#### Corteva CFIN

#### Technical Design Specifications

Cost Center Conversion

8 April 2019

Version 1.1

Document Version History

|  |  |  |  |
| --- | --- | --- | --- |
| Version No | **Version date** | Author | **Summary of Changes** |
| **1.0** | **2/26/2019** | **Lovleen** | **Initial Draft 1.0** |
| **1.1** | **4/8/2019** | **Mahmud Amer** | **Updating Formatting** |
|  |  |  |  |
|  |  |  |  |

Contents

[Project Identification 2](#_Toc5615118)

[Object Overview 3](#_Toc5615119)

[Source & Target Matrix 4](#_Toc5615120)

[1. Program Attributes 5](#_Toc5615121)

[2. Technical Flow Diagram 6](#_Toc5615122)

[3. Environment Details 6](#_Toc5615123)

[4. Business Requirements 7](#_Toc5615124)

[5. Processing Logic 8](#_Toc5615125)

[6. Reusable Code 12](#_Toc5615126)

[7. Internal Tables 12](#_Toc5615127)

[8. Messages 13](#_Toc5615128)

[9. Conversion List Output/ Reconciliation 13](#_Toc5615129)

[10. Assumptions in Technical Design 13](#_Toc5615130)

[11. Open Issues in Technical Design 13](#_Toc5615131)

[12.Unit Test Plan 14](#_Toc5615132)

[13.Transport Details 14](#_Toc5615133)

|  |  |  |
| --- | --- | --- |
| Project Identification | | |
| Project Name | Customer Name | EY Service Line |
| CFIN | DowDuPont Corteva | PI - Advisory |
| EY Delivery Manager | EY Engagement Manager | EY Project Manager |
| Kathy Denardo | Connie Fitting | Jeff Kurz |
| EY Technical Project Manager | Customer Technical Project Manager | EY Quality Manager |
| Adam Zeckel | Tim Hagg |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object Overview | | | | | |
| Object ID | TDS\_C\_GL\_005\_Cost Center Mapping and Table Load | Business Process | | FI | |
| Object Description | Cost Center data table and mapping load | | | | |
| Cycle of Testing | C1 / C2 / C3 / C4 | | Required Development Completion Date | | 29/03/2019 |
| Complexity of Object | Medium | | Program run | | Batch |
| Type of Conversion | Cost Center Load: BODS using RDM  Cost Center Mapping: Leverage existing MDG program | |  | |  |
| TS Control | | | | | |
| TS Author | Lovleen | | Customer Process Owner | |  |
| TS Approved By | Mahmud Amer | | TS Approval date | | 08042019 |
| Document Structure | | | | | |
| The TDS will be covering the below:   * Creation of Cost Centers in S4: Described in this main document in sections 1 to 15 * Load of the cost center id mapping used by SLT: Described in the attachment below | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Source & Target Matrix **Cost Center Creation/Load**   |  |  |  |  | | --- | --- | --- | --- | | **System** | **Application Name** | **Source** | **Destination** | | SAP | Pioneer – ECC | X |  | | SAP | DAS – ECC | X |  | | SAP | DuPont - ECC | X |  | | CFIN | CFIN |  | X |   **Cost Center ID Mapping Load**   |  |  |  |  | | --- | --- | --- | --- | | **System** | **Application Name** | **Source** | **Destination** | | SAP | Pioneer – ECC | X |  | | SAP | DAS – ECC | X |  | | SAP | DuPont – ECC | X |  | | SAP | CFIN |  | X | |

|  |
| --- |
| Program Attributes |
| |  |  | | --- | --- | | Transaction Code | N/A | | Include Programs | N/A | | Function Modules | N/A | | Program title | Cost Center Data Load and Mapping | | Program Name | ***Job\_DM\_CostCenters\_IDOC*** | | Program Type | Executable | |  |  | |

|  |
| --- |
| Technical Flow Diagram |
| ETL program Flow |

|  |
| --- |
| Environment Details |
| **Source System**: New Cost Centers will be created as part of the CFIN solution. The GL team will be providing ERP system source details to fetch all cost centers that will be created.  **Target System**: S4/ CFIN  **BODS Server**: DEV/ QA/ STG / PRD   |  |  |  | | --- | --- | --- | |  |  |  | |

|  |
| --- |
| Business Requirements |
| The purpose of this document Technical Design Specification for Cost Center Mapping and Table Load is to describe the business requirement in fulfillment of its completion.  **MDG Requirements**  The Cost Center master data will be created in MDG and there will be an interface program to create the master data in CFIN (Central Finance) this program called CREATE\_MASS\_KEY\_MAPPING. The mapping information from source system to target system consists of the following:  Source:   * Controlling Area * Cost Center   Target:   * Controlling Area * Cost Center   Heritage system Cost Centers will be migrated into CFIN with 1 to 1 relationship with CFIN Cost Centers. Cost Center will not be rationalized   |  |  | | --- | --- | |  |  | |

|  |
| --- |
| Processing Logic *Rapid data migration to SAP S/4HANA*  RDM solution allows you to leverage prebuilt best practice content for over 50 critical master and transactional data objects to accelerate and simplify your data migration to SAP S/4HANA. With rapid data migration to SAP S/4HANA, we can consolidate your data and perform analytics and transactions in a single database without any need for multiple systems and data replication.  We are enhancing the prebuilt Cost Center job to meet design needs.  We are doing Rapid Data Migration using IDOCs. IDOCS as the standard interface for data transfer.  For cost center we have used the **“COSMAS01”** IDOC. |
| **Job Details**     * ***Job\_DM\_CostCenters\_IDOC***: BODS-ETL job to extract,Validate,Enrich and loading the cost center data to HANA using IDOCS.   ***Conditionals details***   * ***CostCentersGeneralData\_Extract:*** *This conditional is used to trigger the general data flow for cost centersextraction from source systems.* * ***CostCentersGeneralData\_E1CSKSM\_Required :*** *This conditional is used to trigger the general data flow for cost centers inside it.* * ***CostCentersTexts\_E1CSKTM\_Required:*** *This conditional is used to trigger the cost center texts code flow inside it.* * ***CostCenters\_GenerateIDOC:*** *This conditional is used to trigger the IDOC generation DFs inside it.*   ***Dataflow Details***   1. **DF\_DM\_CostCentersGeneralData\_Map :** This DF will extract the relevant fields from the given excel**(“IDoc\_COSTCENTERS\_GENERALDATA”)** and stage the data into staging table. 2. **DF\_DM\_CostCentersGeneralData\_Validate:** On the above staged data validation will be applied. Validation will be for validating lookups, Mandatory fields and formatting of the fields. 3. **DF\_DM\_CostCentersGeneralData\_Enrich:** Apply transformations on the fields as per the requirements. 4. **DF\_DM\_CostCentersTexts\_Map :** This DF will extract the relevant fields from the given excel **(“IDoc\_COSTCENTERS\_TEXTS”)** and stage the data into staging table. 5. **DF\_DM\_CostCentersTexts\_Validate :** On the above staged data validation will be applied. Validation will be for validating lookups, Mandatory fields and formatting of the fields. 6. **DF\_DM\_CostCentersTexts\_Enrich :** Apply transformations on the fields as per the requirements. 7. **DF\_DM\_CostCenters\_GenerateIDOC:** Enriched data tables from all the segments will be used to create the IDOC structure. 8. **DF\_DM\_UpdateCostCenters\_LKP** 9. **DF\_CSKS\_Extract :** Stage CSKS data to staging tables for all 3 sites : Pioneer,Dow & DuPont. 10. **DF\_CSKT\_Extract :** Stage CSKT data to staging tables for all 3 sites : Pioneer,Dow & DuPont. 11. **DF\_COSS\_COSP\_PHI :** Stage COSS & COSP data into staging tables for Pioneer 12. **DF\_PHI\_COSP\_MERGE :** Merge COSS & COSP staging tables to another single table 13. **DF\_PHI\_CSKS\_JOIN :** Create CSKS valid table by lookup with COSS\_COSP merged table 14. **DF\_COSS\_COSP\_DAS :** Stage COSS & COSP data into staging tables for DAS 15. **DF\_DAS\_COSP\_MERGE :** Merge COSS & COSP staging tables to another single table 16. **DF\_DAS\_CSKS\_JOIN :** Create CSKS valid table by lookup with COSS\_COSP merged table 17. **DF\_COSS\_COSP\_DCP :** Stage COSS & COSP data into staging tables for DCP 18. **DF\_DCP\_COSP\_MERGE :** Merge COSS & COSP staging tables to another single table 19. **DF\_DCP\_CSKS\_JOIN :** Create CSKS valid table by lookup with COSS\_COSP merged table   ***Mapping Details***        ***Validation Details***  *Three types of validations are applied:*   * **Validate\_lookups** *To check whether the Fields/value exits in the lookup table or not*   *Logical system exists in “LKP\_LOGICAL\_SYSTEM”*  *CONTROLLING\_AREA exists in “LKP\_CONTROLLING\_AREA”*  *COUNTRY\_KEY exists in “LKP\_COUNTRY”*  *TAX\_JURISDICTION exists in “LKP\_TAX\_JURISDICTION\_CODE”*  *REGION exists in “LKP\_COUNTRY\_REGION”*  *FORM\_PLANNING\_TEMP exists in “LKP\_TEMPLATE”*  *LANGUAGE\_KEY exits in “LKP\_LANGUAGE”*  *COMPANY\_CODE exists in “LKP\_COMPANY\_CODE”*  *JOINT\_VENTURE exists in “LKP\_JOINT\_VENTURE”*  *EQUITY\_TYPE exists in “LKP\_INVESTMENT\_TYPE”*  *RECOVERY\_INDICATOR exists in “LKP\_RECOVERY\_INDICATOR”*  *JIB\_JIBE\_CLASS exists in “LKP\_JIB\_JIBE\_CLASS”*  *JIB\_JIBE\_SUBCLASS\_A exits in “LKP\_JIB\_JIBE\_SUBCLASS”*   * **Validate\_Mandatory :** *this is to validate whether the mandatory fields have data or not.*   *PROFIT\_CENTER is not null.*  *CONTROLLING\_AREA Is not null*  *PERSON\_RESPONS is not null*  *GENERAL\_NAME is not null*   * **Validate\_format :** *this is to validate whether the fields are in desired format or not.*   *length (DISTRICT ) <= 35*  *length (TELEBOX\_NUMBER) <= 15*  *length (USER\_RESPONSIBLE ) <= 12*  *length (DATA\_LINE ) <= 14*  *length (LANG\_ISO ) <= 2*  *length (PROFIT\_CENTER" ) <= 10*  *length (LANGUAGE\_KEY\_ADD ) <= 2*  *length (CCODE\_PRCTR ) <= 1*  *length (NAME\_1 ) <= 35*  *length (NAME\_2 ) <= 35*  *length (JV\_OBJECT\_TYPE ) <= 4*  *is\_valid\_date(VALIDFROM, $G\_Date\_Format ) = 1*  *length (PROFIT\_CENTER\_AREA ) <= 12*  *length (NAME\_3 ) <= 35*  *length (STREET ) <= 35*  *length (.LANG1\_ISO ) <= 2*  *length (PERSON\_RESPONS" ) <= 20*  *length (SEGMENT ) <= 10*  *length (NAME\_4 ) <= 35*  *length (TELETEX\_NUMBER ) <= 30*  *length (LONG\_TEXT ) <= 40*  *length (DEPARTMENT ) <= 12*  *length (FAX\_NUMBER ) <= 31*  *length (TITLE ) <= 15*  *is\_valid\_date(VALIDTO, $G\_Date\_Format ) = 1*  *length (COUNTRY\_ISO\_CODE ) <= 2*  *length (GENERAL\_NAME ) <= 20*  *length (CITY ) <= 35*  *length (TELEPHONE\_2 ) <= 16*  *length (P\_O\_BOX\_POSTAL\_CODE ) <= 10*  *length (TELEX\_NUMBER ) <= 30*  *length (PO\_BOX ) <= 10*  *length (PRINTER\_NAME ) <= 4*  *length (POSTAL\_CODE ) <= 10*  *length (FIRST\_TELEPHONE\_NUMBER ) <= 16*  *length (LOCK\_INDICATOR ) <= 1*  ***Variables***  *$G\_Client:* To store the default value  *$G\_Date\_Format:* Store the date format  *$G\_Decimal\_Separator:* store the default value  *$G\_GenerateIDOC\_Req:* Variable to trigger the conditional for “ generate IDOC  *$G\_IDoc\_Type*  *$G\_LoadDate*  *$G\_MessageType*  *$G\_ReceiverPartnerNumber*  *$G\_ReceiverPort*  *$G\_Time\_Format*  *$G\_GeneralData\_Req*  *$G\_ProfileMapTables:* Variable to trigger the conditional for “profile mapping tables  *$G\_SourceData\_Path:* Variable to store the source location  *$G\_Texts\_Req*  *$G\_GeneralData\_IDoc\_Req*  *$G\_Texts\_IDoc\_Req*  *$G\_SourceID*  *$G\_Stop\_Job\_If\_Invalid\_Data\_Exists* |
|  |

|  |
| --- |
| Reusable Code |
| This Job is custom job for cost Center load and can’t be reused for other conversions |

|  |
| --- |
| Internal Tables |
| |  |  |  | | --- | --- | --- | |  |  |  | | COSTCENTERS\_GENERALDATA\_MAP  COSTCENTERS\_GENERALDATA\_VALID  COSTCENTERS\_GENERALDATA\_INV  COSTCENTERS\_GENERALDATA\_ENR  COSTCENTERS\_TEXTS\_MAP  COSTCENTERS\_TEXTS\_VALID  COSTCENTERS\_TEXTS\_INVALID  COSTCENTERS\_TEXTS\_ENRICHED  LKP\_COST\_CENTER |  |  | |

|  |
| --- |
| Messages |
| Once a record gets loaded into a S4 and IDoc message will be generated. The T-Code WE02 can be used to check on the status of the IDoc. Below are the various common messages:    **For BODS job**: No such custom message is required to tell the status of job. We can see these messages in the trace log.  It automatically comes up in trace log if job completed successfully or if we encounter any error during execution. |

|  |
| --- |
| Conversion List Output/ Reconciliation |
| 1. Compare CSKS table between SAP source system and CFIN. Analyze the differences and the reasons (e.g. a Cost Center is not loaded because it is not active)   2.Validate the mapping table in CFIN |

|  |
| --- |
| Assumptions in Technical Design |
| * All cost centers will be fetched from source system (based on specified criteria) and shared with the functional team. Load input file * Company Codes already exist in S4. |

|  |
| --- |
| Open Issues in Technical Design |
| No Open issues |

|  |
| --- |
| 12.Unit Test Plan |
| |  |  |  | | --- | --- | --- | | Scenario # | Input Selection Criteria | Expected Result | | 001 | Company code is missing in target system | Company code does not exist  (Need to manually check in CFIN) | | 002 | The source system not having correct data | The source systems have incorrect data | | 003 | Cost centers | Check whether all fields have been loaded and populated correctly. View in S4 by using the T code (SE11) | | 004 | Validation Check | Whatever record pass the validation rule should be loaded to the S/4.  Check with negative results to make sure validation transform functioning well | |

|  |
| --- |
| 13.Transport Details |
| |  |  |  | | --- | --- | --- | | Transport # | Type | Description | | JOB\_NAME | Central Repository Upload/Download | The ETL job JoB\_Name will be loaded into the central repository and will be downloaded from there into the designated repositories in QA, STG and PRD | |