

# ZZ(Obsolete) Customer Hierarchy (Obsolete)

In Progress

<b>Status</b>	In Progress
<b>Owner</b>	RUAN-ext, Eric
<b>Stakeholders</b>	

## Purpose

The purpose of this document is to define the conversion approach to create Customer Hierarchy in S/4 HANA.

In SAP ECC, the customer hierarchy is a tree-like hierarchy where each node is a customer (including parent and child customers). The primary purpose is used for pricing, rebates, and reporting across related customers. It will be maintained via transaction code VDH1N.

In SAP S/4HANA, customers are managed as Business Partners (BP), enabling a more flexible and integrated data model. Hierarchy nodes are created as BPs with sales area data. It is still maintained via VDH1N (or Fiori app Display/Maintain Customer Hierarchy).

## Conversion Scope

The scope of this document covers the approach for converting active Customer Hierarchy from Legacy Source Systems into S/4HANA following the Customer Hierarchy Master Data Design Standard.

The data from legacy system includes:

1. For Parent, the sales area data has the sales organization in scope and the BP general data/sales view data is migrated.
2. For Child, the sales area data has the sales organization in scope and the sales view is still active.
3. Valid-to is after go live date
4. There is pricing or rebate indicator in the source system

The data from legacy system excludes:

1. The BP general is not in migration scope
2. or the sales view for Child customer is not in migration scope
3. Valid-to is before go live date
4. Both Parent customer and all the child customers have sales area deletion indicator

Scenario	Legacy System	Legacy System Data Source	Relevancy Rule
1	ECC (WP2 only)	The customer hierarchy is used, maintained via t-code VDH1N	<ol style="list-style-type: none"> <li>1. For Parent, the sales area data has the sales organization in scope and the BP general data/sales view data is migrated.</li> <li>2. For Child, the sales area data has the sales organization in scope and the sales view is still active.</li> <li>3. Valid-to is after go live date</li> <li>4. There is pricing or rebate indicator in the source system</li> </ol>

List of source systems and approximate number of records

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
WP2	Customer Hierarchy	1856	S4 Hana ROW	1856
WP2	Customer Hierarchy	N/A	S4 Hana China	N/A
WP2	Customer Hierarchy	N/A	S4 Hana CUI	N/A

## Additional Information

### Multi-language Requirement

N/A

## Document Management

N/A

## Legal Requirement

CMMC 2.0 is a mandatory DoD cybersecurity certification for contractors handling Controlled Unclassified Information (CUI) and Federal Contract Information (FCI). CUI includes sensitive technical data (e.g., design specs, system info) related to U.S. military and space applications. The Composites Business handles CUI and is therefore within CMMC scope. Without certification, the business risks disqualification from existing and future DoD programs.

It is mandatory to implement CMMC-compliant systems and processes to for all the organizations that are dealing with CUI.

Therefore, there will be one SAP instance specifically for CUI related entities.

## Special Requirements

### Different SAP Instance Migration Approach

Please refer to the link for the entity mapping for each instance. [SAP instance mapping based on company code](#)

- To identify the record is for which SAP instance, it will follow below logic.

1. map the sales org to company code first, then map the company code to the SAP instance based on the mapping file.

## Target Design

The technical design of the target for this conversion approach.

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
KNVH	MANDT	MANDT	Client	CLNT	3	Internal
KNVH	HITYP	HITYP	Cust.hierarchy type	CHAR	1	Mandatory
KNVH	KUNNR	KUNNR	Customer	CHAR	10	Mandatory
KNVH	VKORG	VKORG	Sales Organization	CHAR	4	Mandatory
KNVH	VTWEG	VTWEG	Distribution Channel	CHAR	2	Mandatory
KNVH	SPART	SPART	Division	CHAR	2	Mandatory
KNVH	DATAB	DATAB	Valid from	DATS	8	Mandatory
KNVH	DATBI	DATBI	Valid to	DATS	8	Mandatory
KNVH	HKUNNR	HKUNNR	Higher-level customer	CHAR	10	Mandatory
KNVH	HVKORG	HVKORG	Higher-lev.SalesOrg	CHAR	4	Mandatory
KNVH	HVTWEG	HVTWEG	HgLv distrib.channel	CHAR	2	Mandatory
KNVH	HSPART	HSPART	Higher-level division	CHAR	2	Mandatory
KNVH	GRPNO	GRPNO	Routine Number	NUMC	3	Not in use
KNVH	BOKRE	BOKRE	Rebate	CHAR	1	Not in use
KNVH	PRFRE	PRFRE	Price determination	CHAR	1	Internal
KNVH	HZUOR	HZUOR	Hierarchy assignment	NUMC	2	Not in use
KNVH	NODE_GUID	NODE_GUID	Customer Hier. Node GUID	CHAR	32	Not in use
KNVH	NODE_ID	NODE_ID	Customer Hierarchy Node ID	CHAR	20	Not in use

## Data Cleansing

ID	Criticality	Error Message /Report Description	Rule	Output	Source System
3005-1	C1	Remove obsolete child customer	Child Customer has general data marked as for deletion	Higher Customer Number/Name/Child Customer/Name/Sales Organization/Distribution Channel/Division/Deletion Indicator	WP2
3005-2	C1	Remove child customer with obsolete sales data	Child Customer has the sales area data marked for deletion	Higher Customer Number/Name/Child Customer/Name/Sales Organization/Distribution Channel/Division /Deletion Indicator	WP2
3005-3	C1	Parent Customer with central deletion indicator	Higher Customer has general data marked as for deletion	Higher Customer Number/Name/Child Customer/Name/Sales Organization/Distribution Channel/Division /Deletion Indicator	WP2
3005-4	C1	Parent Customer with sales area deletion indicator	Higher Customer has sales area data marked as for deletion	Higher Customer Number/Name/Child Customer/Name/Sales Organization/Distribution Channel/Division /Deletion Indicator	WP2

## 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

The process begins with extracting metadata and raw data from source systems, such as Syensqo ECC system (i.e., WP2/PF2) periodically. The extracted data is then staged for transformation.

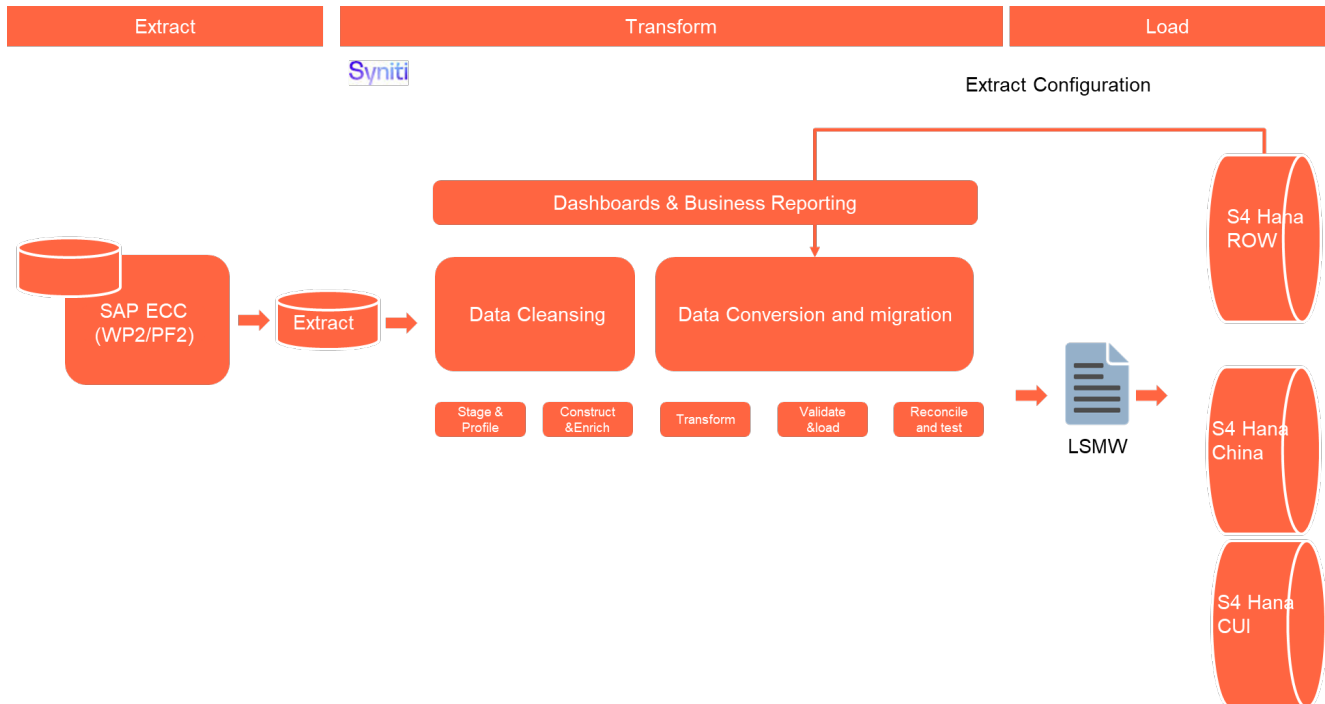
### 2. Transformation

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

## Extraction

Extract data from a source into Syniti Migrate for SAP ROW and SAP China relevant entities. There are 2 possibilities:

1. The data exists. Syniti Migrate connects to the source and loads the data into Syniti Migrate. There are 3 methods:
  - a. Perform full data extraction from relevant tables in the source system(s).
  - b. Perform extraction through the application layer.
  - c. Only if Syniti Migrate cannot connect to the source, data is loaded to the repository from the provided source system extract/report.
2. 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

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
Extraction Scope Definition	<ul style="list-style-type: none"> <li>- Identify the source systems and databases involved.</li> <li>- Define the data objects (tables, fields, records) to be extracted.</li> <li>- Establish business rules for data selection.</li> </ul>	Syniti Syniti / LTC Data team
Extraction Methodology	<ul style="list-style-type: none"> <li>- Specify the extraction approach (full, incremental, or delta extraction).</li> <li>- Determine the tools and technologies used.</li> <li>- Define data filtering criteria to exclude irrelevant records.</li> </ul>	Syniti
Extraction Execution Plan	<ul style="list-style-type: none"> <li>- Establish execution timelines and batch processing schedules.</li> <li>- Assign responsibilities for extraction monitoring.</li> <li>- Document dependencies on other migration tasks.</li> </ul>	Syniti
Data Quality and Validation	<ul style="list-style-type: none"> <li>- Define error handling mechanisms for extraction failures.</li> </ul>	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	<b>Source System Availability</b> <ul style="list-style-type: none"> <li>Ensure that the source database or application is accessible.</li> <li>Confirm that necessary credentials and permissions are granted</li> </ul>	Syensqo IT
2	<b>Data Structure</b> <ul style="list-style-type: none"> <li>Identify relationships between tables, views, and stored procedures.</li> </ul>	Syniti
3	<b>Referential Integrity</b> <ul style="list-style-type: none"> <li>Ensure dependent records are extracted together.</li> </ul>	Syniti
4	<b>Extraction Methodology</b> <ul style="list-style-type: none"> <li>Define whether extraction is full, incremental, or delta-based.</li> <li>Establish batch processing schedules for large datasets.</li> </ul>	Syniti
5	<b>Performance and Scalability Considerations</b> <ul style="list-style-type: none"> <li>Optimize extraction queries to prevent system overload.</li> <li>Ensure network bandwidth supports data transfer volumes.</li> </ul>	Syniti
6	<b>Security and Compliance</b> <ul style="list-style-type: none"> <li>Adhere to regulatory standards for sensitive information if applicable</li> </ul>	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:

- Perform value mapping and data transformation rules.
  - Legacy values are mapped to the to-be values (this could include a default value)
  - Values are transformed according to the rules defined in Syniti Migrate
- 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	Transformation Scope Definition <ul style="list-style-type: none"> <li>Identify the source and target data structures.</li> <li>Define business rules for data standardization.</li> <li>Establish data cleansing requirements to remove inconsistencies.</li> </ul>	Data Team
2	Data Mapping and Standardization <ul style="list-style-type: none"> <li>Align source fields with target fields.</li> <li>Ensure unit consistency (e.g., currency, measurement units)</li> </ul>	Data Team
3	Business Rule Application <ul style="list-style-type: none"> <li>Implement data enrichment/collection if applicable</li> <li>Apply conditional transformations based on predefined logic/business rules</li> </ul>	Data Team
4	Transformation Execution Plan <ul style="list-style-type: none"> <li>Define batch processing schedules.</li> <li>Assign responsibilities for monitoring execution.</li> <li>Establish error-handling mechanisms</li> </ul>	Syniti

## Transformation Rules

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	WP2	KNVH	MANDT	Client	S4	KNVH	MANDT	Client	Internal -
2	WP2	KNVH	HITYP	Cust.hierarchy type	S4	KNVH	HITYP	Cust.hierarchy type	Mapping -
3	WP2	KNVH	KUNNR	Customer	S4	KNVH	KUNNR	Customer	Mapping - Map based on S4 BP
4	WP2	KNVH	VKORG	Sales Organization	S4	KNVH	VKORG	Sales Organization	Rule - Follow Higher-lev.SalesOrg HVKORG
5	WP2	KNVH	VTWEG	Distribution Channel	S4	KNVH	VTWEG	Distribution Channel	Rule - Follow higher level DC, i.e., if higher DC is export, then this is export.
6	WP2	KNVH	SPART	Division	S4	KNVH	SPART	Division	Default - Default to 01 - Product
7	WP2	KNVH	DATAB	Valid from	S4	KNVH	DATAB	Valid from	Copy -
8	WP2	KNVH	DATBI	Valid to	S4	KNVH	DATBI	Valid to	Copy -
9	WP2	KNVH	HKUNNR	Higher-level customer	S4	KNVH	HKUNNR	Higher-level customer	Mapping - Map based on S4 BP
10	WP2	KNVH	HVKORG	Higher-lev. SalesOrg	S4	KNVH	HVKORG	Higher-lev. SalesOrg	Mapping - Mapping - Refer to MAP_VKORG When one legacy VKORG is mapped to multiple VKORG based on mapping table, it should multiply the KNVH record
11	WP2	KNVH	HVTWEG	HgLv distrib. channel	S4	KNVH	HVTWEG	HgLv distrib. channel	Rule - Get the distribution channel from S4 KNVV records based on legacy KUNNR/VKORG legacy value combinations
12	WP2	KNVH	HSPART	Higher-level division	S4	KNVH	HSPART	Higher-level division	Default - Default to 01 - Product
13	WP2	KNVH	GRPNO	Routine Number	S4	KNVH	GRPNO	Routine Number	Not in Use -
14	WP2	KNVH	BOKRE	Rebate	S4	KNVH	BOKRE	Rebate	Not in Use -
15	WP2	KNVH	PRFRE	Price determination	S4	KNVH	PRFRE	Price determination	Internal
16	WP2	KNVH	HZUOR	Hierarchy assignment	S4	KNVH	HZUOR	Hierarchy assignment	Not in Use -
17						KNVH	NODE_GU ID	Customer Hier. Node GUID	Not in Use -
18						KNVH	NODE_ID	Customer Hierarchy Node ID	Not in Use -

## Transformation Mapping

Mapping Table Name	Mapping Table Description
MAP_VKORG	Sales Organization Mapping Table
MAP_VTWEG	Distribution Channel Mapping Table
MAP_SPART	Division Mapping table

## 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
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## Pre-Load Validation

### Project Team

#### Completeness

Task	Action
Compare Data Counts	<ol style="list-style-type: none"> <li>1. Verify row counts between source and target databases.</li> <li>2. Identify missing or duplicated records.</li> </ol>
Validate the mandatory fields	Validate there is value for all the mandatory fields
Validate Primary Keys and Unique Constraints	<ol style="list-style-type: none"> <li>1. Check for duplicate or missing primary key values, i.e., if there is same BP number.</li> <li>2. Ensure unique constraints are maintained.</li> </ol>
Test Referential Integrity	Confirm dependent records exist in related tables

#### 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	<ol style="list-style-type: none"> <li>1. Compare field values across systems</li> <li>2. Validate data formats and structures</li> </ol>

### Business

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

#### Completeness

Task	Action
Compare Data Counts	<ol style="list-style-type: none"> <li>1. Verify row counts between source and target databases.</li> <li>2. Identify missing or duplicated records.</li> </ol>
Review populated templates for missing or incorrect values	Use checklists to verify completeness and correctness before submission

#### Accuracy

Task	Action


## 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	Load Scope Definition - Identify the target system and database structure. - Define data objects (tables, fields, records) to be loaded. - Establish business rules for data validation.	Data team
2	Load Methodology - Specify the loading tools and technologies (LSMW).	Syniti
3	Data Quality and Validation - Ensure data integrity checks (null values, duplicates, format validation). - Perform pre-load validations to verify completeness. - Define error handling mechanisms for load failures	Syniti
4	Load Execution Plan - Establish execution timelines and batch processing schedules. - Assign responsibilities for monitoring execution. - Document dependencies on other migration tasks	Syniti
5	Logging and Reporting - Maintain detailed logs of loading activities. - Generate summary reports on loaded data volume and quality. - Define escalation procedures for errors	Syniti

## LSMW Upload Template

Field	Description	Type	Field Length
HITYP	Customer hierarchy type	CHAR	1
S_ERDAT	valid from date	CHAR	10
S_KUNNR	higher level customer	CHAR	10
HKUNNR	Customer number of the higher-level customer hierarchy	CHAR	10
HVKORG	Higher-level sales organization	CHAR	4
HVTWEG	Higher-level distribution channel	CHAR	2
HSPART	Higher-level division	CHAR	2
KUNNR	Customer	CHAR	10
VKORG	Sales Organization	CHAR	4
VTWEG	Distribution Channel	CHAR	2
SPART	Division	CHAR	2
DATAB	Start of validity period for assignment	DATS	10
DATBI	End of validity period for the assignment	DATS	10

## Load Phase and Dependencies

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

Before loading, it will have dependency on the configuration. The configuration needs to be transported into the respective system first.

## Configuration

Item #	Configuration Item
1	Assign sales are to customer hierarchy type

## Conversion Objects

Object #	Preceding Object Conversion Approach
3007	Business Partners - General (Role 000000)
3003	Business Partners - Customer (Sales and Service) - FLCU01

## Error Handling

Error Type	Error Description	Action Taken
Configuration Error	There is error message "Sales area assignment is not permitted" when assigning the child customer to parent customer	Send the configuration to function team to transport the configuration

## 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	<ol style="list-style-type: none"><li>1. Validate that migrated data matches source records.</li><li>2. Check for discrepancies in numerical values, text fields, and timestamps</li></ol>

### Accuracy

Task	Action
Execute Sample Queries and Reports	<ol style="list-style-type: none"><li>1. Run queries to validate business logic.</li><li>2. Generate reports to compare expected vs. actual results</li></ol>

Conduct Post-Migration Reconciliation	Generate reports comparing pre- and post-migration data.

## 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	<ol style="list-style-type: none"> <li>1. Validate that migrated data matches source records.</li> <li>2. Check for discrepancies in numerical values, text fields, and timestamps</li> </ol>
Conduct Post-Migration Reconciliation	Go through reports comparing pre- and post-migration data.

## Accuracy

Task	Action
Perform Manual Testing	Conduct 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.
- For SAP CUI instance, the migration activity will be handled by US based data consultant.

## See also

## Change log

Version	Published	Changed By	Comment
<b>CURRENT (v. 18)</b>	<b>Nov 12, 2025 10:53</b>	<b>PUN-ext, Eddy</b>	
v. 17	Nov 03, 2025 07:04	RUAN-ext, Eric	
v. 16	Sept 24, 2025 13:32	RUAN-ext, Eric	
v. 15	Sept 14, 2025 08:46	RUAN-ext, Eric	

v. 14	Sept 08, 2025 08:21	<a href="#">RUAN-ext, Eric</a>
v. 13	Sept 08, 2025 08:05	<a href="#">RUAN-ext, Eric</a>
v. 12	Sept 08, 2025 07:48	<a href="#">RUAN-ext, Eric</a>
v. 11	Aug 14, 2025 08:41	<a href="#">RUAN-ext, Eric</a>
v. 10	Aug 13, 2025 15:09	<a href="#">RUAN-ext, Eric</a>
v. 9	Aug 12, 2025 10:13	<a href="#">RUAN-ext, Eric</a>




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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.

From Jun 24, 2025 to Nov 12, 2025	Actor	Type	Activity	Version
	<a href="#">RUAN-ext, Eric and PUN-ext, Eddy</a>	Edit	multiple updates from  <a href="#">RUAN-ext, Eric</a> and  <a href="#">PUN-ext, Eddy</a>	
	 <a href="#">RUAN-ext, Eric</a>	Edit	created the page at 8:20 am	