OUM

DS.140 Design Specification

Cigna Corporation

BI-ETL-0008 ODI Control Tables ETL Technical Requirements

Author: G Manudeep

Creation Date: Sep 14, 2016

Last Updated: Sep 14, 2016

Document Ref: [Control Tables](https://centralhub.cigna.com/project/epms13058/Expense%20Reporting/Design/Reporting/Functional%20Specs/ETL/BI-ETL-0008_FS_RD-140_Control_Tables_ETL.docx)

Version: 1.0

1. **Title, Subject, Last Updated Date, Reference Number**, **and** **Version** are marked by a Word Bookmark so that they can be easily reproduced in the header and footer of documents. When you change any of these values, be careful not to accidentally delete the bookmark. **You can make bookmarks visible by selecting the Office Button>Word Options>Advanced> and checking the Show bookmarks option in the Show document content region.**

**Approvals:**

|  |  |
| --- | --- |
| Vinay Pachika |  |

1. To add additional approval lines, press [Tab] from the last cell in the table above.



1. You can delete any elements of this cover page that you do not need for your document.

# Document Control

## Change Record

5

| Date | Author | Version | Change Reference |
| --- | --- | --- | --- |
| 14-Sep-16 | G Manudeep | 1.0 | Initial Document |

## Reviewers

| Name | Position |
| --- | --- |
| Jagan Devara | Onsite |
| Lakshmi Prabhakar Bandaru | Onsite |
|  |  |
|  |  |

## Distribution

| Name | Position |
| --- | --- |
| Vinay Pachika | Cigna |
| Viswam Nair | Cigna |
|  |  |
|  |  |

Contents

1 Document Control 2

1.1 Change Record 2

1.2 Reviewers 2

1.3 Distribution 2

2 Business Overview 4

2.1 Assumptions 4

2.2 Risks & Issues 5

2.3 Referential Documents 5

2.4 Definitions and Acronyms 5

3 Functional Requirements 6

4 Technical Overview 7

5 ELT Overview 8

5.1 Database Tables & Models in ODI: 8

5.2 Data Lineage/Mapping 8

5.3 ODI Code Changes: 9

5.4 Custom Components 10

6 Open and Closed Issues 11

6.1 Open Issues 11

6.2 Closed Issues 11

1. To update the table of contents, put the cursor anywhere in the table and press [F9]. To change the number of levels displayed, select the menu option Insert‑>Index and Tables, make sure the Table of Contents tab is active, and change the Number of Levels to a new value.

# Business Overview

As part of the Building Financial Foundations project, Oracle Enterprise Business Suite (EBS) R12 was implemented / upgraded in an effort to modernize the overall accounting and financial reporting process. Reporting for the General Ledger (GL), Accounts Payable (AP), Fixed Assets (FA) and Accounts Receivable (AR) were developed in Discoverer.

To build upon the current reporting, the Expense Redesign projects plans to implement Business Intelligence (BI) to:

* Integrated systems and reporting tools to automate business processes and better insight into data resulting in time and cost savings
* Self-Service Business Intelligence to aid timely and intelligent business decisions by providing trustworthy and relevant and timely access to data
* Build a solid foundation for future reporting needs, including management reporting and analytics. Replace older reporting tools with modern and more effective integrated reporting technologies
* Provide a platform for analytical and operational reporting
* Adhoc reporting with drilldown and dashboard capabilities
* Extend the current operational reporting capabilities
* Enhance analytical, real time, metadata reporting capabilities

Business Intelligence reporting will be standardized on the Oracle Business Intelligence Enterprise Edition (OBIEE) platform. Oracle Business Intelligence Application (OBIA) will be implemented to provide GAAP, STAT, MLR reporting, extend analysis capabilities, and provide operating expense reporting to various areas in the Finance community.

Control Table reconciliation records reside in the custom area of Oracle EBS. Out of the box OBIA ETL do not provide any standard mechanism for the custom data reconciliation between source and target datawarehouse. So custom extract transform, load procedures need to be designed and built to bring these data into OBIA data warehouse, to enable further BI analytical reporting on control tables reconciliation data.

This document describes the functional requirements, source of data elements, logic and flow of the Extract, Transform and Load (ETL) process.

**Control Table**

**OOTB doesn’t have any standard mechanism to reconcile the data between source and target data warehouse. As part of this change create new custom packages and pull the data from source and respective target data warehouse facts which will be inserted into custom control fact.**

## Assumptions

* The scope of these changes is limited to incremental load only.
* Data quality issues if any will be handled by the source system (EBS).
* The materialized view (XXC\_XLA\_PRE\_POST\_SUMM\_MV) which will store the aggregated/higher level source data must be in sync/refreshed frequently.
* Control Table ODI code will be executed only after all the custom facts are loaded with the data.

## Risks & Issues

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Risk/Issue** | **Probability**  **(H/M/L)** | **Mitigation** |
|  |  |  |  |
|  |  |  |  |

## Referential Documents

The following document is the Functional document and requirements:

[Control Tables](https://centralhub.cigna.com/project/epms13058/Expense%20Reporting/Design/Reporting/Functional%20Specs/ETL/BI-ETL-0008_FS_RD-140_Control_Tables_ETL.docx)

## Definitions and Acronyms

|  |  |
| --- | --- |
| **Key Word** | **Meaning** |
| OBIEE | Oracle Business Intelligence Enterprise Edition |
| OOB | Out Of The Box |
| RPD | Repository File |
| ETL | Extract, Transform and Load |
| BI | Business Intelligence |
| OBAW / DW | OBIA Data warehouse |
| EBS R12 | Oracle E-Business Suite Release 12 |
| OBIA | Oracle Business Intelligence Applications |

# Functional Requirements

* All custom source transactions with a Status = P that reside in XXC\_XLA\_PRE\_POST\_SUMM\_MV need to be extracted and loaded into BI data warehouse
* Incremental loads should be run on the morning prior to the first day of each month unless an exception has occurred. The data is only updated in the source on the last day of each month.
* New transactions need to be pulled by ETL via incremental load and recorded in DW.
* Oracle standard practice for realizing archival of source system records vs deletion should be followed. Records loaded into DW should not be deleted or purged unless specific business requirement is received.
* Any failures in ETL need to be alerted via email to the support team and fixed as soon as possible. Partial load is not acceptable.
* Business user friendly and configurable value sets and lookups on the source system side need to be implemented as needed to avoid hard coding of filter criteria and conditions during extract.
* Custom ETL code should strictly follow and mimic out of the box ETL coding standards and best practices.

# Technical Overview

* Control Table

**OOTB doesn’t have a standard mechanism to reconcile the data between source and target data warehouse. As part of this change created new custom package which pulls both the Source data and Target data warehouse data to the custom fact for reconciliation.**

|  |  |
| --- | --- |
| Folder Name | CUSTOM\_SILOS |
| Sub Folder | SIL\_WC\_Control\_Table\_Fact |
| Package Name | SIL\_WC\_Control\_Table\_Fact |
| Scenario Name | SIL\_WC\_CONTROL\_TABLE\_FACT |
| Procedure | SIL\_WC\_Control\_Table\_Fact |
| Variables | ETL\_LOAD\_START\_DATE |

|  |  |
| --- | --- |
| Tool | Operator |
| Folder | Load Plan and Scenarios |
| Sub Folder | BIAPPS Load Plan -> SIL |
| Load Plan and Scenario Folder | EBS\_12\_1\_3 |
| Name | 3\_SIL\_Dims\_X\_CUSTOM\_DIM, 3\_SIL\_Fact\_X\_CUSTOM\_FG |

# ELT Overview

## Database Tables & Models in ODI:

Create new fact staging and fact tables in DW using WC\_CONTROL\_TABLE\_F.sql

List of tables or view created for this change as below:

|  |  |  |
| --- | --- | --- |
| Script Name | Description | Schema |
| WC\_CONTROL\_TABLE\_F | This script is used to create fact table for Control Table. | <DW\_SCHEMA> |

**Model Changes:**

Reverse engineer the below tables

|  |  |
| --- | --- |
| Model Folder Name | Oracle BI Applications |
| Sub Folder | Fact |
| Table | WC\_CONTROL\_TABLE\_F |

## Data Lineage/Mapping

Please refer to the following Paths Excel document for the EBS Data Sources, table Mappings final Target table mappings:



## ODI Code Changes:

**SIL Code changes:**

A procedure - SIL\_WC\_Control\_Table\_Fact is involved in the SIL control fact ODI code.

**Step-1:** **Insert Source Data into Control Fact**

**Data Mapping:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step Name** | **Source Table** | **Target table** | **SQL used** |
| Insert Source Data into Control Fact | Xxc\_Xla\_Pre\_Post\_Summ\_Mv | WC\_CONTROL\_TABLE\_F |  |

**Step-2: Insert Prealloc DW Data into Control Fact**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step Name** | **Source Table** | **Target table** | **SQL used** |
| Insert Prealloc DW Data into Control Fact | Wc\_Prealloc\_Exp\_F, Wc\_Prealloc\_Sources\_D  W\_Mcal\_Day\_D | WC\_CONTROL\_TABLE\_F |  |

**Step-3: Insert PostAlloc DW data into Control Fact**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step Name** | **Source Table** | **Target table** | **SQL used** |
| Insert PostAlloc DW data into Control Fact | Wc\_Postalloc\_Exp\_F , Wc\_PostAlloc\_Sources\_D ,  W\_Mcal\_Day\_D | WC\_CONTROL\_TABLE\_F |  |

**Variable:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Name** | **Query Used** | **Default Value** | **Keep History** |
| ETL\_LOAD\_START\_DATE | SELECT COALESCE(TO\_CHAR\_FORMAT(MAX (START\_DATE), 'YYYY-MM-DD HH24:MI:SS'),  '1970-01-01 01:00:00' )  FROM SNP\_LPI\_RUN  WHERE I\_LP\_INST =NVL(#ETL\_PROC\_WID,-1)  AND NB\_RUN =1 | 2002-01-01 12:00:00 | Latest Value |

## Custom Components

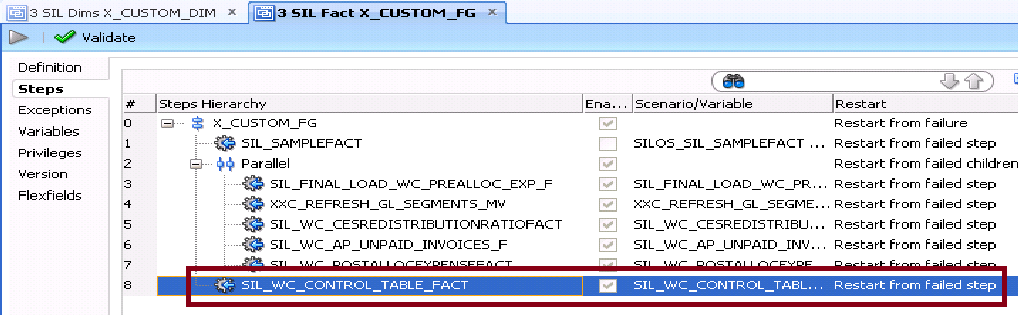
Please refer the list of the custom objects used for this change (DB tables, and ODI components).



## ODI LP Changes:

Operator->Load Plans and Scenarios->3 SIL Fact X\_CUSTOM\_FG

Add SIL\_CONTORL\_TABLE\_FACT scenario in the step given above in parallel to the existing scenarios.



# Open and Closed Issues

1. Add open issues that you identify while writing or reviewing this document to the open issues section. As you resolve issues, move them to the closed issues section and keep the issue ID the same. Include an explanation of the resolution.  
     
   When this work product is complete, any open issues should be transferred to the project- or process-level Issue Log (Manage focus area) and managed using a project level Issue Form (Manage focus area). In addition, the open items should remain in the open issues section of this work product, but flagged in the resolution column as being transferred.

## Open Issues

| **ID** | **Issue** | **Resolution** | **Responsibility** | **Target Date** | **Impact Date** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Closed Issues

| **ID** | **Issue** | **Resolution** | **Responsibility** | **Target Date** | **Impact Date** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |