scalability Considerations** • Optimize extraction queries to prevent system overload. • Ensure network bandwidth supports data transfer volumes.	Syniti
6	**Security and Compliance** • Adhere to regulatory standards for sensitive information if applicable	Syniti

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 Migrate 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 Migrate
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	Identify target S4 HANA fields and determine applicable legacy source fields from ECC system WP2/PF2 + Salesforce system (iCare and Core CRM)	Functional Team (L2C)+ Data Team (L2C)
2	Map legacy field values to S4 HANA target values (including field-level mapping and technical names)	Data Team (L2C), Data Team (Syniti)
3	Define value mapping rules for fields requiring standardization or harmonization across the source systems, ECC system WP2 + Salesforce system (iCare and Core CRM)	Functional Team (L2C)+ Data Team (L2C)
4	Identify and agree on default values where legacy data is incomplete or inconsistent	Business Team + Functional Team (L2C)
5	Configure transformation rules in Syniti Migrate	Data Team (Syniti), Data Team (L2C)
6	Review transformation logic and mappings with Business for confirmation	Business Team + Functional Team (L2C)
7	Perform initial transformation run and generate draft target-ready dataset	Data Team (Syniti),
8	Review draft target-ready data for structure and completeness	Data Team (L2C), Functional Team (L2C)
9	Share transformed data with Business for Pre-load Validation	Business Team
10	Incorporate feedback from Business and refine mappings or transformation logic as needed	Data Team (L2C)
11	Finalize and approve transformed data as Target Ready Load File	Business + Functional (L2C) + Data Team (L2C)
12	Handover final file to Load Team or trigger the load via Syniti Load Workbench	Data Team (Syniti), Data Load Team

Transformation Rules

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic

1					S4 Hana	HRRP_DIR_N	HRYTYP	Hierarchy Type	Default - CH02 (this refers to Customer Hierarchy Analytics)
2					S4 Hana	HRRP_DIR_N	HRYVALTO	Valid To	Default - 31/12/9999
3					S4 Hana	HRRP_DIR_N	HRYVALFROM	Valid From	Default - 1/1/2027
4					S4 Hana	HRRP_DIR_N	HRYSID	Hierarchy ID	Default - CUST_HIER
5					S4 Hana	HRRP_DIRT_N	HRYTXT	Hierarchy Description	Default - Customer Hierarchy
6	Scenario 1: SAP ECC: Group Key Scenario 2: Salesforce field:	KNA1 Account - CoreCRM Account - iCare	KUNNR SLV10_Acc_Id__c X_18D_Account_ID_C	Customer Account ID Account ID	S4 Hana	HRRP_ATTR_NODE_N	HRYNODE	Hierarchy Node (To determine "ID" field in the upload template)	Rule - There are 3 scenario based on the "Type" in the upload template. "Root" - The value is CUST_HIER . Repeat once only in the first row. Scenario 1: ECC "Node" - Apply this value based on Group Key in ECC. Repeat based on each Group Key (KNA1-KONZS) "Business Partner" - Apply this value based on ECC customer number when it has group key. Repeat based on each Customer. Map the ECC customer to S4 Hana BP Number. Scenario 2: Salesforce "Node" - Apply this value based on Corporate Group in Salesforce. Repeat based on each Corporate Group (ParentId /PRS_Code_Parent_c(Corporate Group) "Business Partner" - Apply this value based on Salesforce Prospect(SLV10_Acc_Id__c /X_18D_Account_ID_C) when it has Corporate Group. Repeat based on each Prospect. Map the Salesforce Account (Prospect) to S4 Hana BP Number. After getting all the BP number, remove the duplicate BP based on same Node. Mapping table is MAP_KUNNR for Customer/Prospect
7	Scenario 1: SAP ECC: Group Key Scenario 2: Salesforce field:	KNA1 Account - CoreCRM Account - iCare	KONZS ParentId PRS_Code_Parent_c	Group Key Corporate Group CG PRS Code		HRRP_ATTR_NODE_N	PARNODE	Hierarchy Parent Node (To determine "Parent ID" in the upload template)	Rule - There are 3 scenario based on the Type in the upload template. When it is "Root" - Leave it blank When it is "Node" - Default value "CUST_HIER " When it is "Business Partner" - Map KNA1-KONZS for ECC customer; ParentId /PRS_Code_Parent_c(Corporate Group) for Salesforce Prospect *03/Nov/2025 Update iCare has the CG PRS code, which can be used to map the corporate group directly. but CoreCRM doesn't have it, so will need to use the parent account ID to find the PRS ID in the same file.
8					S4 Hana		Type	"Type" field from Upload template	There are 3 drop-downs based on the Type in the upload template. "Root" - Repeat once only in the first row "Node" - Use it when it is for Group Key/Corporate Group, "Business Partner" - Use it for Child customer Prospect

Transformation Mapping

Mapping Table Name	Mapping Table Description
MAP_KUNNR	ECC customer /SF Prospect vs S4 Hana BP number mapping

Transformation Dependencies

List the steps that need to occur before transformation can commence

Item #	Step Description	Team Responsible
1	Source Data Integrity - Ensure extracted data is complete, accurate, and consistent. - Validate that data types and formats align with transformation requirements.	Syniti
2	Referential Integrity - Ensure dependent records are transformed together or in advance	Syniti
3	Transformation Logic and Mapping - Define data mapping rules between source and target schemas.	Data Team
4	Performance and Scalability Considerations - Optimize transformation processes for large datasets. - Ensure system resources can handle transformation workloads	Syniti
5	Logging and Error Handling - Maintain detailed logs of transformation activities. - Define error-handling procedures for failed transformations	Syniti

Pre-Load Validation

Project Team

Completeness

Task	Action
Compare Data Counts	1. Verify row counts between source and target databases. 2. Identify missing or duplicated records.
Validate the mandatory fields	Validate there is value for all the mandatory fields
Validate Primary Keys and Unique Constraints	1. Check for duplicate or missing primary key values, i.e., if there is same combination of Parent/Child Business Partner. 2. Ensure unique constraints are maintained.
Test Referential Integrity	Confirm dependent records exist in related tables, such as the BP Customer, Prospect, and Corporate Group in S4 Hana.

Accuracy

Task	Action
Validate the transformation	Validate the fields which require transformation have the value after transformation instead of the original field value

Check Data Consistency	1. Compare field values across systems 2. Validate data formats and structures

Business

The following pre-load validations will be performed by the business.

Completeness

Task	Action
Compare Data Counts	1. Verify row counts between source and target databases. 2. Identify missing or duplicated records.
Review populated templates for missing or incorrect values	Use checklists to verify completeness and correctness before submission

Accuracy

Task	Action
Check Data Consistency	1. Compare field values across systems 2. Validate data formats and structures

Load

The load process includes:

1. Execute the automated data load into target system using load tool or product 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

Load Run Sheet

Item #	Step Description	Team Responsible
1	Confirm readiness of final approved data sets for each ECC source system WP2 and PF2 and Salesforce system	Business / Functional Team
2	Validate transformation rules and mappings in Syniti tool	Data Team (L2C-Data)
3	Generate target-ready load files based on S4 Hana condition table format	Data Team (Syniti)
4	Review and approve load files before execution	Business / Functional Team
5	Execute the Fiori App Manage Global Hierarchies, the import option in the S4 Hana system	Data Load Team
6	Monitor load progress and capture load statistics (records loaded, errors, duplicates, etc.)	Data Team (Syniti) / Technical Team
7	Extract loaded data from S4 Hana for post-load validation	Data Team (Syniti)
8	Perform post-load data validation (compare target data with source/approved files) for all loaded customer hierarchy information	Data Team (L2C-Data)

9	Log and resolve any data load errors or mismatches identified during validation	Data Team (L2C-Data) + Functional Team
10	Obtain business sign-off on successful load and validation	Business Team
11	Archive load logs, error reports, and validation results for audit/compliance	Data Team (L2C-Data) / Data Team (Syniti) / PMO

The Import template from Fiori app 'Manage Global Hierarchies' will be used.

Customer Hierarchy - Analytics					
Hierarchy ID:	CUST_HIER				
Valid From:	15.09.2025				
Valid To:	31.12.9999				
Customer Hierarchy - Analytics	**Level**	**Type**	**ID**	**Description**	**Parent ID**
|- CUST_HIER (Customer Hierarchy)	1	Root	CUST_HIER	Customer Hierarchy	
|- 1111111111111111110--1 (p&g)	2	Node	0000801013	ASHLAND	CUST_HIER
< 17100001 (Domestic US Customer 1) >	3	Business Partner	17100001	Domestic US Customer 1	0000801013

Load Phase and Dependencies

The Customer Hierarchy will be loaded in the pre-cutover period.

Before loading, it will have dependency on the definition of Hierarchy ID by function team.

Configuration

Item #	Configuration Item
1	Define the Hierarchy ID in Fiori App 'Manage Global Hierarchies'

Conversion Objects

Object #	Preceding Object Conversion Approach
3007	Business Partners - General (Role 000000)
3009	Business Partners - Prospect (BUP002)

Error Handling

Error Type	Error Description	Action Taken
Data Error	The Business partner is not defined	Validate the BP relevancy rule and maintain the BP if it is in migration scope

Post-Load Validation

Project Team

The following post-load validations will be performed by the Project Team.

Completeness

Task	Action
Perform Source-to-Target Comparisons	Validate that migrated data matches source records count.

Accuracy

Task	Action
Conduct Post-Migration Reconciliation	Generate reports comparing pre- and post-migration data, compare the fields value are identical.
Perform Manual Testing	Run Fiori App Manage Global Hierarchies, and perform manual spot-checks for additional assurance.

Business

Post-load validation is a critical step in data migration, ensuring that transferred data is accurate, complete, and functional within the target system.

1. Ensuring Data Integrity
After migration, data must be consistent with its original structure. Post-load validation checks for missing records, incorrect mappings, and formatting errors to prevent discrepancies.
2. Business Continuity
Faulty data can disrupt operations, leading to financial losses and inefficiencies. Validating post-load data ensures that applications function as expected, preventing downtime.
3. Error Detection and Resolution
By validating data post-migration, businesses can detect anomalies early, reducing the cost and effort required for corrections

Completeness

Task	Action
Perform Source-to-Target Comparisons	Validate that migrated data matches source records count.
Conduct Post-Migration Reconciliation	Go through post-load validation reports comparing pre- and post-migration data.

Accuracy

Task	Action
Perform Manual Testing	Run Fiori App Manage Global Hierarchies, and perform manual spot-checks for additional assurance.

Key Assumptions

- Master Data Standard is up to date as on the date of documenting this conversion approach and data load.
- Customer hierarchy is in scope based on data design and any exception requested by business.
- There will be 3 SAP instances, one for ROW, one for China ~~and one for CUI~~ only.
- The Corporate Group will not be defined as Business Partner, which will be defined as Node only in the Manage Global Hierarchies.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 31)	**Mar 12, 2026 14:42**	**RUAN-ext, Eric**	* 20260312 update. include Region/Leading GBU and the blank group key field
v. 30	Feb 22, 2026 13:42	**RUAN-ext, Eric**	*20260222 remove CUI
v. 29	Nov 24, 2025 14:52	**RUAN-ext, Eric**	
v. 28	Nov 03, 2025 07:56	**RUAN-ext, Eric**	
v. 27	Oct 08, 2025 11:44	**RUAN-ext, Eric**	
v. 26	Oct 06, 2025 14:29	**RUAN-ext, Eric**	
v. 25	Oct 06, 2025 11:50	**RUAN-ext, Eric**	
v. 24	Oct 06, 2025 09:28	**RUAN-ext, Eric**	
v. 23	Oct 06, 2025 09:07	**RUAN-ext, Eric**	
v. 22	Oct 06, 2025 08:36	**RUAN-ext, Eric**	

Go to Page History

Workflow history

Title	Last Updated By	Updated	State	Status
CNV-3005 Customer Hierarchy	RUAN-ext, Eric	Mar 12, 2026 14:42	Approved	

Workflow history

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

Mar 13, 2026	Actor	Type	Activity	Version
Approved	TAMRAKAR-ext, Pooja	State	changed state to Approved at 11:57 am	v31
Edited following Approval	TAMRAKAR-ext, Pooja	State	gave *Minor change* approval at 11:57 am *PDM-1386 -include Region/Leading GBU and the blank group key field in cleansing reports.*	

From Feb 22, 2026 to Mar 12, 2026

	RUAN-ext, Eric	Edit	updated the page at 1:42 pm	
	RUAN-ext, Eric	State	changed state to Edited following Approval at 12:42 pm	v30
Nov 24, 2025				
Approved	RUAN-ext, Eric	Edit	updated the page at 2:52 pm	