

Oracle Financial Services Retail Performance Analytics

User Guide

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Financial Services

OFS Retail Performance Analytics User Guide

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1 Preface

This section provides information about the Oracle Financial Services Retail Performance Analytics (OFS RPA) Application User Guide. OFS RPA application is packaged as part of the OFS PFT Application Pack.

Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Access to Oracle Support](#)
- [Structure](#)
- [Conventions](#)
- [Abbreviations](#)
- [Related Information Sources](#)
- [Additional Documents to Read](#)

1.1 Audience

This user guide is intended for the users of the Oracle Financial Services Retail Performance Analytics (OFS RPA) application.

See [Related Information Sources](#) and [Additional Documents to Read](#) for more Oracle product information.

1.2 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit:

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info>

Or, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

1.3 Structure

This user guide has been segregated into the following chapters:

- Introduction
- Overview of Process Flow
- Dimension Loading Process
- Time Dimension Population
- Customer Dimension Population
- Account Dimension Population

- Exchange Rate History Population
- Account Summary Population
- Fact Transaction Summary
- Customer Summary Population
- Fact Data Population
- Cube Build Process
- Time Series Forecasting
- Segmentation
- Overview of OFS RPA Reports
- What-If Analysis
- Visibility
- Appendix A: Adding a Dimension
- Appendix B: Adding a New Measure
- Appendix C: Developing a New Cube
- Appendix D: Defining a Batch
- Appendix E: List of Hardcoded Members
- Appendix F: Run Rule Framework
- Appendix G: Loading Multiple Load Runs of OFSAA
- Appendix H: PA Metrxs Computation Logic

1.4 Document Conventions

The following text conventions are used in this document:

Table 1: Document Conventions

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, file names, text that appears on the screen, or text that you enter.
Hyperlink	Hyperlink type indicates the links to external websites, internal document links to sections.

1.5 Abbreviations

The following table lists the abbreviations used in this document:

Table 2: Abbreviations

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
ETL	Extract, Transform, Load
FTP	File Transfer Protocol
HDFS	Hadoop Distributed File System
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JCE	Java Cryptography Extension
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MFA	Multi-Factor Authentication
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Applications
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OFSAAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
OHC	Oracle Help Center

Abbreviation	Meaning
OLAP	On-Line Analytical Processing
OLH	Oracle Loader for Hadoop
ORAAH	Oracle R Advanced Analytics for Hadoop
OS	Operating System
RAM	Random Access Memory
RDBMS	Relational Database Management System
RHEL	Red Hat Enterprise Linux
SCD	Slowly Changing Dimension
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language

1.6 Related Information Sources

This section identifies additional documents related to the OFS RPA Application. You can access the below documents online from the Oracle Help Center (OHC) [Documentation Library](#) for OFS BCE Release 8.1.0.0.0:

OHC Documentation Library for the Oracle Financial Services Profitability Management Applications Pack (OFS PFT Pack) Release 8.1.0.0.0:

Installation Guide:

- [Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide Release 8.1.0.0.0](#)

User Guides:

- [Oracle Financial Services Profitability Management User Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Funds Transfer Pricing User Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Institutional Performance Analytics User Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Retail Performance Analytics User Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Enterprise Financial Performance Analytics User Guide Release 8.1.0.0.0](#)

Oracle Financial Services Profitability Management Applications Pack Security Guides:

- [Oracle Financial Services Profitability Management Security Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Funds Transfer Pricing Security Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Institutional Performance Analytics Security Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Retail Performance Analytics Security Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Enterprise Financial Performance Analytics Security Guide Release 8.1.0.0.0](#)

Oracle Financial Services Profitability Management Applications Pack Cloning Reference Guides:

- [Oracle Financial Services Profitability Management Cloning Reference Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Funds Transfer Pricing Cloning Reference Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Institutional Performance Analytics Cloning Reference Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Retail Performance Analytics Cloning Reference Guide Release 8.1.0.0.0](#)
- [Oracle Financial Services Enterprise Financial Performance Analytics Cloning Reference Guide Release 8.1.0.0.0](#)

1.7 Additional Documents to Read

Oracle Financial Services Profitability Management Applications Pack is built on the Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAI). See the following OFS AAI documents as no separate documents are required at the pack or application level for Oracle Financial Services Profitability Management Applications Pack:

- [OFS Analytical Applications Infrastructure \(OFS AAAI\) Application Pack Installation and Configuration Guide Release 8.1.0.0.0](#)
- [OFS Analytical Applications Infrastructure Administration Guide Release 8.1.0.0.0](#)
- [OFS Analytical Applications Infrastructure Cloning Reference Guide Release 8.1.0.0.0](#)
- [OFS Analytical Applications Infrastructure Security Guide Release 8.1.0.0.0](#)
- [OFS Analytical Applications Infrastructure User Guide Release 8.1.0.0.0](#)

You can access the common document from the OHC Documentation Library:

- [OFS Analytical Applications 8.1.0.0.0 Technology Matrix](#)

2 Overview of OFS Retail Performance Analytics (OFS RPA)

This guide explains the concepts of Oracle Financial Services Retail Performance Analytics and provides step-by-step instructions for navigating the Retail Performance Analytics user interface. Oracle Financial Services Retail Performance Analytics (OFS RPA) is a complete end-to-end web-based Business Intelligence solution which provides a 360-degree view of the customer relationship for key insights into the customer life-cycle.

OFS RPA provides tools for data integration and includes customizable, pre-built dashboards and reports, a reporting data model, and user friendly functional subject areas for ad-hoc reporting. It also provides you deep insights into customer engagements across target segments and products/Line Of Business (LOB) including lending, credit cards, and so on. It pro-actively manage the growth through strategic insights into the retail business performance. OFS RPA helps you to monitor customer distribution across credit and delinquency bands and related exposures.

The OFSRPA solution is a part of Profitability Pack and is packaged along with AAI and other applications. This OFS RPA is supported for Oracle 18c and 19c.

OFSRPA solution is built using:

- OBIEE for Dashboard and Reports activities
- Essbase for cubes

This manual deals with essential Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) required for OFS RPA activities, process flow for the data transformation, cube building processes, and functional details about the dash boards and reports. In addition, it includes subject areas which could be used for ad-hoc reporting using OBIEE Answers tool.

2.1 OFS Retail Performance Analytics (OFS RPA Run Chart)

Run chart, as the name suggests helps the consultant understand the sequence of tasks to be performed to ensure the correctness of data flow in the product. It contains the details about Data loading for all mandatory tables for the product, and the sequence of execution of seeded tasks/batches.

Oracle Financial Services Retail Performance Analytics (OFS RPA) provides the Run Chart listing the tasks required for population of data for OFS RPA Reports. This covers the following tasks:

- Stage Dimension Load
- Common data Population (for example Exchange Rate)
- Set up table population
 - Dimensions
 - Facts
- Profitability tables Population
- Model Execution
- Derived Entity Refresh
- Cubes Build

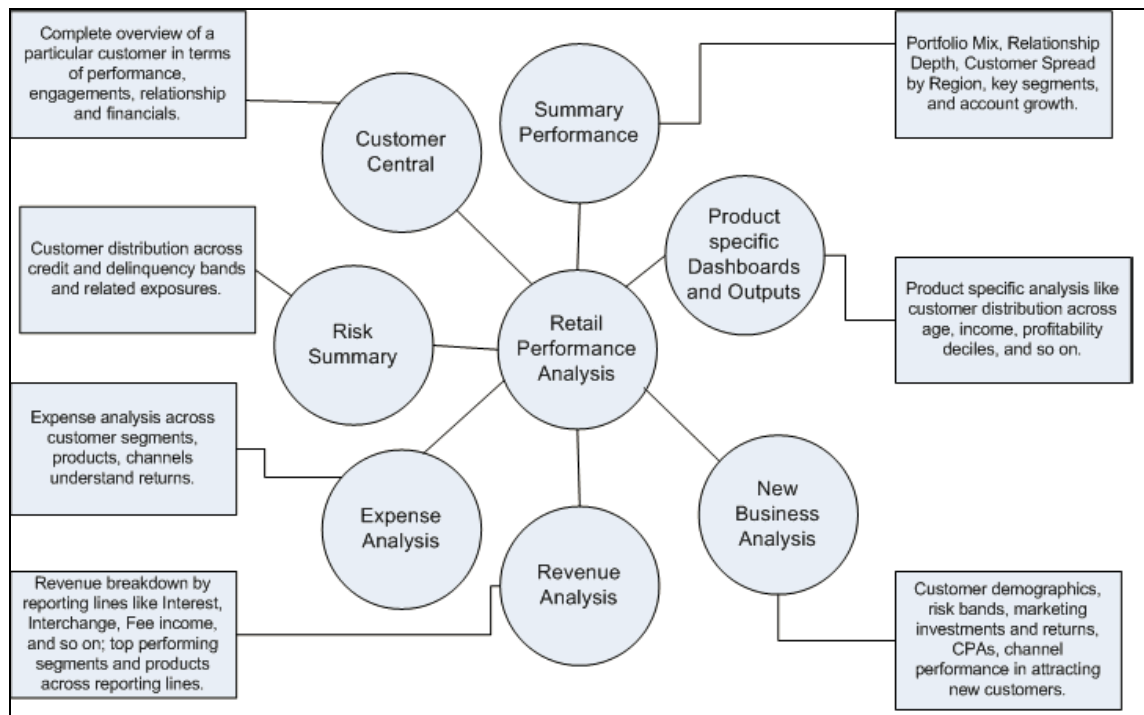
Download the *OFS RPA Cloud Service 8.1.0.0 Run Chart* from the [MOS page](#).

3 Overview of OFS RPA Process Flow

Oracle Financial Services Retail Performance Analytics (OFS RPA) utilizes OBIEE technology to:

- Gain deep insight into customer engagements across target segments and products or LOB including lending, credit cards, and so on.
- Perform Wallet share analysis and Customer Profitability.
- Understand the efficiency of investments (like marketing, branch, and channel and so on) over time.
- Monitor customer distribution across credit and delinquency bands and related exposures.
- Perform an enterprise-wide revenue analysis across customer segments, products, and reporting lines including fee income, interest, and interchange.
- Summary performance of the LOBs, overall Profitability, and Portfolio mix.
- Customer trends across performance drivers like Sales, Balances, Deposits, Product subscriptions (revenue services), Credit scores, Delinquency bands, Losses, and so on.
- LOB specific performance reports can be analyzed against key dimensions like customer segments, product family, region, branch, risk scores, and so on.
- Analyze expenses across customer segments, products, and channels to understand ROI.

Figure 1: Objectives of RPA



For details on OFSRPA reports and how OBIEE is being utilized, see [Overview of OFSRPA Reports](#).

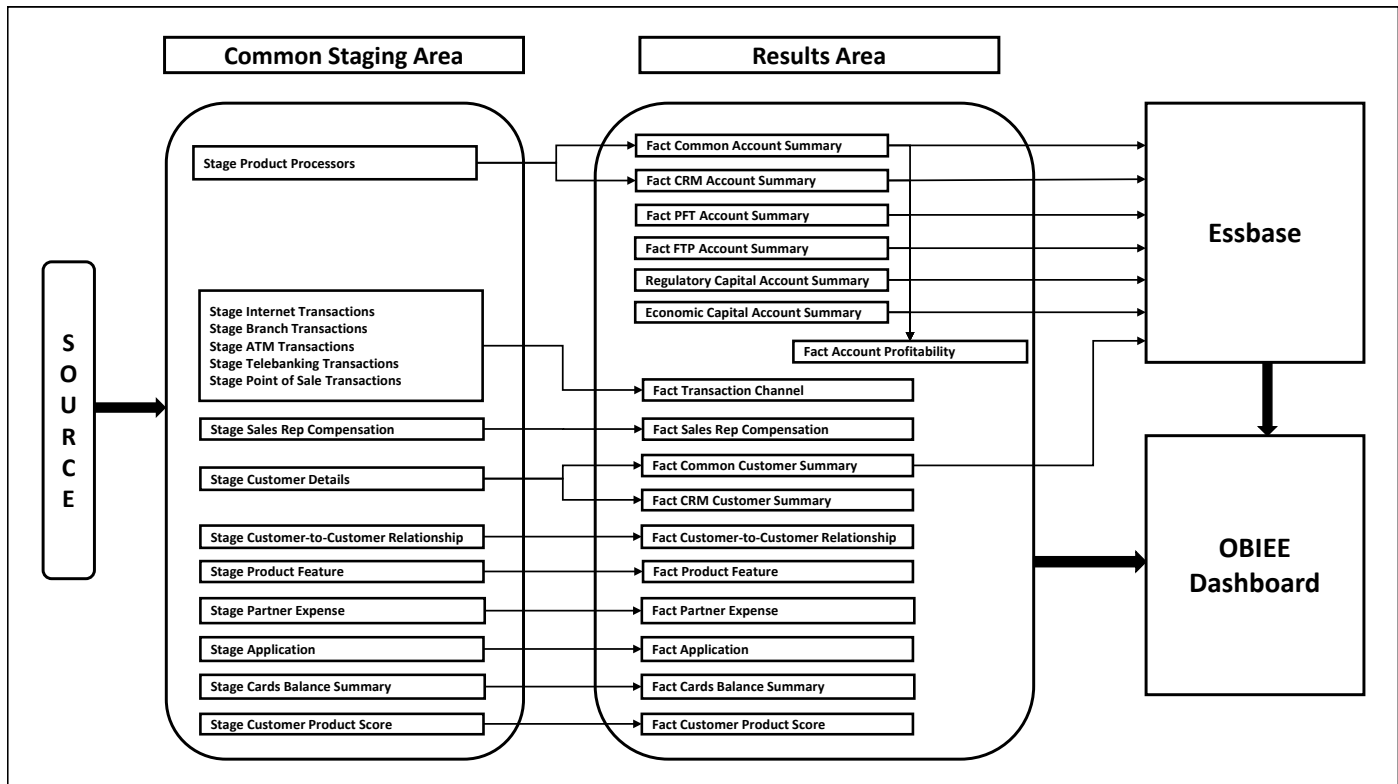
OFSRPA is designed for OBIEE reading data from relational database. The relational database comprises of various dimensions and facts in the BI data model.

OFSRPA can be independently licensed and installed to work on top of the OFSAA Infrastructure.

3.1 Data Flow

Retail Performance Analytics data model contains the staging tables from which data is loaded in to the dimensions and fact tables. Staging tables include the master staging tables, detail staging tables, staging product processor tables, and so on. The user has to populate data into these staging tables.

Figure 2: Staging Tables



3.2 Dimension Data Flow

Dimension data in OFS RPA application is loaded from staging master tables using the Slowly Changing Dimensions (SCD) process. Data from source systems can be loaded into staging through flat file or source system interfaces. SCD process tracks the changes in the dimensional attributes and loads data into dimension tables. Examples of dimension tables that follow the SCD process are Product, Customer Type, Customer, Campaign, and so on.

Some dimensions are static or maintained internally within the application and are not expected as a download from source system (for example, Reporting Line). These dimensions are maintained through the AMHM (Attribute Member Hierarchy Maintenance) component of OFSAAI or through other framework components like DEFI.

Following are the list of dimensions used in OFSRPA.

Table 3: OFSRPA Dimensions

Dimension Entity Name	Staging Entity Name (or Names)	Loading or Maintenance method
Account Status Dimension	Stage Account Status Master	SCD
Application Reject Reasons Dimension	Stage Application Reject Reason Master	SCD
Application Status Dimension	Stage Application Status Master	SCD
Application Type Dimension	Stage Application Type Master	SCD
Attrition Dimension	Stage Attrition Reason Master	SCD
Authorization Decision Reasons Dimension	Stage Auth Decision Reason Master	SCD
Balance Category Dimension	Stage Credit Card Balance Category Master	SCD
Card Type Dimension	Stage Card Type Master	SCD
Channel Transaction Dimension	Stage Transaction Channel Type Master	SCD
Country Dimension	Stage Country Master	SCD
Credit Center Dimension	Stage Credit Center Master	SCD
Credit Officer Dimension	Stage Credit Officer Master	SCD
Customer Dimension	Stage Customer Master	SCD
Customer Type Dimension	Stage Customer Type Master	SCD
Decision Status Dimension	Stage Decision Status Master	SCD
Deviation Reasons Dimension	Stage Deviation Reason Master	SCD
Education Dimension	Stage Customer Education Master	SCD
Geography Dimension	Stage Geography Master	SCD
Home Ownership Dimension	Stage Home Ownership Master	SCD
Household Dimension	Stage Household Master	SCD
Industry Dimension	Stage Industry Master	SCD
LoB Dimension	Stage LOB Master	SCD
Management Dimension	Stage Account Mgmt Master	SCD
Merchant Dimension	Stage Merchant Master	SCD
Merchant Category Dimension	Stage Merchant Category Master	SCD
Migration Reasons Dimension	Stage Migration Reason Master	SCD
Offer Dimension	Stage Offer Master	SCD
Reason Dimension	Stage Opportunity Win Loss Reason Master	SCD
Organization Structure Dimension	Stage Organization Structure Dimension	SCD
Partner Dimension	Stage Partner Master	SCD
Pool Identification Dimension	Stage Pool Identification Master	SCD
Prepayment Reason Dimension	Stage Prepayment Reason Master	SCD

Dimension Entity Name	Staging Entity Name (or Names)	Loading or Maintenance method
Product Dimension	Stage Product Master	SCD
Loan Product Category Dimension	Stage Product Category Master	SCD
Product Feature Dimension	Stage Product Feature Master	SCD
Product Type Dimension	Stage Product Type Master	SCD
Prospect Dimension	Stage Prospect Master	SCD
Retention Offer Type Dimension	Stage Retention Offer Master	SCD
Sales Representative Dimension	Stage Sales Rep Master	SCD
Sales Stage Dimension	Stage Sales Stage Master	SCD
Terminal Dimension	Stage Terminal Master	SCD
Terminal Type Dimension	Stage Terminal Type Master	SCD
Transaction Dimension	Stage Transaction Master	SCD
Transaction Channel Dimension	Stage TXN Channel Master	SCD
Txn Failure Reason Dimension	Stage Transactions Failure Reason Master	SCD
Transaction Status Dimension	Stage Transactions Status Master	SCD
Vendor Dimension	Stage Vendor Master	SCD
Vintage Dimension	Stage Vintage Master	SCD
Reporting Line Dimension	Reporting Line Dimension Members, Reporting Line Member Translation, Reporting Line Member Attributes, Reporting Line Hierarchies	AMHM/DT
Band Dimension	Band Dimension Members, Band Member Translation, Band Member Attributes	AMHM/SCD
Account Dimension	Stage LC Contracts	SCD
Account Dimension	Stage Commitment Contracts	SCD
Party Dimension	Stage Party	SCD
Account Dimension	Stage OD Accounts	SCD
	Stage TD Contracts	SCD
	Stage Trusts	SCD
	Stage Loan Contracts	SCD
	Stage Mutual Funds	SCD
	Stage Bills Contracts	SCD
	Stage CASA Accounts	SCD
	Stage Guarantees	SCD
	Stage Leases Contracts	SCD
	Stage MM Contract	SCD

Dimension Entity Name	Staging Entity Name (or Names)	Loading or Maintenance method
	Stage Annuity Contracts	SCD
	Stage Borrowings	SCD
	Stage Card Account	SCD
	Stage Investments	SCD
Region Dimension		Direct Load
Acquisition Channel Dimension		Direct Load
Instrument Category Dimension		Seeded
Currency Dimension		Seeded
Gender Dimension		Seeded
Marital Status Dimension		Seeded
Calendar Dimension		DT
Account Dimension	Staging Product Processor Tables like: <ul style="list-style-type: none"> • Stage Annuity Contracts • Stage Bill Contracts • Stage Borrowings • Stage Cards • Stage CASA Accounts • Stage Guarantees • Stage Investments • Stage LC Contracts • Stage Leases Contracts • Stage Loan Contracts • Stage Money Market Contracts • Stage Over Draft Accounts • Stage Term Deposit Contracts • Stage Trusts • Stage Swaps Contracts • Stage Repo Contracts • Stage Option Contracts • Stage Mutual Funds • Stage Futures And Forwards 	SCD

Some of the stage data can also come from master data management interfaces. In such cases, data from interface is loaded into staging interface tables and SCD is run on the interface tables. Mapping of dimensional attributes to staging can be obtained by querying SYS_STG_JOIN_MASTER and SYS_TBL_MASTER tables in the atomic schema.

3.2.1 Fact Data Flow

Most of the Fact tables are mapped to staging counterparts through Table to Table (T2T) mappings. Data from source systems can be loaded into staging through flat file or source system interfaces. T2T process then loads data to fact tables. Examples include Fact Common Account Summary, Fact CRM Account Summary, and so on.

Some of the Fact tables are loaded with processed fact information from other fact tables. Examples include Fact CRM Customer Summary, and so on.

Table 4: FACT Table Flow

Fact Entity Name	Source	Source Entities	Method of populating measures
Fact Common Account	Summary	Stage Stage Annuity Contracts Stage Bill Contracts Stage Borrowings Stage Cards Stage CASA Accounts Stage Guarantees Stage Investments Stage LC Contracts Stage Leases Contracts Stage Loan Contracts Stage Money Market Contracts Stage Over Draft Accounts Stage Term Deposit Contracts Stage Trusts	T2T
Fact CRM Account Summary	Stage	Stage Commitment Contracts Stage Mutual Funds Stage Annuity Contracts Stage Bill Contracts Stage Borrowings Stage Cards Stage CASA Accounts Stage Guarantees Stage Investments Stage LC Contracts Stage Leases Contracts Stage Loan Contracts Stage Money Market Contracts Stage Over Draft Accounts	T2T

Fact Entity Name	Source	Source Entities	Method of populating measures
Fact Common Customer Summary	Stage	Stage Commitment Contracts Stage Mutual Funds Stage Customer Details Stage Party Rating Details Stage Party Financials	T2T
Fact CRM Customer Summary	Stage and Fact	Stage Customer Master Stage Customer Details Fact Common Account Summary Fact Transaction Channel	T2T/DT
Fact Application	Stage	Stage Applications	T2T
Transaction Channel	Stage	Stage Internet Transactions Stage Branch Transactions Stage ATM Transactions Stage Telebanking Transaction Stage Point Of Sale Transactions	T2T
Fact Cards Balance Summary	Stage	Stage Credit Card Balance Summary	T2T
Fact Account Feature Map	Stage	Stage Account Feature Map	T2T
Fact Customer to Customer Relationship	Stage	Stage Customer to Customer Relationships	T2T
Fact Account Profitability	Fact	Fact Common Account Summary Fact FTP Account Summary Fact PFT Account Summary	DT
Exchange Rate History	Stage	Stage Exchange Rates	T2T
Fact Account Segment Score	Fact	Fact Common Account Summary	T2T
Fact Account Segment MOB Summary	Fact	Fact Account, Fact Profitability, Fact Common Account Summary, Fact Account Segment Score	DT
Fact Party Account Role Map	Stage	Stage Party Account Role Map	T2T
Fact Party Financials	Stage	Stage Party Financials	T2T

This table will be populated in presence of RCA application with the T2T. In absence of RCA, this table has to be directly loaded if the data is available.

The OFSRPA uses some materialized views registered as *Derived Entity*, that must be refreshed as and when the dependent table has fresh data. The MVs can be refreshed by running the batches created for the purpose. The list of Derived Entity and the dependent objects can be found in the following table.

Table 5: Derived Entities and Dependent Objects

MATERIALIZED_VIEW	REFERENCED_NAME	REFERENCED_OBJECT_NAME
ACNTSMRM	FCT_COMMON_ACCOUNT_SUMMARY	Table
	FCT_CRM_ACCOUNT_SUMMARY	Table
CUSTDETM	DIM_CUSTOMER	Table
	DIM_CUSTOMER_TYPE	Table
	DIM_GENDER	Table
	FCT_COMMON_CUSTOMER_SUMMARY	Table
FCSTCUSR	VW_ACCT_VAL_FCST_CUSTAGG_RPA	Table
FCSTLTMR	VW_FORECAST_LTV_RPA	Table
FCSTREPR	VW_ACCT_VAL_FCST_REP_AGG_RPA	Table
FSIUSRD	FSI_USER_DATA_ACCESS	Table
MGMTPFM	ACNTSMRM	Table
	CUSTDETM	Table
	FCT_ACCOUNT_MGR_REL	Table
	FCT_ACCOUNT_PROFITABILITY	Table
MVRACPRO	A_DIM_REP_CURRENCY	Table
	DIM_ACCOUNT	Table
	DIM_CONSOLIDATION	Table
	DIM_CURRENCY	Table
	DIM_CUSTOMER	Table
	DIM_CUSTOMER_TYPE	Table
	DIM_DATES	Table
	DIM_LOB	Table
	DIM_ORG_UNIT	Table
	DIM_PRODUCT	Table
	DIM_REP_LINE	Table
	DIM_VINTAGE	Table
	FCT_ACCOUNT_PROFITABILITY	Table
	FCT_COMMON_CUSTOMER_SUMMARY	Table
	FCT_CRM_ACCOUNT_SUMMARY	Table
	MVUSRACC	Table
MVRCUSAG	A_DIM_REP_CURRENCY	Table
	DIM_ACCOUNT	Table

MATERIALIZED_VIEW	REFERENCED_NAME	REFERENCED_OBJECT_NAME
	DIM_CONSOLIDATION	Table
	DIM_CURRENCY	Table
	DIM_CUSTOMER	Table
	DIM_CUSTOMER_TYPE	Table
	DIM_DATES	Table
	DIM_LOB	Table
	DIM_ORG_UNIT	Table
	DIM_PRODUCT	Table
	DIM_REP_LINE	Table
	DIM_VINTAGE	Table
	FCT_ACCOUNT_PROFITABILITY	Table
	FCT_COMMON_CUSTOMER_SUMMARY	Table
	FCT_CRM_ACCOUNT_SUMMARY	Table
	MVUSRACC	Table
MVRPROAG	A_DIM_REP_CURRENCY	Table
	DIM_ACCOUNT	Table
	DIM_CONSOLIDATION	Table
	DIM_CURRENCY	Table
	DIM_CUSTOMER	Table
	DIM_CUSTOMER_TYPE	Table
	DIM_DATES	Table
	DIM_LOB	Table
	DIM_ORG_UNIT	Table
	DIM_PRODUCT	Table
	DIM_REP_LINE	Table
	DIM_VINTAGE	Table
	FCT_ACCOUNT_PROFITABILITY	Table
	FCT_COMMON_CUSTOMER_SUMMARY	Table
	MVUSRACC	Table
MVUSRACC	DIM_ACCOUNT	Table
	FCT_COMMON_ACCOUNT_SUMMARY	Table
	FSIUSRD	Table
RTHREPMV	WITH_REP_LINE_DIRECT_IND_RPA	Table

MATERIALIZED_VIEW	REFERENCED_NAME	REFERENCED_OBJECT_NAME
USRMGRMV	FSI_M_USER_MANAGER_MAP	Table

3.3 BI Data Model

The BI data model is a star schema for the fact table FCT_<APPLICATION>_ACCOUNT_SUMMARY.

Following are the subject areas in the erwin data model:

Figure 3: Fact Account Feature Map

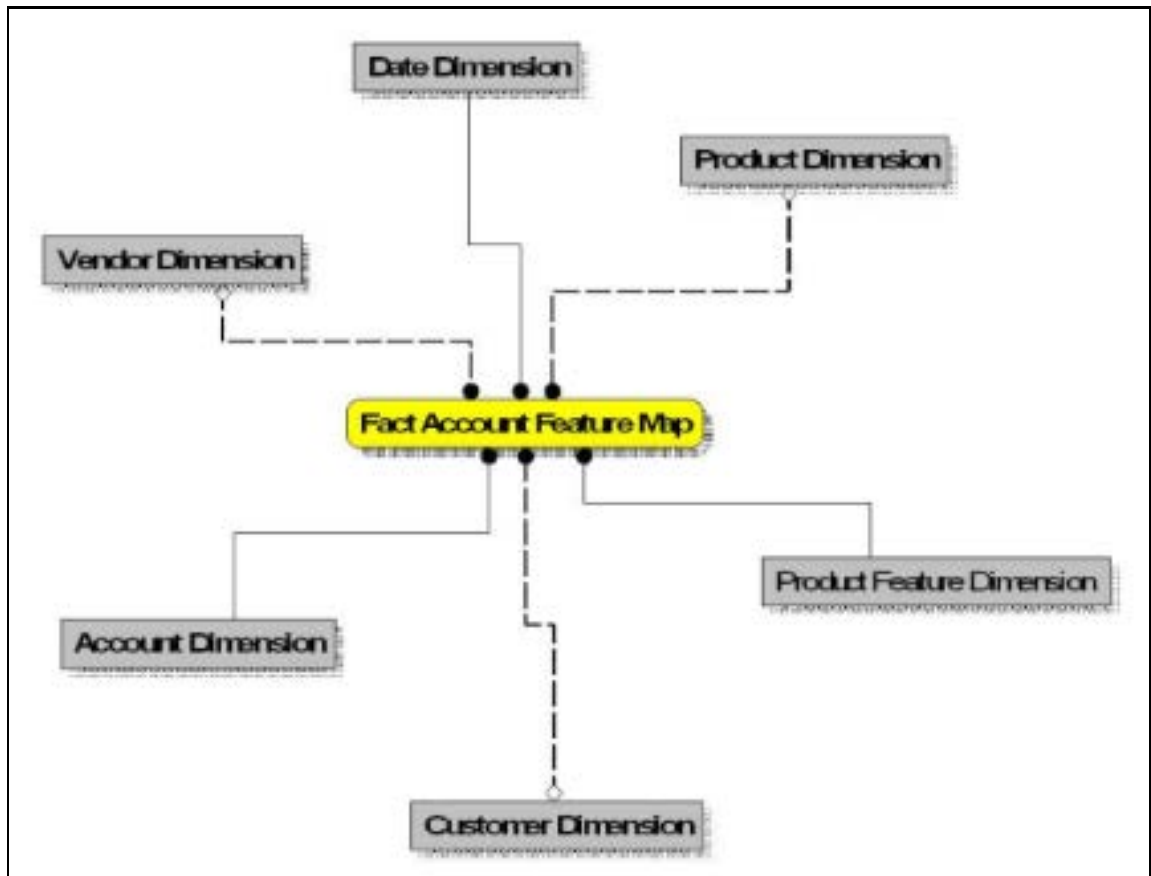


Figure 4: Fact Account Manager Relationship

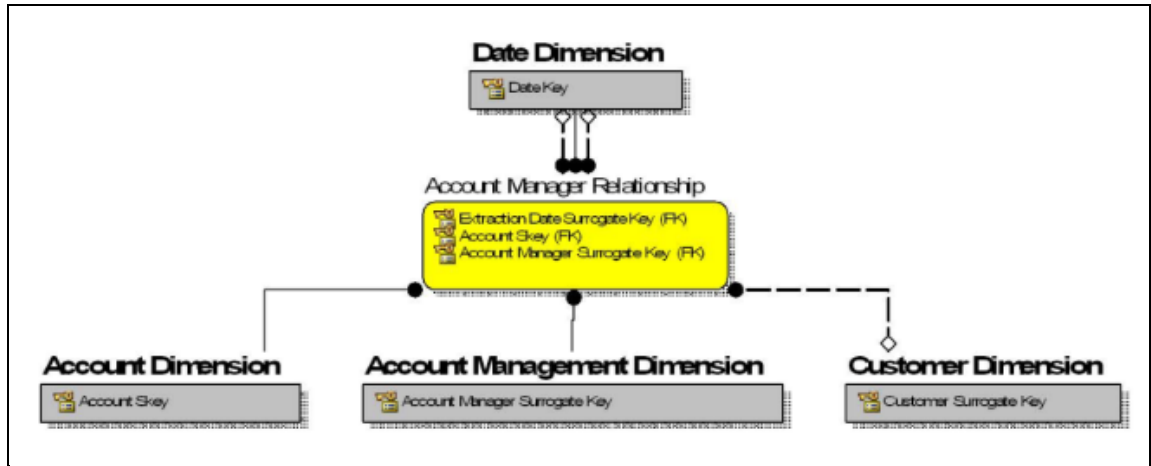


Figure 5: Fact Account Party Role

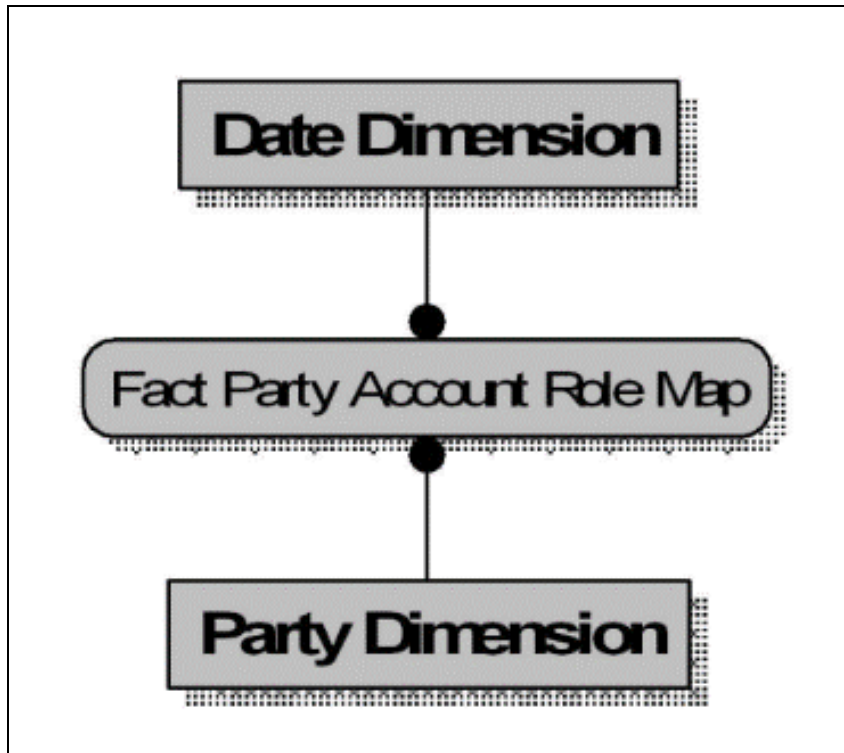


Figure 6: Fact Account Profitability

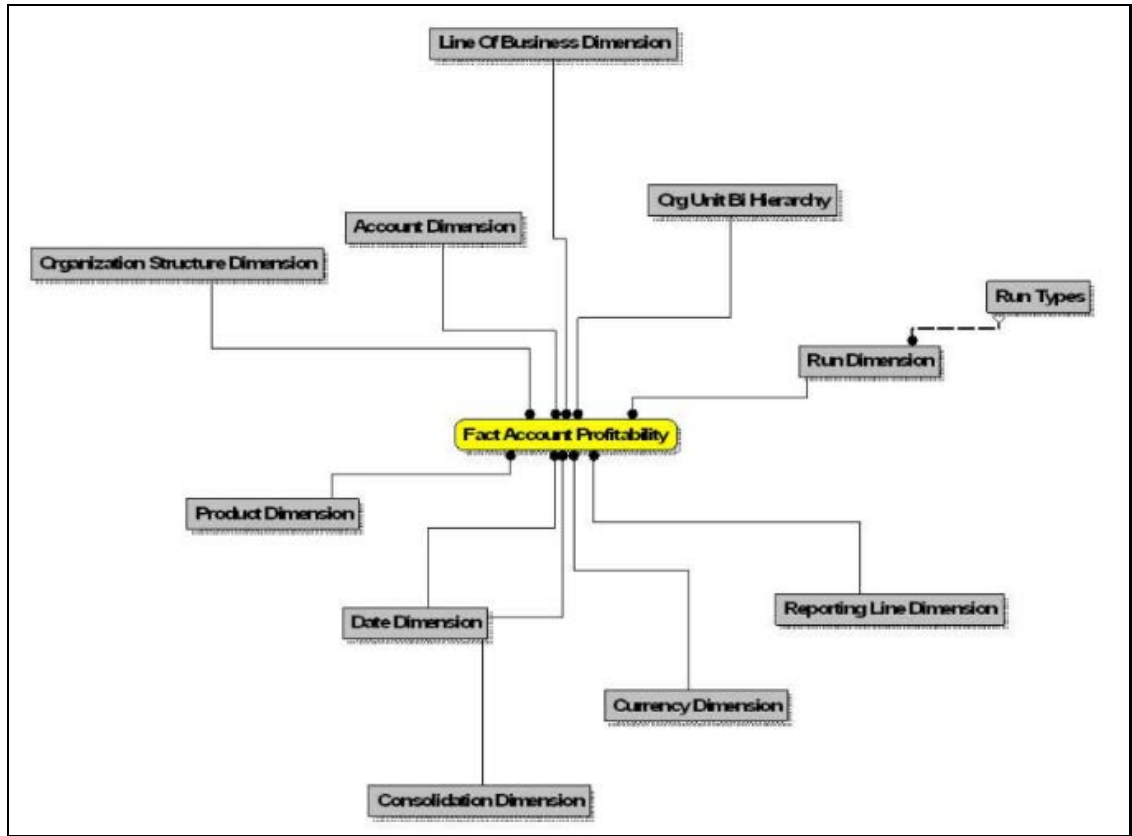


Figure 7: Fact Account Segment MOB Summary

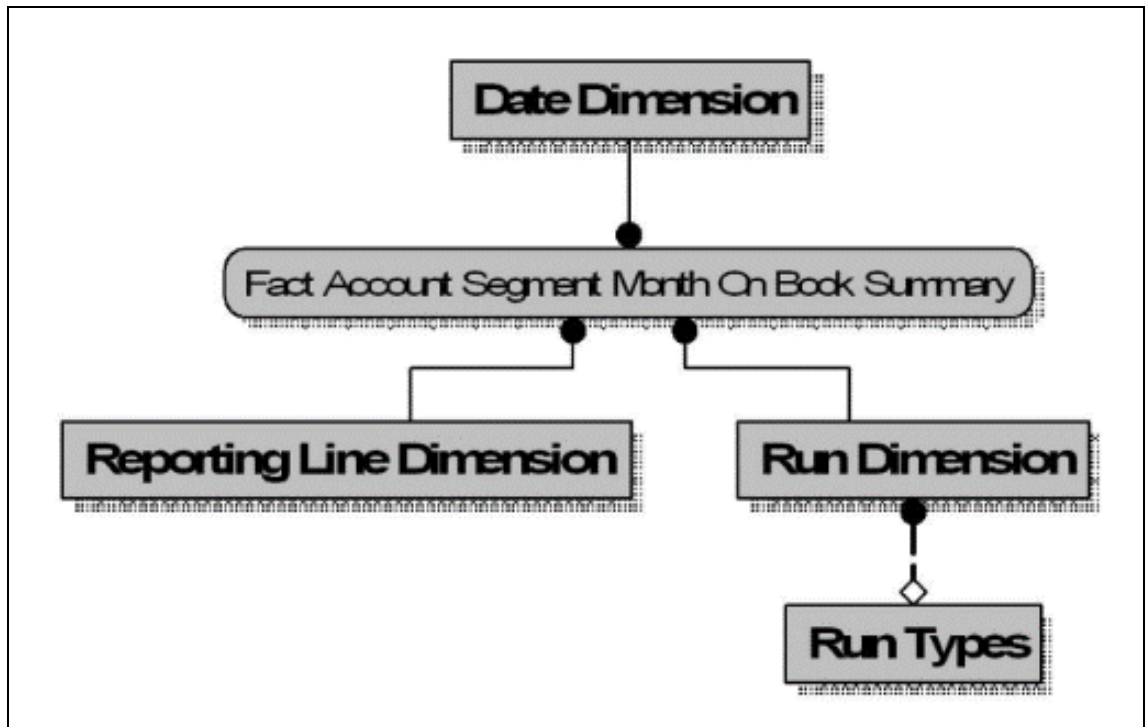


Figure 8: Fact Account Segment Score

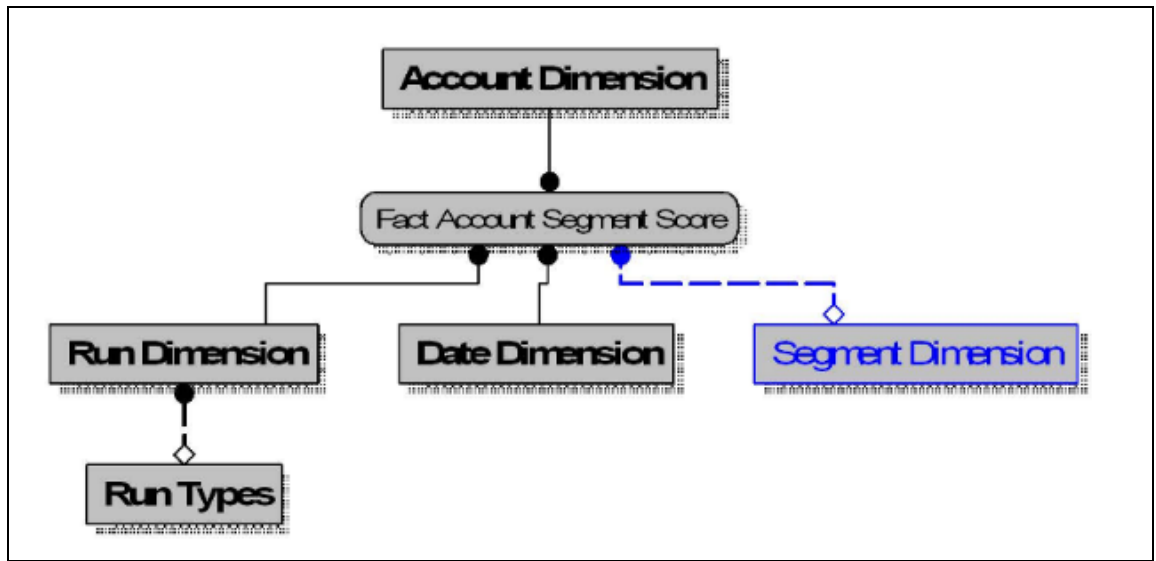


Figure 9: Fact Applications Summary

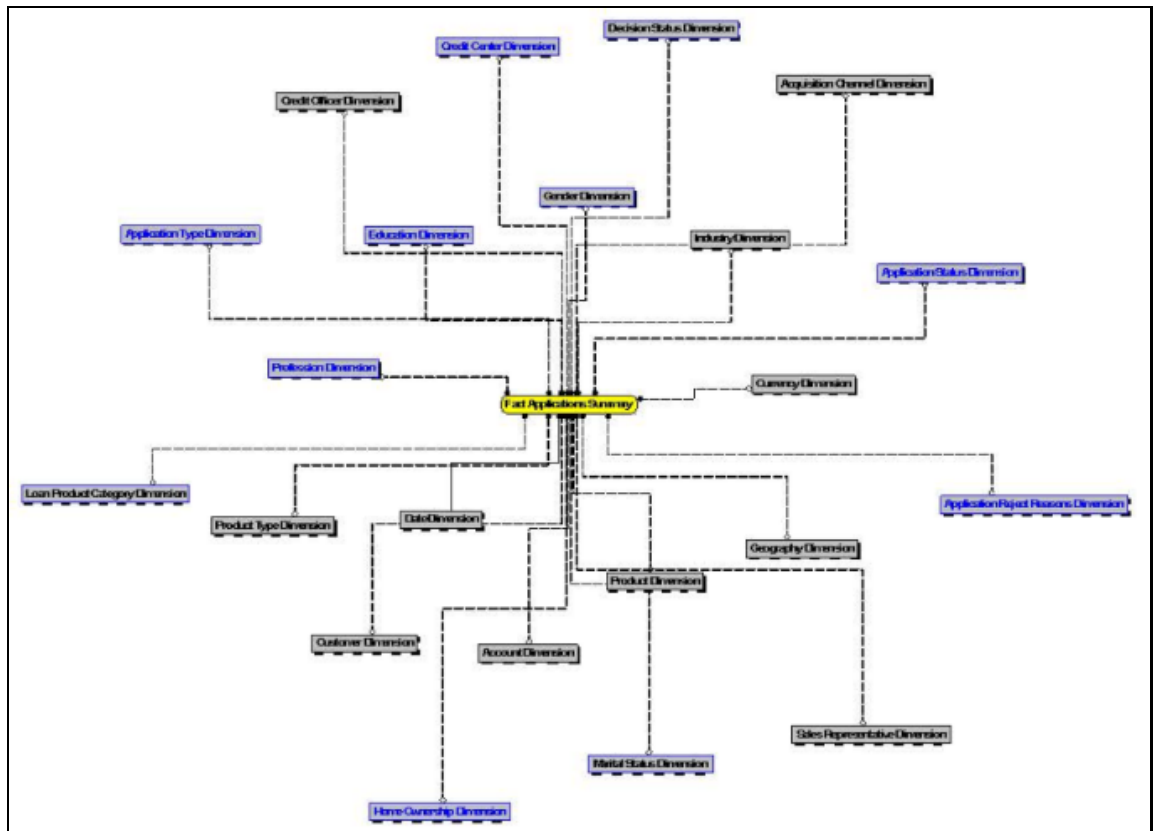


Figure 10: Fact Common Account Summary

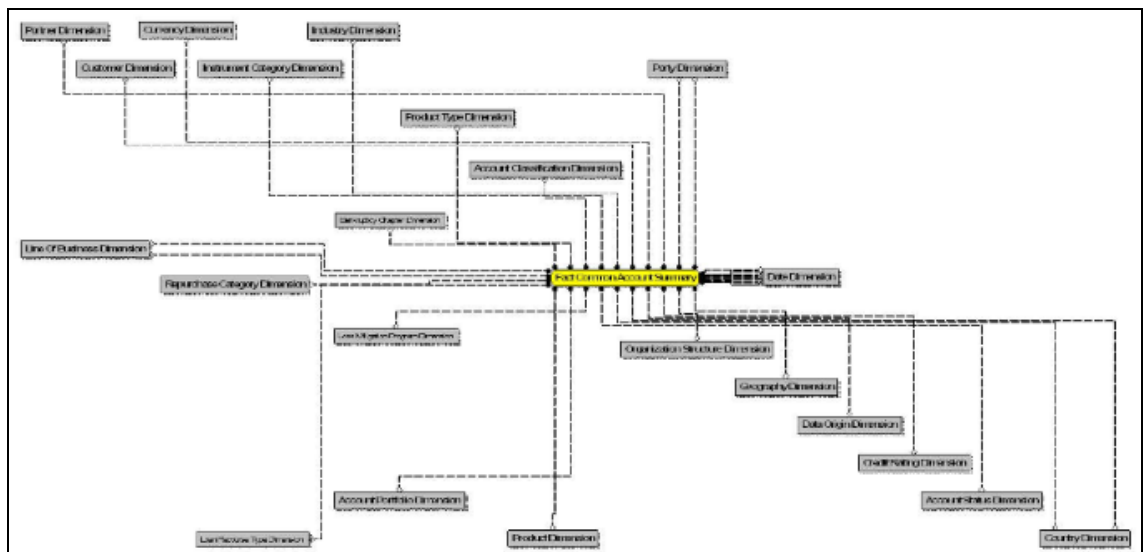


Figure 11: Fact Common Customer Summary

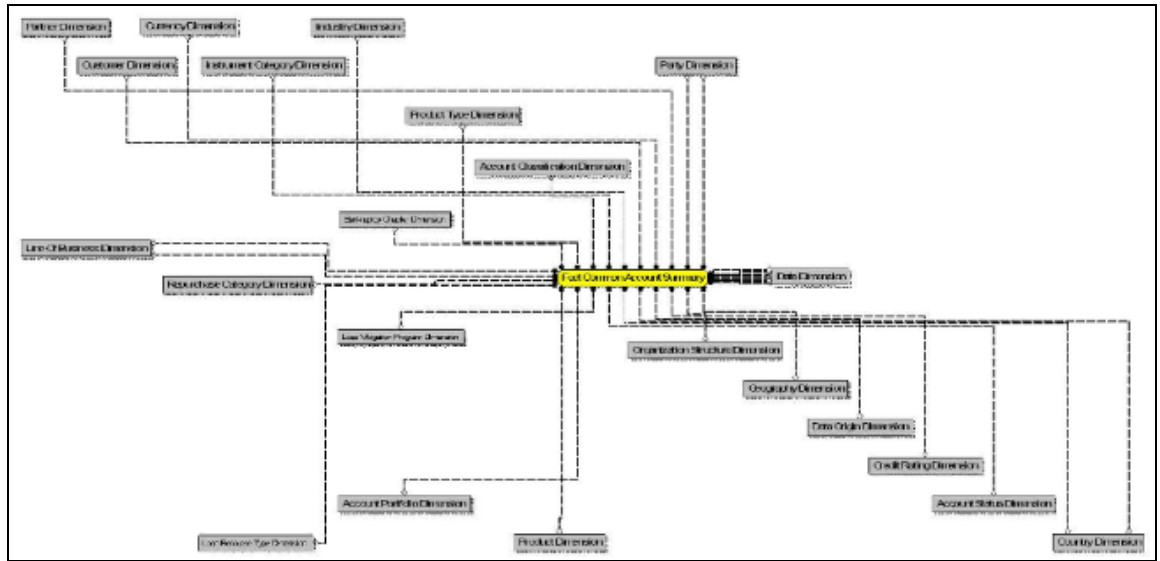


Figure 12: Fact CRM Account Summary

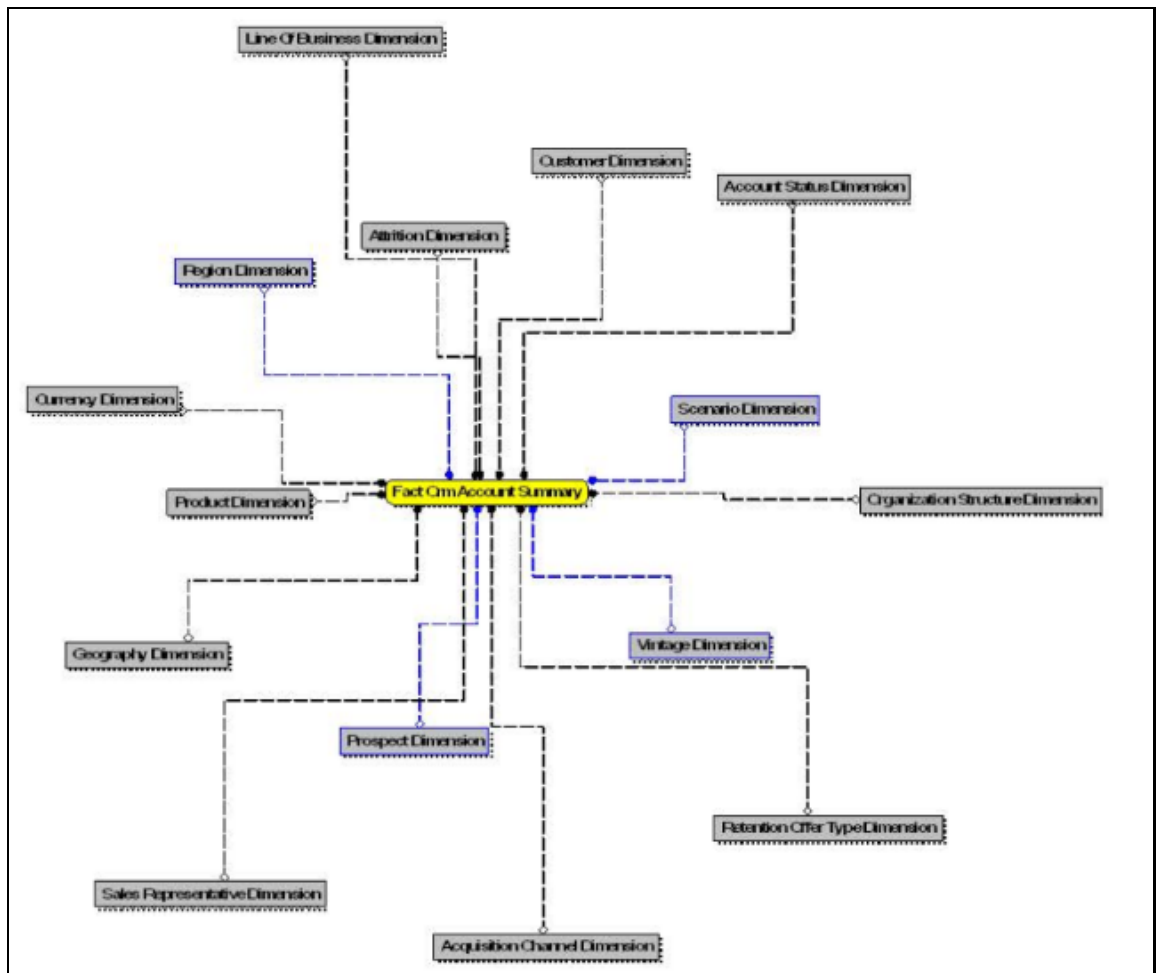


Figure 13: Fact Customer to Customer Relationship

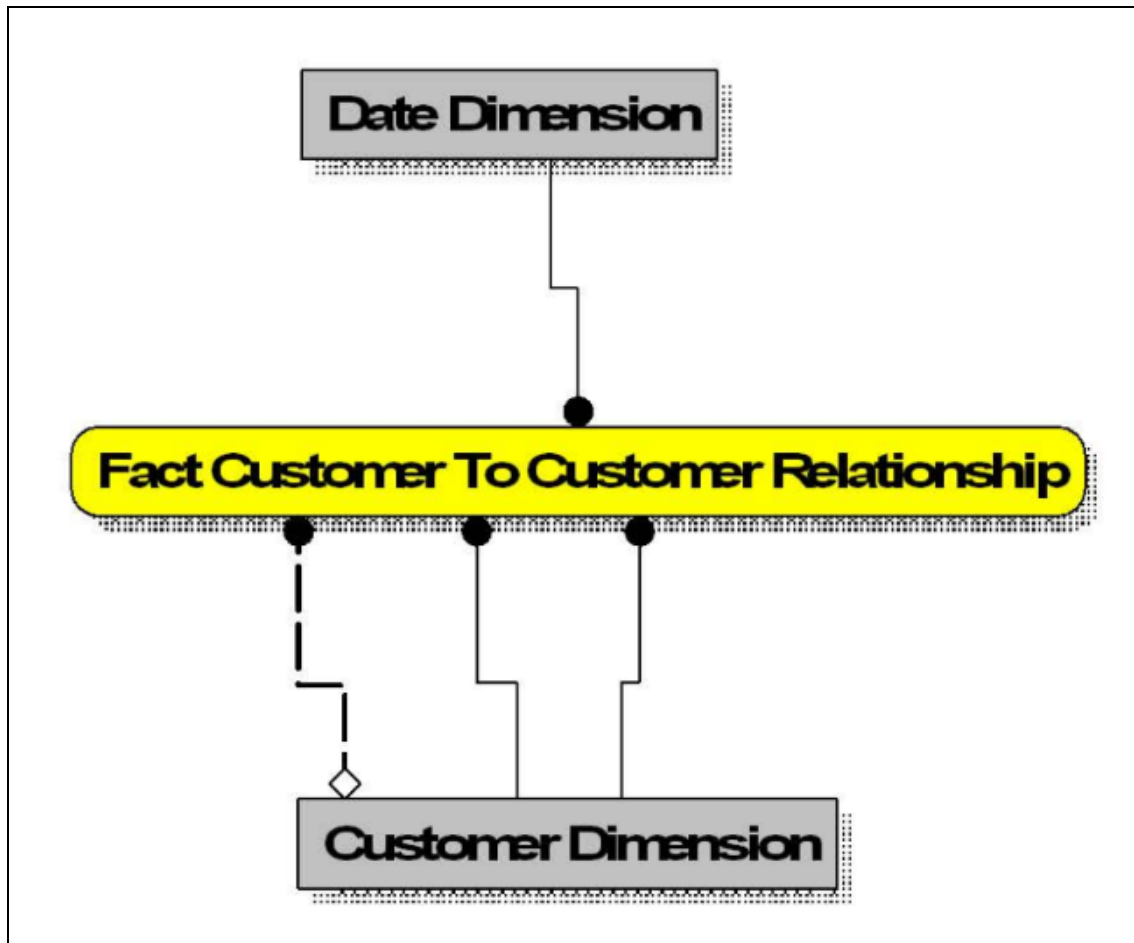


Figure 14: Fact Economic Capital Account Summary

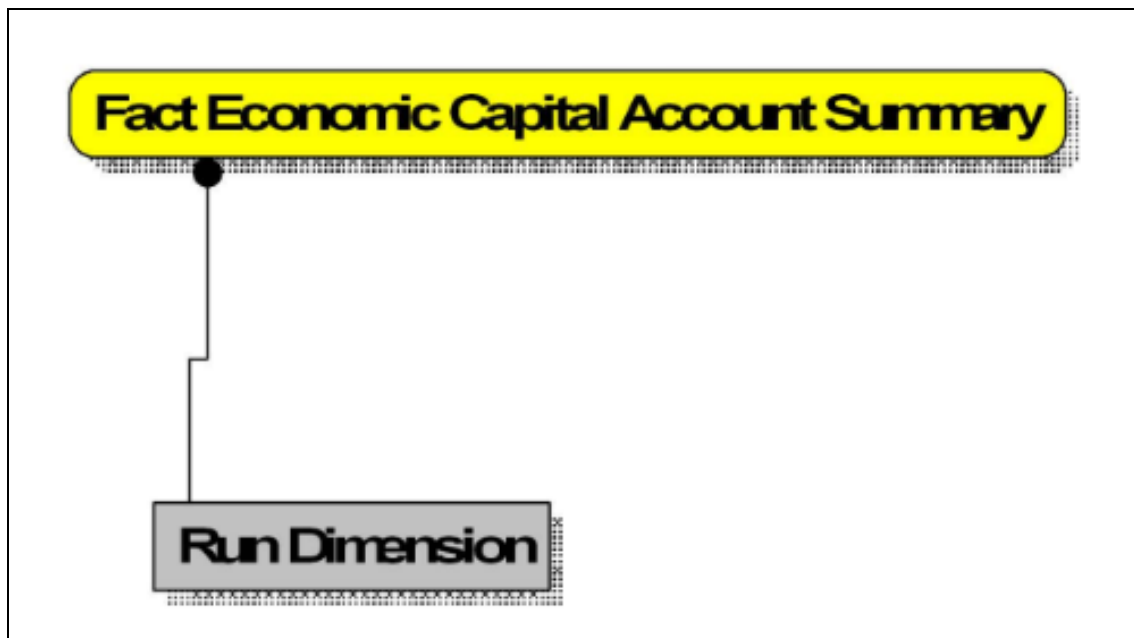


Figure 15: Fact Opportunity

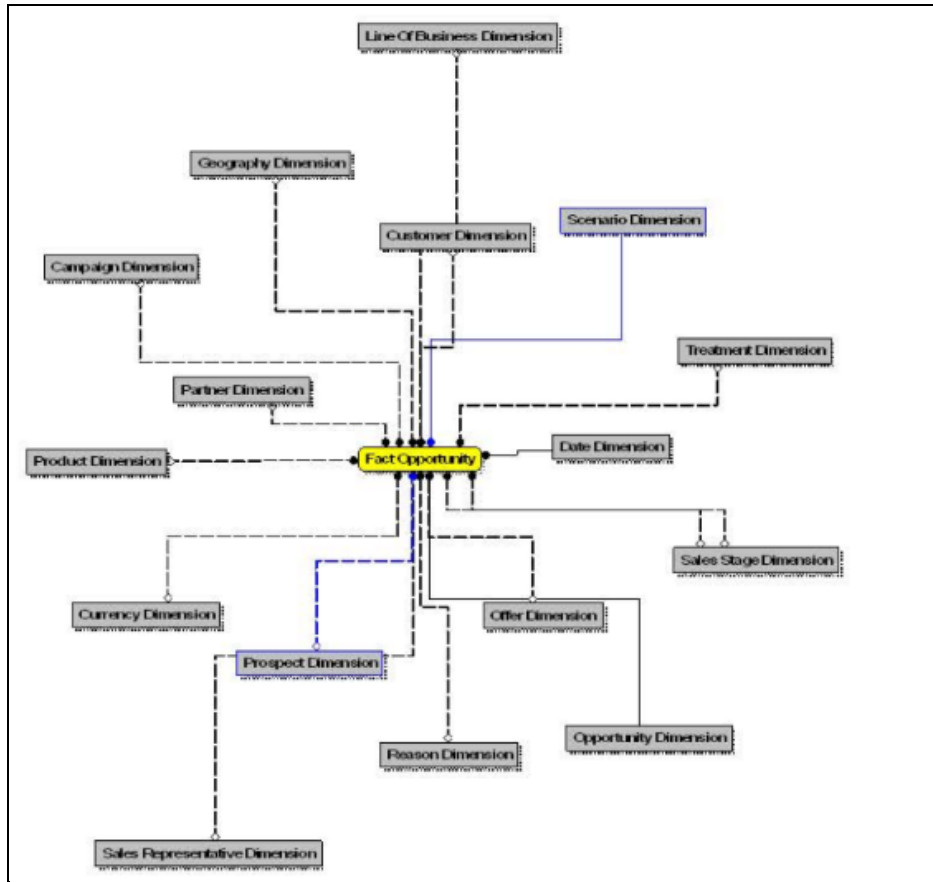


Figure 16: Fact Opportunity Activity

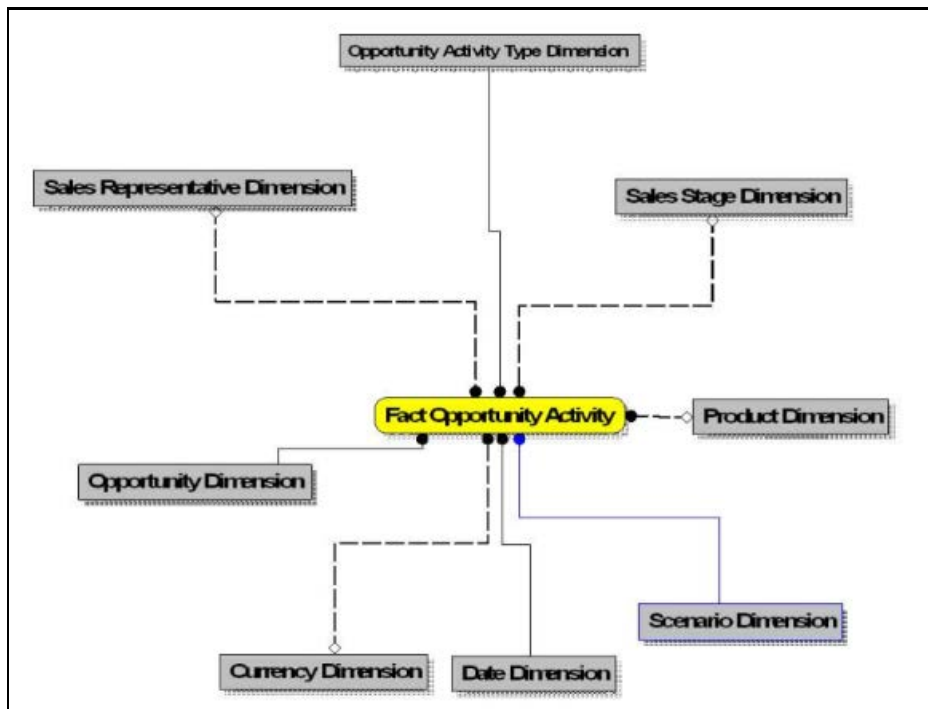


Figure 17: Fact Regulatory Capital Account Summary

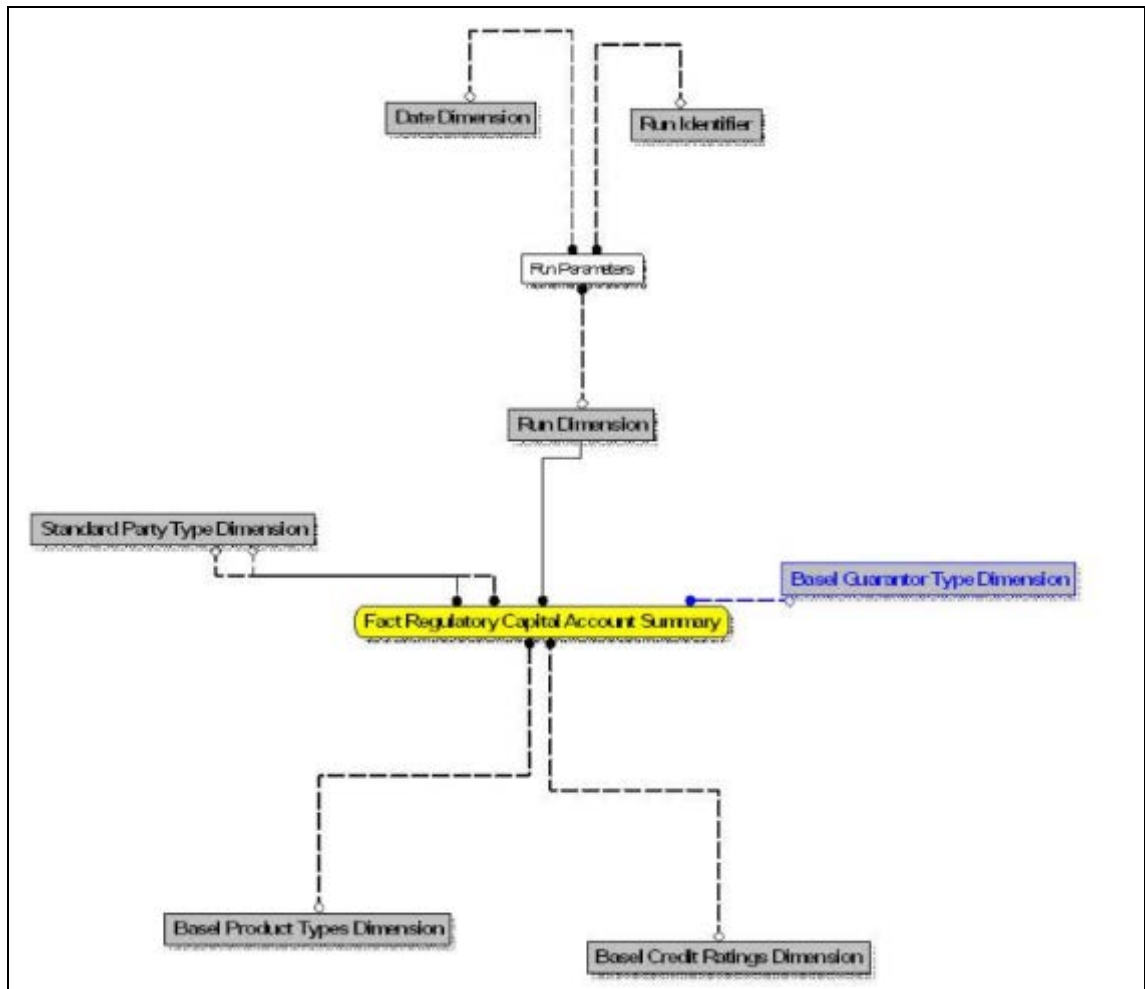


Figure 18: Fact Sales Representative Compensation

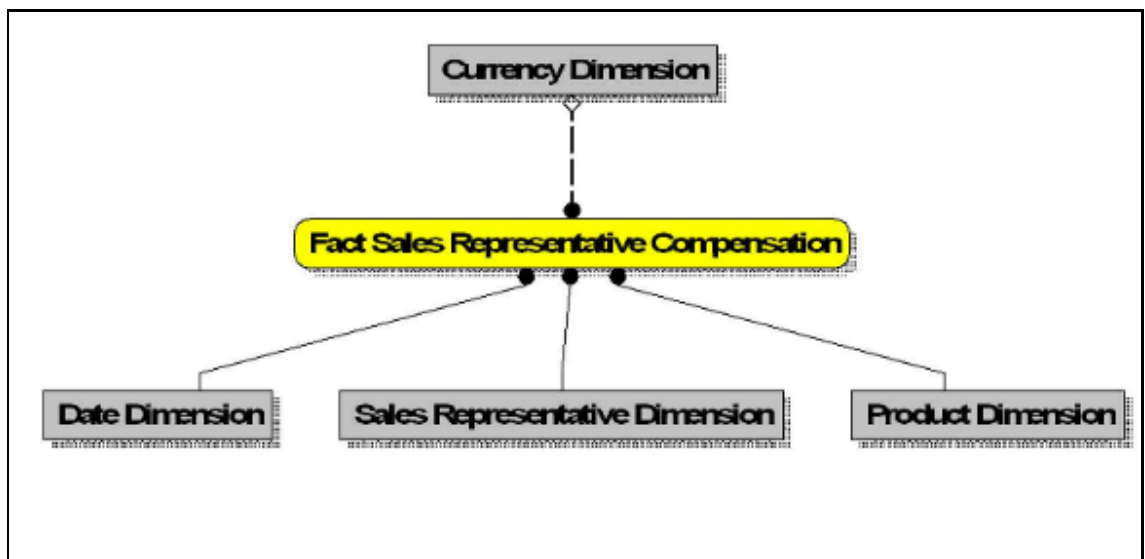


Figure 19: Fact Transaction Summary

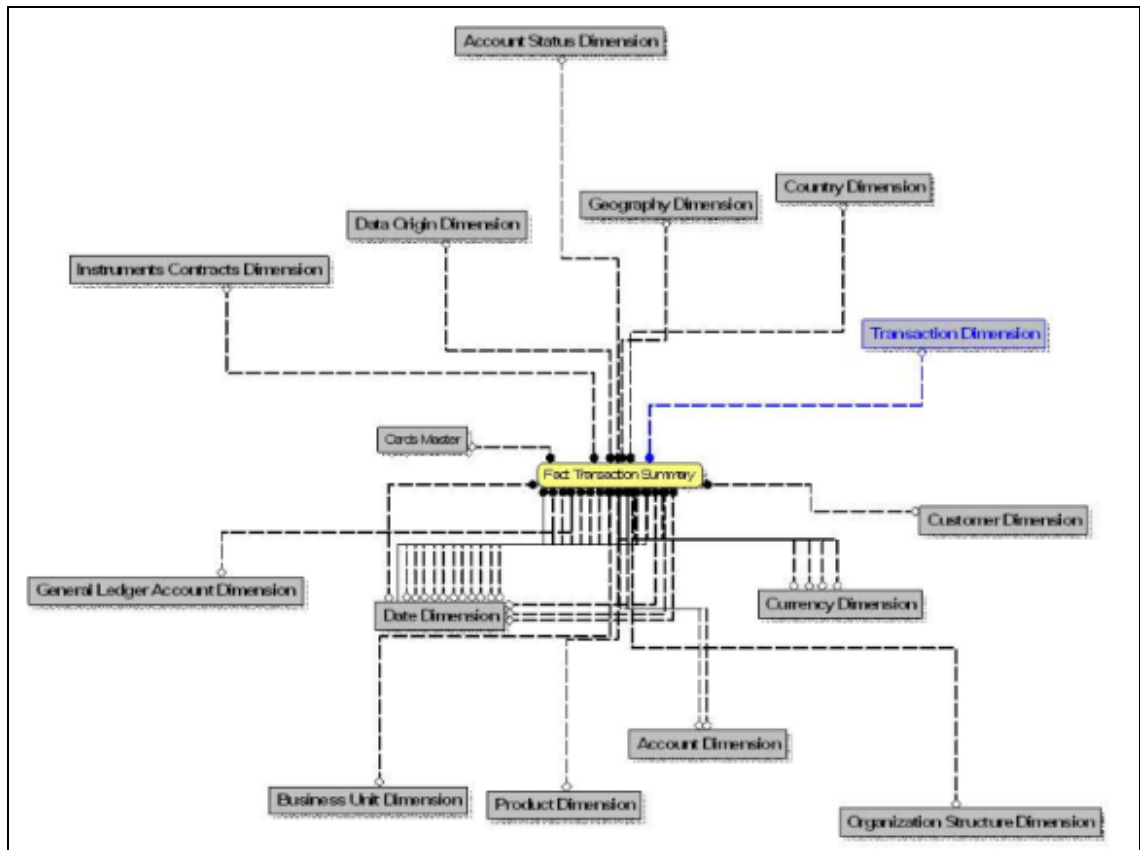


Figure 20: Funds Transfer Pricing (FTP) Account Summary

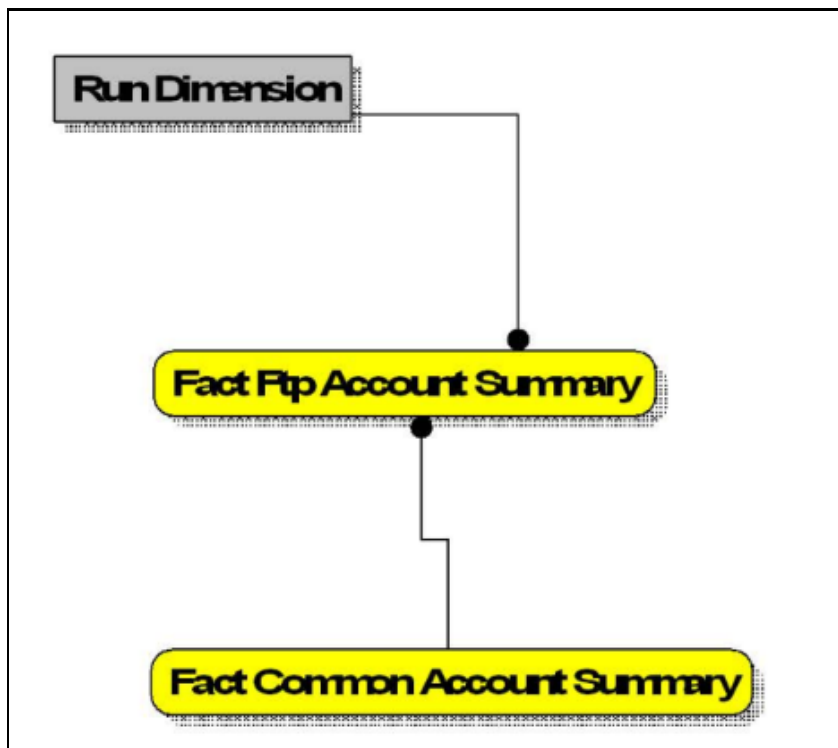


Figure 21: Profitability Management (PFT) Account Summary

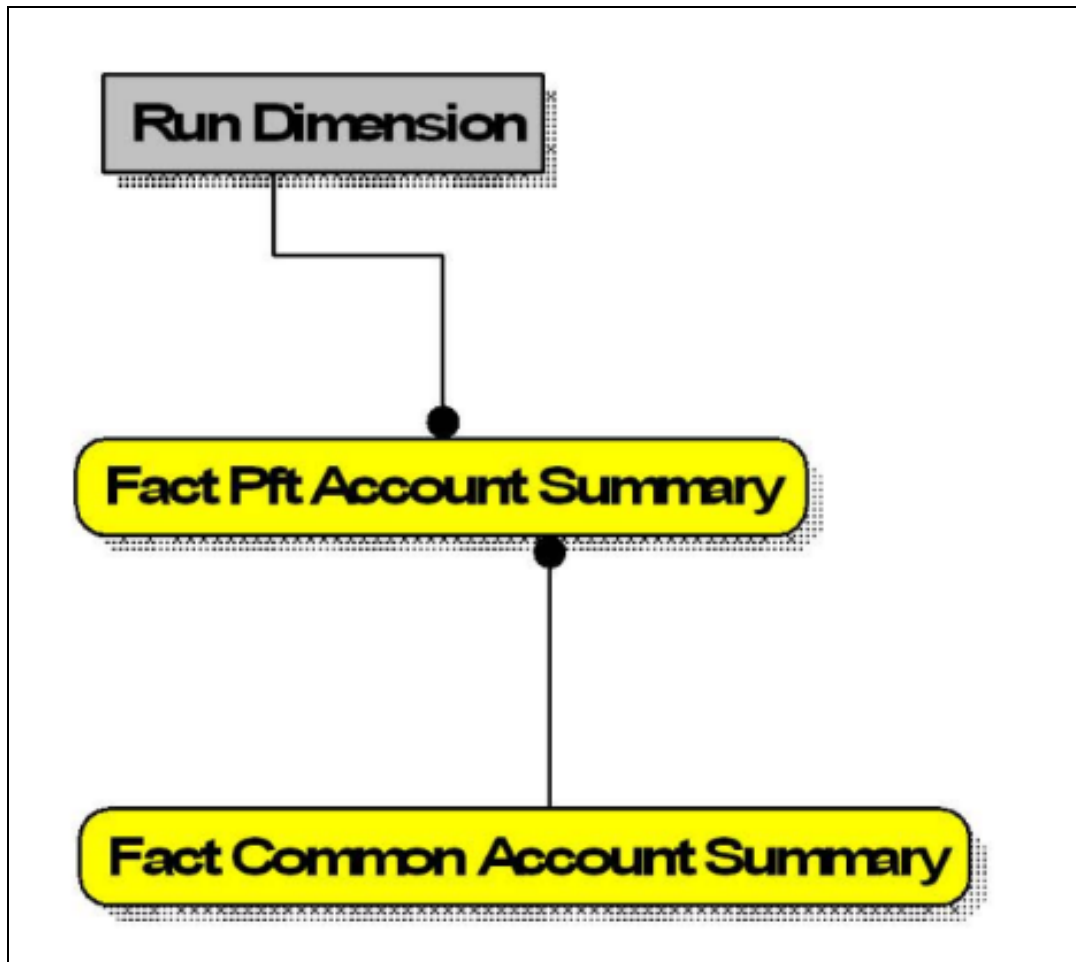
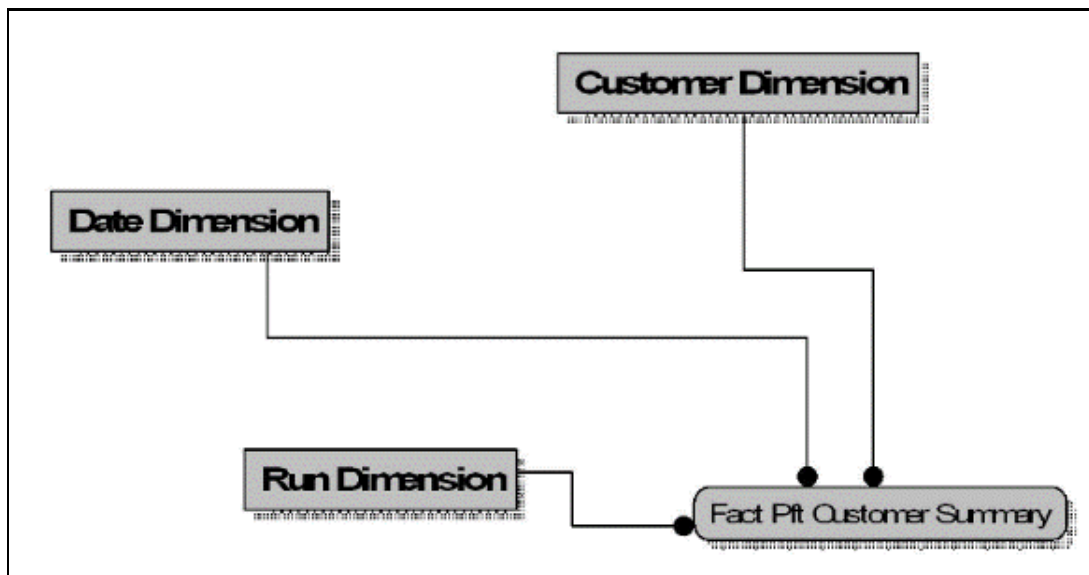


Figure 22: PFT Customer Summary



3.4 Data Flow: OFS PACS BI Data Model to Essbase Cubes

Reports of OFS PACS application can be configured to work on Relational database or Hyperion Essbase Multi-dimensional databases, which are cubes. Multi-dimensional databases store aggregated data for better performance and provide mechanisms for performing non-additive rollup within a hierarchy and defining complex derived measures using cross-dimensional operations. OFSAA Infrastructure is used for defining metadata about the cube and for building the Essbase cubes. Essbase cubes can be built out of reporting fact entities to improve performance.

OFS PACS application has the following seeded cube metadata:

Table 6: Seeded Cube Metadata

Cube Code	Cube Name	Fact Entities in the dataset
ADCRM001	Institutional Analysis	Fact Common Account Summary Fact CRM Account Summary Fact Common Customer Summary Fact CRM Customer Summary Fact FTP Account Summary Fact PFT Account Summary
Adiparm2	RM L and P	DIM_MANAGEMENT DIM_RUN DIM_LOB DIM_PRODUCT DIM_ORG_UNIT DIM_DATES DIM_REP_LINE WTHREPMV USRMGRMV

4 Dimension Loading Process

This chapter covers the following sections:

- [Dimension Tables Population](#)
- [Overview of SCD Process](#)

4.1 Dimension Tables Population

OFS Performance Analytics Cloud Service uses the SCD component to handle dimensional data changes.

4.2 Overview of SCD Process

SCDs are dimensions that have data that changes slowly, rather than changing on a time-based, regular schedule.

For more information on SCDs, see

- Oracle Data Integrator Best Practices for a Data Warehouse at <https://www.oracle.com/technetwork/middleware/data-integrator/learnmore/odi-best-practice-data-warehouse-168255.pdf>
- Oracle® Warehouse Builder Data Modeling, ETL, and Data Quality Guide at https://docs.oracle.com/cd/E11882_01/owb.112/e10935.pdf

Additional online sources include:

- http://en.wikipedia.org/wiki/Slowly_changing_dimension
- http://www.oracle.com/webfolder/technetwork/tutorials/obe/db/10g/r2/owb/owb10gr2_gs/owb/lesson3/slowlychangingdimensions.htm
- <http://www.oraclebidwh.com/2008/11/slowly-changing-dimension-scd/>
- <http://www.informationweek.com/news/software/bi/showArticle.jhtml?articleID=204800027&pgno=1>
- <http://www.informationweek.com/news/software/bi/showArticle.jhtml?articleID=59301280>
- An excellent published resource that covers SCD in detail is *The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling* by Ralph Kimball and Margy Ross.

The SCD component of the platform is delivered via a C++ executable. The types of SCD handled by the OFSAAI SCD component for OFSPA solution are Type 1 and Type 2.

4.2.1 Prerequisites

The following are the prerequisites:

- The SCD executable should be present under `<installation_home>ficdb/bin` directory. The file name is `scd`.
- The user executing the SCD component should have execute rights on the file.

- The setup tables accessed by SCD component are SYS_TBL_MASTER and SYS_STG_JOIN_MASTER. SYS_TBL_MASTER store the information such as the source stage table and the target dimension tables. The source sometimes can be the database views which could be simple or a complex view. SYS_STG_JOIN_MASTER stores the information such as which source column is mapped to which column of a target dimension table. It makes use of data base sequence to populate into surrogate key columns of dimension tables.

4.2.2 Tables Used by the SCD Component

The database tables used by the SCD component are:

- SYS_TBL_MASTER

The solution installer will populate one row per dimension for the seeded dimensions in this table.

Table 7: SYS_TBL_MASTER Dimensions

Column Name	Data Type	Column Description
MAP_REF_NUM	NUMBER(3) NOT NULL	The Mapping Reference Number for this unique mapping of a Source to a Dimension Table.
TBL_NM	VARCHAR2(30) NOT NULL	Dimension Table Name
STG_TBL_NM	VARCHAR2(30) NOT NULL	Staging Table Name
SRC_PRTY	NUMBER(2) NULL	The priority of the Source when multiple sources are mapped to the same target.
SRC_PROC_SEQ	NUMBER(2) NOT NULL	The sequence in which the various sources for the DIMENSION will be taken up for processing.
SRC_TYP	VARCHAR2(30) NULL	The type of the Source for a Dimension, that is, Transaction Or Master Source.
DT_OFFSET	NUMBER(2) NULL	The offset for calculating the Start Date based on the Functional Requirements Document (FRD).
SRC_KEY	NUMBER(3) NULL	

Sample Data: This is the row put in by the solution installer for the Line of Business dimension.

Table 8: Sample Data seeded by the Installer for the LOB Dimension

MAP_REF_NUM	6
TBL_NM	DIM_LOB
STG_TBL_NM	STG_LOB_MASTER
SRC_PRTY	
SRC_PROC_SEQ	23

SRC_TYP	MASTER
DT_OFFSET	0
SRC_KEY	

NOTE For any new dimension added, a row will must be manually inserted to this table.

- **SYS_STG_JOIN_MASTER**

The solution installer will populate this table for the seeded dimensions.

Table 9: SYS_STG_JOIN_MASTER Dimensions

Column Name	Data Type	Column Description
MAP_REF_NUM	NUMBER(3) NOT NULL	The Mapping Reference Number for this unique mapping of a Source to a Dimension Table.
COL_NM	VARCHAR2(30) NOT NULL	Name of the column in the Dimension Table.
COL_TYP	VARCHAR2(30) NOT NULL	Type of column. The possible values are given in the Values for COL_TYPE Column Name section.
STG_COL_NM	VARCHAR2(60) NULL	Name of the column in the Staging Table.
SCD_TYP_ID	NUMBER(3) NULL	SCD type for the column.
PRTY_LOOKUP_REQD_FLG	CHAR(1) NULL	Column to determine whether Lookup is required for Priority of Source against the Source Key Column or not.
COL_DATATYPE	VARCHAR2(15) NULL	The list of possible values is VARCHAR, DATE, NUMBER based on the underlying column data type.
COL_FORMAT	VARCHAR2(15) NULL	

4.2.2.1.1 Values for COL_TYPE Column Name

The possible values for column type (the COL_TYPE column) in SYS_STG_JOIN_MASTER are:

- PK – Primary Dimension Value (can be multiple for a given Mapping Reference Number)
- SK – Surrogate Key
- DA – Dimensional Attribute (can be multiple for a given Mapping Reference Number)
- SD – Start Date

increment by 1

4.2.3 Executing the SCD Component

To execute the SCD component from OFSAAI ICC framework, follow these steps to create a batch:

1. From the **Home** menu, select **Operations**, then select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in **Batch Name** pane) and enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Select the Batch you created in the earlier step by clicking the check box in the **Batch Name** pane.
5. Click **New Task** ('+' symbol in **Task Details** pane).
6. Enter the **Task ID** and **Description**.
7. Select **Run Executable**, from the **Component ID** drop-down list.
8. Click **Parameters**. Select the following from the **Dynamic Parameters List** and then click **Save**:
 - **Datastore Type**: Select the appropriate datastore from the list.
 - **Datastore Name**: Select the appropriate name from the list.
 - **IP address**: Select the IP address from the list.
 - **Executable**: scd,<map_ref_num>.

For example:

- -1 (if you want to process all the dimensions). The Executable parameter mentioned earlier would be scd,-1.
 - If you want to process for a single dimension, query the database table SYS_TBL_MASTER and give the number in the map_ref_num column for the dimension you want to process. These come seeded with the installation.
- **Wait**: When the file is executed, you have the choice to either wait till the execution gets completed or proceed with the next task. Click the list box of the field provided for **Wait** in the **Value** field to select **Yes** or **No**. Click **Yes** to wait for the execution to complete. Click **No** to proceed.
 - **Batch Parameter**: Click **Yes** to pass the batch parameters to the executable being started; else the batch parameters will not be passed to the executable.

ATTENTION Always select **Yes** in Batch Parameter.

- Execute the batch from Batch Execution by choosing the batch created following the steps mentioned in the preceding sections for a date.

NOTE

A seeded process PR_REFERENCE_DATA is provided which has all the required dimensions as different tasks that are part of SCD.

4.2.4 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen. You can access this from the Left Hand Side (LHS) menu as follows:

From the **Home** menu, select **Operations**, and then select **Batch Monitor**.

For more comprehensive coverage, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in the **Batch Monitor** are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The ICC execution log can be accessed on the application server in the following directory:

```
$FIC_DB_HOME/log/ficgen.
```

The file name will have the batch execution ID.

Sample

```
/dbfiles/home/oracle/OFSAAI/ficdb/log/ficgen
```

You can access the detailed SCD component log on the application server in the <FTP SHARE PATH>/logs/<EXECUTION DATE>/<INFODOM_NAME> directory. The file name will have the batch execution ID.

Sample

```
/dbfiles/home/oracle/ftpshare/OFSAADEMO/logs
```

Check the `.profile` file in the installation home if you are unable to find the paths mentioned earlier.

5 Time Dimension Population

Business data commonly represents information as of a point in time (for example, a balance as of a point in time) or as of a particular period (for example, income for the month of March). Time dimension makes it possible to report the balances by Year, Quarter, or Month using the rollup functionality of cubes. Cubes make it possible to roll up the monthly balances to a quarter and then to a year level. For example, the monthly data for January, February, and March gets rolled up to Quarter 1 and Quarter 1, 2, 3, and 4 data get rolled up to, say the Year 2011. The rollup of a particular balance depending on their nature could be a simple additive rollup wherein the child member balances are added up to arrive at the parent node balance (for example, Ending Balance) or nonadditive rollups wherein a node formula is used to specify how to roll up the child member balances (for example, 3 months rolling average).

The point in time reporting is supported for all the reports. The report is represented as of the data selected in the dashboard time prompts. By default, reports are always displayed for the latest available data.

Topics:

- [Overview of Time Dimension Population](#)
- [Tables used by the Time Dimension Population Transformation](#)

5.1 Overview of Time Dimension Population

Time dimension population transformation is used to populate the DIM_DATES table with values between two dates specified by the user as a batch parameter.

The database components, used by the transformations are:

9. Database function FN_DIM_DATES
10. Database procedure PROC_DIM_DATES_POPULATION, that is called by the database function FN_DIM_DATES.

5.1.1 Prerequisites

- All the post-installation steps mentioned in the [Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide](#) and the solution installation manual of Oracle Financial Services Institutional Performance Analytics have to be completed successfully.
- Application User must be mapped to a role that has the seeded batch execution function (BATPRO).
- Before executing a batch check if the following services are running on the application server (For more information on how to check if the services are up and on and how to start the services if you find them not running, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#)).
 - Iccserver
 - Router
 - AM Server
 - Messageserver

- Batches will have to be created for executing the function. For more details see, Executing the Time dimension population transformation, page 4-2.

5.2 Tables used by the Time Dimension Population Transformation

DIM_DATES: This table stores the date details to be used for building the cubes.

For more details on viewing the structure of this table, refer to *Oracle Financial Services Analytical Applications Data Model Data Dictionary* or the *Erwin Data Model*.

5.2.1 Executing the Time Dimension Population Transformation

To execute the function from OFSAAI Information Command Center (ICC) framework, create a batch by performing the following steps:

For more comprehensive coverage of configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

1. From the **Home** menu, select **Operations**, then select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container) and enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Select the Batch you have created in the earlier step by clicking on the check box in the **Batch Name** container.
5. Click **New Task** ('+' symbol in Task Details container).
6. Enter the **Task ID** and **Description**.
7. Select **Transform Data** from the components list.
8. Select the following from the Dynamic Parameters List and then click Save:
 - **Datastore Type:** Select appropriate datastore from the list.
 - **Datastore Name:** Select appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Rule Name:** Select Dim_Dates_Population from the list of all available transformations. (This is a seeded Data Transformation which is installed as part of the OFS RPA solution installer. If you do not see this in the list, contact [My Oracle Support](#)).
 - **Parameter List:** Start Date, End Date (see the following for details on Parameter list).

The explanation for the parameter list is:

- **Start Date:** This is the date starting from which the Transformation will populate the DIM_DATES table. The date should be specified in the format **YYYYMMDD**.
 - **End Date:** This is the date up to which the Transformation will populate the Dim_Dates table. The date should be specified in the format **YYYYMMDD**. Sample parameter for this task is **20081131, 20091231**.
9. You can execute the batch in two ways:

- Execute the batch from **Batch Execution** by choosing the batch created.
A seeded process PR_DIM_DATES is provided so that the user can just modify the parameters and execute the batch.
- The function can also be executed directly on the database through SQLPLUS.

5.2.2 Checking the Execution Status

The status of execution can be monitored using the batch monitor screen.

For more comprehensive coverage of configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The **Event Log** window in the **Batch Monitor** provides logs for execution with the most recent at the top of the list. If there is an error during execution, it will get listed in the log file. Even if you see **Successful** as the status in the **Batch Monitor** it is advisable to go through the log and check if there are any errors. The execution log can be accessed on the application server by navigating to the following <FTPSHARE PATH>/logs/<EXECUTION DATE>/<INFODOM_NAME> directory. The file name will have the batch execution ID. The database-level operations log can be accessed by querying the FSI_MESSAGE_LOG table. The batch run ID column can be filtered for identifying the relevant log.

Check the .profile file in the installation home if you are not able to find the paths mentioned earlier.

6 Customer Dimension Population

In the current setup, Customer Dimension is populated as part of Party Model, where DIM_CUSTOMER derives its attributes from DIM_PARTY based on the Parties that have been assigned the role of a Customer.

Populating Party Dimension

DIM_PARTY table will be populated first from stage table STG_PARTY_MASTER using SCD. Function FN_PARTY_DENORMALIZE_DT will populate DIM_CUSTOMER from DIM_PARTY. The function is used to populate the DIM_CUSTOMER table using a sequence.

The primary key for DIM_PARTY – N_PARTY_SKEY will be the surrogate key generated for the natural key - Party ID, an alphanumeric unique identifier within each staging instrument tables. This information is stored in the DIM_CUSTOMER table as N_CUST_SKEY.

FSI_MERGE_SETUP_DETAILS

The customer dimension population makes use of setup table FSI_MERGE_SETUP_DETAILS. It would have seeded entries from the application installation. This table stores the mapping between source and target columns.

Table 11: FSI_MERGE_SETUP_DETAILS Table Columns

Column Name	Data Type	Column Description
MERGE_CODE	VARCHAR2 (50 CHAR)	This is the role of the party, that is, customer, issuer, and so on.
SOURCE_TABLE	VARCHAR2 (30 CHAR)	This is the source table for the Customer dimension population.
SOURCE_COLUMN	VARCHAR2 (30 CHAR)	This is the source column for the Customer dimension population.
TARGET_COLUMN	VARCHAR2 (30 CHAR)	This is the target column for the Customer dimension population.
DEFAULT_VALUE	VARCHAR2 (4000 CHAR)	This is the default value for some target columns.
NVL_EXPRESSION	VARCHAR2 (30 CHAR)	This is the nvl expression applied to the source column for the Customer dimension population.
AGGREGATE_FUNCTION	VARCHAR2 (30 CHAR)	This is used for aggregating data for some source columns.

Here is a sample data:

Table 12: Sample Data

MERGE_CODE	MI		
TABLE SOURCE	DIM_PARTY		
SOURCE_COLUMN	V_PARTY_ID	V_MIDDLE_NAME	V_LAST_NAME

TARGET_COLUMN	V_ISSUER_CODE	V_D_CUST_MIDDLE_NAME	V_D_CUST_LAST_NAME
DEFAULT_VALUE			
NVL_EXPRESSION			
AGGREGATE_FUNCTION			

FSI_MERGE_SETUP_MASTER

The customer dimension population makes use of setup table FSI_MERGE_SETUP_MASTER as well. It would have seeded entries from the application installation. This table stores the mapping between source and target tables.

Table 13: FSI_MERGE_SETUP_MASTER Table

Column Name	Data Type	Column Description
MERGE_CODE	VARCHAR2 (50 CHAR)	This is the role of the party, that is, customer, issuer, and so on.
SOURCE_TABLES	VARCHAR2 (4000 CHAR)	This is the list of source tables for the Customer dimension population.
TARGET_TABLE	VARCHAR2 (30 CHAR)	This is the target column for the Customer dimension population.
ANSI_JOIN	VARCHAR2 (4000 CHAR)	This is the join condition that results in the dataset.
FILTER_CONDITION	VARCHAR2 (4000 CHAR)	This is used for filtering the values in where clause.

Here is a sample data:

Table 2: SampleData

MERGE_CODE	MI
SOURCE TABLES	DIM_PARTY
TARGET_TABLE	V_PARTY_ID
ANSI JOIN	V_ISSUER_CODE
FILTER CONDITION	

6.1 Executing the Customer Dimension Population

To execute the customer dimension population, create a batch by performing the following steps:

1. From the **Home** menu, select **Operations**, then select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container) and enter the **Batch Name** and **Description**.
3. Click **Save**.

4. Select the Batch you have created in the earlier step by clicking on the check box in the **Batch Name** container.
5. Click **New Task** ('+' symbol in Task Details container).
6. Enter the **Task ID** and **Description**.
7. Select **Transform Data** from the components list.
8. Select the following from the Dynamic Parameters List and then click Save:
 - **Datastore Type:** Select appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list. Generally, it is the infodom name.
 - **IP address:** Select the IP address from the list.
 - **Rule Name:** FN_PARTY_DENORMALIZE_DT
 - **Parameter List:** Surrogate Key Required Flag – Y or N.

Batch run ID and As of Date are passed internally by the ICC to the Data Transformation task.
9. Execute the batch.

Execute the batch from Batch Execution by choosing the batch created.

A seeded process PR_PARTY is provided so that the user can just modify the parameters and execute the batch.

6.1.1 Checking the Execution Status

The status of execution can be monitored from the Batch Monitor screen of the OFSAAI Operations module.

For more comprehensive coverage of configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The Event Log window in Batch Monitor provides logs for execution with the top row being the most recent. If there is an error during execution, it will get listed here. Even if you see Successful as the status in Batch Monitor it is advisable to go through the Event Log and re-check if there are any errors. The execution log can be accessed on the application server by going to the directory \$FIC_DB_HOME/log/date. The file name will have the Batch Execution ID.

The database-level operations log can be accessed by querying the FSI_MESSAGE_LOG table. The batch run id column can be filtered for identifying the relevant log.

Check the .profile file in the installation home if you are not able to find the paths mentioned above.

7 Account Dimension Population

Topics:

- [Dimension Tables Population](#)
- [Overview of SCD process](#)
- [Tables Used by the SCD Component](#)

7.1 Dimension Tables Population

Data Foundation solutions use the SCD component to handle dimensional data changes.

7.2 Overview of SCD process

A Slowly Changing Dimension (SCD) is a dimension that stores and manages both current and historical data over time in a data warehouse. SCDs are dimensions that have data that changes slowly, rather than changing on a time-based, regular schedule. It is considered and implemented as one of the most critical ETL tasks in tracking the history of dimension records. There are three types of SCDs and you can use Warehouse Builder to define, deploy, and load all three types of SCDs.

- Type 1 SCDs: Overwriting

The Type 1 methodology overwrites old data with new data, and therefore does not track historical data. This is useful for making changes to dimension data.

Table 14: Type 1 SCDs Overwriting Example

N_PRODUCT_SKEY	V_PRODUCT_NAME	D_START_DATE	D_END_DATE	F_LATEST_RECORD_INDICATOR
1	PL	5/31/2010	12/31/9999	N

In this example, N_PRODUCT_SKEY is the surrogate key column which is a unique key for each record in the dimension table. V_PRODUCT_NAME is the product name. D_START_DATE indicates the date from which this product record is valid. D_END_DATE indicates the date till which this product record is valid.

F_LATEST_RECORD_INDICATOR with value 'Y', which indicates this is the latest record in the dimension table for this product and 'N' indicates it is not. If the V_PRODUCT_NAME column is set as a Type 1 SCD column and if there is a change in the product name to 'Personal Loan' from 'PL' in the above example, in the next processing period, then when SCD is executed for the new processing period the record in the above example changes to:

Table 15: Type 1 SCDs - Overwriting1

N_PRODUCT_ SKEY	V_PRODUCT_ NAME	D_START_DATE	D_END_DATE	F_LATEST_REC ORD_INDICATO R
1	Personal Loan	6/30/2010	12/31/9999	Y

- Type 2 SCDs: Creating another dimension record

The Type 2 method tracks historical data by creating multiple records for a given natural key in the dimensional tables with separate surrogate keys. With Type 2, the historical changes in dimensional data are preserved. In the above example for the change in product name from 'PL' to 'Personal Loan' if history has to be preserved, then the V_PRODUCT_NAME column has to be set as Type 2 when SCD is processed for the processing period and the change inserts a new record as shown in the following example:

Table 16: Type 2 SCDs – Create Another Dimension Record

N_PRODUCT_ SKEY	V_PRODUCT_ NAME	D_START_DATE	D_END_DATE	F_LATEST_REC ORD_INDICATO R
1	PL	6/30/2010	12/31/9999	N
2	Personal Loan	6/30/2010	12/31/9999	Y

A new record is inserted to the product dimension table with the new product name. The latest record indicator for this is set as 'Y', indicating that this is the latest record for the personal loan product. The same flag for the earlier record was set to 'N'.

- Type 3 SCDs - Creating a current value field

A Type 3 SCD stores two versions of values for certain selected level attributes. Each record stores the previous value and the current value of the selected attribute.

When the value of any of the selected attributes changes, the current value is stored as the old value and the new value becomes the current value.

7.2.1 Prerequisites

Following are the prerequisites:

1. The SCD executable should be present under <installation home>ficdb/bin. The file name is scd.
2. The user executing the SCD component should have execute rights on the file mentioned as prerequisite in point 2.
3. The setup tables accessed by SCD component are SYS_TBL_MASTER and SYS_STG_JOIN_MASTER. SYS_TBL_MASTER stores the information like which is the source

stage table and the target dimension tables. The source sometimes can be the database views which could be simple or a complex view. SYS_STG_JOIN_MASTER stores the information like which source column is mapped to which column of a target dimension table. It makes use of data base sequence to populate into surrogate key columns of dimension tables.

7.3 Tables Used by the SCD Component

The database tables used by the SCD component are:

- SYS_TBL_MASTER

The solution installer will populate one row per dimension for the seeded dimensions in this table.

Table 17: SYS_TBL_MASTER Dimensions

Table Name	Column Name	Expected Values
DIM_CUSTOMER_TYPE	V_CUST_CATEGORY	C
FCT_CRM_ACCOUNT_SUMMARY	V_SCENARIO_CODE	PLAN, BUDGET
FCT_OPPORTUNITY_ACTIVITY	V_ACTIVITY_STATUS	O, C
DIM_BANDS	V_BAND_TYPE	AGEONBOOK
		TURNOVER
FCT_ACCOUNT_PROFITABILITY	N_REP_LINE_CD	98000 - Net Income Before Taxes
		98500 - Tax Expense
		99000 - Net Income After Taxes
		107100 - Number of Customers
		107130 - Number of Open Customers
		107200 - Number of Accounts
		107230 - Number of Open Accounts
		107300 - Attrition Rate

Sample Data: This is the row put in by the solution installer for the Line of Business dimension.

NOTE For any new dimension added, a row will have to be inserted to this table manually.

- SYS_STG_JOIN_MASTER

The solution installer will populate this table for the seeded dimensions.

Table 18: SYS_STG_JOIN_MASTER Dimensions

Table Name	Column Name	Expected Values
DIM_CUSTOMER_TYPE	V_CUST_CATEGORY	C
FCT_CRM_ACCOUNT_SUMMARY	V_SCENARIO_CODE	PLAN, BUDGE
FCT_OPPORTUNITY_ACTIVITY	V_ACTIVITY_STATUS	O, C
DIM_BANDS	V_BAND_TYPE	AGEONBOOK
		TURNOVER
FCT_ACCOUNT_PROFITABILITY	N_REP_LINE_CD	98000 - Net Income Before Taxes
		98500 - Tax Expense
		99000 - Net Income After Taxes
		107100 - Number of Customers
		107130 - Number of Open Customers
		107200 - Number of Accounts
		107230 - Number of Open Accounts
		107300 - Attrition Rate

The possible values for column type (the COL_TYPE column) in SYS_STG_JOIN_MASTER are:

- PK – Primary Dimension Value (may be multiple for a given "Mapping Reference Number")
- SK – Surrogate Key
- DA – Dimensional Attribute (may be multiple for a given "Mapping Reference Number")
- SD – Start Date
- ED – End Date
- LRI – Latest Record Indicator (Current Flag)
- CSK – Current Surrogate Key
- CSK – Current Surrogate Key
- SS – Source Key
- LUD – Last Updated Date/Time
- LUB – Last Updated By

Sample Data: This is the row put in by the solution installer for the Line of Business dimension.

Table 19: Sample Data seeded by the installer for SYS_STG_JOIN_MASTER Table

Table Name	Column Name	Expected Values
DIM_CUSTOMER_TYPE	V_CUST_CATEGORY	C
FCT_CRM_ACCOUNT_SUMMARY	V_SCENARIO_CODE	PLAN, BUDGET
FCT_OPPORTUNITY_ACTIVITY	V_ACTIVITY_STATUS	O, C

4. Select the Batch you created in the earlier step by clicking the check box in the Batch Name container.
5. Click **New Task** ('+' symbol in Task Details container).
6. Enter the Task ID and Description.
7. Select **Run Executable** from the Component ID list.
8. Click **Parameters**. Select the following from the Dynamic Parameters List and then click **Save**:
 - Datastore Type: Select the appropriate datastore from the list.
 - Datastore Name: Select the appropriate name from the list.
 - IP address: Select the IP address from the list.
 - Executable: scd, <map_ref_num>

For example:

- -1 (if you want to process all the dimensions). The Executable parameter mentioned earlier would be scd,-1
 - If you want to process for a single dimension, query the database table SYS_TBL_MASTER and give the number in the map_ref_num column for the dimension you want to process. These are the ones which come seeded with the install.
- **Wait:** When the file is being executed you have the choice to either wait till the execution is complete or proceed with the next task. Click the list box of the field provided for Wait in the Value field to select Yes or No. Clicking Yes confirms that you wish to wait for the execution to be complete. Clicking No indicates that you wish to proceed.
 - **Batch Parameter:** Clicking Yes would mean that the batch parameters are also passed to the executable being started else the batch parameters will not be passed to the executable.

ATTENTION Always select **Y** in Batch Parameter.

For the Parameter Executable earlier mentioned, the map ref num values are

9. Execute the batch from Batch Execution by choosing the batch created following the steps mentioned in the preceding sections for a date.

A seeded process PR_REFERENCE_DATA is provided which has all the required dimensions as different tasks that are part of SCD.

7.3.2 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen. You can access this from the Left Hand Side (LHS) menu as follows:

From the **Home** menu, select **Operations**, then select **Batch Monitor**.

For a more comprehensive coverage, see *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The ICC execution log can be accessed on the application server in the following directory:
`$FIC_DB_HOME/log/ficgen.`

The file name will have the batch execution id.

Sample

```
/dbfiles/home/oracle/OFSAAI/ficdb/log/ficgen
```

You can access the detailed SCD component log on the application server in the `<FTP SHARE PATH>/logs/<EXECUTION DATE>/<INFODOM_NAME>` directory. The file name will have the batch execution ID.

The file name will have the batch execution id.

Sample

```
/dbfiles/home/oracle/ftpshare/OFSAADEMO/logs
```

Check the `.profile` file in the installation home if you are not able to find the paths mentioned earlier.

7.3.3 Load DIM_ACCOUNT through SCD

The SCD population in DIM_ACCOUNT table generates individual numeric SKEYs for every account number with an additional leg key. Following are the columns that will be loaded during SCD population:

- V_ACCOUNT_NUMBER
- N_ACCT_SKEY
- N_RCV_LEG_ACCT_SKEY
- FIC_MIS_DATE

This approach replaces the function load in which the table DIM_ACCOUNT is getting loaded through the function, FN_POPDIMACCOUNT. This loads the following columns into DIM_ACCOUNT table:

- V_ACCOUNT_NUMBER
- N_ACCT_SKEY
- N_RCV_LEG_ACCT_SKEY
- FIC_MIS_DATE

Where, the sources are the different product processor tables present in the solution, which are configured in FSI_DIM_ACCOUNT_SETUP_DETAILS table.

7.3.4 DIM_ACCOUNT SCD

Process PR_ACCOUNT has been introduced This process where different product processors would be the source and DIM_ACCOUNT would be the target. MAP_REF_NUMs have been introduced into SYS_TBL_MASTER table, and subsequently into SYS_STG_JOIN_MASTER.

Depending on the requirement by an application, a task can be excluded or included from the batch execution.

7.3.5 Load DIM Tables through SCD

Process PR_REFERENCE_DATA has been introduced with tasks under it. These tasks represent the SCD processes where different staging tables would be the source and Dimension Tables would be the targets. The required SCDs have been introduced into SYS_TBL_MASTER table, and subsequently into SYS_STG_JOIN_MASTER.

Depending on the requirement by an application, a task can be excluded or included from the batch execution.

7.3.6 Improve SCD Performance

SCD performance can be improved by providing hints and session alter statements. This requires the presence of the following four columns in SYS_TBL_MASTER:

- merge_hint
- select_hint
- session_enable_statement
- session_disable_statement

Table 20: MERGE_HINT and SESSION_ENABLE_STATEMENT in SYS_TBL_MASTER

Table Name	Stage Table Name	Stage Table Name	Session Enable Statement
DIM_ACCOUNT	STG_LOAN_CONTRACTS_V	/*+ parallel (DIM_ACCOUNT,10) */	"alter session enable parallel dml query", "alter table DIM_ACCOUNT nologging parallel 10"

- All the tasks can be executed in parallel. This might cause the N_RCV_LEG_ACCT_SKEY to have an incremental value as compared to N_ACCT_SKEY.
- Execute the SQL file with all the SESSION_DISABLE_STATEMENTS, after the successful completion of the SCD batch.
 - Once the DIM_ACCOUNT table is populated using this approach, you will not be able to use the initial approach (FN_POPDIMACCOUNT) as this will lead to skey conflict.

- Ensure that you have set the value of the sequence seq_dim_account_scd as max (value of key in DIM_ACCOUNT) + 1, before moving from old to new approach.
- The F_LATEST_RECORD_INDICATOR for an existing DIM_ACCOUNT data already loaded by the function should be updated to 'Y' before running the SCD, failing which a new skey might get generated for the same account number.
- SCD execution occurs based on the GAAP code which is configured in SETUP_MASTER table. This has been introduced to tackle the scenario of multiple GAAP codes. Whether or not there exist multiple GAAP codes, SETUP_MASTER should be manually configured as follows:

Table 21: SETUP_MASTER configuration

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
DEFAULT_GAAP	DEFAULT_GAAP	USGAAP

Where V_COMPONENT_VALUE should be manually populated with the required GAAP code.

7.3.7 Handling Multiple GAAP Codes

When multiple GAAP codes exist for the same account number for the same MIS date, configure the SETUP_MASTER table manually as mentioned in the preceding section:

V_COMPONENT_VALUE will hold the GAAP code for which the SCD is to be executed.

If there are different GAAP codes for two distinct account numbers for the same MIS date, then the SCD has to be executed for each GAAP code by changing the V_COMPONENT_VALUE manually in setup_master table. The SETUP_MASTER table should have only one record WHERE V_COMPONENT_DESC = 'DEFAULT_GAAP'.

8 Exchange Rate History Population

This chapter discusses the following topics:

- [Introduction](#)
- [Execution of Currency Exchange Rates Population T2T](#)
- [Currency Execution Rates - Batch Execution](#)
- [Exchange Rate History Population](#)

8.1 Introduction

Exchange Rate History entity stores the exchange rates between the currencies for an effective date from one or multiple sources.

Exchange Rate History population should be executed before any fact table is populated to ensure exchange rates between currencies are available prior. Exchange Rate History entity is loaded by means of Table to Table Transformation process.

Following is the seeded Table-to-Table definition that loads data into Exchange Rate History:

Table 22: T2T Definition Exchange Rate History

T2T Definition Name	Source Table(s)	Destination Table
T2T_EXCHANGE_RATE_HIST	STG_EXCHANGE_RATE_HIST	FSI_EXCHANGE_RATE_HIST

8.2 Execution of Currency Exchange Rates Population T2T

The process PR_CURRENCY_CONVERSION needs to be executed to populate fsi_exchange_rates as the entries in setup_master are seeded during installation.

FSI_EXCHANGE_RATES table has to be loaded prior loading any of the other Account Summary tables.

- Metadata Browser
- Common Account Summary

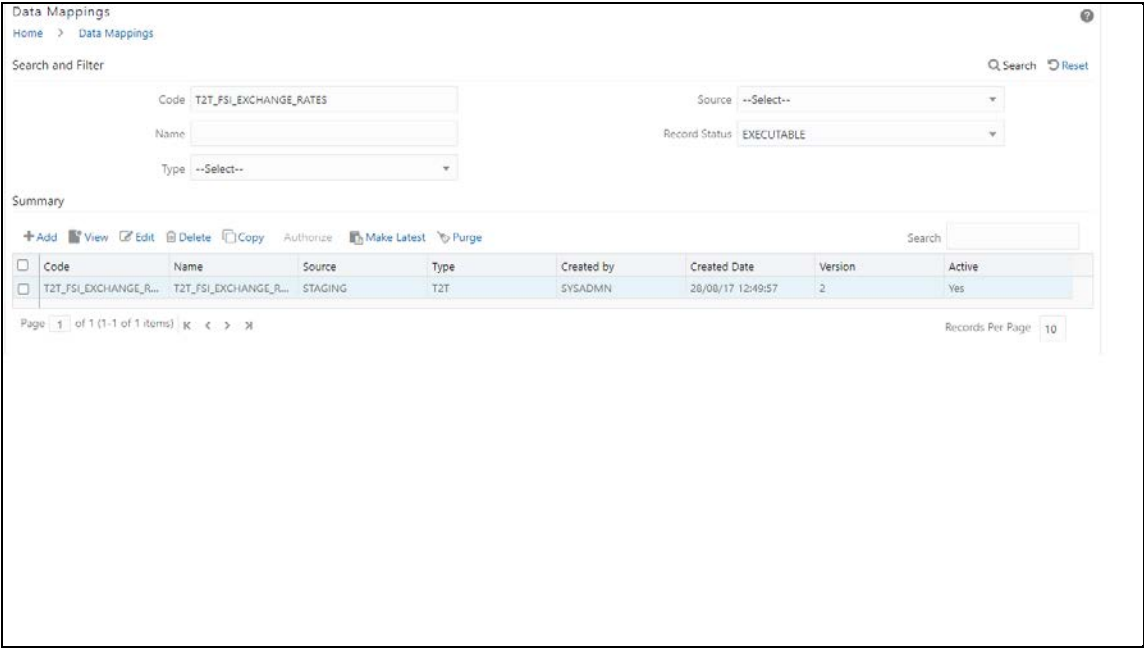
8.2.1 Verification of Exchange Rates T2T

To verify the that a join in the T2T FSI EXCHANGE RATES has come correctly as part of the installer in a pack-on-pack scenario, and if need be, then change it.

To change the ANSIJOIN, follow these steps:

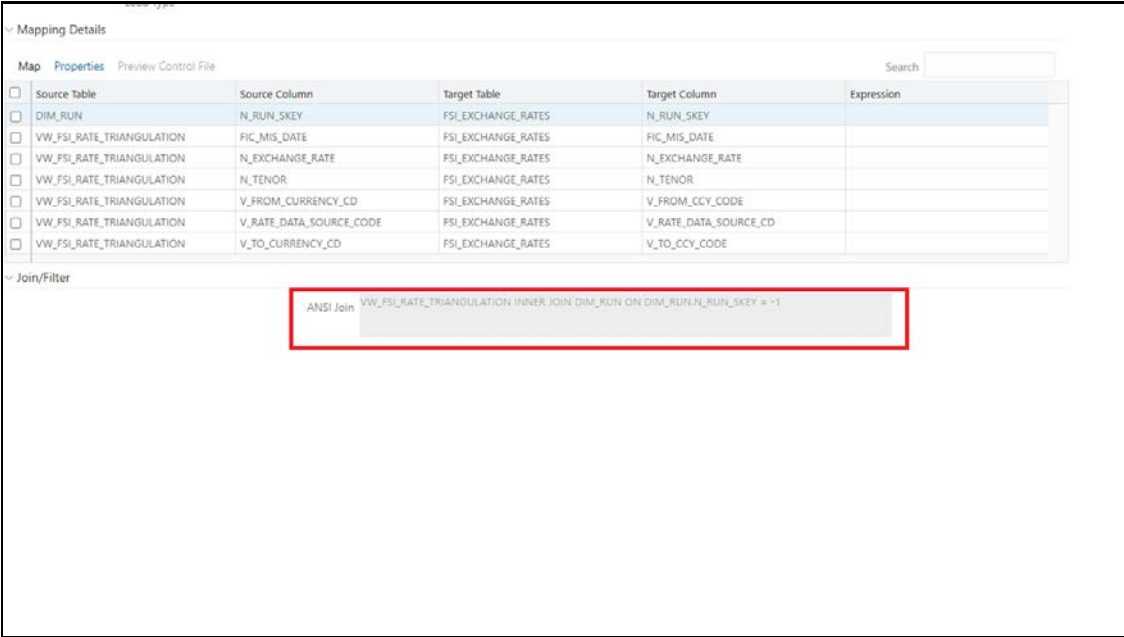
1. Navigate to the Data Management Framework, select Data Management Tools, and then select Data Mapping to display the Data Mapping screen.

Data Mapping screen

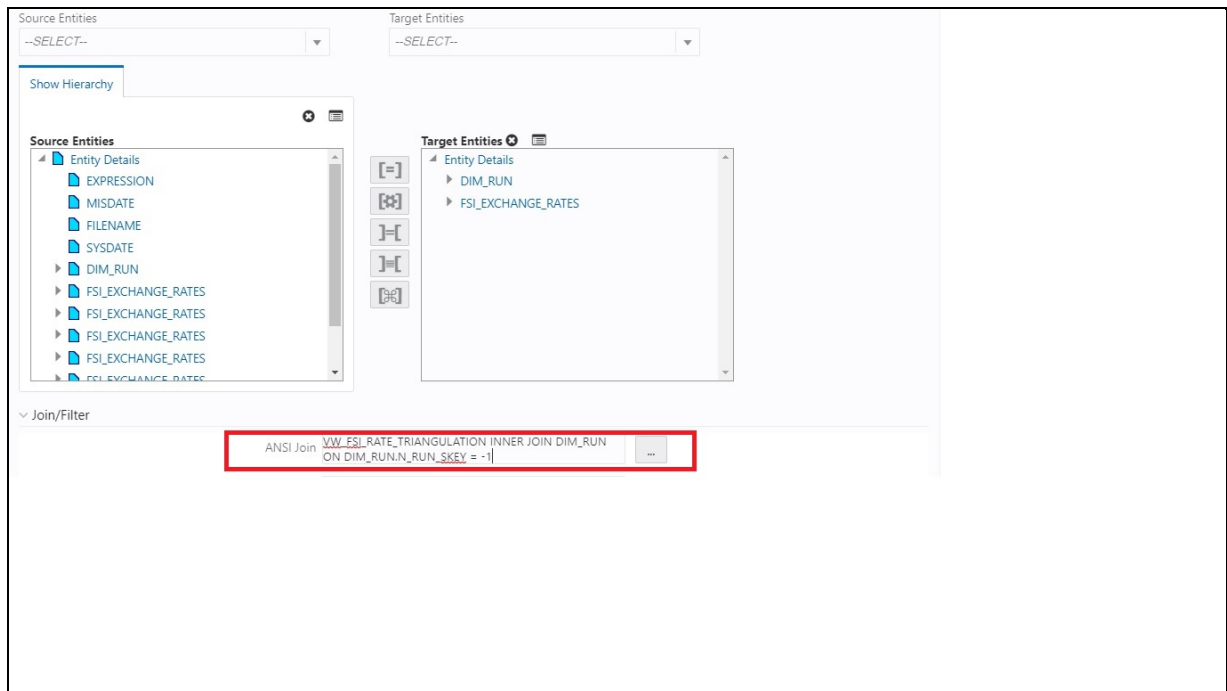


- 2. Edit the T2T definition.
The ANSIJOIN part should be **VW_FSI_RATE_TRIANGULATION INNER JOIN DIM_RUN ON DIM_RUN.N_RUN_SKEY = -1**
- 3. If RHS part of the equation is **\$RUNSK** then RHS should be changed to **-1**.

Mapping Details screen



- 4. Click Map to modify the ANSIJOIN parameter.



5. Change the **VW_FSI_RATE_TRIANGULATION INNER JOIN DIM_RUN ON DIM_RUN.N_RUN_SKEY** to **-1** if required.
6. Click **OK**.
7. Click **Save**.

8.3 Currency Execution Rates - Batch Execution

A seeded process, PR_CURRENCY_CONVERSION has to be executed for the required MIS Date.

Alternatively, following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click **Save**.
4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List:
 - Datastore Type: Select the appropriate datastore from the list.
 - Datastore Name: Select the appropriate name from the list.
 - IP address: Select the IP address from the list.
 - Load Mode: Select **Table to Table** from the list.
 - Source Name: Select the **<T2T Source Name>** from the list.

- File Name: Select the **T2T name** for the source stage channel table you want to process.
8. Click **Save**.
Data file name will be blank for any **Table to Table Load** mode. Default value refers to currency calculation. If there is a requirement for currency conversion in T2T transactions, Default value must be provided.
 9. Execute the batch created in the preceding steps.

8.4 Exchange Rate History Population

To execute the T2T component from OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded process, **PR_CURRENCY_CONVERSION** has to be executed for the required date.

Figure 23: PR_CURRENCY_CONVERSION

The screenshot shows the 'Batch Execution' interface. It includes sections for 'Batch Mode' (Run, Restart, Rerun), 'Search' (Batch ID Like, Batch Description Like, Module, Last Modification Date), 'Batch Details' (a list of tasks with checkboxes), and 'Task Details' (a table of tasks). The 'Task Details' table is as follows:

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	Update SetupMaster with Current FX Ma Date	Fx_cus_OT_Setup	TRANSFORM DATA		H
Task2	Populate Time Dimension	Dim_Dates_Population	TRANSFORM DATA		H
Task3	Populate Account Dimension	Fi_posDemAccount	TRANSFORM DATA		H
Task4	Populate Currency Exchange Rates	T2T_EXCHANGE_RATE_HIST	LOAD DATA		N

At the bottom, there is an 'Information Date' section with a date field set to 12/31/2012 and an 'Execute Batch' button.

Alternatively, following steps will help to create a new batch task for Loading Historical Exchange Rates:

1. From the **Home** menu, select **Operations**, then select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.

6. Select **Load Data** from the components list.
7. Select the following from the Dynamic Parameters List and then click Save.
 - Datastore Type: Select appropriate datastore from the list.
 - Datastore Name: Select appropriate name from the list.
 - IP address: Select the IP address from the list.
 - Load Mode: Select Table to Table from the list.
 - Source Name: Select **<T2T Source Name>** from the list.
 - File Name: Select the table to table transformation T2T_EXCHANGE_RATE_HIST.

Data file name will be blank for any Table to Table Load mode.

8. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
9. Execute the batch created in the preceding steps.

For more information, see *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

10. Check T2T component logs and batch messages to check the status of load.

T2T component can fail because of following cases:

- Unique constraint error: Target table may already contain the primary keys that are part of the staging tables.
- NOT NULL constraint error: Do not have values for NOT NULL columns in the target table.

8.4.1 Checking the Execution Status

The status of execution can be monitored using the batch monitor screen.

The status messages in batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the `$FIC_DB_HOME/log/t2t` directory: The file name will have the batch execution id.

8.4.2 Validating the Exchange Rate

The Function `Fn_ratevalidation` is executed using the task. Edit the "Task1" of the batch "`<INFODOM>_FN_RATEVALIDATION`" and pass the below parameters to the task:

- Starting date
- End date

All the exchange rates present in FSI_EXCHANGE_RATE_HIST table whose 'effective date' lies in the range of these values will be validated on execution of this batch. The validated rates will be available in the table FSI_EXCHNG_RATE_DIRECT_ACCESS.

Rate Triangulation is also achieved during this process.

9 Account Summary Population

Account Summary tables are loaded from the staging product processor tables using the Table to Table (T2T) component of Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) framework.

Customer account-level data from the Oracle Financial Services Analytical Applications (OFSAAI) staging product processor tables must be consolidated into a standardized relational Business Intelligence (BI) data model. This consolidation is done to have all the staging product processor table data in a single Fact table.

The Account Summary table data can be used for building cubes that allow rollup of data for a dimension or a combination of dimensions.

This relational BI model consists of three vertically partitioned Account Summary tables that are organized by the application subject area.

- **FCT_COMMON_ACCOUNT_SUMMARY:** This table is shared by all OFSAA BI applications which contain dimensional values, attributes, and financial measures which are generally applicable to the individual account records. This data is sourced directly from the staging area.
- **FCT_CRM_ACCOUNT_SUMMARY:** This table has the measures used by all the Customer Insight applications.

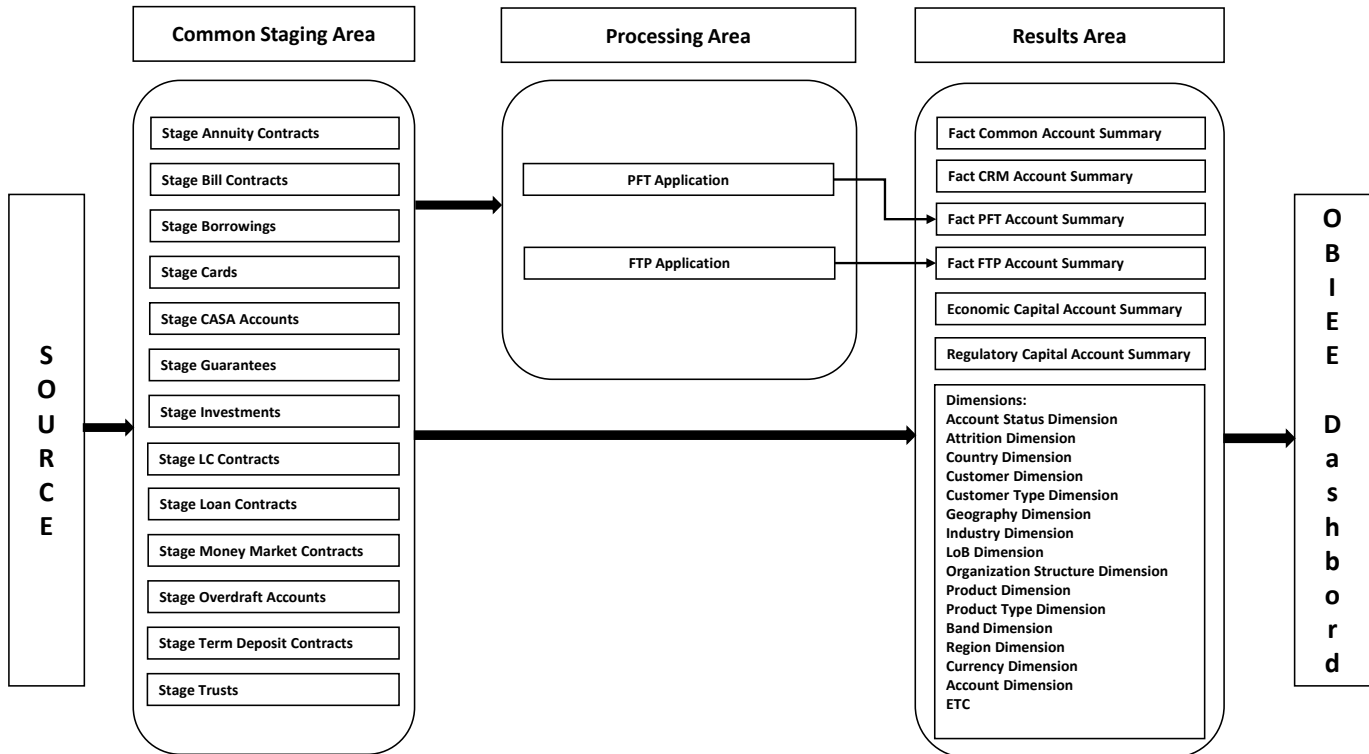
Yet, there are few other Account Summary tables which have been designed to store Enterprise Performance Management (EPM) data:

- **FCT_PFT_ACCOUNT_SUMMARY:** This table has Profitability Management (PFT) specific measures.
- **FCT_FTP_ACCOUNT_SUMMARY:** This table has Funds Transfer Pricing (FTP) specific measures.
- **FCT_REG_CAP_ACCOUNT_SUMMARY:** This table has Regulatory Capital specific measures.
- **FCT_ECO_CAPITAL_ACCOUNT_SUMMARY:** This table has Economic Capital specific measures.

Data Flow

The following diagram depicts the flow of data into account summary tables:

Figure 24: Account Summary Tables



9.1 Overview of Account Summary Population

Table to Table seeded definitions are provided for loading data into Common Account Summary and CRM Account summary tables.

Following are the lists for the same:

- Common Account Summary Definitions

9.1.1 Common Account Summary Definitions

Table 23: Common Account Summary Definitions

SLN	Source Table	T2T Definition Name	Destination Table
1	STG_ANNUIITY_CONTRACTS	T2T_STG_ANNUIITY_CONTRACTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
2	STG_BILLS_CONTRACTS	T2T_STG_BILLS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
3	STG_BORROWINGS	T2T_STG_BORROWINGS_CAS	FCT_COMMON_ACCOUNT_SUMMARY

SLN o	Source Table	T2T Definition Name	Destination Table
4	STG_CARDS	T2T_STG_CARDS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
5	STG_CASA	T2T_STG_CASA_CAS	FCT_COMMON_ACCOUNT_SUMMARY
6	STG_GUARANTEES	T2T_STG_GUARANTEES_CAS	FCT_COMMON_ACCOUNT_SUMMARY
7	STG_INVESTMENTS	T2T_STG_INVESTMENTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
8	STG_LC_CONTRACTS	T2T_STG_LC_CAS	FCT_COMMON_ACCOUNT_SUMMARY
9	STG_LEASES_CONTRACTS	T2T_STG_LEASES_CONTRACTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
10	STG_LOAN_CONTRACTS	T2T_STG_LOANS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
11	STG_MM_CONTRACTS	T2T_STG_MM_CAS	FCT_COMMON_ACCOUNT_SUMMARY
12	STG_OD_ACCOUNTS	T2T_STG_OD_CAS	FCT_COMMON_ACCOUNT_SUMMARY
13	STG_TD_CONTRACTS	T2T_STG_TD_CONTRACTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
14	STG_TRUSTS	T2T_STG_TRUSTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
15	STG_COMMITMENT_CONTRACTS	T2T_STG_COMMITMENT_CONTRACTS_CAS	FCT_COMMON_ACCOUNT_SUMMARY
16	STG_MUTUAL_FUNDS	T2T_STG_MUTUAL_FUNDS_CAS	FCT_COMMON_ACCOUNT_SUMMARY

9.1.2 CRM Account Summary

Table 24: CRM Account Summary

SLN o	Source Table	T2T Definition Name	Destination Table
1	STG_ANNUITY_CONTRACTS	T2T_STG_CRMAS_ANNUITY_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
2	STG_BILLS_CONTRACTS	T2T_STG_CRMAS_BILLS_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
3	STG_BORROWINGS	T2T_STG_CRMAS_BORROWINGS	FCT_CRM_ACCOUNT_SUMMARY
4	STG_CARDS	T2T_STG_CRMAS_CARDS	FCT_CRM_ACCOUNT_SUMMARY

SLN o	Source Table	T2T Definition Name	Destination Table
5	STG_CASA	T2T_STG_CRMAS_CASA	FCT_CRM_ACCOUNT_SUMMARY
6	STG_GUARANTEES	T2T_STG_CRMAS_GUARANTEES	FCT_CRM_ACCOUNT_SUMMARY
7	STG_INVESTMENTS	T2T_STG_CRMAS_INVESTMENTS	FCT_CRM_ACCOUNT_SUMMARY
8	STG_LC_CONTRACTS	T2T_STG_CRMAS_LC_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
9	STG_LEASES_CONTRACTS	T2T_STG_CRMAS_LEASES_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
10	STG_LOAN_CONTRACTS	T2T_STG_CRMAS_LOAN_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
11	STG_MM_CONTRACTS	T2T_STG_CRMAS_MM_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
12	STG_OD_ACCOUNTS	T2T_STG_CRMAS_OD_ACCOUNTS	FCT_CRM_ACCOUNT_SUMMARY
13	STG_TD_CONTRACTS	T2T_STG_CRMAS_TD_CONTRACTS	FCT_CRM_ACCOUNT_SUMMARY
14	STG_TRUSTS	T2T_STG_CRMAS_TRUSTS	FCT_CRM_ACCOUNT_SUMMARY
15	STG_COMMITMENT_CONTRACTS	T2T_STG_CRMAS_COMMITMENTS	FCT_CRM_ACCOUNT_SUMMARY
16	STG_MUTUAL_FUNDS	T2T_STG_CRMAS_MUTUAL_FUNDS	FCT_COMMON_ACCOUNT_SUMMARY

9.1.3 FTP Account Summary

Table 25: FTP Account Summary Definitions

SLN o	Source Table	T2T Definition Name	Destination Table
1	FSI_D_ANNUITY_CONTRACTS	T2T_FCT_FTP_ACCOUNT_ANNUITY	FCT_FTP_ACCOUNT_SUMMARY
2	FSI_D_BORROWINGS	T2T_FCT_FTP_ACCOUNT_BORROWINGS	FCT_FTP_ACCOUNT_SUMMARY
3	FSI_D_CASA	T2T_FCT_FTP_ACCOUNT_CASA	FCT_FTP_ACCOUNT_SUMMARY
4	FSI_D_CREDIT_LINES	T2T_FCT_FTP_ACCOUNT_CREDIT_LINES	FCT_FTP_ACCOUNT_SUMMARY
5	FSI_D_CREDIT_CARDS	T2T_FCT_FTP_ACCOUNT_CREDITCARDS	FCT_FTP_ACCOUNT_SUMMARY
6	FSI_D_GUARANTEES	T2T_FCT_FTP_ACCOUNT_GUARANTEES	FCT_FTP_ACCOUNT_SUMMARY
7	FSI_D_INVESTMENTS	T2T_FCT_FTP_ACCOUNT_INVESTMENTS	FCT_FTP_ACCOUNT_SUMMARY

SLN o	Source Table	T2T Definition Name	Destination Table
8	FSI_D_LEASES	T2T_FCT_FTP_ACCOUNT_LEASES	FCT_FTP_ACCOUNT_SUMMAR Y
9	FSI_D_LOAN_CONTRACTS	T2T_FCT_FTP_ACCOUNT_LOANS	FCT_FTP_ACCOUNT_SUMMAR Y
10	FSI_D_TERM_DEPOSITS	T2T_FCT_FTP_ACCOUNT_TRUSTS	FCT_FTP_ACCOUNT_SUMMAR Y
11	FSI_D_MORTGAGES	T2T_FCT_FTP_ACCOUNT_MORTGAGES	FCT_FTP_ACCOUNT_SUMMAR Y
12	FSI_D_TERM_DEPOSITS	T2T_FCT_FTP_ACCOUNT_TDEPOSITS	FCT_FTP_ACCOUNT_SUMMAR Y
13	FSI_D_TRUSTS	T2T_FCT_FTP_ACCOUNT_TRUSTS	FCT_FTP_ACCOUNT_SUMMAR Y
14	FSI_D_MUTUAL_FUNDS	T2T_FCT_FTP_ACCOUNT_MUTUAL_FUN D	FCT_FTP_ACCOUNT_SUMMAR Y

9.1.4 PFT Account Summary

Table 26: PFT Account Summary Definitions

SLN o	Source Table	T2T Definition Name	Destination Table
1	FSI_D_ANNUIITY_CONTRACT S	T2T_FCT_PFT_ACCOUNT_ANNUIITY	FCT_PFT_ACCOUNT_SUMMAR Y
2	FSI_D_BORROWINGS	T2T_FCT_PFT_ACCOUNT_BORROWINGS	FCT_PFT_ACCOUNT_SUMMAR Y
3	FSI_D_CASA	T2T_FCT_PFT_ACCOUNT_CASA	FCT_PFT_ACCOUNT_SUMMAR Y
4	FSI_D_CREDIT_LINES	T2T_FCT_PFT_ACCOUNT_CREDIT_LINES	FCT_PFT_ACCOUNT_SUMMAR Y
5	FSI_D_CREDIT_CARDS	T2T_FCT_PFT_ACCOUNT_CREDITCARDS	FCT_PFT_ACCOUNT_SUMMAR Y
6	FSI_D_GUARANTEES	T2T_FCT_PFT_ACCOUNT_GUARANTEES	FCT_PFT_ACCOUNT_SUMMAR Y
7	FSI_D_INVESTMENTS	T2T_FCT_PFT_ACCOUNT_INVESTMENTS	FCT_PFT_ACCOUNT_SUMMAR Y
8	FSI_D_LEASES	T2T_FCT_PFT_ACCOUNT_LEASES	FCT_PFT_ACCOUNT_SUMMAR Y
9	FSI_D_LOAN_CONTRACTS	T2T_FCT_PFT_ACCOUNT_LOANS	FCT_PFT_ACCOUNT_SUMMAR Y

SLN o	Source Table	T2T Definition Name	Destination Table
10	FSI_D_MORTGAGES	T2T_FCT_PFT_ACCOUNT_MORTGAGES	FCT_PFT_ACCOUNT_SUMMAR Y
11	FSI_D_TERM_DEPOSITS	T2T_FCT_PFT_ACCOUNT_DEPOSITS	FCT_PFT_ACCOUNT_SUMMAR Y
12	FSI_D_TRUSTS	T2T_FCT_PFT_ACCOUNT_TRUSTS	FCT_PFT_ACCOUNT_SUMMAR Y
13	FSI_D_MUTUAL_FUNDS	T2T_FCT_PFT_ACCOUNT_MUTUAL_FUN D	FCT_PFT_ACCOUNT_SUMMAR Y

9.2 Prerequisites

The following are the prerequisites to execute the Account Summary Populations T2Ts:

1. All the post-installation steps mentioned in the [Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide](#) and the solution installation manual have to be completed successfully.
2. Application User must be mapped to a role that has a seeded batch execution function (BATPRO).
3. Before executing a batch, check if the following services are running on the application server (For more information on how to check if the services are up and on, and how to start the services if you find them not running, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).)
 - Iccserver
 - Router
 - AM Server
 - Messageserver
4. Batches will have to be created for executing. This is explained in Executing the Account Summary Population T2T section.
5. Dimension Population should have been done before you execute the T2T batch. (For more information, refer to [Dimension Loading Process](#) and [Time Dimension Population](#))

9.2.1 Fact Common Account Summary

The following are the lists of tables used in the population of Fact Common Account Summary & Fact CRM Account Summary tables.

Following mentioned Dimension tables are required to be loaded before executing the T2T:

- DIM_DATES
- DIM_ACCOUNT
- DIM_CUSTOMER

- DIM_PRODUCT
- DIM_CHANNEL
- DIM_BANDS
- DIM_ORG_STRUCTURE and so on.

9.2.2 Fact CRM Account Summary

Fact Common Account Summary entity needs to be populated before executing the Fact CRM Account Summary T2Ts.

Following are the list of tables used in the population of Fact CRM Account Summary and these tables are required to be loaded before running the T2T:

- DIM_DATES
- DIM_ACCOUNT
- FCT_COMMON_ACCOUNT_SUMMARY
- DIM_ACCT_STATUS
- DIM_BANDS
- DIM_CHANNEL
- DIM_CUSTOMER
- DIM_ORG_STRUCTURE
- DIM_LOB
- DIM_OFFER
- DIM_OPPORTUNITY
- DIM_PRODUCT
- DIM_PROSPECT
- DIM_RETENTION_OFFER_TYPE
- DIM_SALES_REPRESENTATIVE
- DIM_TREATMENT
- DIM_VINTAGE

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, see the [Dimension Tables Population](#) section.

For details on populating the DIM_DATES dimension table, see the [Overview of Time Dimension Population](#) section.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), see the [Download Specification](#).

For more information on the dimensions, see the [ERwin Data model](#).

9.2.3 Executing the Account Summary Population T2T

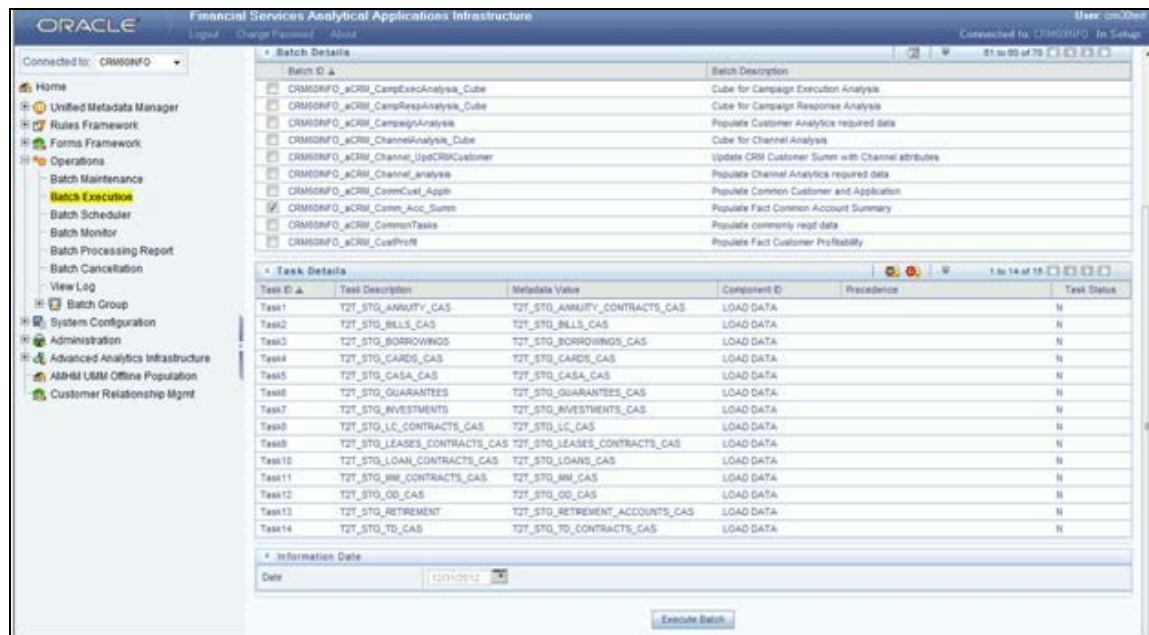
Fact Common Account Summary table has to be loaded before loading any of the other Account Summary tables.

You can execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

9.2.4 Fact Common Account Summary

A seeded process, PR_ACCOUNT must be executed for the required MIS Date.

Figure 25: PR_ACCOUNT



Alternatively, to create a new batch, follow these steps:

1. From the **Home** menu, select **Operations**, and then select **Batch Maintenance**.
2. Click New Batch ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click Save.
4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List and click Save.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.

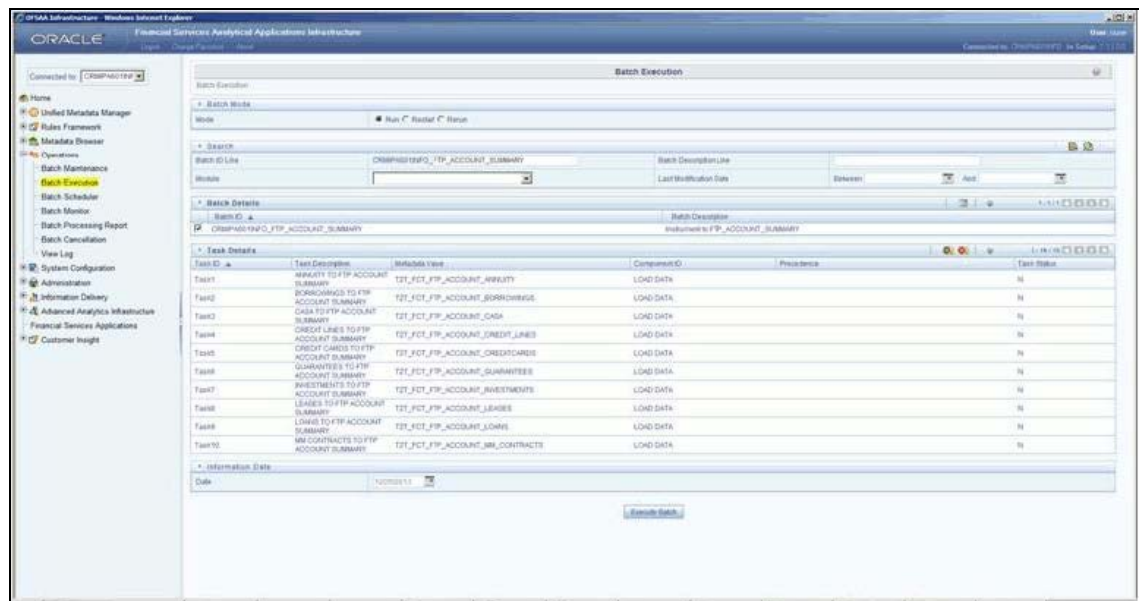
- **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name for the source stage channel table you want to process.
8. The data file name will be blank for any Table to Table Load mode. The default value refers to currency calculation. If there is any need for currency conversion in T2T transactions, the Default value has to be provided. For example, the default value is [DRCY]='USD' Here 'USD' acts as the reporting currency parameter to T2T.
 9. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
 10. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

9.2.5 Fact FTP Account Summary

A seeded process, PR_FTP_ACCOUNT must be executed for the required MIS Date.

Figure 26: PR_FTP_ACCOUNT



Alternatively, to create a new batch, follow these steps:

1. From the Home menu, click Operations and select Batch Maintenance.
2. Click New Batch ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click Save.
4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List and click Save.

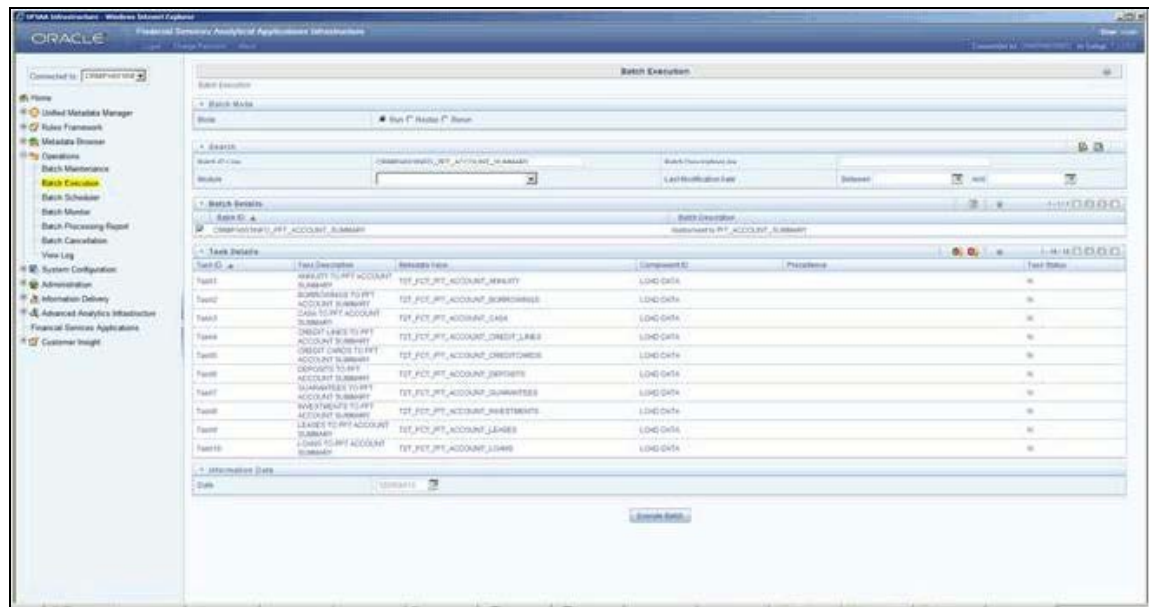
- Datastore Type: Select the appropriate datastore from the list.
 - Datastore Name: Select the appropriate name from the list.
 - IP address: Select the IP address from the list.
 - Load Mode: Select Table to Table from the list.
 - Source Name: Select <T2T Source Name> from the list.
 - File Name: Select the T2T name for the source stage channel table you want to process.
8. The data file name will be blank for any Table to Table Load mode. The default value refers to currency calculation. If there is any need for currency conversion in T2T transactions, the Default value has to be provided. For example, default value is [DRCY]='USD'. Here 'USD' acts as reporting currency parameter to T2T.
 9. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
 10. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

9.2.6 Fact PFT Account Summary

A seeded batch, <INFODOM>_PFT_ACCOUNT_SUMMARY must be executed for the required MIS Date.

Figure 27: <INFODOM>_PFT_ACCOUNT_SUMMARY



Alternatively, to create a new batch, follow these steps:

1. From the Home menu, click Operations and select Batch Maintenance.
2. Click New Batch ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click Save.

4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Create a new task, enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List and click Save.
 - Datastore Type - Select the appropriate datastore from the list.
 - Datastore Name - Select the appropriate name from the list.
 - IP address - Select the IP address from the list.
 - Load Mode - Select Table to Table from the list.
 - Source Name - Select <T2T Source Name> from the list.
 - File Name - Select the T2T name for the source stage channel table you want to process.
8. The data file name will be blank for any Table to Table Load mode. The default value field will be blank for CRM account summary T2Ts.
9. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
10. Create a Task by repeating steps 4 and 5.
11. Select Transform Data from the components list.
12. Select the following from the Dynamic Parameters List and click **Save**.
 - Datastore Type - Select the appropriate datastore from the list.
 - Datastore Name - Select the appropriate name from the list.
 - IP address - Select the IP address from the list.
 - Rule Name - Select **fn_run_exe_param** from the list.
 - Parameter List - Pass the values 1, 180, \$RUNSK= -1, USD.

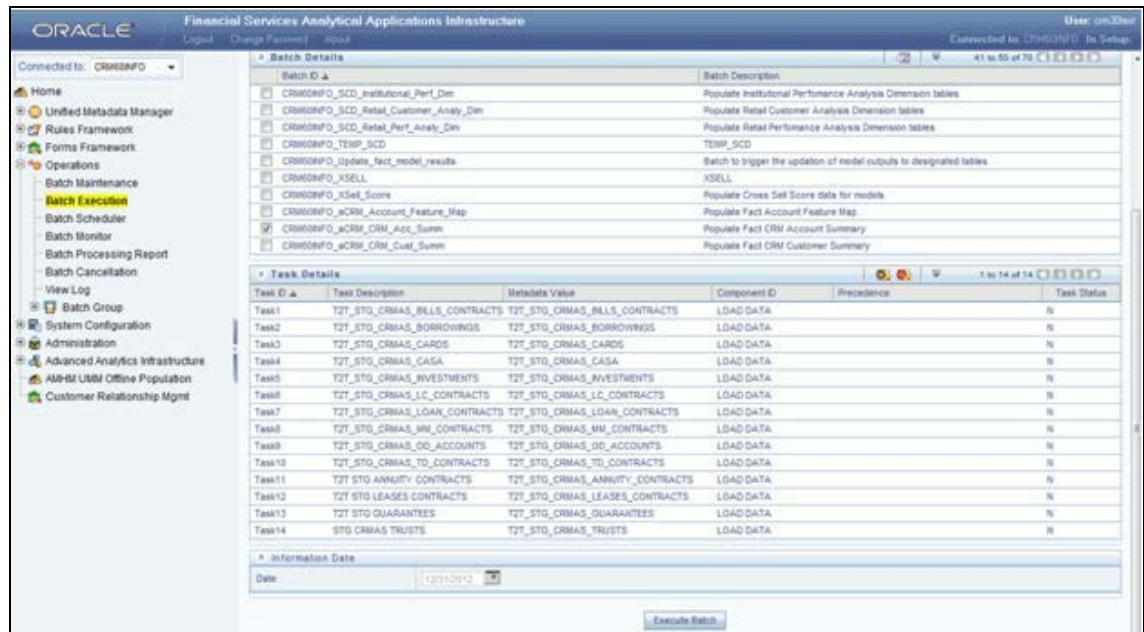
It is mandatory to pass all five parameters. Currently, the first three do not have functional significance. The last two parameters are **Run Skey** and **Reporting Currency** values, that need to be passed as required. If the batch is being re-run, make sure the run skey value passed is higher than the values (if any) found in the FCT_CRM_ACCOUNT_SUMMARY table. If the RUN_EXE_PARAMETERS table already has an entry for the desired Run Skey, delete the row from the run_exe_parameters table before executing the batch.
13. To set this task as a precedent task to each of the other tasks in this batch, click **Precedence** in the **Task Details** pane.
14. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

9.2.7 Fact CRM Account Summary

A seeded process, PR_ACCOUNT has to be executed for the required MIS Date.

Figure 28: PR_ACCOUNT



Alternatively, to create a new batch, follow these steps:

1. From the Home menu, click Operations and select Batch Maintenance.
2. Click New Batch ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click Save.
4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Create a new task, enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List and click Save.
 - Datastore Type - Select the appropriate datastore from the list.
 - Datastore Name - Select the appropriate name from the list.
 - IP address - Select the IP address from the list.
 - Load Mode - Select Table to Table from the list.
 - Source Name - Select <T2T Source Name> from the list.
 - File Name - Select the T2T name for the source stage product processor table you want to process.
8. The data file name will be blank for any Table to Table Load mode. The default value field will be blank for CRM account summary T2Ts.
9. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
10. Create a Task by repeating steps 4 and 5.

11. Select Transform Data from the components list.
12. Select the following from the Dynamic Parameters List and click Save.
 - Datastore Type - Select the appropriate datastore from the list.
 - Datastore Name - Select the appropriate name from the list.
 - IP address - Select the IP address from the list.
 - Rule Name - Select fn_run_exe_param from the list.
 - Parameter List - Pass the values 1, 180, '\$RUNSK = -1', 'USD'.

It is mandatory to pass all five parameters. Currently, the first three do not have functional significance. The last two parameters are "Run Skey" and "Reporting Currency" values, that need to be passed as required. If the batch is being re-run, please make sure the run skey value passed is higher than the values (if any) found in "FCT_CRM_ACCOUNT_SUMMARY".

13. To set this task as a precedent task to each of the other tasks in this batch, click the Precedence button in the Task Details pane.
14. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

9.2.8 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

For more comprehensive coverage of configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in Batch Monitor are :

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory: \$FIC_DB_HOME/log/t2t. The file name will have the batch execution id.

The following tables can be queried for errors:

- FCT_COMMON_ACCOUNT_SUMMARY\$
- FCT_CRM_ACCOUNT_SUMMARY\$

9.2.9 Account Summary T2Ts

T2T definitions can be retrieved as an excel document for reference from the metadata browser of the Unified Metadata Manager (UMM) component of OFSAAI.

10 Fact Transaction Summary

The Fact Transaction Summary stores data from the stage transactions table for further operation reporting. The data is moved through a T2T process from stage to fact, which ensures that the stage data is available in a single table in the result area.

Table to Table seeded definitions are provided for loading data into Common Account Summary.

Table 27: Common Account Summary T2T Definitions

SLNo	Source Table Name	T2T Definition Name	Destination Table
1	STG_TRUSTS_TXNS	STG_TRUSTS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
2	STG_ANNUITY_TXNS	STG_ANNUITY_TXN_FTS	FCT_TRANSACTION_SUMMARY
3	STG_BILL_CONTRACTS_TXNS	STG_BILL_CONTRACTS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
4	STG_BORROWING_COMMITMENT_TXNS	STG_BORROWING_COMMITMENT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
5	STG_BORROWINGS_TXNS	STG_BORROWINGS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
6	STG_CARDS_PAYMENT_TXNS	STG_CARDS_PAYMENT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
7	STG_CARDS_SETTLEMENT_TXNS	STG_CARDS_SETTLEMENT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
8	STG_CASA_TXNS	STG_CASA_TXNS_FTS	FCT_TRANSACTION_SUMMARY
9	STG_COMMITMENT_CONTRACT_TXNS	STG_COMMITMENT_CONTRACT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
10	STG_COMMODITIES_TXNS	STG_COMMODITIES_TXNS_FTS	FCT_TRANSACTION_SUMMARY
11	STG_CORRESPONDENT_ACCT_TXNS	STG_CORRESPONDENT_ACCT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
12	STG_CREDIT_DERIVATIVES_TXNS	STG_CREDIT_DERIVATIVES_TXNS_FTS	FCT_TRANSACTION_SUMMARY
13	STG_FOREX_TXNS_FTS	STG_FOREX_TXNS_FTS	FCT_TRANSACTION_SUMMARY
14	STG_GUARANTEES_TXNS	STG_GUARANTEES_TXNS_FTS	FCT_TRANSACTION_SUMMARY
15	STG_IJARAH_TXNS	STG_IJARAH_TXNS_FTS	FCT_TRANSACTION_SUMMARY
16	STG_INTERBANK_TXNS	STG_INTERBANK_TXNS_FTS	FCT_TRANSACTION_SUMMARY
17	STG_INVESTMENT_TXNS	STG_INVESTMENT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
18	STG_ISTISNA_TXNS	STG_ISTISNA_TXNS_FTS	FCT_TRANSACTION_SUMMARY
19	STG_LC_TXNS	STG_LC_TXNS_FTS	FCT_TRANSACTION_SUMMARY

SLNo	Source Table Name	T2T Definition Name	Destination Table
20	STG_LEASES_TXNS	STG_LEASES_TXNS_FTS	FCT_TRANSACTION_SUMMARY
21	STG_LOAN_CONTRACT_TXNS	STG_LOAN_CONTRACT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
22	STG_MERCHANT_CARDS_TXNS	STG_MERCHANT_CARDS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
23	STG_MM_TXNS	STG_MM_TXNS_FTS	FCT_TRANSACTION_SUMMARY
24	STG_MURABAAH_TXNS	STG_MURABAAH_TXNS_FTS	FCT_TRANSACTION_SUMMARY
25	STG_MUSHARAKAH_TXNS	STG_MUSHARAKAH_TXNS_FTS	FCT_TRANSACTION_SUMMARY
26	STG_OD_ACCOUNTS_TXNS	STG_MUTUAL_FUNDS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
27	STG_OD_ACCOUNTS_TXNS	STG_OD_ACCOUNTS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
28	STG_OPTION_CONTRACTS_TXNS	STG_OPTION_CONTRACTS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
29	STG_RETIREMENT_ACCOUNTS_TXNS	STG_RETIREMENT_ACCOUNTS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
30	STG_SALAM_TXNS	STG_SALAM_TXNS_FTS	FCT_TRANSACTION_SUMMARY
31	STG_SUKUK_TXNS	STG_SUKUK_TXNS_FTS	FCT_TRANSACTION_SUMMARY
32	STG_SWAP_ACCOUNT_TXNS	STG_SWAP_ACCOUNT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
33	STG_TERMDEPOSITS_TXNS	STG_TERMDEPOSITS_TXNS_FTS	FCT_TRANSACTION_SUMMARY
34	STG_TRADING_ACCOUNT_TXNS	STG_TRADING_ACCOUNT_TXNS_FTS	FCT_TRANSACTION_SUMMARY
35	STG_FUTURES_TXNS	STG_FUTURES_TXNS_FTS	FCT_TRANSACTION_SUMMARY
36	STG_MUDARABAH_TXNS	STG_MUDARABAH_TXNS_FTS	FCT_TRANSACTION_SUMMARY

10.1 Executing the Fact Transaction Summary

Fact Transaction Summary table has to be loaded prior loading any of the other Account Summary tables. You can execute the T2T component from OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

Fact Common Account Summary - Batch Execution

A seeded process, PR_ACCOUNT has to be executed for the required MIS Date.

Alternatively, following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the **Batch**, you created in earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List:
 - **Data Store Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name for the source stage channel table you want to process.
8. Click **Save**.

Data file name will be blank for any Table to Table Load mode.

Default value refers to currency calculation. If there is any need for currency conversion in T2T transactions, Default value has to be provided.

For example, default value is [DRCY] = 'USD' Here 'USD' acts as reporting currency parameter to T2T.
9. Repeat steps 4 to 8 for adding the remaining T2Ts within the same batch definition.
10. Execute the batch created in the preceding steps.

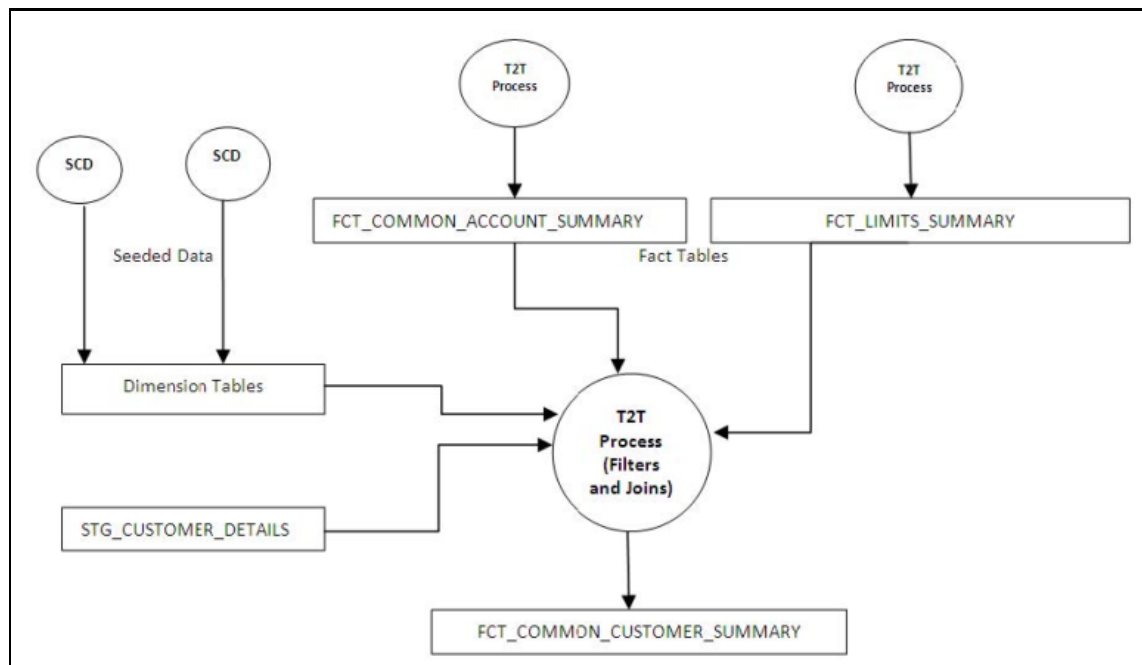
11 Customer Summary Population

Fact Common Customer Summary table stores attributes pertaining to customer-related data on an 'as-is' basis received from the source system. Data is populated into this table using T2T.

Customer balances are derived from the account summary. The customer relationship table drives the relationship between accounts and customers. Common customer summary data is populated for all the active customers in the customer dimension.

Following data flow diagram explains the process flow for populating Fact Common Customer Summary table:

Figure 29: Fact Common Customer Summary Dataflow



11.1 Prerequisites

Following are the lists of tables used in the population of Fact Common Customer Summary and these tables are required to be loaded before running the T2T:

- DIM_CUSTOMER
- DIM_BANDS
- DIM_EDUCATION
- DIM_CUSTOMER_TYPE
- DIM_GENDER
- DIM_INDUSTRY
- DIM_CHANNEL
- DIM_GEOGRAPHY

- DIM_MARITAL_STATUS
- DIM_MANAGEMENT
- DIM_PROFESSION
- DIM_CREDIT_RATING
- DIM_VINTAGE
- DIM_MIGRATION_REASONS
- FCT_COMMON_ACCOUNT_SUMMARY
- FCT_LIMITS_SUMMARY.
- STG_CUSTOMER_DETAILS
- STG_PARTY_RATING_DETAILS
- STG_PARTY_FINANCIALS

Dimensions tables are loaded through the SCD process. The fact tables such as FCT_COMMON_ACCOUNT_SUMMARY and FCT_LIMITS_SUMMARY are loaded from their respective T2T processes.

11.2 Executing the Customer Summary Population T2T

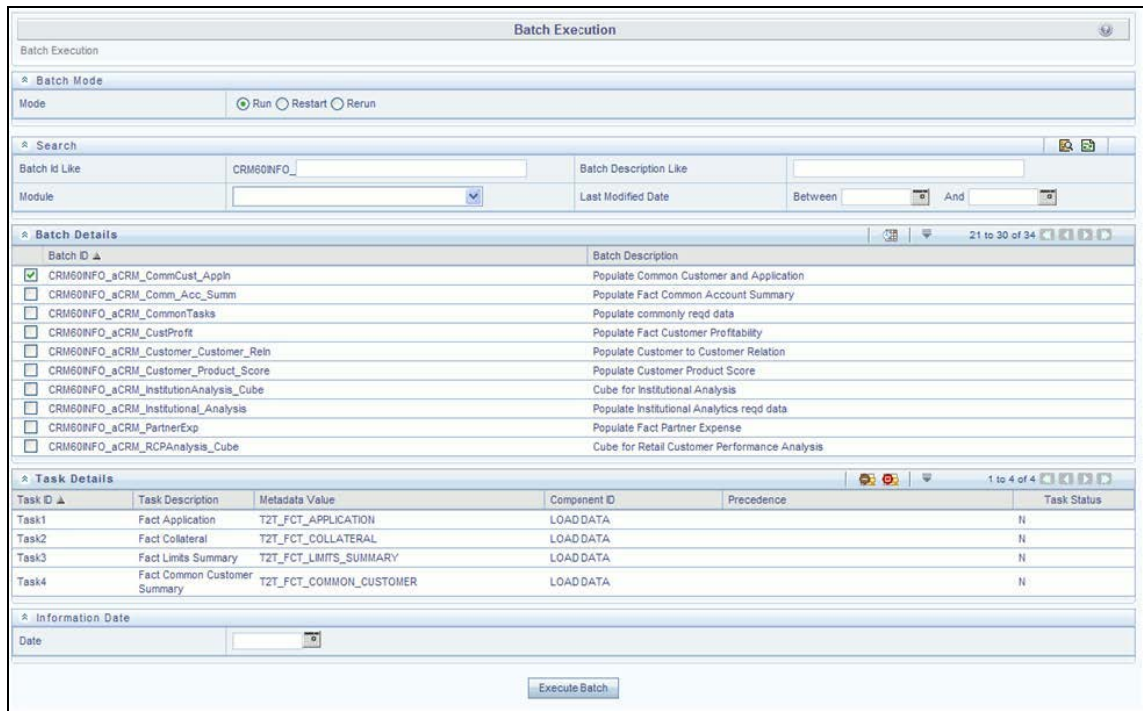
Fact Common Customer Summary T2T can be executed by executing the task present in the seeded batch.

PR_PARTY_FACTS.

Following steps will help you to execute the batch:

1. Navigate to the Batch Execution screen.
2. Select the seeded batch PR_PARTY_FACTS where INFODOM is the information domain where the application is installed.
3. Select the AS_OF_DATE for which source customer information is required to be loaded into the table.
4. Click **Execute Batch**.
5. Monitor the status of the batch using Batch Monitor.

Figure 30: Batch Monitor



11.2.1.1 Error Messages

Following is the most common error message which will be logged in the T2T log file present in the \$FIC_DB_HOME/logs/t2t folder:

- **Unique Constraint Violation:** This occurs when attempting to re-load or loading existing records for the already executed AS_OF_DATE.

12 Fact Data Population

This chapter explains all the fact tables which within describe the seeded T2T Definitions with related Source Table and Destination tables. Prerequisites needed in the population of the Fact table and tables required to be loaded before running the T2T. Each fact table contains a section on how to execute the T2T component from the OFSAA Infrastructure ICC framework and access the execution log to check the execution status. This chapter discusses the following topics:

- [Fact CRM Customer Summary](#)
- [Fact Partner Expense](#)
- [Fact Account Feature Map](#)
- [Fact Customer to Customer Relationship](#)
- [Fact Opportunity](#)
- [Fact Opportunity Activity](#)
- [Fact Sales Representative Compensation](#)
- [Fact Application](#)
- [Account Manager Relation](#)
- [Management Forecast](#)
- [Fact Account Customer Relation](#)
- [Fact Account Profitability](#)

12.1 Fact CRM Customer Summary

Fact CRM Customer Summary entity captures different derived/computed customer attributes pertaining to Customer Insight. Fact Common Customer Summary stores the generic application-agnostic source/raw customer attributes. Fact CRM Customer Summary is a vertically partitioned entity and has a relationship to Fact Common Customer Summary.

12.1.1.1 Load Data into Fact CRM Customer Summary

Customer balances in the Fact CRM Customer Summary entity are derived from the account summary. The customer relationship entity drives the relationship between accounts and customers.

Following is the seeded Table-to-Table definitions that loads data related to Fact CRM Customer Summary:

Table 28: Fact CRM Customer Summary Definitions

T2T Definition Name	Source Table(s)	Destination Table
T2T_FCT_CRM_CUSTOMER_	STG_CUSTOMER_MASTER	FCT_CRM_CUSTOMER_S
SUMMARY	STG_CUSTOMER_DETAILS	SUMMARY
	FCT_COMMON_ACCOUNT_	

T2T Definition Name	Source Table(s)	Destination Table
	FCT_CRM_ACCOUNT_SUMMARY	

Refer to *Oracle Financial Services Analytical Applications Data Model Data Dictionary* or the *Erwin Data Model* to view the detailed structure of the tables.

12.1.2 Prerequisites

Fact Common Customer Summary entity needs to be populated before executing the Fact CRM Customer Summary T2T. See Account Summary Population for details related to Fact Common Customer Summary T2T.

Following tables that are used in the population of Fact CRM Customer Summary need to have relevant data before executing the T2T:

- STG_CUSTOMER_MASTER: Mandatory
- STG_CUSTOMER_DETAILS: Mandatory
- DIM_DATES: Mandatory
- DIM_CUSTOMER: Mandatory
- FCT_COMMON_ACCOUNT_SUMMARY: Mandatory
- FCT_CRM_ACCOUNT_SUMMARY: Mandatory
- DIM_BANDS: Optional

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

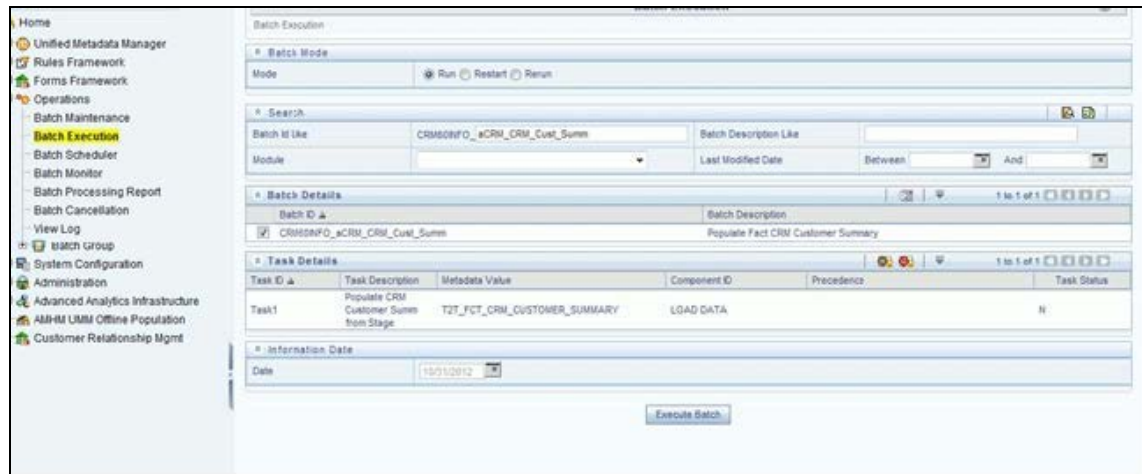
Also, see Population of Fact CRM Customer Summary and Fact CRM Account Summary sections for details on populating these fact tables.

12.1.2.1 Executing the Fact CRM Customer Summary Population T2Ts

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the Operations module of OFSAAI). A seeded batch,

PR_PARTY_FACTS has to be executed for the required MIS Date.

Figure 31: Fact CRM Customer Summary Population



Alternatively, the following steps will help you create a new batch:

1. From the Home menu, click Operations and select Batch Maintenance.
2. Click New Batch ('+' symbol in Batch Name container). Enter the Batch Name and Description.
3. Click Save.
4. Click the check box in the Batch Name container to select the Batch, you created in the earlier step.
5. Enter the Task ID and Description.
6. Select Load Data from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name "T2T_FCT_CRM_CUSTOMER_SUMMARY" you want to process.
8. The data file name will be blank for any Table to Table Load mode.
9. The default value refers to any parameter that has to be passed to T2T. It has to be blank.
10. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.1.2.2 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:

\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

This table can be queried for errors: FCT_CRM_CUSTOMER_SUMMARY

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.2 Fact Partner Expense

Fact Partner Expense entity stores expense items like marketing cost, total project expense, business development expense, incentive, and so on that are incurred with the partner of financial institutions. These expenses are captured in the Stage Partner Expense entity for every partner and applicable time period.

Following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 29: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_FCT_PARTNER_EXPENSE	STG_PARTNER_EXPENSE	FCT_PARTNER_EXPENSE

For more information, see the Customer Insight Erwin Data Model to view the detailed structure of the tables.

12.2.1.1 Prerequisites

Following are the lists of tables used in the population of Fact Partner Expense and these are required to be loaded before executing the T2T:

- DIM_DATES
- DIM_PARTNER
- STG_PARTNER_EXPENSE

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, refer to Dimension Loading Process.

For details on populating the DIM_DATES dimension table, refer to Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.2.1.2 Executing the Fact Partner Expense Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded batch, <Infodom>_aCRM_PartnerExp has to be executed for the required MIS Date.

Figure 32: Execute Fact Partner Expense Population

The screenshot displays the 'Batch Execution' window. At the top, it shows 'Batch Execution' and 'Batch Mode' with 'Run' selected. The 'Search' section includes fields for 'Batch Id Like' (CRM60INFO_aCRM_PartnerExp), 'Batch Description Like', 'Module', and 'Last Modified Date'. The 'Batch Details' section shows a table with one entry: 'CRM60INFO_aCRM_PartnerExp' with description 'Populate Fact Partner Expense'. The 'Task Details' section shows a table with one entry: 'Task1' with description 'T2T_FCT_PARTNER_EXPENSE', metadata value 'T2T_FCT_PARTNER_EXPENSE', component ID 'LOAD DATA', and task status 'N'. The 'Information Date' section shows a date field set to '10/31/2010'. An 'Execute Batch' button is at the bottom.

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the **Batch**, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the **Components** list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name "T2T_FCT_PARTNER_EXPENSE" you want to process.

8. The data file name will be blank for any Table to Table Load mode.
The default value refers to currency calculation. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.
For example, the default value is [DRCY]='USD' Here 'USD' acts as a reporting currency parameter to T2T.
9. Execute the batch created in the preceding steps.
For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.2.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:

\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution id.

This following table can be queried for errors: FCT_PARTNER_EXPENSE\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.3 Fact Account Feature Map

A product might be facilitated with its features. Fact Account Feature Map entity stores the mapping between the Account and Product Feature that is the features of the product availed by the customer account. Product processor tables in staging have information related to customer accounts.

Following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 30: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_FCT_ACCOUNT_FEATURE_MAP	STG_ACCT_FEATURE_MAP	FCT_ACCOUNT_FEATURE_MAP

For more information, see the Customer Insight Erwin Data Model to view the detailed structure of the tables.

12.3.1.1 Prerequisites

Following are the lists of tables used in the population of Fact Account Feature Map and these tables are required to be loaded before executing the T2T:

- DIM_DATES
- DIM_PRODUCT_FEATURE
- DIM_ACCOUNT
- DIM_CUSTOMER
- DIM_PRODUCT
- DIM_VENDOR
- DIM_CHANNEL
- STG_ACCT_FEATURE_MAP

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, refer to Dimension Loading Process.

For details on populating the DIM_DATES dimension table, refer to Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.3.1.2 Executing the Fact Account Feature Map Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded batch, PR_ACCOUNT has to be executed for the required MIS Date.

Figure 33: Execute Fact Account Feature Map Population

The screenshot displays the 'Batch Execution' window. It includes sections for 'Batch Mode' (Run, Restart, Rerun), 'Search' (Batch Id Like: CRM60NFO_aCRM_Account_Featu, Batch Description Like, Module, Last Modified Date), 'Batch Details' (Batch ID: CRM60NFO_aCRM_Account_Feature_Map, Batch Description: Populate Fact Account Feature Map), and 'Task Details' (Task ID: T2T_FCT_ACCOUNT_FEATURE_MAP, Task Description: T2T_FCT_ACCOUNT_FEATURE_MAP, Metadata Value: LOAD DATA, Component ID, Precedence, Task Status: N). An 'Information Date' field is set to 10/31/2010. An 'Execute Batch' button is visible at the bottom.

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.

2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name "T2T_FCT_PARTNER_EXPENSE" you want to process.
8. The data file name will be blank for any Table to Table Load mode.

The default value refers to any parameter that has to be passed to T2T. This should be blank.
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.3.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:

\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution id.

This table can be queried for errors: FCT_ACCOUNT_FEATURE_MAP\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.4 Fact Customer to Customer Relationship

Fact Customer to Customer Relationship entity stores the relationship between the customers.

Following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 31: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_CUST_CUST_RELATION	STG_CUST_CUST_RELATIONSHIP	FCT_ACCOUNT_FEATURE_MAP

For more information, see the Customer Insight Erwin Data Model to view the detailed structure of the tables.

12.4.1.1 Prerequisites

Following are the lists of tables used in the population of Fact Customer to Customer Relationship and these tables are required to be loaded before running the T2T:

- DIM_DATES
- DIM_CUSTOMER
- STG_CUST_CUST_RELATIONSHIP

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, refer to Dimension Loading Process.

For details on populating the DIM_DATES dimension table, refer to Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.4.1.2 Executing the Fact Customer to Customer Relationship Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded batch, PR_PARTY_FACTS has to be executed for the required MIS Date.

Figure 34: Execute Fact Customer to Customer Relationship Population

The screenshot shows the 'Batch Execution' interface. It includes sections for Batch Mode (Run, Restart, Rerun), Search (Batch Id Like, Batch Description Like, Module, Last Modified Date), Batch Details (Batch ID, Batch Description), Task Details (Task ID, Task Description, Metadata Value, Component ID, Precedence, Task Status), and Information Date (Date). An 'Execute Batch' button is visible at the bottom.

Batch ID	Batch Description
<input checked="" type="checkbox"/> CRM608INFO_aCRM_Customer_Customer_Rel	Populate Customer to Customer Relation

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	T2T_CUST_CUST_RELATION	T2T_CUST_CUST_RELATION	LOAD DATA		N

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name " T2T_CUST_CUST_RELATION " you want to process.
8. The data file name will be blank for any Table to Table Load mode.
The default value refers to any parameter that has to be passed to T2T. This should be blank.
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.4.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

This table can be queried for errors: FCT_CUST_CUST_RELATIONSHIP\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.5 Fact Opportunity

Fact Opportunity entity stores fact data of an opportunity in an opportunity life cycle. It stores information like cost, current stage of opportunity, the current status of opportunity, expected revenue, probability of a win, and so on.

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 32: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_STG_OPPORTUNITY	STG_OPPORTUNITY	FCT_OPPORTUNITY

12.5.1.1 Prerequisites

The following are the lists of tables used in the population of Fact Customer to Customer Relationship and these tables are required to be loaded before running the T2T.

- DIM_DATES
- DIM_OPPORTUNITY
- DIM_PRODUCT
- DIM_GEOGRAPHY
- DIM_PROSPECT
- DIM_CUSTOMER
- DIM_SALES_REPRESENTATIVE
- DIM_OPTY_WL_REASON
- DIM_SALES_STAGE
- DIM_OFFER

- DIM_LOB
- STG_OPPORTUNITY

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, refer to Dimension Loading Process.

For details on populating the DIM_DATES dimension table, refer to Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.5.1.2 Executing the Fact Opportunity Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded batch, PR_OPPORTUNITY has to be executed for the required MIS Date.

Figure 35: Execute Fact Opportunity Population

The screenshot displays the 'Batch Execution' window. The 'Batch Mode' section has 'Run' selected. The 'Search' section shows 'Batch Id Like' as 'CRM60NFO_aCRM_Institutional_Analysis'. The 'Batch Details' section shows a table with one row: 'CRM60NFO_aCRM_Institutional_Analysis' with description 'Populate Institutional Analytics reqd data'. The 'Task Details' section shows a table with three tasks:

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	T2T_STG_OPPORTUNITY	T2T_STG_OPPORTUNITY	LOAD DATA		N
Task2	T2T_STG_OPPORTUNITY_ACTIVITY	T2T_STG_OPPORTUNITY_ACTIVITY	LOAD DATA		N
Task3	T2T_STG_SALES_REP_COMPENSATION	T2T_STG_SALES_REP_COMPENSATION	LOAD DATA		N

The 'Information Date' section shows 'Date' as '10/31/2010'. An 'Execute Batch' button is at the bottom.

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.

- **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name "T2T_STG_OPPORTUNITY" you want to process.
8. The data file name will be blank for any Table to Table Load mode.
The default value refers to any parameter that has to be passed to T2T. This should be blank.
9. Execute the batch created in the preceding steps.
For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.5.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:

\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

This table can be queried for errors: FCT_OPPORTUNITY\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.6 Fact Opportunity Activity

Fact Opportunity Activity entity stores the fact data related to activities that are performed for each opportunity. It stores information like start & end dates, priority and severity of activity, cost of activity, and so on.

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 33: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_STG_OPPORTUNITY_ACTIVITY	STG_OPPORTUNITY_ACTIVITY	FCT_OPPORTUNITY_ACTIVITY

To view the detailed structure of this table, refer to Erwin Data Model.

12.6.1.1 Prerequisites

The following are the lists of tables used in the population of Fact Opportunity Activity and these tables are required to be loaded before running the T2T.

- DIM_DATES
- DIM_OPPORTUNITY
- DIM_ACTIVITY_TYPE
- DIM_PRODUCT
- DIM_SALES_REPRESENTATIVE
- DIM_SALES_STAGE
- STG_OPPORTUNITY_ACTIVITY

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, refer to Dimension Loading Process.

For details on populating the DIM_DATES dimension table, refer to Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.6.1.2 Executing the Fact Opportunity Activity Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded batch, PR_OPPORTUNITY has to be executed for the required MIS Date.

Figure 36: Execute Fact Opportunity Activity Population

The screenshot displays the 'Batch Execution' window. It includes a 'Batch Mode' section with radio buttons for 'Run', 'Restart', and 'Rerun'. A 'Search' section contains fields for 'Batch Id Like' (CRM60NFO_aCRM_Institutional_Analysis), 'Batch Description Like', 'Module', and 'Last Modified Date'. The 'Batch Details' section shows a table with one entry: 'CRM60NFO_aCRM_Institutional_Analysis' with the description 'Populate Institutional Analytics reqd data'. The 'Task Details' section shows a table with three tasks: Task1 (T2T_STG_OPPORTUNITY), Task2 (T2T_STG_OPPORTUNITY_ACTIVITY), and Task3 (T2T_STG_SALES_REP_COMPENSATION). The 'Information Date' section has a 'Date' field set to 10/31/2010. An 'Execute Batch' button is at the bottom.

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	T2T_STG_OPPORTUNITY	T2T_STG_OPPORTUNITY	LOAD DATA		N
Task2	T2T_STG_OPPORTUNITY_ACTIVITY	T2T_STG_OPPORTUNITY_ACTIVITY	LOAD DATA		N
Task3	T2T_STG_SALES_REP_COMPENSATION	T2T_STG_SALES_REP_COMPENSATION	LOAD DATA		N

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.

2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name "T2T_STG_OPPORTUNITY_ACTIVITY" you want to process.
8. The data file name will be blank for any Table to Table Load mode.

The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.

For example, the default value is [DRCY]='USD'

Here, 'USD' acts as reporting currency parameter to T2T
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.6.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

The following tables can be queried for errors: FCT_OPPORTUNITY_ACTIVITY\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.7 Fact Sales Representative Compensation

Fact Sales Representative Compensation entity stores the sales incentive compensation paid for a sales representative against a product.

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 34: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_STG_SALES_REP_COMPENSATION	STG_SALES_REP_COMPENSATION	FCT_SALES_REP_COMPENSATION

For more information, see the Customer Insight Erwin Data Model to view the detailed structure of the earlier tables.

12.7.1.1 Prerequisites

The following are the lists of tables used in the population of Fact Sales Representative Compensation and these tables are required to be loaded before running the T2T.

- DIM_DATES
- DIM_PRODUCT
- DIM_SALES_REPRESENTATIVE
- STG_SALES_REP_COMPENSATION

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, see Dimension Tables Population.

For details on populating the DIM_DATES dimension table, see Time Dimension Population.

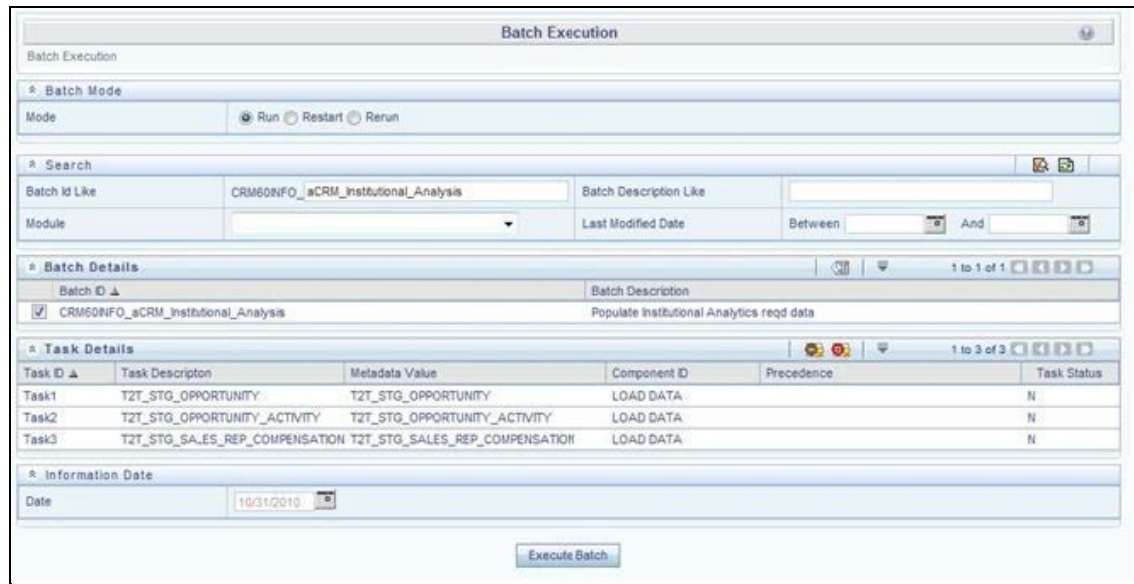
For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.7.1.2 Executing the Fact Sales Representative Compensation Population T2T

To execute the T2T component from the OFSAA Infrastructure ICC framework (accessed through the application Batch Operations screen).

A seeded process, PR_MANAGEMENT has to be executed for the required MIS Date.

Figure 37: Execute Fact Sales Representative Compensation Population



Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name " T2T_STG_SALES_REP_COMPENSATION " you want to process.
8. The data file name will be blank for any Table to Table Load mode.
The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.
For example, the default value is [DRCY]='USD'
Here, 'USD' acts as reporting currency parameter to T2T
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.7.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

The following tables can be queried for errors: FCT_SALES_REP_COMPENSATION\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.8 Fact Application

Fact Application entity stores the fact data of applications like application details, current stage, status, rejection reason, time-taken in each stage, and so on.

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 35: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_FCT_APPLICATION	STG_APPLICATION	FCT_APPLICATION

For more information and to view the detailed structure of the earlier tables, see Customer Insight Erwin Data Model.

12.8.1.1 Prerequisites

The following are the lists of tables used in the population of Fact Application. These tables are required to be loaded before running the T2T:

- DIM_DATES
- DIM_APPLICATION_TYPE
- DIM_PRODUCT
- DIM_CREDIT_OFFICER

- DIM_CUSTOMER
- DIM_CHANNEL
- DIM_CREDIT_CENTER
- DIM_DECISION_STATUS
- DIM_GEOGRAPHY
- DIM_INDUSTRY
- DIM_APPLICATION_REJECT_REASONS
- DIM_DEVIATION_REASONS
- DIM_SALES_REPRESENTATIVE
- DIM_ACCOUNT
- DIM_PROSPECT
- DIM_BANDS
- STG_APPLICATION

For details on populating dimension tables like DIM_CUSTOMER, DIM_BANDS, and so on, see Dimension Tables Population.

For details on populating the DIM_DATES dimension table, see Time Dimension Population.

For identifying fields required in Channel Transaction tables in staging for the purpose of Customer Insight Application(s), refer to Download Specification.

12.8.1.2 Executing the Fact Application Population T2T

To execute the T2T component from OFSAA Infrastructure ICC framework (accessed through Operations module), a seeded process, PR_APPLICATION has to be executed for the required MIS Date.

Figure 38: Execute Fact Application Population

The screenshot shows the 'Batch Execution' window. It includes sections for 'Batch Mode' (Run, Restart, Rerun), 'Search' (Batch Id Like: CRM60NFO_aCRM_CommCust_Apph, Batch Description Like, Module, Last Modified Date), 'Batch Details' (Batch ID: CRM60NFO_aCRM_CommCust_Apph, Batch Description: Populate Common Customer and Application), and 'Task Details' table.

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	Fact Application	T2T_FCT_APPLICATION	LOAD DATA		N
Task2	Fact Collateral	T2T_FCT_COLLATERAL	LOAD DATA		N
Task3	Fact Limits Summary	T2T_FCT_LIMITS_SUMMARY	LOAD DATA		N
Task4	Fact Common Customer Summary	T2T_FCT_COMMON_CUSTOMER	LOAD DATA		N

Information Date: Date: 10/31/2010

Execute Batch

Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name 'T2T_FCT_APPLICATION' you want to process.
8. The data file name will be blank for any Table to Table Load mode.

The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.

For example, the default value is [DRCY]='USD'

Here, 'USD' acts as reporting currency parameter to T2T
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.8.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

The following tables can be queried for errors: FCT_APPLICATION\$

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.9 Account Manager Relation

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 36: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_ACCOUNT MANAGERS_REL	STG_ACCOUNT_MGR_REL	FCT_ACCOUNT_MGR_REL

For more information and to view the detailed structure of the earlier tables, see Customer Insight Erwin Data Model.

12.9.1.1 Prerequisites

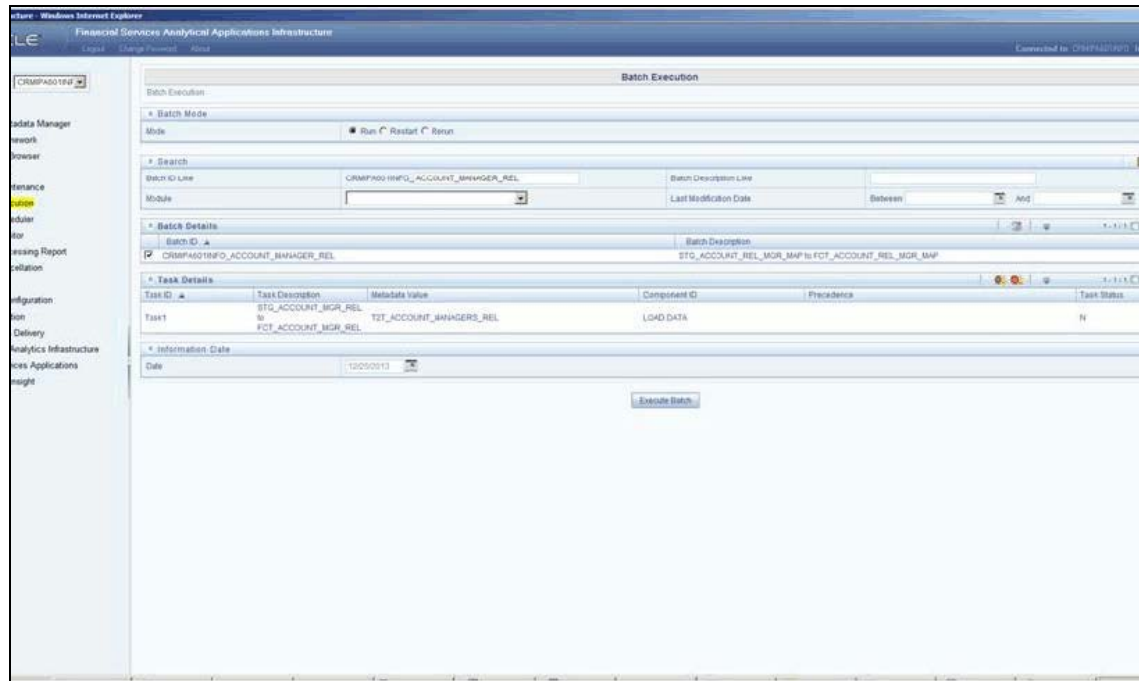
The following are the lists of tables used in the population of Account Manager Relation. These tables are required to be loaded before running the T2T.

- DIM_ACCOUNT
- DIM_CUSTOMER
- DIM_DATES
- DIM_MANAGEMENT
- STG_ACCOUNT_MGR_REL

12.9.1.2 Executing the Account Manager Relation T2T

To execute the T2T component from OFSAA Infrastructure ICC framework (accessed through Operations module), a seeded process, PR_ACCOUNT has to be executed for the required MIS Date.

Figure 39: Execute Account Manager Relation



Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name 'T2T_ACCOUNT_MANAGERS_REL' you want to process.
8. The data file name will be blank for any Table to Table Load mode.

The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.

For example, the default value is [DRCY]='USD'

Here, 'USD' acts as reporting currency parameter to T2T

9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.9.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.10 Management Forecast

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 37: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_MANAGEMENT_FCAST	STG_MGMT_FORECAST	FCT_MGMT_FORECAST

For more information and to view the detailed structure of the earlier tables, see Customer Insight Erwin Data Model.

12.10.1.1 Prerequisites

The following are the lists of tables used in the population of Account Manager Relation. These tables are required to be loaded before running the T2T.

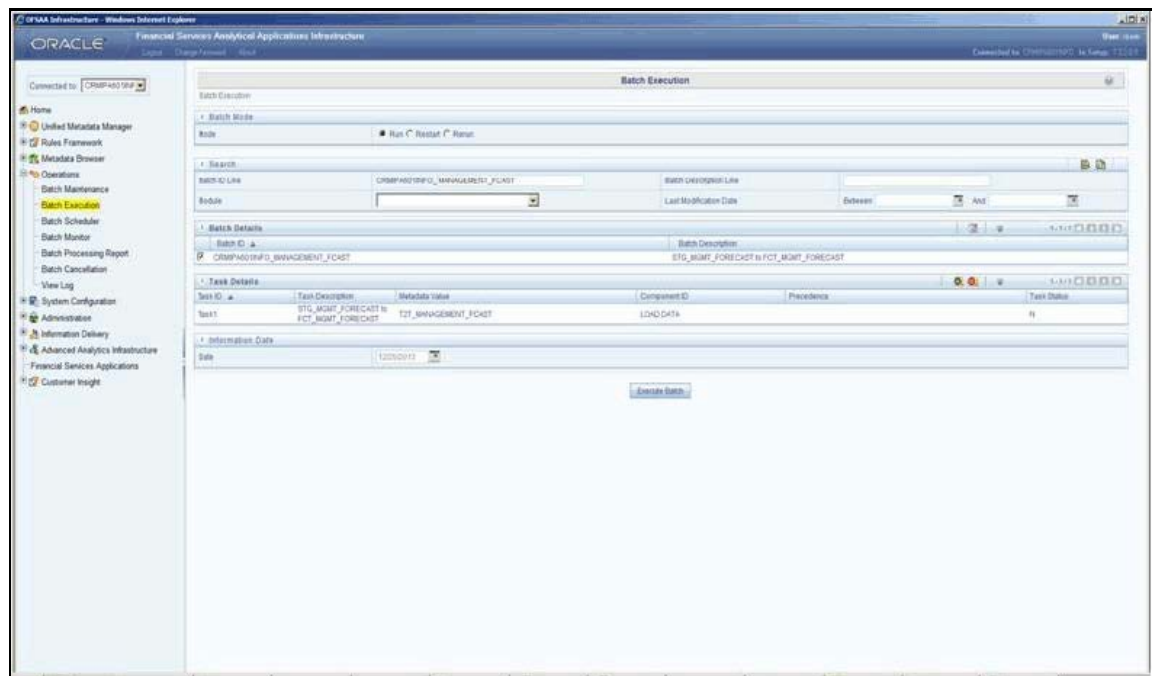
- DIM_ORG_STRUCTURE
- DIM_DATES

- DIM_CUSTOMER
- DIM_LOB
- DIM_PRODUCT
- DIM_ORG_UNIT
- DIM_ACCOUNT
- STG_MGMT_FORECAST

12.10.1.2 Executing the Management Forecast T2T

To execute the T2T component from OFSAA Infrastructure ICC framework (accessed through Operations module), a seeded process, PR_RESULTS has to be executed for the required MIS Date.

Figure 40: Execute Management Forecast



Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.
5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type**: Select the appropriate datastore from the list.

- **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name 'T2T_MANAGEMENT_FCAST' you want to process.
8. The data file name will be blank for any Table to Table Load mode.
- The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.
- For example, the default value is [DRCY]='USD'
- Here, 'USD' acts as reporting currency parameter to T2T
9. Execute the batch created in the preceding steps.
- For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.10.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen.

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/t2t.

The file name will have the batch execution Id.

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.11 Fact Account Customer Relation

The following table lists the seeded T2T Definitions with related Source Table and Destination tables:

Table 38: Seeded T2T Definitions

T2T Definition Name	Source Staging Table	Destination Table
T2T_ACCT_CUST_RELATIONSHIP	STG_CUSTOMER_RELATIONSHIP	FCT_ACCT_CUST_RELATIONSHIP

For more information and to view the detailed structure of the earlier tables, see Customer Insight Erwin Data Model.

12.11.1.1 Prerequisites

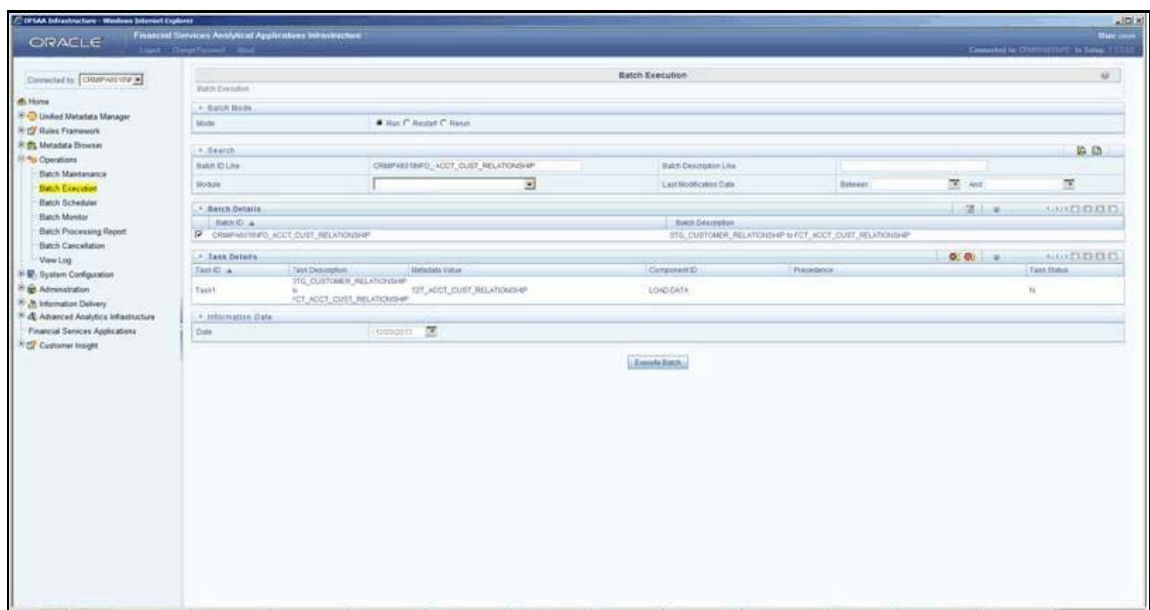
The following are the lists of tables used in the population of Account Manager Relation. These tables are required to be loaded before running the T2T.

- DIM_DATES
- DIM_CUSTOMER
- DIM_ACCOUNT
- DIM_GEOGRAPHY
- DIM_MANAGEMENT
- DIM_CHANNEL
- DIM_PRODUCT
- DIM_DATA_ORIGIN
- STG_CUSTOMER_RELATIONSHIP

12.11.1.2 Executing the Account Customer Relation T2T

To execute the T2T component from OFSAA Infrastructure ICC framework (accessed through Operations module), a seeded process, PR_ACCOUNT has to be executed for the required MIS Date.

Figure 41: Execute Account Customer Relation



Alternatively, the following steps will help you create a new batch:

1. From the **Home** menu, click **Operations** and select **Batch Maintenance**.
2. Click **New Batch** ('+' symbol in Batch Name container). Enter the **Batch Name** and **Description**.
3. Click **Save**.
4. Click the check box in the **Batch Name** container to select the Batch, you created in the earlier step.

5. Enter the **Task ID** and **Description**.
6. Select **Load Data** from the Components list.
7. Select the following from the Dynamic Parameters List and click **Save**.
 - **Datastore Type:** Select the appropriate datastore from the list.
 - **Datastore Name:** Select the appropriate name from the list.
 - **IP address:** Select the IP address from the list.
 - **Load Mode:** Select Table to Table from the list.
 - **Source Name:** Select <T2T Source Name> from the list.
 - **File Name:** Select the T2T name ' T2T_ACCT_CUST_MANAGERS_RELATIONSHIP ' you want to process.
8. The data file name will be blank for any Table to Table Load mode.

The default value refers to any parameter that has to be passed to T2T. If there is any need for currency conversion in T2T transactions, the Default value has to be provided.

For example, the default value is [DRCY]='USD'

Here, 'USD' acts as reporting currency parameter to T2T
9. Execute the batch created in the preceding steps.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.11.1.3 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen. The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory: \$FIC_DB_HOME/log/t2t. The file name will have the batch execution Id.

For more information on the configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12 Fact Account Profitability

Fact Account Profitability entity stores fact data for reporting line items of revenue, costs, and expense related to each customer account. The data into this table is populated from other fact tables like:

- FCT_COMMON_ACCOUNT_SUMMARY
- FCT_PFT_ACCOUNT_SUMMARY

- FCT_FTP_ACCOUNT_SUMMARY
- FCT_REG_CAP_ACCOUNT_SUMMARY
- FCT_ECO_CAP_ACCOUNT_SUMMARY

The following table lists the seeded Post Load Transformation Definition with related Source Table and Destination tables:

Table 39: Seeded Post Load Transformation Definition with Source and Destination Tables

DT Definition Name	Source Table	Destination Table
FN_FCT_ACCOUNT_PFT	FCT_COMMON_ACCOUNT_SUMMARY	FCT_ACCOUNT_PROFITABILITY
	FCT_PFT_ACCOUNT_SUMMARY	
	FCT_FTP_ACCOUNT_SUMMARY	
	FCT_REG_CAP_ACCOUNT_SUMMARY	
	FCT_ECO_CAP_ACCOUNT_SUMMARY	
	FCT_PFT_CUSTOMER_SUMMARY	

See the Oracle Financial Services Analytical Applications Data Model Data Dictionary or the Erwin Data Model to view the detailed structure of the tables.

Information from account summary fact tables is populated to Fact Account Profitability through a mapping process. The reporting line dimension is mapped to measures present in the account summary. A PL/SQL procedure then populates the fact by reading the mapping definition.

The reporting line dimension is created/maintained from the Attribute Member Hierarchy Maintenance (AMHM) component of OFSAAI. A Reporting line item represents revenue, costs, or expenses. Rollup signage is set as an attribute for a reporting line. To know more about AMHM, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The Account summary tables contain the revenue, costs, or expenses measures about an Account. Map Maintenance component of OFSAAI is used to map the measures of account summary tables (represented in a measure hierarchy) to reporting line hierarchy. A pre-defined mapping "Reporting Line Mapping" is seeded along with the application installer. Reporting Line Hierarchy and Reporting Line Measure Hierarchy are the two hierarchies which are used for the mapping. Reporting Line Hierarchy is a parent-child hierarchy that is based on the Reporting Line Dimension entity.

Figure 42: Reporting Line Hierarchy

Business Hierarchy > Business Hierarchy Definition (Edit)

*** Business Hierarchy Details**

Code * HRPTRL
 Short Description * Reporting Line Hierarchy
 Long Description Reporting Line Parent Child Hierarchy

*** Business Hierarchy Definition**

Hierarchy Type REGULAR + Hierarchy Subtype Parent Child -
 Total Required List
 Entity DIM_REP_LINE-Reporting Line Dimension
 Attribute n_rep_line_cd-Reporting Line Code

*** Business Hierarchy**

Node	Short Description	Node Identifier
HRPTRL		
- Child Code	Child Code	DIM_REP_LINE_n_rep_line_cd
- Parent Code	Parent Code	DIM_REP_LINE_n_parent_m_rep_line_cd
- Description	Description	DIM_REP_LINE_v_rep_line_name
- Storage Type	Storage Type	
- CONSO_TYPE	Consolidation Type	DIM_REP_LINE_n_rollup_signage
- Formula	Formula	

Buttons: Save, Cancel

Reporting Line Measure hierarchy is a Non Business Intelligence Enabled Hierarchy which is based on measures from the Account Summary tables.

Figure 43: Reporting Line Hierarchy

Business Hierarchy > Business Hierarchy Definition (Edit)

*** Business Hierarchy Details**

Code * HRPFACT
 Short Description * Reporting Line Measures Hierarchy
 Long Description Reporting Line Hierarchy Measures of summary tables

*** Business Hierarchy Definition**

Hierarchy Type MEASURE + Hierarchy Subtype Non-Business Intelligence Enabled -
 Total Required List
 Entity FCT_COMMON_ACCOUNT_SUMMARY-Fact Common Account Summary
 Attribute n_msa_date_key-MIS Date Key

*** Business Hierarchy**

Node	Short Description	Node Identifier
MEMAS67	Risk Weighted Assets - Market Risk	1 + 1
MEMAS66	Risk Weighted Assets - Credit Risk	1 + 1
MEMAS57	Liquidity Risk Capital	1 + 1
MEMAS56	Interest Rate Risk Capital	1 + 1
MEMAS54	Market Risk Capital	1 + 1

Buttons: Save, Cancel

A seeded map is configured between the Reporting Line Hierarchy and Reporting Line Measure Hierarchy from Map Maintenance of OFSAAL.

Figure 44: Mapper Definition

The screenshot shows a web browser window titled "Mapper Definition - Reporting Line Mapping - 134155866221 - 0 - Reporting Line Mapping". The main content area is divided into two panes. The left pane, titled "Members", contains a scrollable list of data elements including "Mapper", "Reporting Line Mapping", "Hierarchies", "Account Status", "Activity Type", "Age on Book", "Attrition Reason", "Authorization Decision Reasons", "Balance Category", "Browser Type", "Campaign", "Campaign Type", "Card Type", and "Credit Transaction". The right pane, titled "Selected Members", contains a list with "Mapper", "Hierarchies", "Reporting Line Measures Hierarchy", and "Reporting Line Hierarchy".

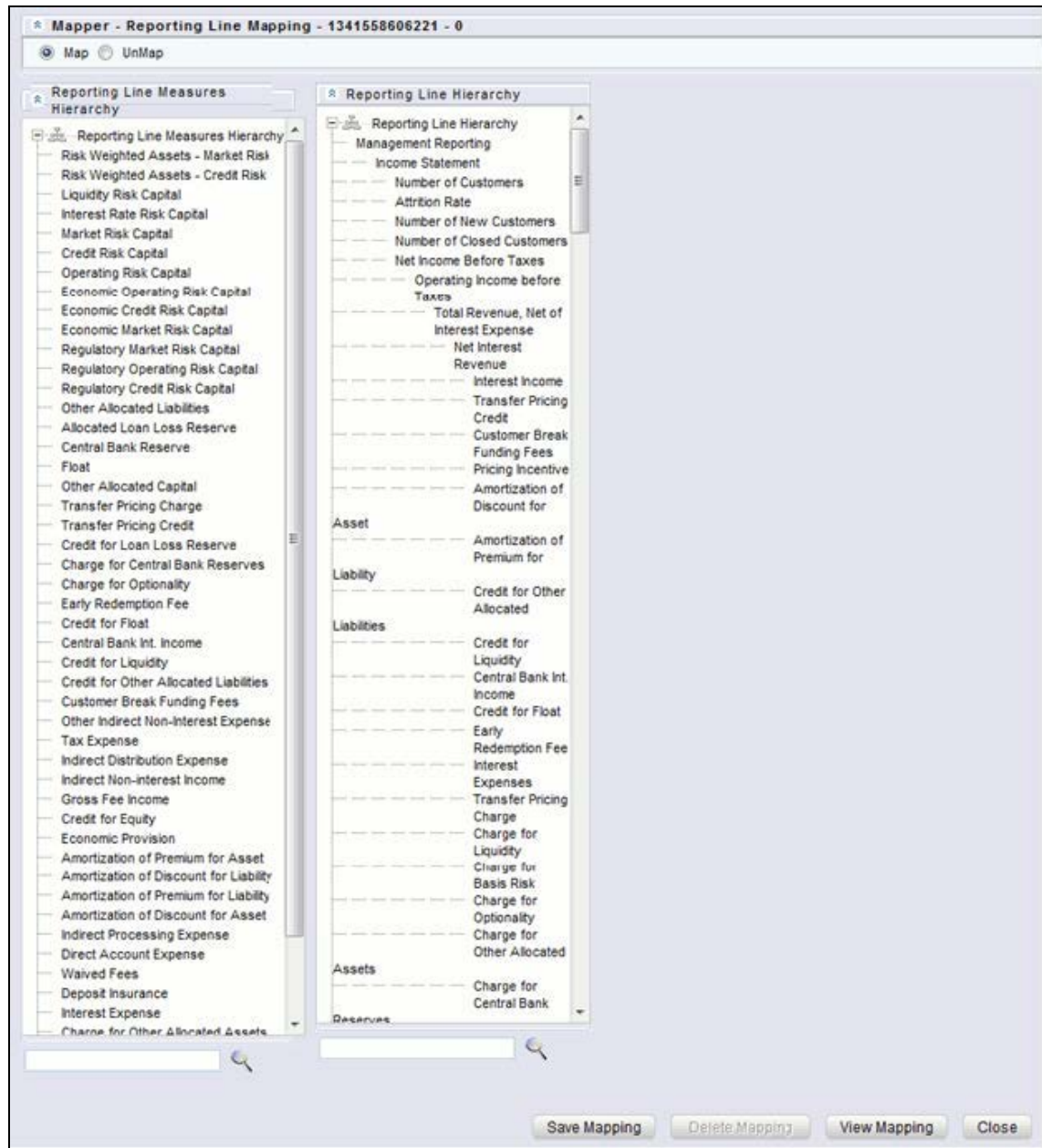
Below the panes is a configuration table with the following fields and values:

Description *	Reporting Line Mapping	Effective From *	03-JAN-2013
Read Only	<input type="checkbox"/>	Effective To *	03-JAN-2013
Generate Hierarchy Security	<input type="checkbox"/>	Database Entity Name *	REPLN_MAPS
Comments	Reporting Line Mapping		
Save Definition As New Version	<input type="checkbox"/>	Version Description	

At the bottom of the configuration area are "Save" and "Close" buttons. Below these is a metadata table:

Created By	CRM30TEST	Creation Date	03-JAN-2013 05:16:17 PM
Last Modified By	CRM30TEST	Last Modified On	03-JAN-2013 05:16:17 PM
Authorized By	CRM30TEST	Authorization Date	03-JAN-2013 05:16:17 PM

Figure 45: Mapper Definition - Reporting Line Hierarchy



For more information on defining/maintaining Mapper, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.1 Defining Mapping for Custom Reporting Line Items

Follow the below steps to define the mapping for Custom Reporting Line items:

1. Add Custom Reporting Line or Modify existing Reporting Line.
2. Add Custom Reporting Line Hierarchy or modify existing seeded reporting line hierarchy.
3. Execute the seeded process **PR_REFERENCE_DATA** specifying the Reporting line hierarchy as a parameter to batch.

4. Modify the seeded Business Metadata.
5. Map Maintenance.

12.12.2 Adding Custom Reporting Line or Modifying existing Reporting Line

Custom Reporting Lines can be added or modified from AMHM.
 Following are the seeded attributes of Reporting Line Dimension:

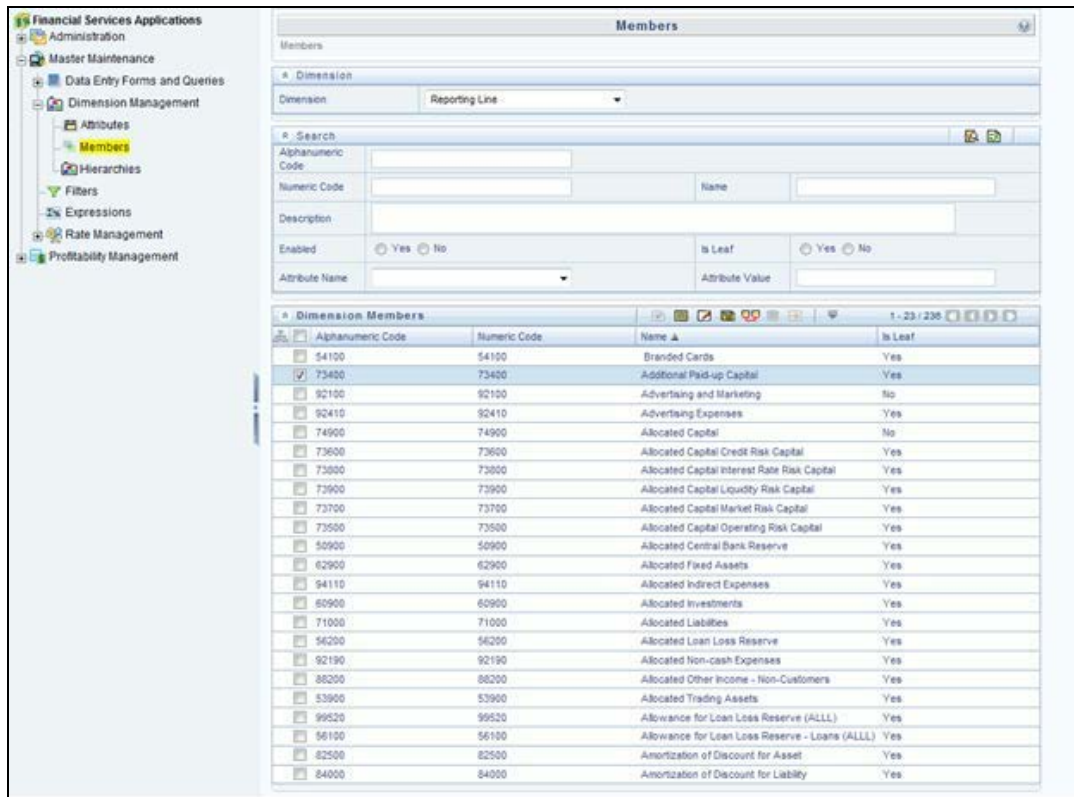
- Financial Element Code
- GL Account Code
- Rollup Signage

Figure 46: Attributes



A Reporting line can be added or modified from the Members screen as shown below. To modify the existing reporting line, select the member by selecting the adjacent check box, and select the Edit button on the menu bar.

Figure 47: Members

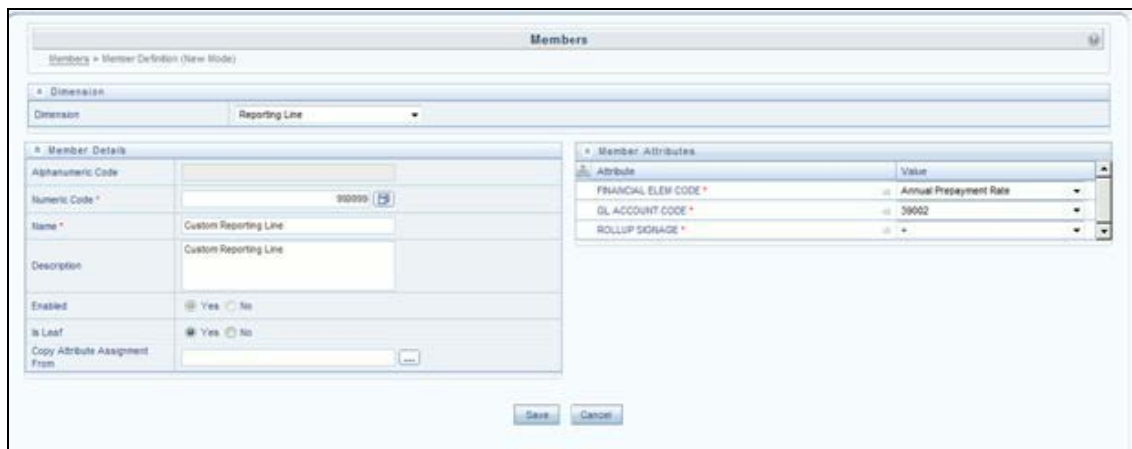


To add a new reporting line, follow these steps:

6. Select the **Add** button from the *Members* screen.

The *Member Definition (New Mode)* screen is displayed.

Figure 48: Member Definition (New Mode)



7. In the *Member Definition (New Mode)* screen:

- Enter **Numeric Code**.
- Enter the **Name** of the custom reporting line.

- Enter the **Description** of the custom reporting line.
- Select **Yes**, if the custom reporting line has to be **Enabled** or not.
- Select **Yes**, if the custom reporting line is **Leaf** or not.
- Select the **Attributes** for the reporting line member.
- Save the Member definition.

12.12.2.1 Modifying a Reporting Line

To modify a reporting line, follow these steps:

- Click the **Edit** button from the Members screen.
The *Member Definition (Edit Mode)* screen is displayed.

Figure 49: Member Definition (Edit Mode)

Member Details		Member Attributes	
Alphabetic Code *	62900	Attribute	Value
Numeric Code *	62900	FINANCIAL ELEM CODE *	10006 - 2C_OP_52801020
Name *	Allocated Fixed Assets	GL ACCOUNT CODE *	10 digit number
Description	Allocated Fixed Assets	DR% INB SAVINGS *	...
Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Is Leaf	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Copy Attribute Assignment From	<input type="text"/>		

- Follow Step 2 from the above procedure.
- To modify a reporting line, follow these steps:
- In the *Member Definition (Edit Mode)* screen, perform the following as required:
 - Modify the **Name** of the custom reporting line.
 - Modify the **Description** of the custom reporting line.
 - Modify the selection of the radio button in the **Enabled** field.
 - Modify the selection of the radio button in the **Is Leaf** field.
 - Modify the **Attributes** for the reporting line member.
 - Save the Member definition.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.3 Add Custom Reporting Line Hierarchy or Modify Existing Seeded Reporting Line Hierarchy

To create a new Reporting Line Hierarchy, follow these steps:

1. Click the **Add** button from the menu. The *Hierarchy Definition (New Mode)* screen is displayed.

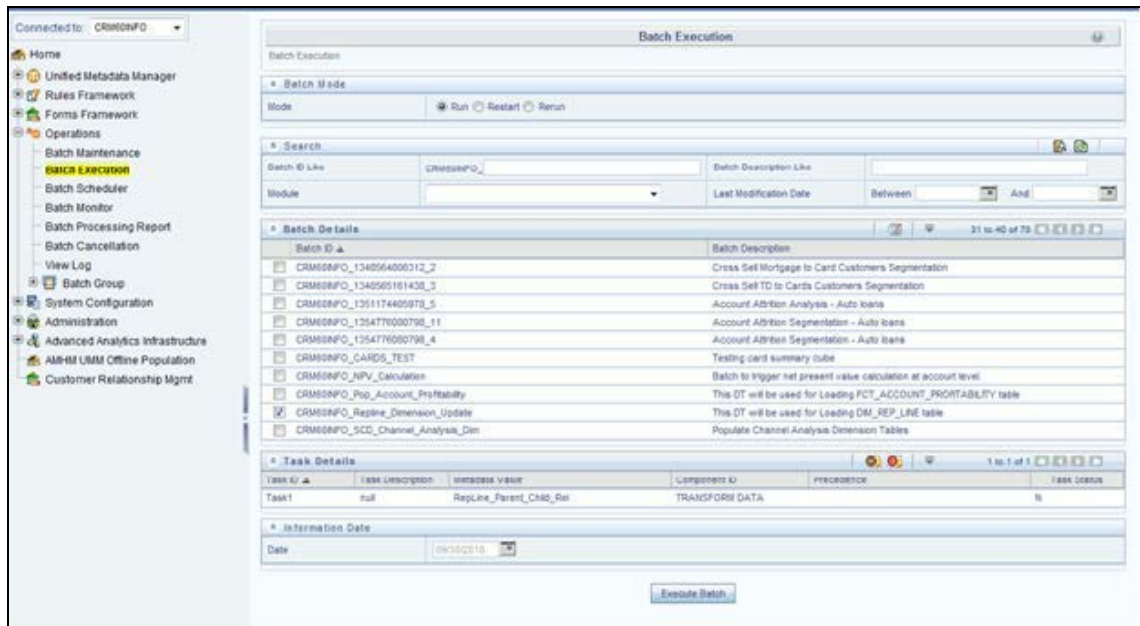
Figure 50: Hierarchy Definition (New Mode)

2. Enter the details in the required fields, and click **Save**.

Alternatively, insert scripts and update scripts that can be prepared into tables DIM_REPORTING_LINE_B, DIM_REPORTING_LINE_TL, DIM_REPORTING_LINE_ATTR, and DIM_REPORTING_LINE_HIER for adding any new custom reporting lines or modifying an existing reporting line.

Execute the seeded process **PR_REFERENCE_DATA** specifying the Reporting line hierarchy as a parameter to batch. It populates data into the DIM_REP_LINE table. This batch invokes the DT fn_rep_line_parent_child.

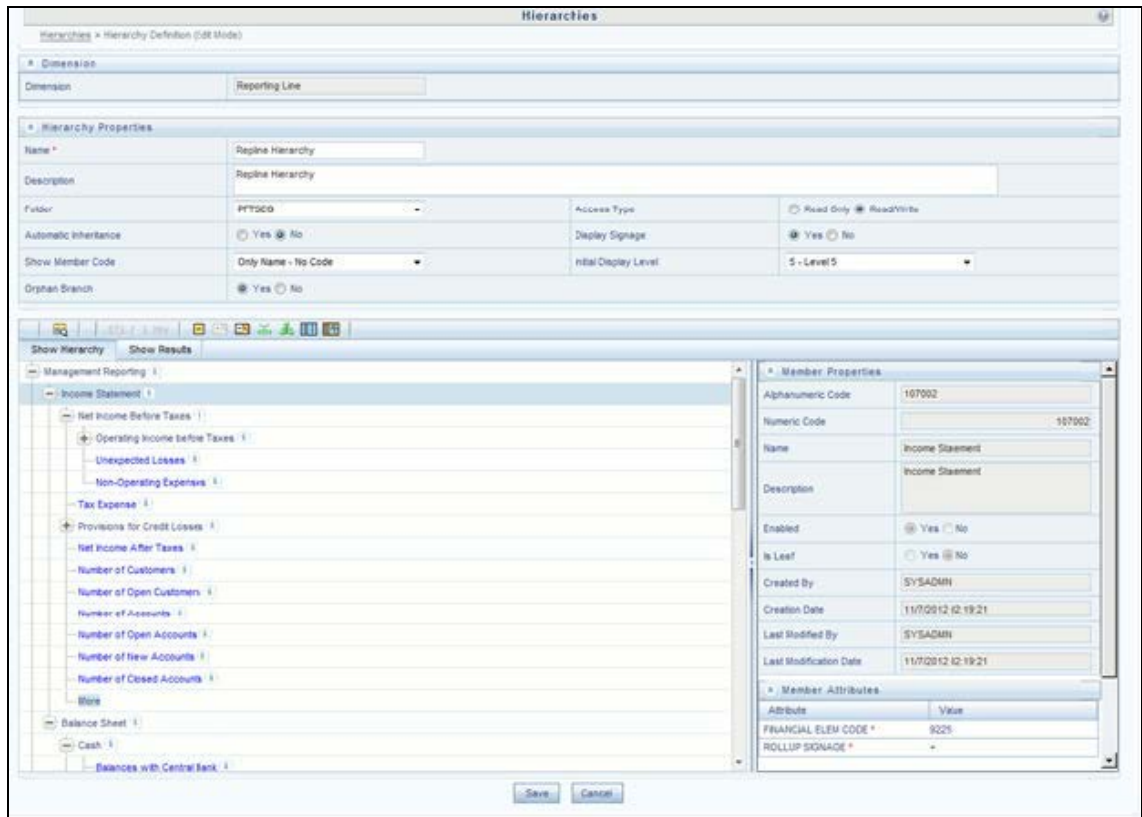
Figure 51: Repline batch execution



To modify existing seeded Reporting Line Hierarchy:

- Select the check box adjacent to the Reporting Line Hierarchy to be modified.
- Click the **Edit** button from the menu.
- Modify the Hierarchy as required and click **Save**.

Figure 52: Hierarchies



For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.4 Modify the Seeded Business Metadata

1. Resave the Seeded Business Metadata parent-child hierarchy, "Reporting Line Hierarchy" (HPFTRL), so that the changes done are consolidated in the hierarchy as well.

Figure 53: Business Hierarchy

Node	Short Description	Node Identifier
HPFTRL		
GLOBAL: Package not Loaded	Child Code	DM_REP_LINE_n_rep_line_cd
GLOBAL: Package not Loaded	Parent Code	DM_REP_LINE_n_parent_is_is_rep_line_cd
GLOBAL: Package not Loaded	Description	DM_REP_LINE_v_rep_line_name
GLOBAL: Package not Loaded	Storage Type	
GLOBAL: Package not Loaded	Consolidation Type	DM_REP_LINE_n_rollup_signage
GLOBAL: Package not Loaded	Formula	

2. (Optional) Create the Business Measures for the newly added reporting lines.
3. Attach and Save the defined Business Measures to the hierarchy "Reporting Line Measures".
4. Save the metadata.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.4.1 Map Maintenance

Once all the above steps are done, the seeded map configured between the Reporting Line Hierarchy and Reporting Line Measure Hierarchy has to be modified if required from Map Maintenance of OFSAAI.

For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.5 Rollup Signage and Operational Signage

In the context of Reporting Lines, the significance of Signage is that it indicates whether the Reporting Line Value in question will be an addition or a subtraction to the corresponding Parent Reporting Line. The reporting line values that are loaded to the Fact tables like FCT_ACCOUNT_PROFITABILITY or FCT_MGMT_REPORTING are leaf-level reporting lines.

For example, consider the following hierarchy:

Figure 54: Reporting Line Hierarcy

Reporting Line Hierarcy
▽ Income before Taxes
▷ Total Revenue
▷ Net Credit Losses
▽ Operating Expenses
Deposit Insurance
▽ Advertising and Marketing
Total Brand Management Expenses
Business Promotion Expenses
▷ Other Allocated Costs
▷ Processing Expenses
▷ Sales and Marketing Expenses
▷ Product Management Expenses
▷ Business Management Expenses
Indirect Processing Expense

The Fact table will not contain values for Advertising and Marketing as that value is expected to be calculated based on the "rollup" of the underlying leaf-level values - Total Brand Management Expenses and Business Promotion Expenses. However, all the underlying values will not be added together. Some values will be expected as positive, and some will be expected as negative. For example:

Figure 55: Reporting Line Hierarcy – Rollup Signage

Reporting Line Hierarcy	Rollup Signage
▽ Income before Taxes	1
▷ Total Revenue	1
▷ Net Credit Losses	-1
▽ Operating Expenses	-1
Deposit Insurance	-1
▽ Advertising and Marketing	1
Total Brand Management Expenses	1
Business Promotion Expenses	1
▷ Other Allocated Costs	1
▷ Processing Expenses	1
▷ Sales and Marketing Expenses	1
▷ Product Management Expenses	1

Hence, when Deposit Insurance rolls up into Operating Expenses, it is considered a subtraction. This rollup into the immediate parent is called Rollup Signage.

However, when rolling up further, (in this case, Income before Taxes), the signage of Deposit Insurance will be dependent on the rollup signage of Operating Expenses.

$$\text{Operating Expenses} = (-1) \times \text{Deposit Insurance}$$

$$\text{Income before Taxes} = (-1) \times \text{Operating Expenses}$$

Hence, when the leaf value Deposit Insurance rolls up into Income before Taxes,

Income before Taxes = $(-1) \times (-1) \times$ Deposit Insurance = $(+1) \times$ Deposit Insurance

Hence, Rollup Signage of Deposit Insurance is -1 (or negative).

However, about Income before Taxes, the Operational Signage of Deposit Insurance is +1 (or positive).

The effective signage of the leaf reporting line with respect to a parent reporting line is called Operational Signage.

Operational Signage of a reporting line is defined about a parent reporting line. However, the Rollup Signage is always in relation to the immediate parent reporting line.

NOTE Rollup Signage and Operational Signage of Deposit Insurance should be either 1 or -1 and cannot be any other value.

12.12.5.1 Prerequisites

The following are the lists of tables used in the population of Fact Account Profitability and these tables are required to be loaded before running the DT.

- DIM_DATES - Mandatory
- DIM_REP_LINE - Mandatory
- FCT_COMMON_ACCOUNT_SUMMARY
- FCT_PFT_ACCOUNT_SUMMARY
- FCT_FTP_ACCOUNT_SUMMARY
- FCT_REG_CAP_ACCOUNT_SUMMARY
- FCT_ECO_CAP_ACCOUNT_SUMMARY

For more information on SCDs, refer to Dimension Loading Process.

12.12.6 Executing the Fact Account Profitability Population DT

To execute the DT component from OFSAAI ICC framework (accessed through Operations module), a seeded process, PR_PROFITABILITY_IPA has to be executed for the required MIS Date.

Figure 56: Execute Fact Account Profitability Population

The screenshot displays the 'Batch Execution' window. It includes sections for 'Batch Mode' (Run, Restart, Rerun), 'Search' (Batch Id Like, Batch Description Like, Module, Last Modified Date), 'Batch Details' (Batch ID, Batch Description), 'Task Details' (Task ID, Task Description, Metadata Value, Component ID, Precedence, Task Status), and 'Information Date' (Date). An 'Execute Batch' button is located at the bottom.

Task ID	Task Description	Metadata Value	Component ID	Precedence	Task Status
Task1	null	PFTBL_Acct_Reporting	TRANSFORM DATA		N

Alternatively, you can create a new Task for an existing Batch from the Batch Maintenance screen, as mentioned below:

1. Select the check box adjacent to a Batch Name in the Batch Maintenance screen.
2. Click **Add (+)** button from the Task Details grid.
The *Task Definition* screen is displayed.
3. Enter the **Task ID** and Description.
4. Select the **TRANSFORM DATA** component from the Components drop-down list.
5. In the Dynamic Parameters List, select the appropriate **Datastore Type** from the drop-down list.
6. Select the appropriate **Datastore Name** from the drop-down list. Usually, it is the Information Domain name.
7. Select the **IP Address** from the drop-down list.
8. Select the Rule Name **FCT_ACCT_TRANSFORMATION** from the drop-down list.
9. Enter the Parameter List details as mentioned below:
 - Reload Account Profitability table for the given MIS Date flag: Can be Y or N within single quotes.
 - Reporting Currency code: This has to be enclosed within single quotes.
For Example, if reporting currency is in US Dollar, then 'USD' has to be specified.

NOTE

Batch run ID and As Of Date are passed internally by the batch to the Data Transformation task.

Figure 57: Task Definition

Property	Value
Datastore Type	EDW
Datastore Name	CRM60NFO
IP Address	10.184.134.18
Rule Name	PFTBI_Acct_Reporting
Parameter List	'Y','USD'

10. Execute the batch for which the Task has been created.

The batches PR_PROFITABILITY_IPA and PR_ACCOUNT populate a row with "Run skey & Reporting Currency Code" combo into the table RUN_EXE_PARAMETERS.

If the user wants to run both the batches or if the user wants to re-execute one of these batches for the same "Run skey & Reporting Currency Code" combo, then the previous entry made in the table RUN_EXE_PARAMETERS have to removed manually before executing the batch for this value combo. Failing to do this will lead to the error while executing the batch.

For more details, see the Operations chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

12.12.6.1 Checking the Execution Status

The status of batch execution can be monitored from the Batch Monitor screen.

For more comprehensive coverage of configuration and execution of a batch, see the Operations chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory:

\$FIC_DB_HOME/log/date. The file name will have the batch execution id.

12.12.7 Executing the Seeded Run Rule Framework

The CRM account summary T2Ts and the Fact Account Profitability DTs are now compatible with the OFSAAI Run Rule Framework. On executing these items from the RRF, the summary tables will be automatically populated with new Run Skey values. This section helps with brief information on executing the seeded RRF process, to populate the CRM account summary and Fact Account Profitability tables.

The CRM account summary T2Ts and the Fact Account Profitability DTs are packaged with the conventional ICC batches as well as with OFSAAI Run Rule Framework. It is recommended to use the OFSAAI Run Rule Framework to execute these items.

Consider the following points before deciding the execution path.

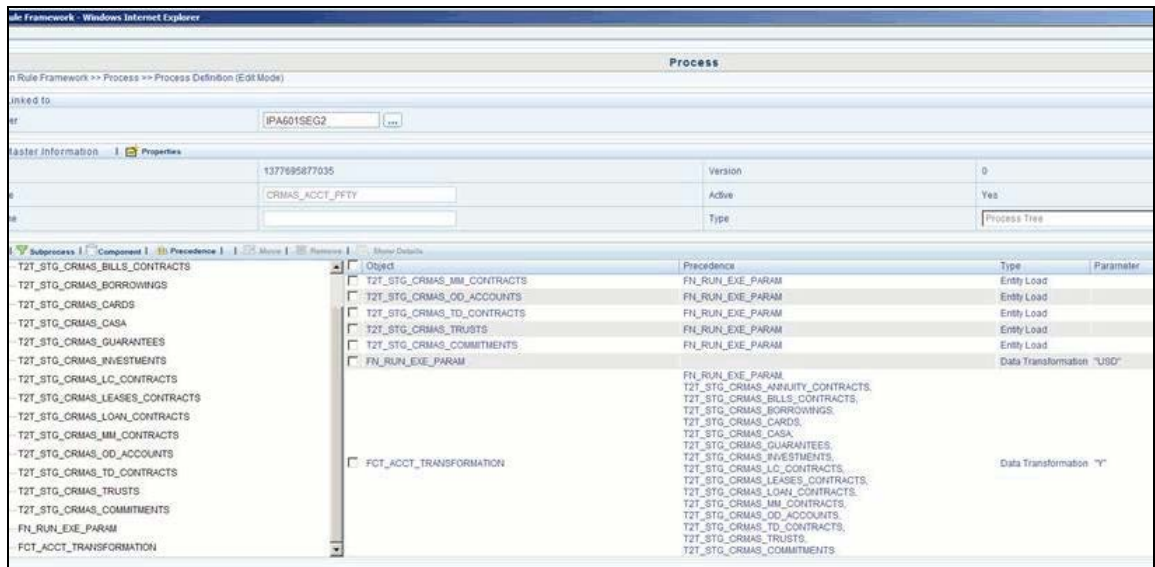
- On executing these items through the Run Rule Framework, the run_key value is automatically generated by the system, and the same is populated in FCT_CRM_ACCOUNT_SUMMARY and FCT_ACCOUNT_PROFITABILITY tables.
 - If the items are to be executed through ICC batch:
 - The user has to manually pass the run_key value to be used while populating the records.
 - If the tables FCT_CRM_ACCOUNT_SUMMARY and FCT_ACCOUNT_PROFITABILITY already have the records for the run_key being passed, the user has to manually delete these records from the tables before executing.
 - Consider executing these items through ICC batch only if a repopulation for the same run_key is to be performed.
 - For a fresh run, it is always advised to use the Run Rule Framework.
1. Select the seeded process by name "CRMAS_ACCT_PFTY" available in the Process screen.

Figure 58: Seeded Run Rule Framework



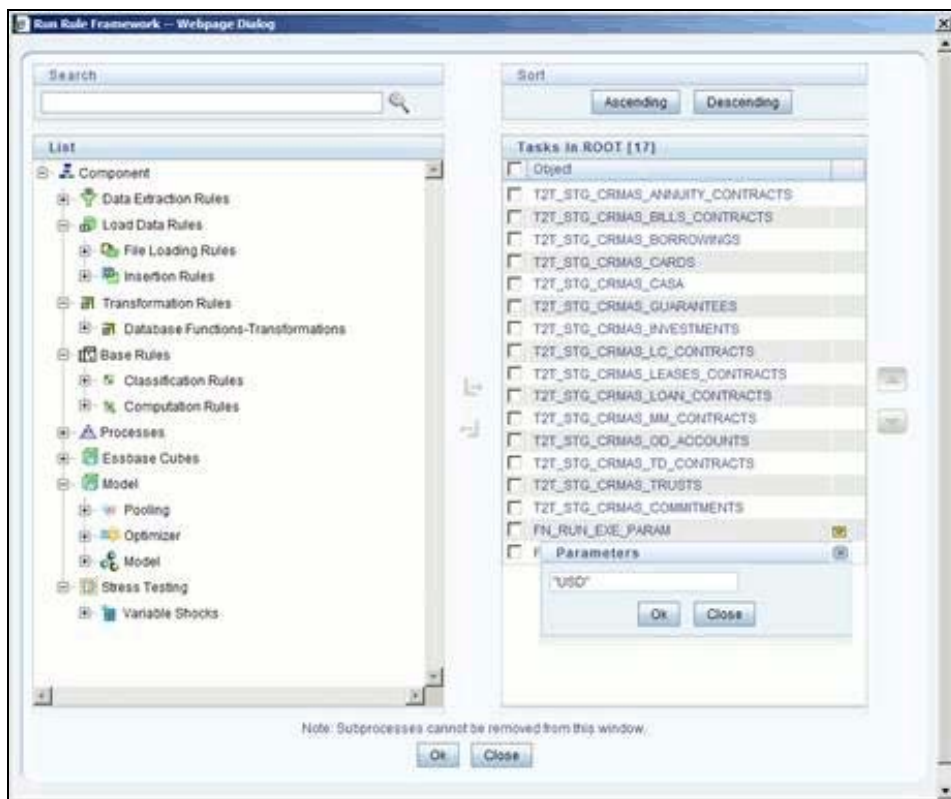
2. Edit the process and click the "component" option.

Figure 59: Seeded Run Rule Framework



- From the list of tasks available in the right pane, click the arrow present near the "FN_RUN_EXE_PARAM" task.
- Feed-in the currency code of the Reporting Currency.

Figure 60: Reporting Currency



- From the list of tasks available in the right pane, click the arrow present near the task by the name "FCT_ACCT_TRANSFORMATION".

6. Feed the values for the below parameters as comma-separated values enclosed individually in double-quotes.
 - Re Run Flag
 - Regulator Capital flag (optional)
 - Economic Capital flag (optional)
7. Save the Process.
8. Select the seeded "Run" by name "CRMAS_ACCT_PFTY_RUN" and click **Fire Run**.
9. In the batch execution tab, select the "Create & Execute" option from the **Batch** menu.
10. Select the desired MIS Date from the calendar and click **OK**.
11. The execution log can be accessed on the application server in the following directory:
\$FIC_DB_HOME/log/date & \$FIC_DB_HOME/log/t2t. The file name will have the batch execution id.

For more information on the configuration and execution of a Run rule, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

13 Cube Build Process

Reports of OFS PA applications can be configured to work on a Relational database or Essbase cubes. The Source of data for the reports is determined by the priority set for each Logical Table Source (LTS) in OBIEE RPD. Multi-dimensional databases store aggregated data for better performance and provide mechanisms for performing non-additive rollup within a hierarchy and defining complex derived measures using cross-dimensional operations. OFSAA Infrastructure is used for defining metadata about the cube and for building the cubes. Cubes are an optional source of data for Institutional Performance application.

OFS RPA application has the following seeded cubes:

- Cube for Financial Reporting - ADPAFNRE
 - Purpose: The purpose of this cube is to store data for reports belonging to Financial Reporting Dashboard.
 - Dataset: DSPAFR
This cube is based on the FCT_LEDGER_STAT fact table.
- Cube for Management Reporting - ADPAMNRE
 - Purpose: The purpose of this cube is to store data for reports belonging to Management Reporting Dashboard.
 - Dataset: DSPAMR
This cube is based on the FCT_MGMT_REPORTING fact table.

Topics:

- [List of Cubes in RPA Applications](#)
- [Creating Configuration Files](#)
- [Building Cubes](#)

13.1 List of Cubes in OFS RPA Application

OFS RPA application is seeded with the following cubes:

Table 40: Seeded Cubes for OFS RPA Application

Cube	Purpose	Dataset
Retail Analysis	The purpose of this cube is to provide analysis of various Account related measures across dimensions like Product, Line of Business, Vintage, and so on.	This cube is based on the FCT_COMMON_ACCOUNT_SUMMARY and FCT_CRM_ACCOUNT_SUMMARY fact tables.

Cube	Purpose	Dataset
Customer Summary	The purpose of this cube is to provide analysis of various Customer related measures across customer profile dimensions like Income Band, Age, and so on.	This cube is based on the FCT_COMMON_CUSTOMER_SUMMARY and FCT_CRM_CUSTOMER_SUMMARY fact tables.
Cards Balance Summary	The purpose of this cube is to provide analysis of various Cards Balance Category related measures across dimensions like Time, Customer Profile by Income, Age, Gender Age on Book, Vintage, and so on.	This cube is based on the FCT_CARDS_BALANCE_SUMMARY fact table.
Account Profitability	The purpose of this cube is to provide analysis of Financial Reporting Lines related measures across dimensions like Time, Line of Business, Customer Profile by Income, Age, Gender Age on Book, Vintage, and so on.	This cube is based on the FCT_ACCOUNT_PROFITABILITY, FCT_COMMON_ACCOUNT_SUMMARY, FCT_CRM_ACCOUNT_SUMMARY, FCT_COMMON_CUSTOMER_SUMMARY, and Fct_CRM_Customer_SUMMARY fact tables.
RM PnL Cube	The purpose of this cube is to provide details of the Profit and Loss statement of a Relationship Manager across dimensions like Line of Business, Product, Organizational Unit, and so on.	This cube is based on the FCT_ACCOUNT_PROFITAILITY and FCT_ACCOUNT_MGR_REL fact tables.

If there is an error with the Relationship Manager cube saving or execution for the first time after the installation, the parent-child hierarchies must be saved by editing the hierarchies individually and re-saving them after which the cube needs to be saved successfully and re-executed.

13.2 Creating Configuration Files

Each cube has a configuration file that contains the details of dimensions and measures which are part of the cube. Essbase outline is created using the configuration file. Configuration files for seeded cubes are available as part of the installer. However, if there are any changes to cube definition then configuration files are recreated during the saving of the cube definition.

Follow these steps:

1. On the LHS menu of OFSAAI, go to **Home > Unified Metadata Manager > Business Metadata Management > Cubes**.
2. Click Search and check if you can see the cubes in the pop-up window that opens.
3. Click on the cube that needs to be built and click OK to return to the Cube Definition Screen.
4. Click Save to save the cube. A pop up appears saying 'Operation Successful'.

NOTE

Cube definition will be saved only when the UI component detects any change event. To trigger the change event, type a blank space in the 'Long Description' text-box and remove the same. Or a dimension can be removed from the selected list, again the same dimension re-selected, variation applied for the dimension and saved.

13.3 Building Cubes

The Cube build process in OFSAA Infrastructure contains the following steps:

- Generating an aggregate DATA file containing the measure values for each dimension leaf that are part of the cube definition. This is performed by the AGGREGATE DATA component task within the batch definition.
- Creating the cube outline on the Essbase server. This is performed by the CREATE CUBE component task within the batch definition.
- Loading the data to the cube. This is performed by the CREATE CUBE task within the batch definition

13.3.1 Prerequisites

Following are the prerequisites for creating a cube:

1. All the post-installation steps mentioned in the [Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide](#) and Solution installation manual have been completed successfully.
2. Parentage files need to be created for BI hierarchies after dimension data is loaded. 'Resave Metadata' process is used to create the parentage files.
3. OFSAAI application user needs to have the required functions mapped to the user for doing Resave Metadata and accessing the Home> Unified Metadata Manager > Business Metadata Management screens and executing a batch from Application batch operations screen
4. Execute Save Metadata by navigating to the following screen on the OFSAAI framework LHS Menu.
 - Go to **Home > Administration > Save Metadata**.
 - Choose all the available metadata under Hierarchy and move it to the right by using the '>>' button.
 - Click **Save** and might take a few minutes for the saving to complete.
 - Click **Show Details** to view the log for the Save operation.
5. Ensure that the following services are running on the application server before doing a cube build:
 - lccserver
 - Router
 - AM

- Messageserver
 - Olapdataserver
6. Batches need to be created for executing, which is explained in Executing the Cube build section.
 7. All the required tables for the dataset need to be populated before you execute the cube batches, such as Dimension Population, Time Dimension population, Account Summary Population, and Fact Ledger Population.
 8. The dataset for the cube should return some rows in the database for the cube build to happen. To check the same, perform the following steps:
 - a. Navigate to **Home > Unified Metadata Manager > Business Metadata Management > Data Sets**.
 - b. Click **Search**.
 - c. Click any dataset in the pop up which opens and click **Ok** to return to the data set screen.
 - d. Click the button on the right of the ANSI Join text box. Enter the required expression or click the below button to define an expression using the Expression screen.
 - e. Click **OK** to return to the data set screen.
 9. Perform the same for Join/Filter Condition and Date filter.
 10. Frame a SQL query like this:


```
Select count(1) from <Enter the part you obtained from Ansi join part above>where<Enter the part you obtained from Join/Filter Condition & Date filterparts>
```

This query should show record count greater than zero when you fire this from SQL prompt in the database.
 11. Essbase Reserved Keywords: Essbase has few reserved keywords and 'Missing' is one of them. So in the case of cube building using dim_bands, it fails as it tries to create a cube with the reserved keyword in the table data. None of the reserved keywords should be used while creating data.

NOTE

Essbase does not identify/ support the newline character. Ensure that you do not use them.

For the list of reserved keywords, please see the following link:

https://docs.oracle.com/cd/E51367_01/financialsop_gs/FASVU/apbs02s02s03.html

12. For the ADIPARM2 cube, check all the Variation Dimension check box for the MCRMSIAM and MCRMDIMV measures from the Essbase cube details> Variation tab and resave the ADIPARM2 cube.

13.3.2 Tables Used by the Cube Build Component

Tables that are part of the dataset need to be populated before executing the cube build component. Also, the REV_BIHIER table in atomic database schema stores the hierarchy data for Business Intelligence-enabled hierarchies for cube build. This table gets populated when a hierarchy is saved using the Save Metadata screen.

13.3.3 Executing the Cube Build Task

To execute the cube build process from OFSAAI ICC framework (accessed through the application Batch Operations screen), create a new Batch with two tasks – one for performing Data crunching (component is Aggregate Data) operations and another for building cube (component is Build Cube). The above batch needs to be created for each of the cubes.

13.3.4 Aggregate Data Task

1. From the Home menu, select **Operations** and then select **Batch Maintenance**.
2. Click New Batch ('+' symbol in Batch Name container) and enter the Batch Name and Description.
3. Click **Save**.
4. Select the Batch you created in the earlier step by clicking on the check box in the Batch Name container.
5. Click New Task ('+' symbol in Task Details container).
6. Enter the Task ID and Description.
7. In the Component drop-down, choose **Aggregate Data**.
8. Select the following from the Dynamic Parameters List and then click Save:
 - Datastore Type: Select the appropriate datastore from the list.
 - Datastore Name: Select the appropriate name from the list.
 - IP address: Select the IP address from the list.
 - Cube Parameter: Choose the cube code to be built from the drop-down list.
 - Operation: Choose All from the drop-down list.

13.3.5 Create a Cube Task

1. In the batch created in the Aggregate Data task above, click New Task ('+' symbol in Task Details container).
2. Enter the Task ID and Description.
3. In the Component drop-down, choose Create Cube.
4. Select the following from the Dynamic Parameters List and then click Save:
 - Datastore Type: Select the appropriate datastore from the list.
 - Datastore Name: Select the appropriate name from the list.

- IP address: Select the IP address from the list.
 - Cube Parameter: Choose the cube code to be built from the drop-down list.
 - Operation: Choose All from the drop-down list.
5. Execute the batch created in the above step.

NOTE A common issue in the Aggregate task is Data Set not having records for which the steps mentioned in the prerequisites have to follow or the SQL query in Data Cruncher log file has to be checked on the database (Location of log file mentioned in the 'Checking the Execution Status' section below). In the Create Cube task, one common error is the hierarchy member being the same for two different dimensions which are part of the same cube (Error message: 'Duplicate Alias' in the Create Cube log file). In this case, you can try appending a string to the Hierarchy member code so that it is unique across the cube or changing the hierarchy data to make the node unique across the cube.

Seeded batches are provided along with the RPA application installer. The following describes the OFSPA seeded batches:

13.4 Checking the Execution Status

The status of execution can be monitored using the Batch Monitor screen. To access the Bath Monitor screen, select **Home** from the **LHS Menu**, select **Operations**, and then select **Batch Monitor**.

For more comprehensive coverage of configuration and execution of a batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

The status messages in Batch Monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can be accessed on the application server in the following directory \$FIC_DB_HOME/log/dc for the Task 1 above (Aggregate Data). The file name will have the Batch Execution ID.

The execution log can be accessed on the application server by going to the following directory \$FIC_DB_HOME/log/olap for the Task 2 above (Create Cube). The file name will have the Batch Execution ID.

NOTE See [How to Develop a New Cube](#) for information on how to add a New cube or modifying existing ones. For any new cube added using the OFSAAI framework Cube screen, the tasks for execution are the same as mentioned above.

14 Time Series Forecasting

What-if analysis reports use the reporting line forecast values that are generated using the Arima Algorithm in the R code seeded with the application. R has a base package called "stats" which provides the function called "arima()". This function enables the usage of the ARIMA technique for time series forecasting.

Projected data is generated through statistical modeling. ARIMA/ARIMAX modeling is used to create the projected data up to a period of five years. Historical data for the last two years is used for creating the projections. The projections are made at an account level. When making the projections for accounts based on the life of the accounts following rules need to be followed:

- 1 to 12 MOB – Use segment information of the account to create projections
- More than 12 MOB – The projections should be solely based on historical data of the account.

Guidelines

Following are the guidelines associated with respect to the execution R code:

- Data should be generated for at least one group for more than 12 continuous mis dates. 12 is the parameter n. Consider where we are setting how many records is significant to be considered for prediction.
- The assumption is that the data is chronological for consecutive end of month dates. By default, the prediction is done for 60 months starting with the immediate month after the last available MIS Date.
- If the data provided is not for the chronological end of month dates, results generated will not be accurate.
- ARIMA is a statistical technique used for time-series predictions. It accepts a host of parameters of which the basic parameters are p, q, and d. p is the order of Autoregressive Process, q is the parameter for the Moving Average process, and d is the number of differences after which the data can be considered stationary with the desired confidence level. It has more parameters that can be customized.

Detailed documentation of the technique can be found at:

- <http://www.dms.umontreal.ca/~duchesne/chap7.pdf>

Documentation of implementation of ARIMA in R can be found at:

- <http://stat.ethz.ch/R-manual/R-patched/library/stats/html/arima.html>
- Logging for the individual groups' Arima model summaries happens in a file named "out.log". This log file is generated in the \$FIC_DB_HOME/bin folder. If a particular group has unstable data and prediction fails, the corresponding error is also documented in the out.log file against that particular group.

Files Used

Two files are required for R script execution. Both the files are present at the \$FIC_DB_HOME/bin folder and need to execute permissions. Following are the files used:

- RExec executable
- ARIMA_AVF.r

Errors

Following are the errors:

- Subscript out of bounds usually means that sufficient data has not gone in. The model is trying to apply an algorithm on a dataset that is returning null chunk.
- Error: Error in if ((lv > nr) || (lv == OL && nr > OL) || (nr%%lv != OL)) stop(gettextf("replacement data has %s rows, data has %s",
 - missing value where TRUE/FALSE needed
 - means and if a condition is receiving null and is unable to evaluate true or false);

15 Segmentation

Segmentation is the procedure of grouping together a set of customers based on certain similar features. These customers grouped are known to have similar behavior and hence, the future behavior of accounts within a segment can be predicted to follow the similar behavioral patterns as observed for other accounts. Thus, by predicting the behavior of an account, it can be segmented with a set of similar accounts and its future projections can be created. These future projections provide the value of net income that can be expected from an account or customer.

Segmentation is done based on a certain set of dimensions wherein accounts which exhibit a particular combination of dimension members are grouped. Based on the characteristic around which segmentation is to be created, the dimensions used for segmentation can vary.

Following are the segmentation types that are being supported for OFS RPA application:

- Demographic Segmentation
- Profitability Segmentation
- Risk-Based Segmentation
- Behavioral Segmentation
- Channels Usage Segmentation
- Affluence Segmentation

The objective of segmentation is to define a framework that will score accounts at MIS Date and Run level and correspondingly create clusters based on the scores.

15.1.1.1 Institutional Analytics Segmentation

Segmentation is done using the following dimensions for Institutional Analytics:

- Year of incorporation
- Status of listing
- Income
- Industry
- Country of incorporation
- Group asset size

Following is the list of Product Types used in Institutional Analytics segmentation:

- CASA for Current and Saving Accounts
- TD for Term Deposits
- LOAN for Loan Contracts
- CARDS for Credit Cards.

15.1.1.2 Retail Analytics Segmentation

These scores and segments will be stored in a new fact table. The inputs for this model will come from the following tables:

- Location
- Credit Rating
- Currency
- Geography
- Industry
- Product
- Age
- Income
- Gender

Similar Product Type which is used in Price Creation and Discovery are being referred to as CARDS for Credit Cards and Term Deposits.

When Price Creation and Discovery is integrated and is installed with RPA, the user is required to update column V_PRODUCT_TYPE in the FSI_SEG_REP_LINE_MAP table accordingly to the match the product type used in the Price Creation and Discovery Application.

Table 41: FCT_ACCOUNT_SEGMENT_SCORE

Column Name	Logical Name
N_ACCT_SKEY	Account Key
D_ACCT_START_DATE	Account Start Date
N_ACCT_SEGMENT	Account Segment
N_ACCT_SEGMENT_SCORE	Account Segment Score
N_RUN_SKEY	Run Key
N_MIS_DATE_SKEY	Date Key

The above table will act as the input for another table that stores facts of Account Profitability (Movement, Average Balance, and so on) at the level of Month on Book, Account Segment, Run, and Reporting Line. Following is the structure of this table.

Table 42: FCT_ACCT_SEGMENT_MOB_SUMMARY

Column Name	Logical Name
AVG_BAL_RCY	AccountAverageBalanceReportingCurrency
N_END_BAL	AccountEndingBalance
AVG_BAL	AccountAverageBalance
END_BAL_RC	AccountEndingBalanceReportingCurrency
MOVEMENT	Movement

Column Name	Logical Name
MOVEMENT_RCY	MovementReportingCurrency
REP_LINE_CD	ReportingLineCode
RUN_SKEY	Run Key
MONTH_ON_BOOK	Month on Book
ACCT_SEGMENT	Account Segment

DIM_SEGMENT_TABLE will be populated using SCD Process (Map reference number 267) and the source would be a view DIM_SEGMENT_V for which data would be from DIM_SEGMENT_B/TL and FSI_SEGMENT_TYPE_CD/MLS tables. FSI_SEGMENT_TYPE_CD/MLS table stores list of Segment Types used in RPA. For example, Corporate Tracker, Behavioral, Profitability segments, and so on.

The Segment score will not be updated. The rule will update only the n_segment.

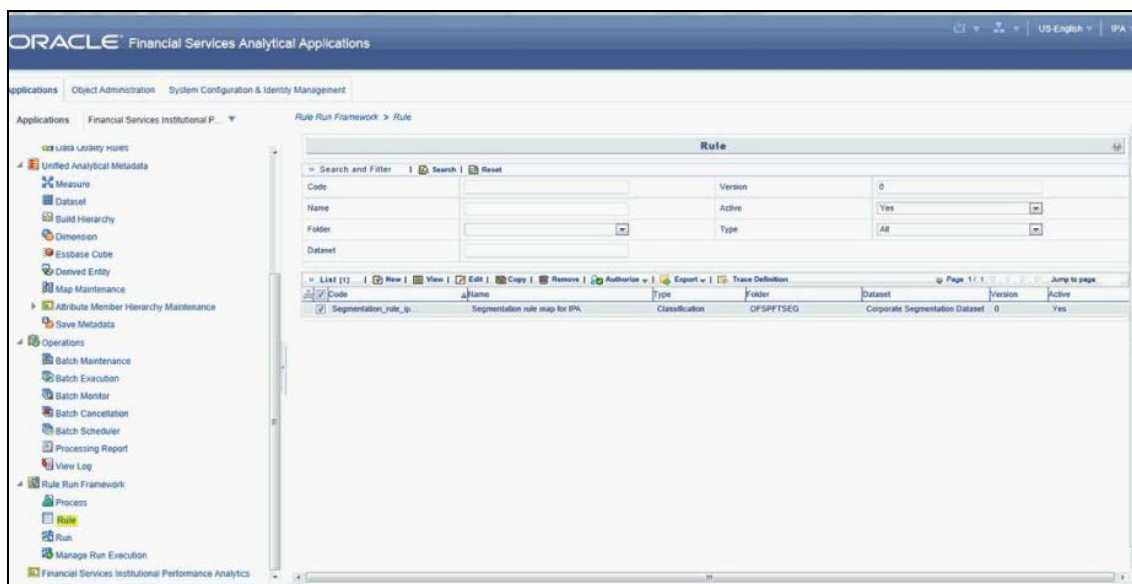
The segmentation models within CI are also used to provide an output to OFS Price Creation and Discovery application (OFS PCD). The segments within CI calculate the average values of profitability components which are then used in PCD to analyze the future behavior of an account belonging to that segment and predict its profitability.

15.2 Creating a rule

To define a rule, follow these steps:

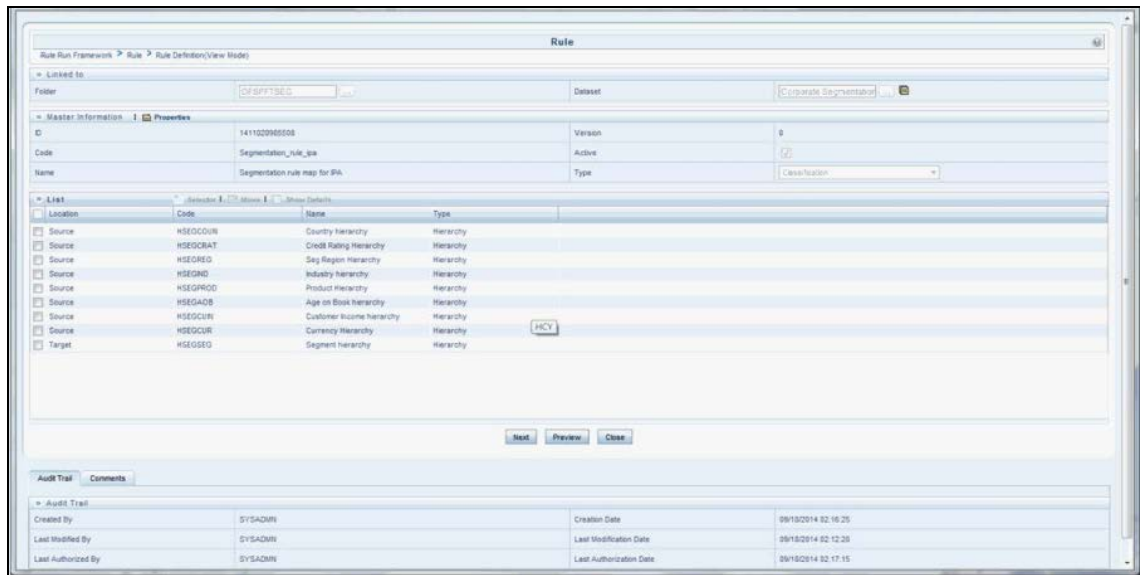
1. Click **Rule** and the following rule appears.

Figure 61: Run Rule Framework - Rule



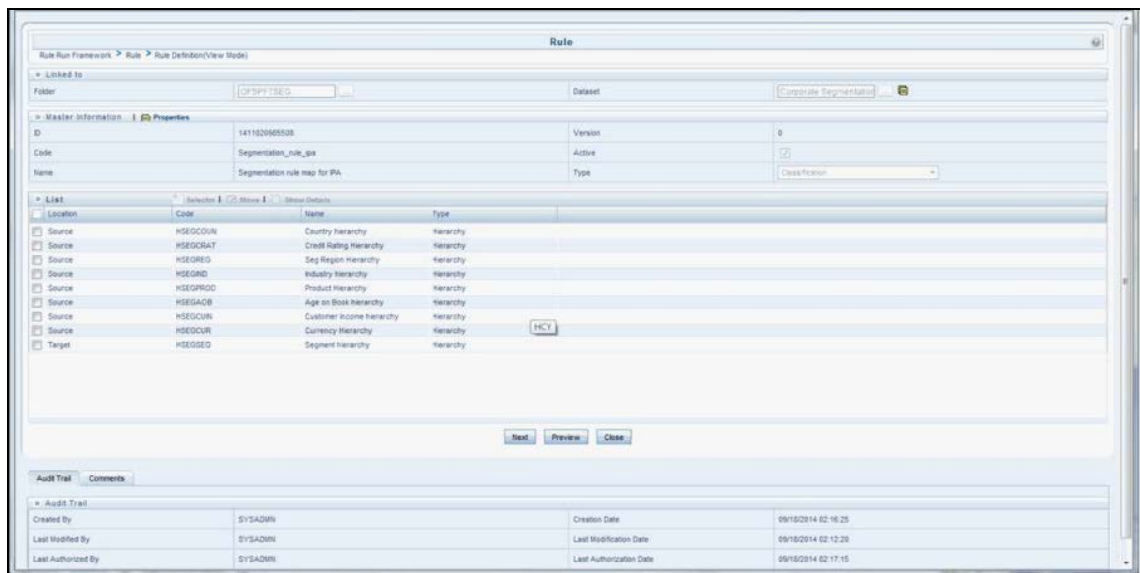
2. Select the rule and click **View**. The following screen appears.

Figure 62: Rule Definition View Mode



3. On clicking **Next**, the rule defined comes up. For the first time when the rule is not defined, only default seeded node rule should appear as shown in the following screen:

Figure 64: Rule Definition – View Mode

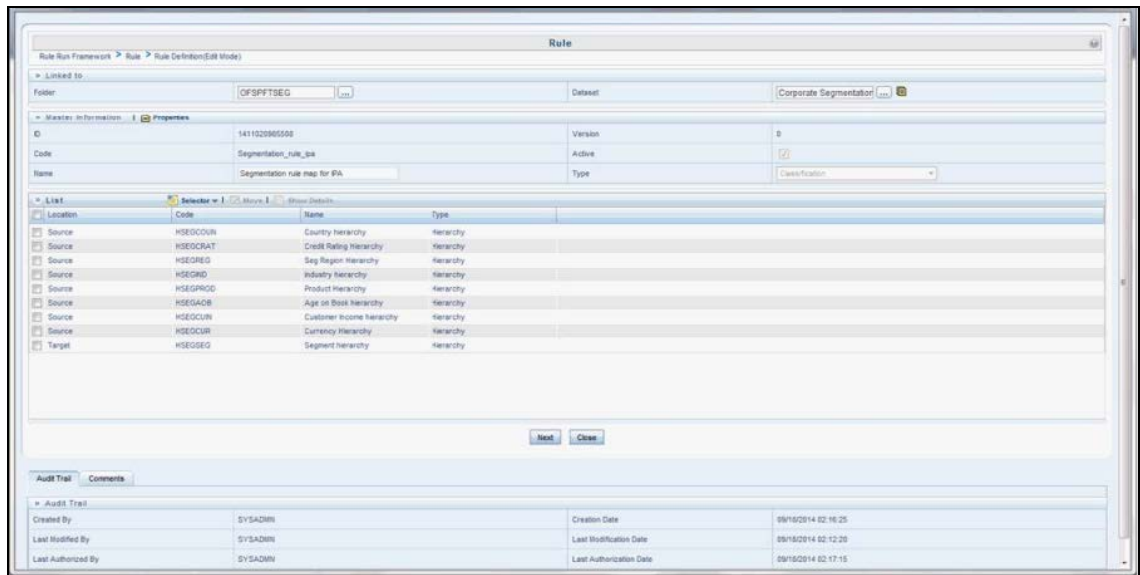


15.3 Editing a rule

To edit a rule, follow these steps:

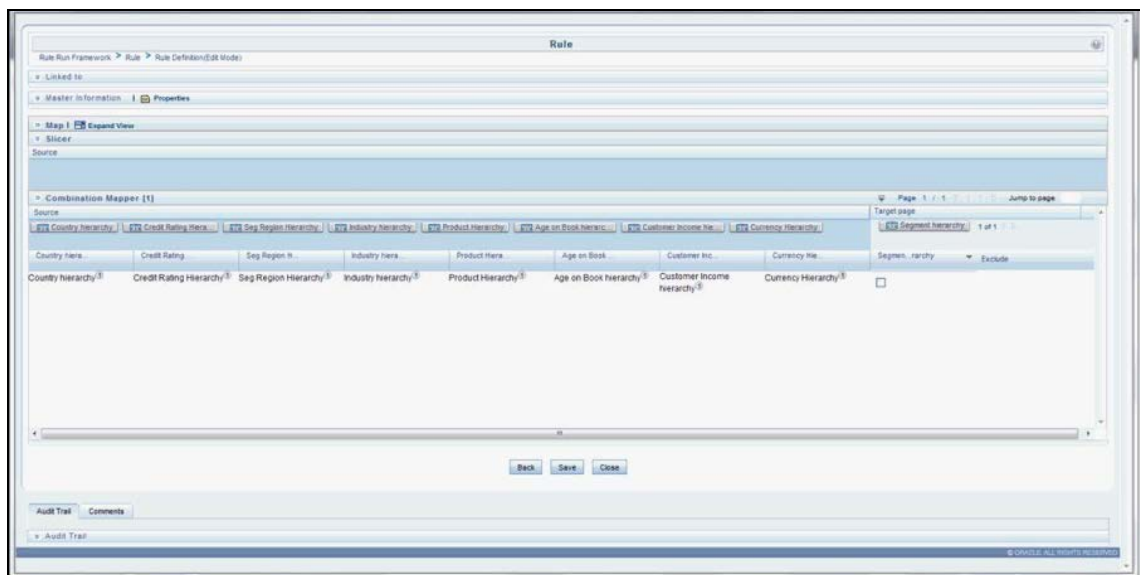
1. Select the rule and click **Edit**. The following screen appears:

Figure 63: Ruke Definition – Edit Mode



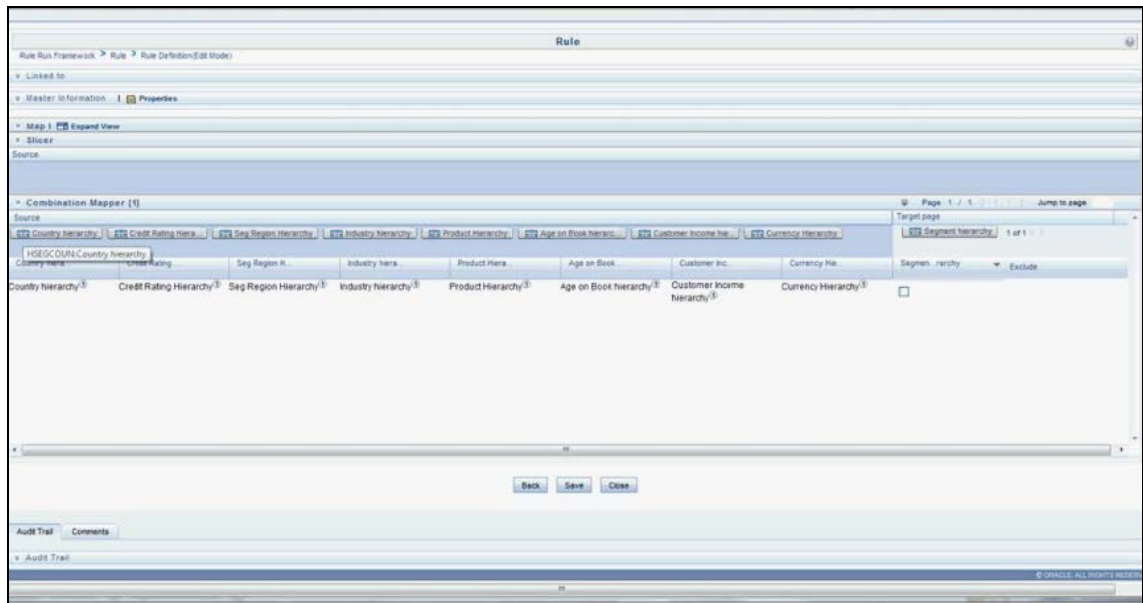
2. Click **Next**. First-time default node defined as the rule will show up in the following figure:

Figure 64: Rule Definition – Edit Mode



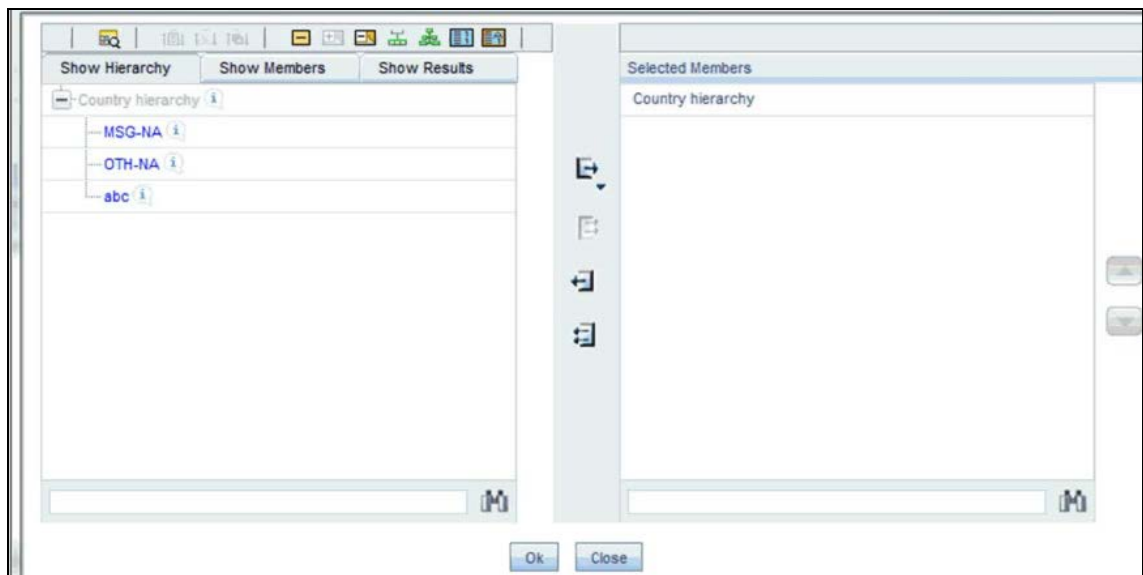
3. Click **Hierarchy** as shown in the following figure and the hierarchy screen opens up.

Figure 65: Rule Definition – Edit Mode



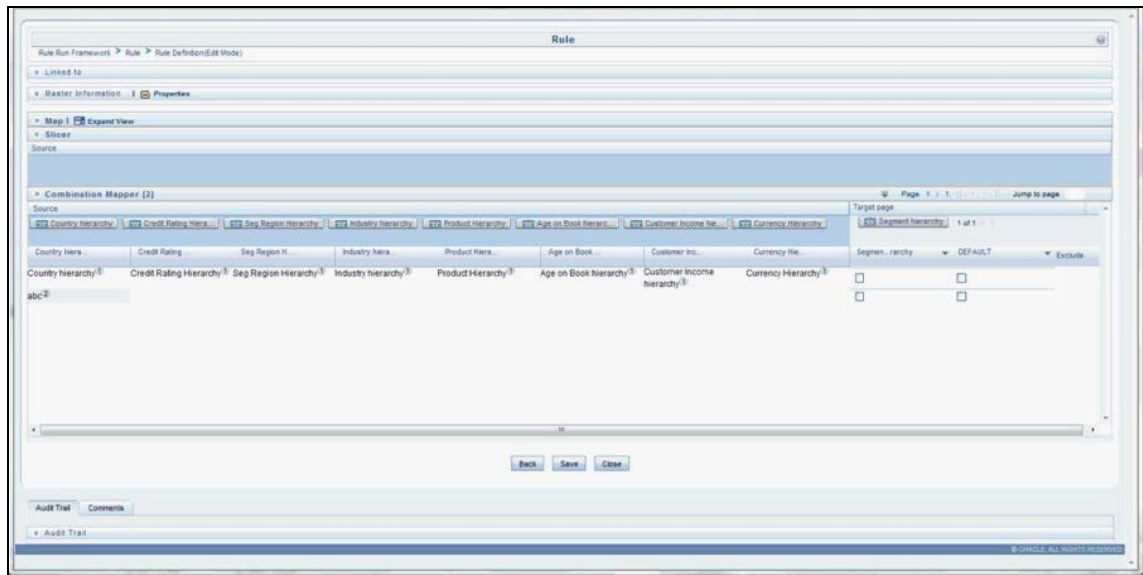
4. Select the hierarchy and click **OK**.

Figure 66: Hieracrhy Selection



5. The selected node appears in the rule.

Figure 67: Rule Definition – Edit Mode



6. Similarly, select all the nodes that need to be considered for the rule and assign it to the target hierarchy. Click **Save**. A confirmation message appears.
7. Click **Close**.
8. Navigate back to the main screen and click the view rule. The rule saved is shown.

16 Overview of Retail Performance Analytics Reports

Oracle Financial Services Retail Performance Analytics (OFSRPA) offers the following dashboards that organize different kinds of reports by subject area.

These reports provide the following:

- Gain deep insight into customer engagements across target segments and products/LOB including lending, credit cards, and so on.
- Perform Wallet share analysis and Customer Profitability.
- Understand the efficiency of investments (like marketing, branch, and channel and so on) over time.
- Monitor customer distribution across credit and delinquency bands and related exposures.
- Perform an enterprise-wide revenue analysis across customer segments, products, and reporting lines including fee income, interest, and interchange.
- Summary performance of the LOBs, overall Profitability, and Portfolio mix.
- Customer trends across performance drivers like Sales, Balances, Deposits, Product subscriptions (revenue services), Credit scores, Delinquency bands, Losses, and so on.
- LOB specific performance reports can be analyzed against key dimensions like customer segments, product family, region, branch, risk scores, and so on.
- Analyze expenses across customer segments, products, and channels to understand ROI.

For all dashboards, there are filters available. You can filter data based on year, region, line of business, and currency type.

16.1 Dashboards

OFSRPA has the following tabs present in the Retail Performance dashboard:

- Business Analysis
 - [Performance Summary](#)
 - [New Business Analysis](#)
 - [Revenue Analysis](#)
 - [Expense Analysis](#)
 - [Credit Loss Summary](#)
 - [Margin Reports](#)
 - [Customer Summary](#)
 - [What-If Analysis](#)
- [Customer Central](#)
 - [Customer 360](#)

- Customer Performance
- Product Summary
 - All Product
 - Cards
 - Retail Bank
 - Mortgage
- Relationship Manager Insights

The following sections display the essential nature of the available reports as per each tab.

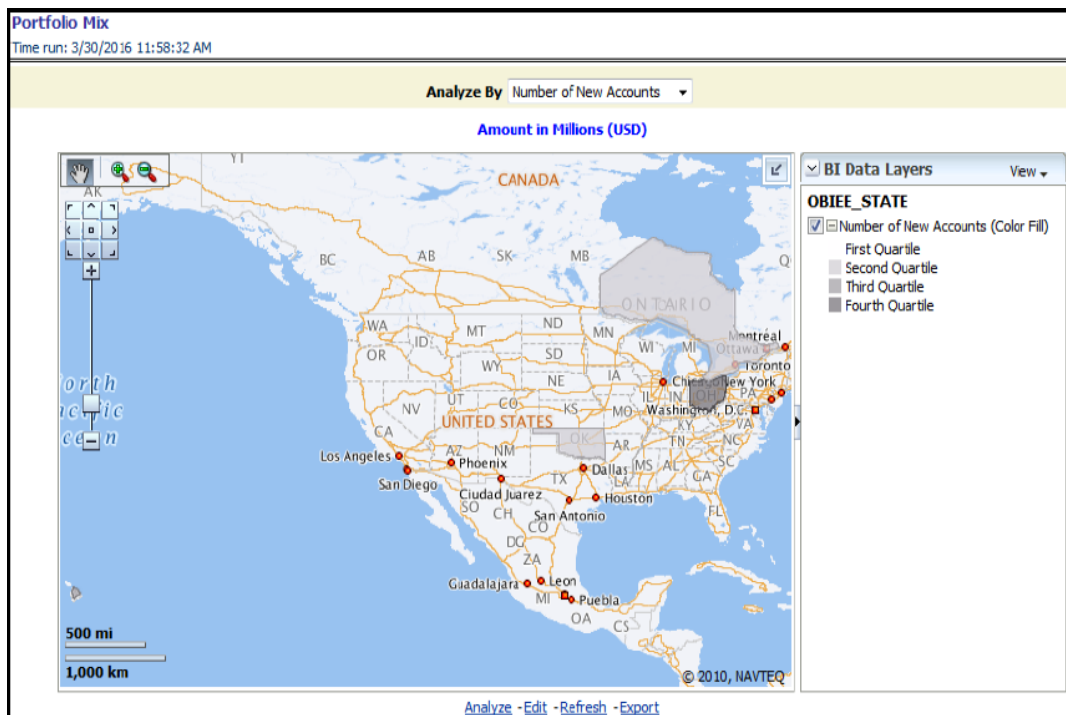
16.1.1 Business Analysis

Business Analysis Dashboard provides in-depth analysis on enterprise wide performance evaluation based on critical business parameters. The dashboard contains various tabs containing analytical reports on business performance, business acquisition, revenues, expenses, margins, credit loss, customers and sensitivity analysis like what-if analysis.

16.1.1.1 Performance Summary

16.1.1.1.1 Portfolio Mix

This report provides details about customers distributed among various region along with the Line of Business. The report can be analyzed through various business parameters like; number of new and open accounts, revenues, spends etc. This is a zoomable map report.

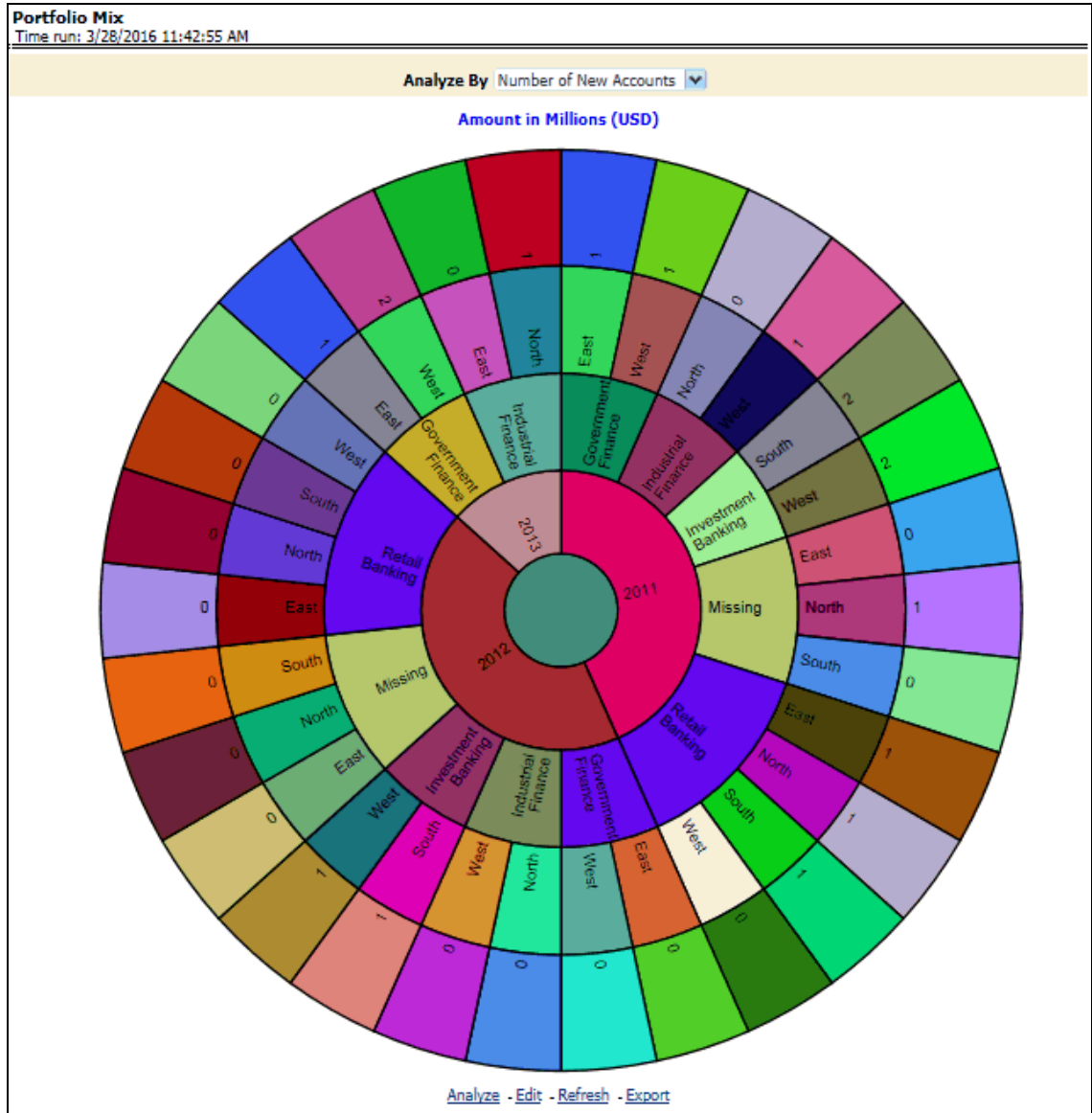


The map can be zoomed in and out by clicking on zoom scale or zoom in/zoom out button. You can navigate through the map by dragging the map or clicking on Zoom icon.

16.1.1.1.2 Portfolio Mix

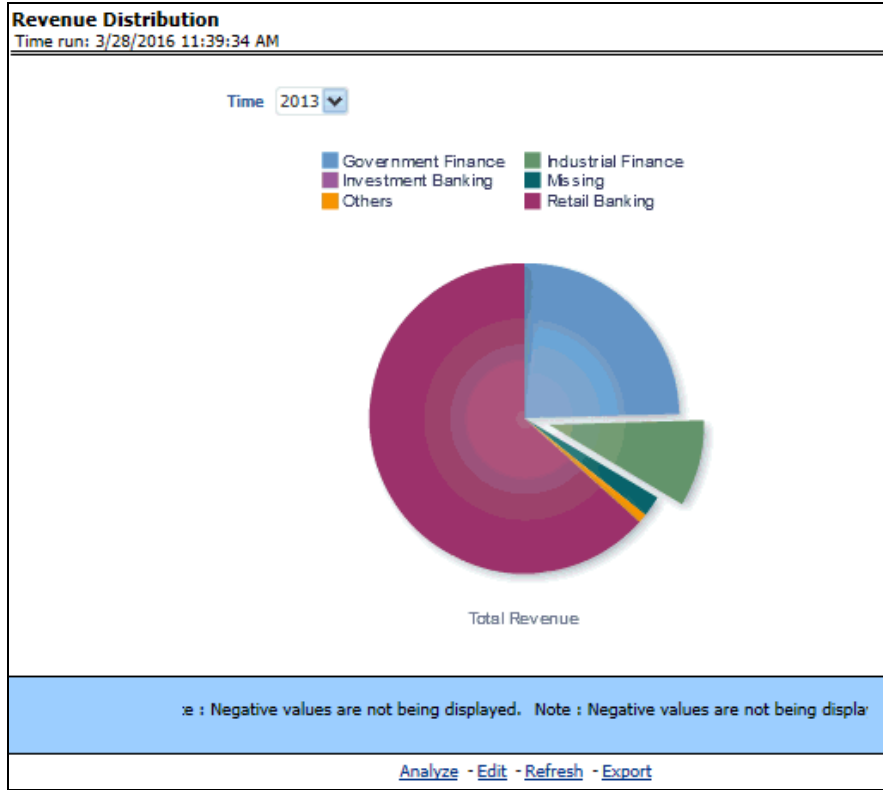
This report displays growth of key metrics such as No. of New Accounts, End of Period balance, and Sales across various Lines of Businesses within the bank. This is a sunburst report.

On clicking a particular distribution, a consolidated view of that particular distribution is displayed. For example, if you need to get a consolidated view of 2011 distribution, click on 2011. You get a consolidated data of 2011 distribution on open customers, Line of Business, constituent products, and corresponding revenue. Further, you can get consolidated view of open customers, Line of Business, constituent product, and corresponding revenue, by clicking any particular distribution. To view the overall report, click the center of the circular graph.



16.1.1.1.3 Revenue Distribution

This report provides the Revenue spread across the different Lines of Businesses within the bank.



16.1.1.1.4 Cross LOB Holding

This report outlines the product holding patterns of bank customers across Lines of Business. It shows the relationships the customer has across the enterprise.

Cross LOB Holding
Time run: 3/28/2016 11:39:34 AM

Time	Line of Business	Number of Open Customers
2011	Government Finance	4
	Industrial Finance	10
	Investment Banking	1
	Missing	5
	Retail Banking	14
2012	Government Finance	4
	Industrial Finance	10
	Investment Banking	1
	Missing	5
	Retail Banking	14
2013	Government Finance	22
	Industrial Finance	12
	Investment Banking	3
	Missing	5
	Others	4

Rows 1 - 15

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

16.1.1.1.5 Top 10 Products by Revenue

This report outlines the top 10 products ranked by Revenue and percentage contribution to total business. This report also list top performing products belonging to the line of businesses and number of customers each product is holding.

Top 10 Products by Revenue
Time run: 3/28/2016 11:39:34 AM

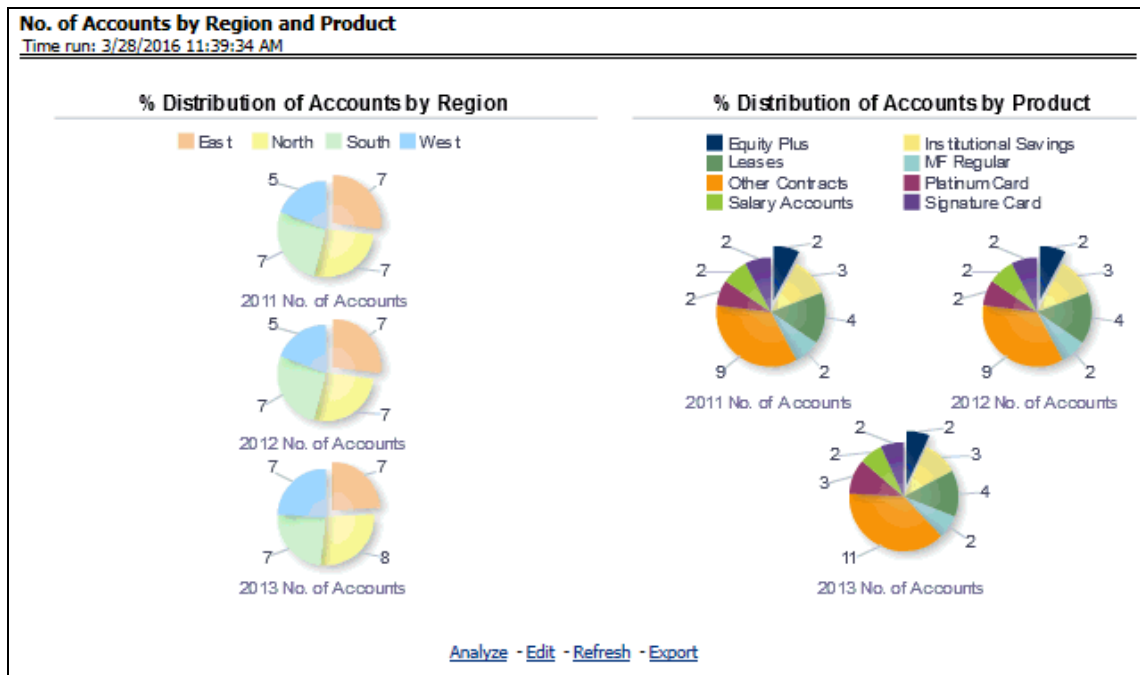
Amount in Millions (USD)

Line of Business	Product	Number of Open Customers	Revenue	% of Revenue
Government Finance	Home Loan	4	85.32	33.8%
	Loans Against Assets	5	60.11	23.8%
	Business Loans	3	44.72	17.7%
	Government Loans	3	30.99	12.3%
Retail Banking	Salary Accounts	7	14.61	5.8%
	Supreme Current Account	2	13.93	5.5%
Government Finance	Business Loans	1	11.13	4.4%
Retail Banking	Salary Accounts	2	10.44	4.1%
Missing	MF Regular	1	11.48	4.5%
Missing	MF Regular	1	10.31	4.1%

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

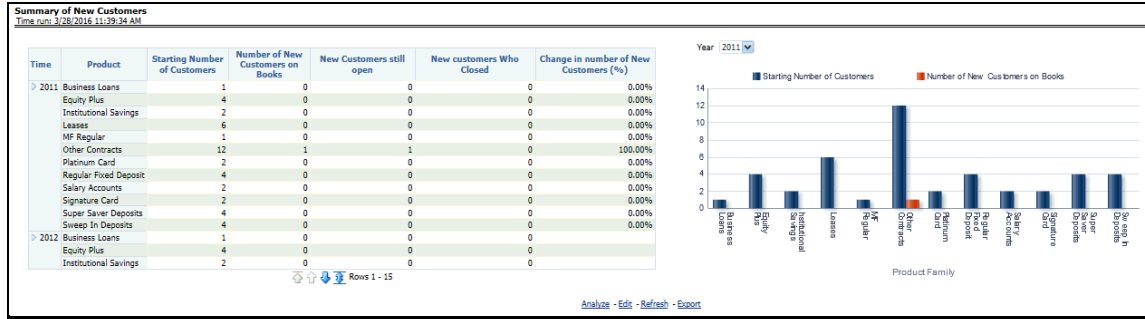
16.1.1.1.6 No. of Accounts by Region and Product

This report displays the concentration of Accounts across various Regions and Products within the bank.



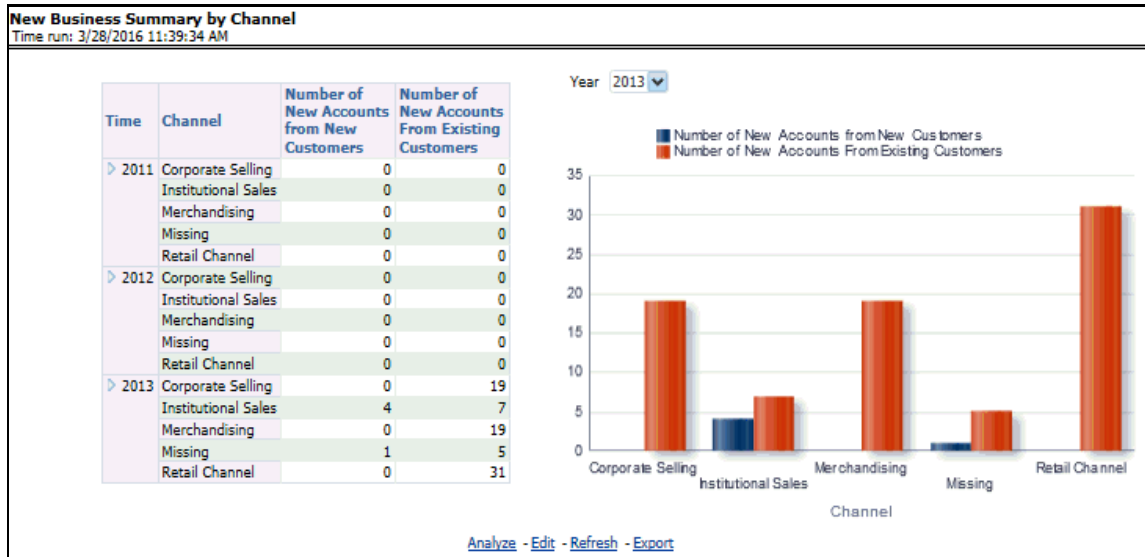
16.1.1.1.7 Summary of New Customers

This report displays the growth in customer base across the various products over time.



16.1.1.1.8 New Business Summary by Channel

This report displays summary of new accounts opened across various bank channels.



16.1.1.1.9 New Business Summary by Product

This report displays summary of new customers on-boarded by product.

New Business Summary by Product
Time run: 3/28/2016 11:39:34 AM

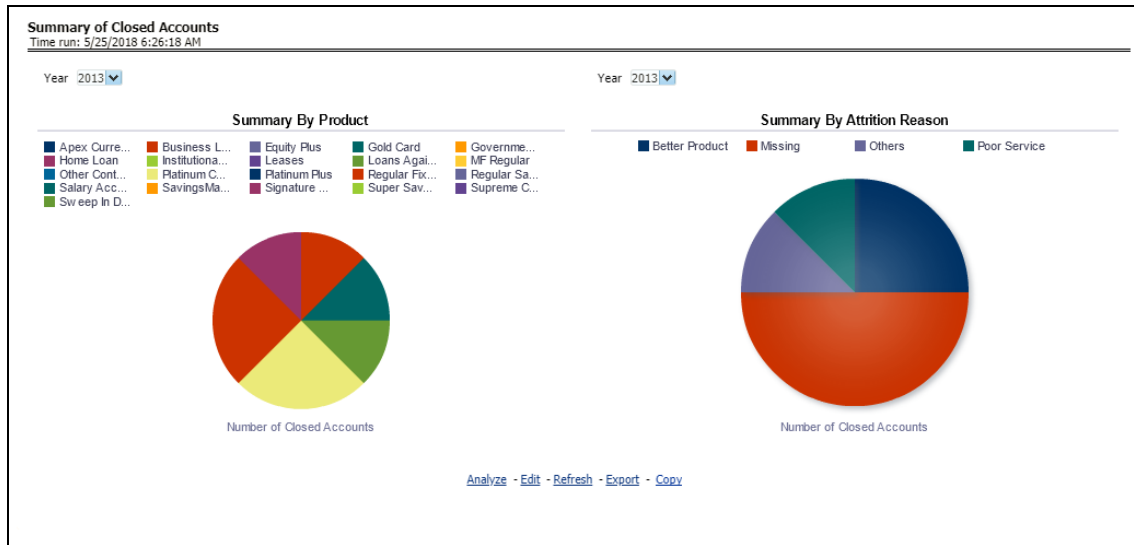
Amount in Millions (US\$)

Time	Product	Number of New Accounts	Number of New Customers	Credit Balance - New Customers	Debit Balance - New Customers
2011	Business Loans	1	0		
	Equity Plus	4	0		
	Institutional Savings	0	0		
	Leases	4	0		
	MF Regular	0	0		
	Other Contracts	7	1		
	Platinum Card	1	0		
	Regular Fixed Deposit	0	0		
	Salary Accounts	0	0		
	Signature Card	2	0		
	Super Saver Deposits	0	0		
	Sweep In Deposits	2	0		
2012	Business Loans	0	0		
	Equity Plus	0	0		
	Institutional Savings	0	0		

Rows 1 - 15
[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

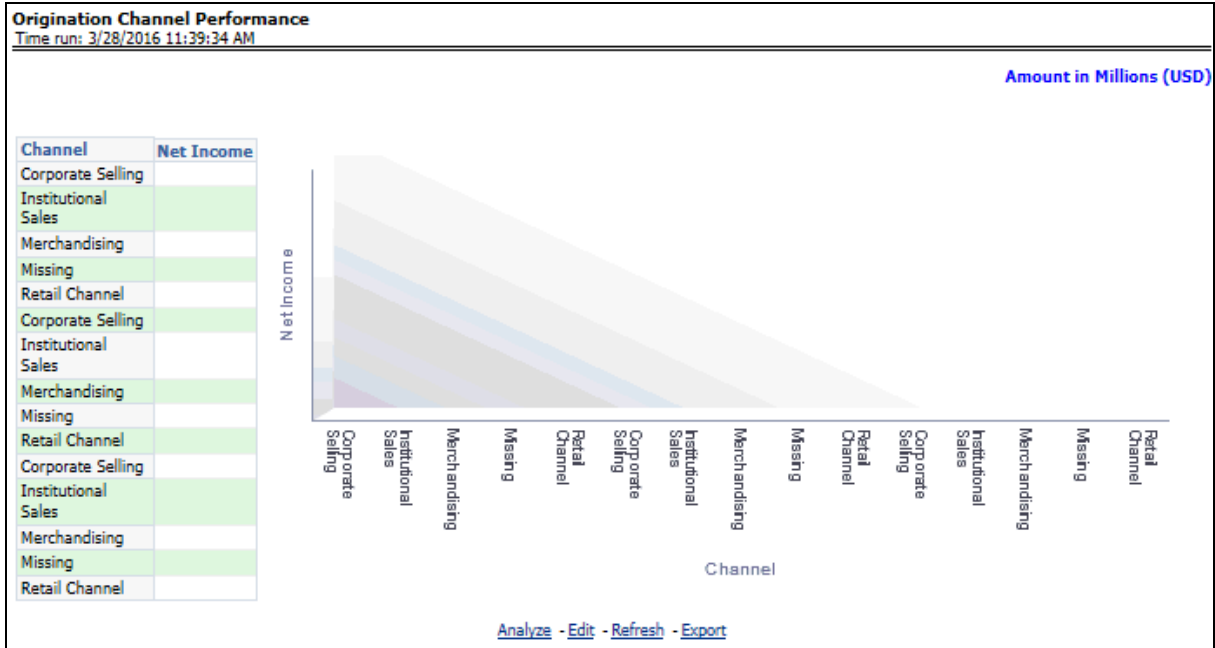
16.1.1.10 Summary of Closed Accounts

This report displays number of accounts closed across products and attrition reasons.



16.1.1.11 Origination Channel Performance

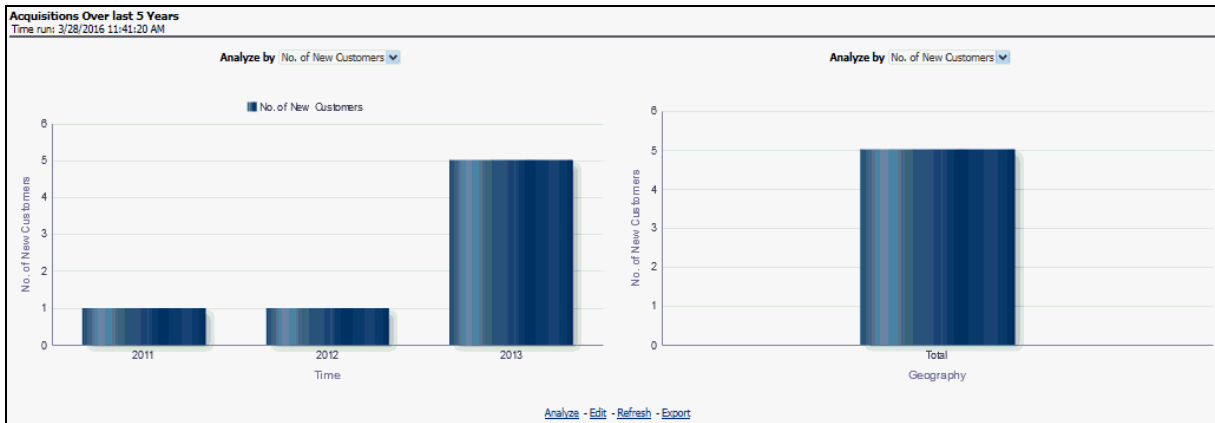
This report displays Net Income generated by different sales and business acquisition channels.



16.1.1.2 New Business Analysis

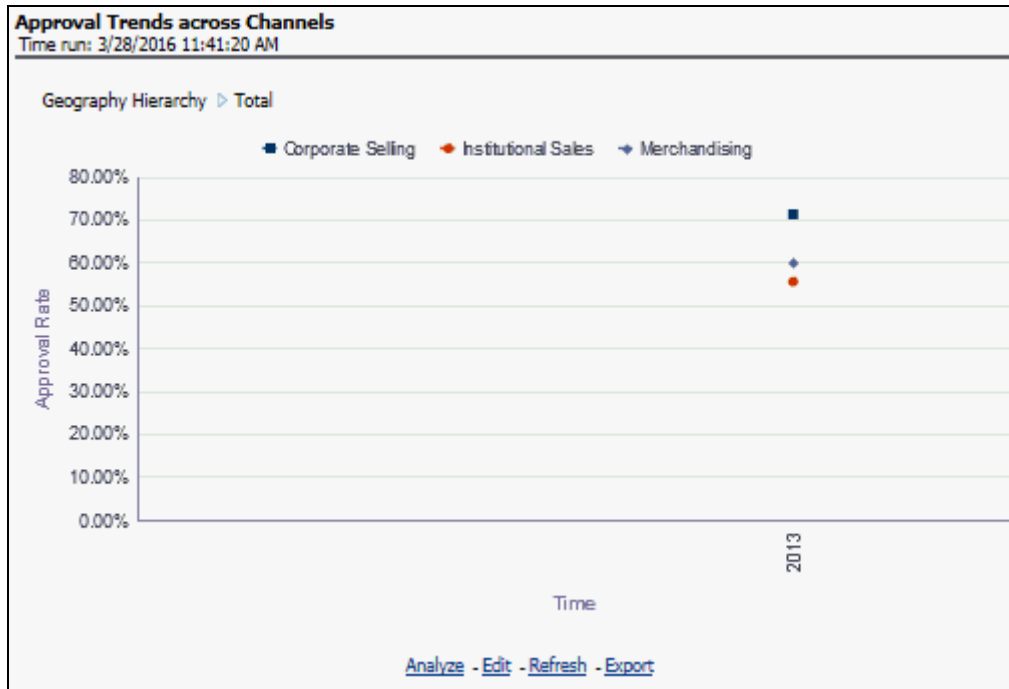
16.1.1.2.1 Acquisitions Over last 5 Years

This report displays growth of accounts and customers over a period of time. The dashboard prompts allows the user to narrow this analysis down to a specific LOB, Product Family, or Product.



16.1.1.2.2 Approval Trends across Channels

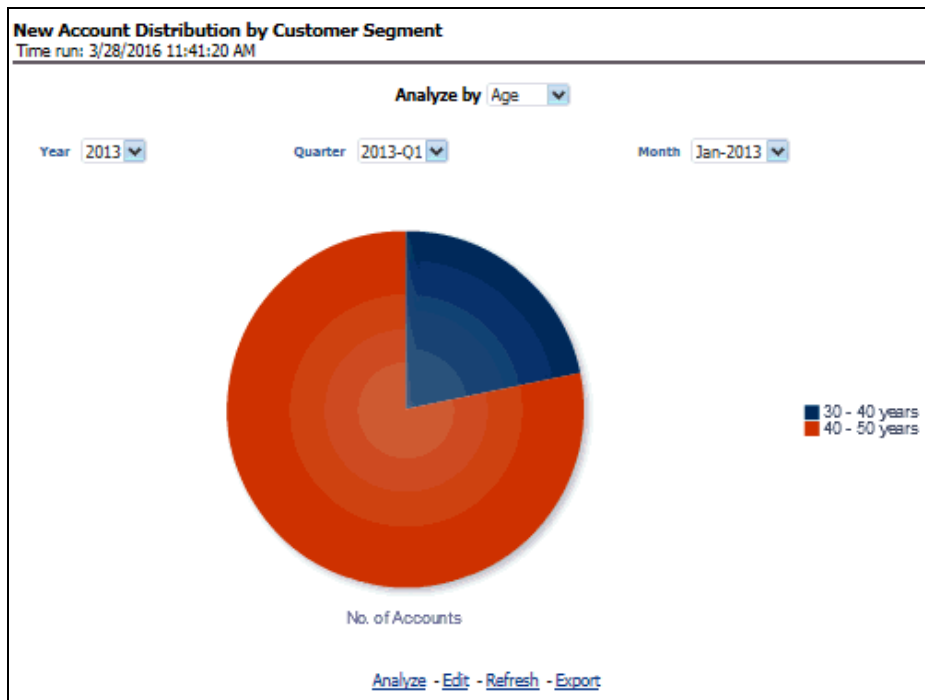
This report displays variance in approval rates over time across the various bank channels and enables you to track how these rates have gone up or down in specific channels or compare a rise/fall in one channel vs performance in others. The dashboard prompts allows the user to narrow this analysis down to a specific LOB, Product Family or Product.



Line of Business Filter prompt selection is not applicable for this report.

16.1.1.2.3 New Account Distribution by Customer Segment

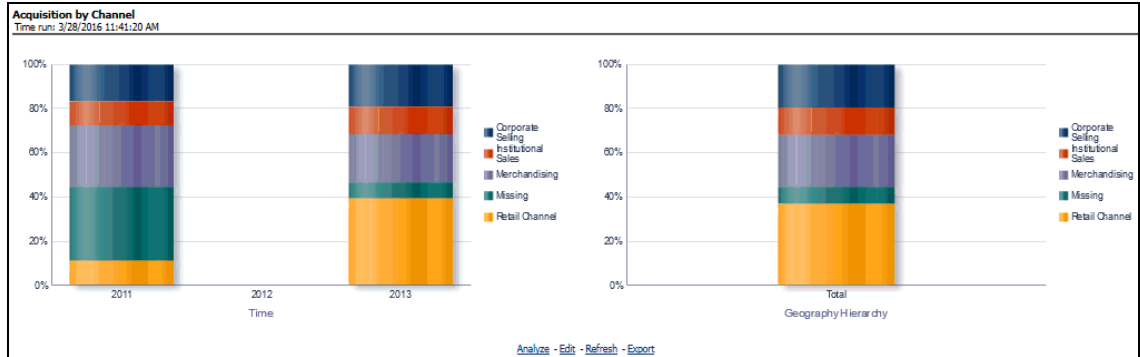
Provides a composition of the customers across key customer segments like Age, Gender, Income.



Product filter prompt selection is not applicable on this report.

16.1.1.2.4 Acquisition by Channel

This report displays how acquisitions have migrated from one channel to another over a period of time.



16.1.1.2.5 Overall Attrition Over last 5 Years

This report enables the user to have a view of the outflow (closed customers) or attrition over the last 5 years in order to fully understand how customers are flowing in and out of a certain product or product family or LOB.



16.1.1.2.6 Top 10 Reject Reasons

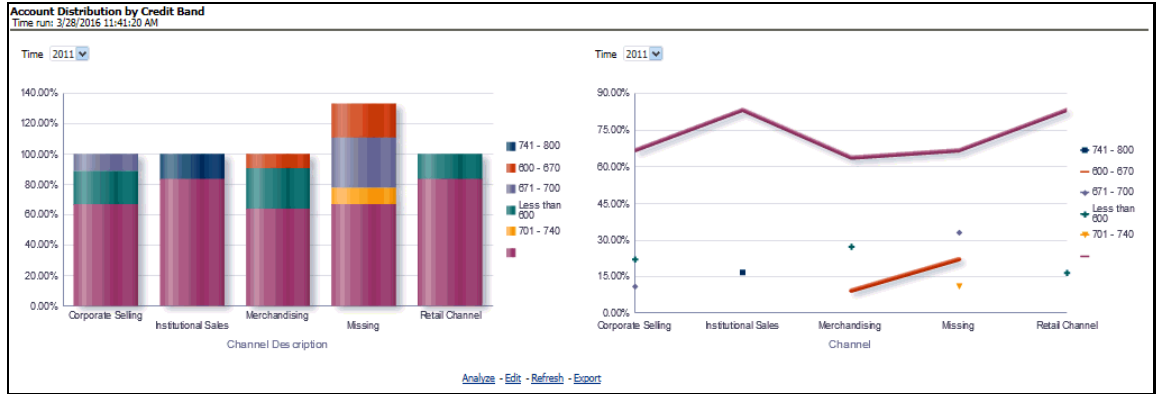
This report displays variance analysis of the various reasons why an application was rejected. This can also be viewed as a time series to see trends over a period of time.

> 2013		
Rejection Reason	No. of Applications	% Total
NO PROPER DOCUMENTATION	4	50.0%
NOT ELIGIBLE TO APPLY	4	50.0%
Grand Total	8	100.0%

Line of Business Filter prompt selection is not applicable for this report.

16.1.1.2.7 Account Distribution by Credit Band

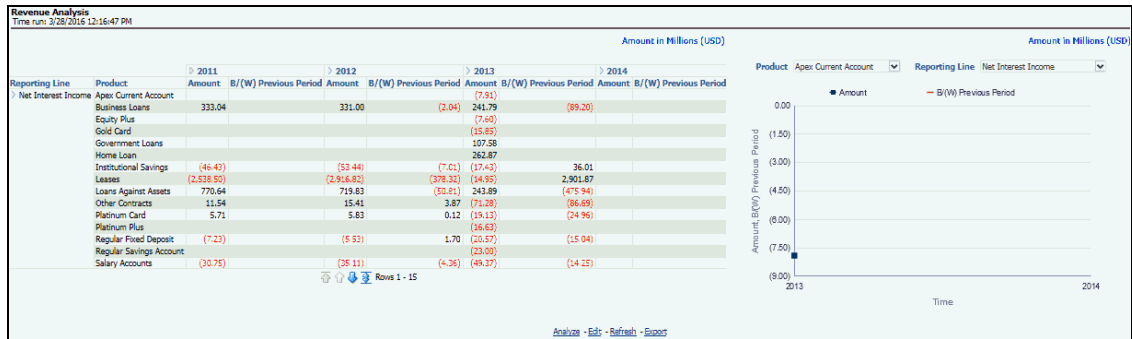
This report outlines the number of accounts booked across various credit score bands. The credit score corresponds to the customer holding the account.



16.1.1.3 Revenue Analysis

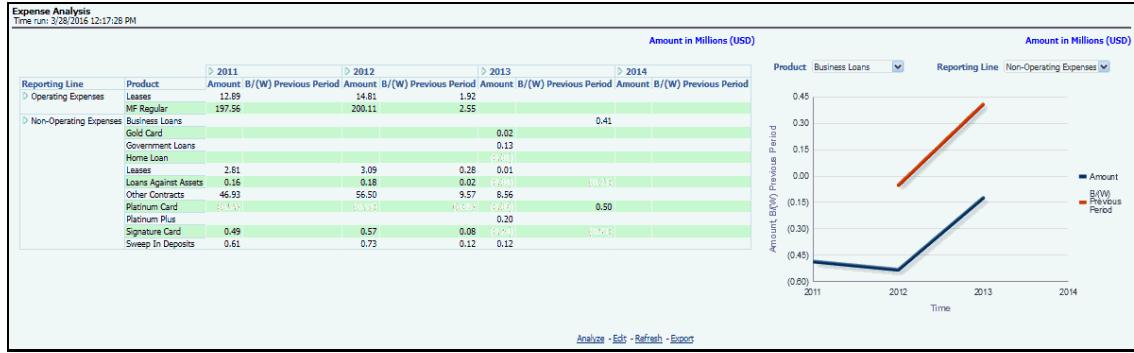
16.1.1.3.1 Revenue Analysis

This report displays variance analysis of the various Revenue components like Fee Income, Net Interest Revenue, and so on by Product with ability to further understand this distribution across key customer segments like Gender, Age, and Income.



16.1.1.4 Expense Analysis

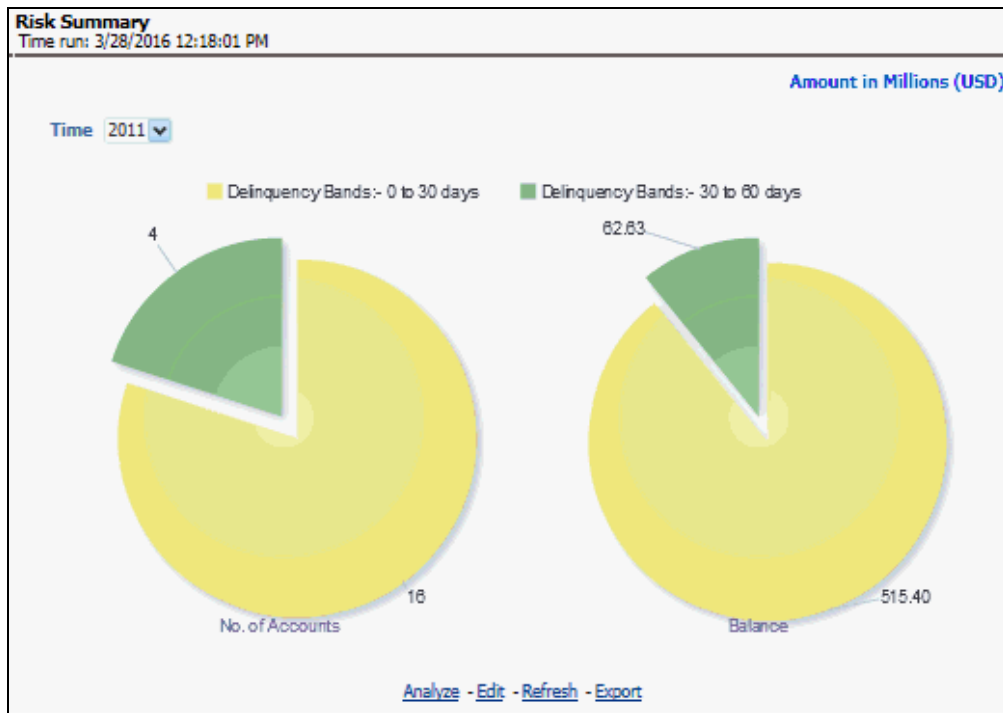
This report displays variance analysis of the various Expense components like Direct Expenses, Operating Expenses, and so on by Product with ability to further understand this distribution across key customer segments like Gender, Age, and Income.



16.1.2 Credit Loss Summary

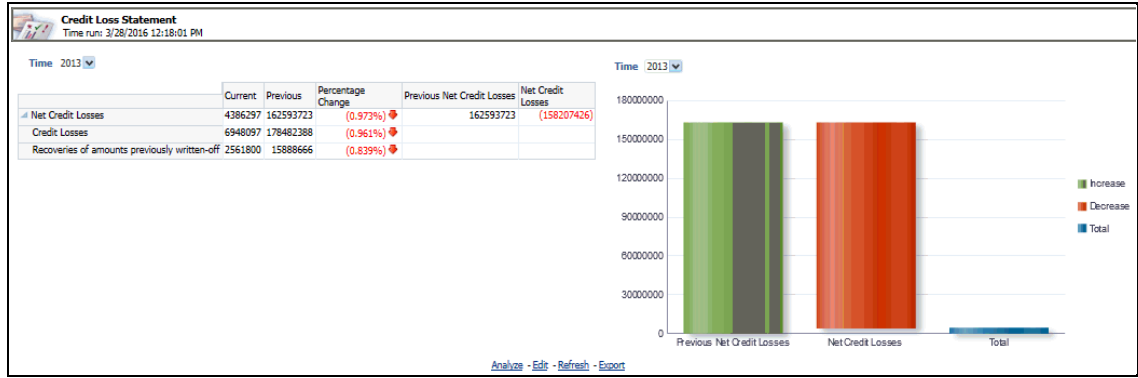
16.1.2.1 Risk Summary

This report gives a snapshot of the number of accounts in each delinquency bucket and the corresponding balance in each of these buckets. This can further be refined to limit this data to a specific LOB or a product within a LOB.



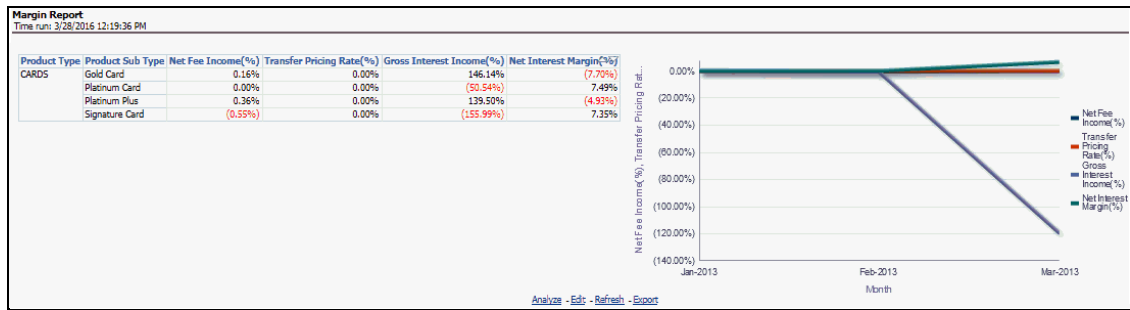
16.1.2.1.1 Credit Loss Statement

This report displays Net Credit Loss (Gross Credit Loss adjusted for any recoveries) booked by the bank.



16.1.3 Margin Reports

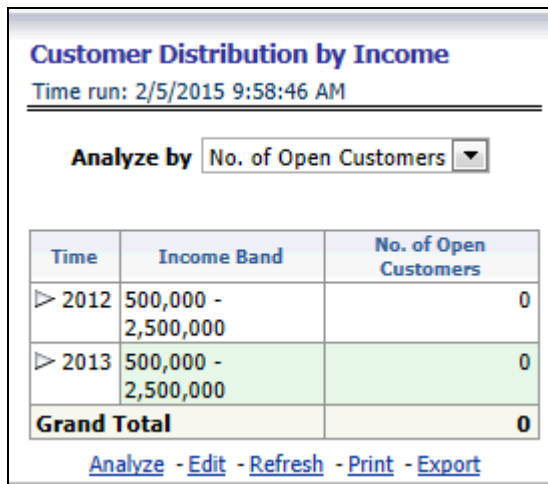
This report tracks the margin of profitability that has been achieved by the customer over a period of time.



16.1.4 Customer Summary

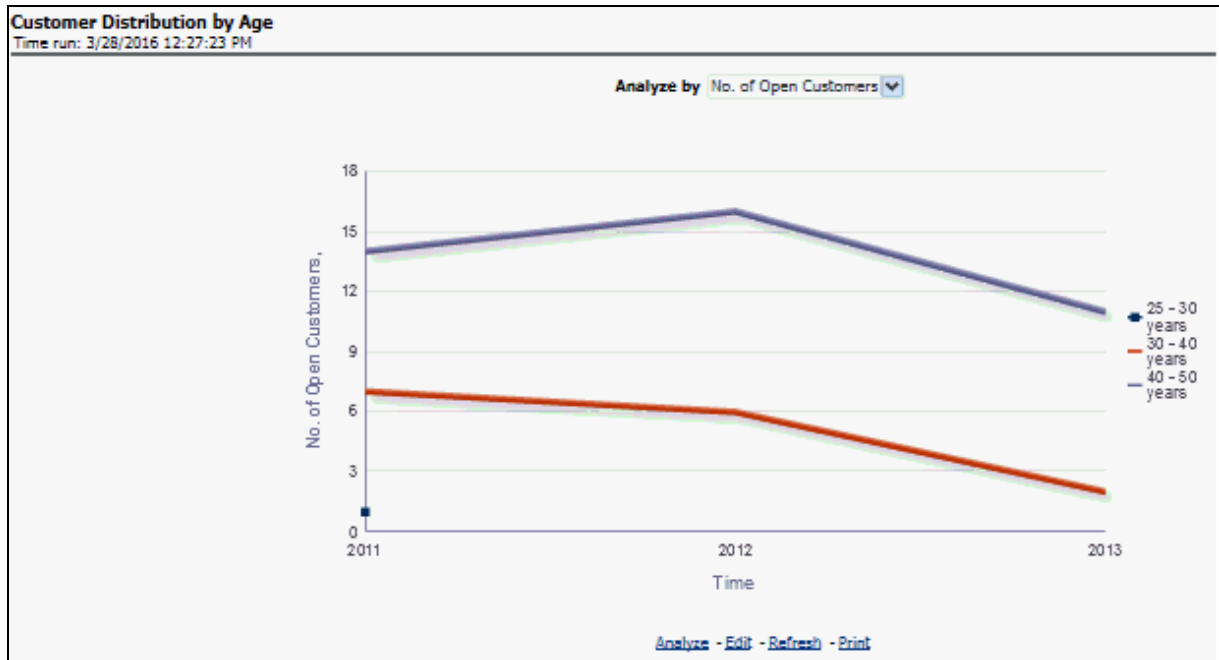
16.1.4.1 Customer Distribution by Income

This report displays Distribution of Open Customers and Open Accounts across Income bands.



16.1.4.2 Customer Distribution by Age

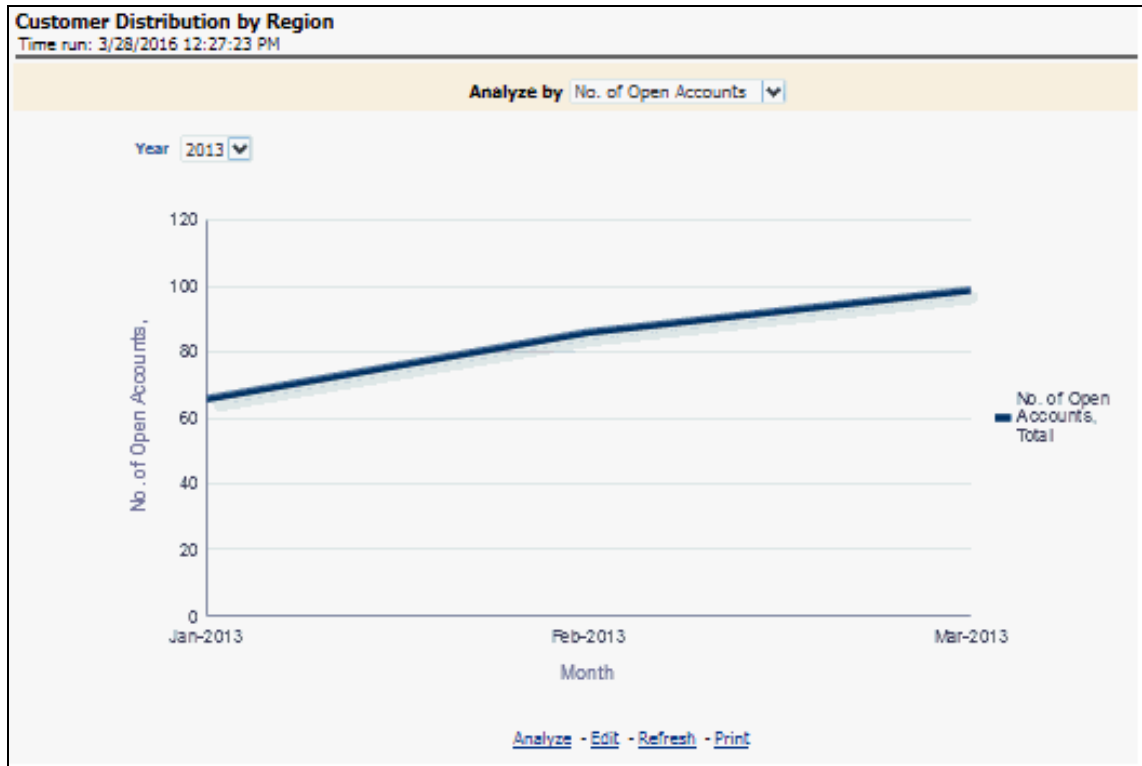
This report displays Distribution of Open Customers and Open Accounts across Age bands.



16.1.4.3 Customer Distribution by LoB

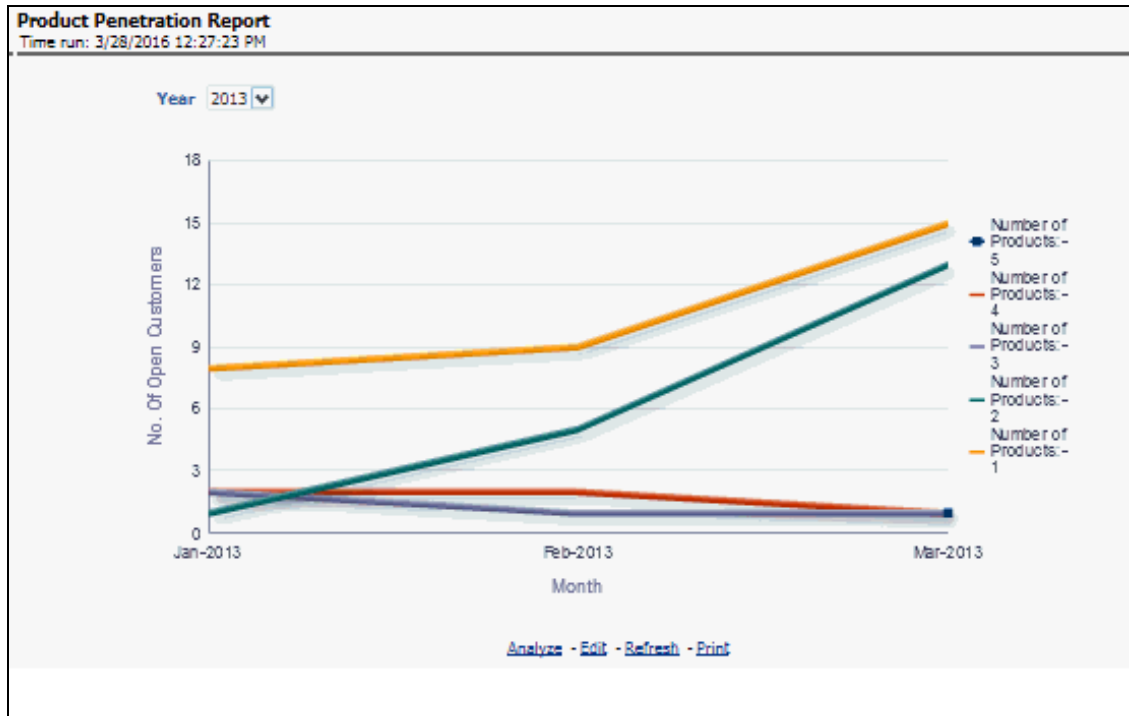
This report displays distribution of Open Customers and the corresponding Revenue across each Line of Business, its constituent products, and year. This is a sunburst report.

On clicking a particular distribution, a consolidated view of that particular distribution is displayed. For example, if you need to get a consolidated view of 2011 distribution, click on 2011. You get a consolidated data of 2011 distribution on open customers, Line of Business, constituent products, and corresponding revenue. Further, you can get consolidated view of open customers, Line of Business, constituent product, and corresponding revenue, by clicking any particular distribution. To view the overall report, click the center of the circular graph.



16.1.4.5 Product Penetration Report

This report displays movement/sales of products over period of time.



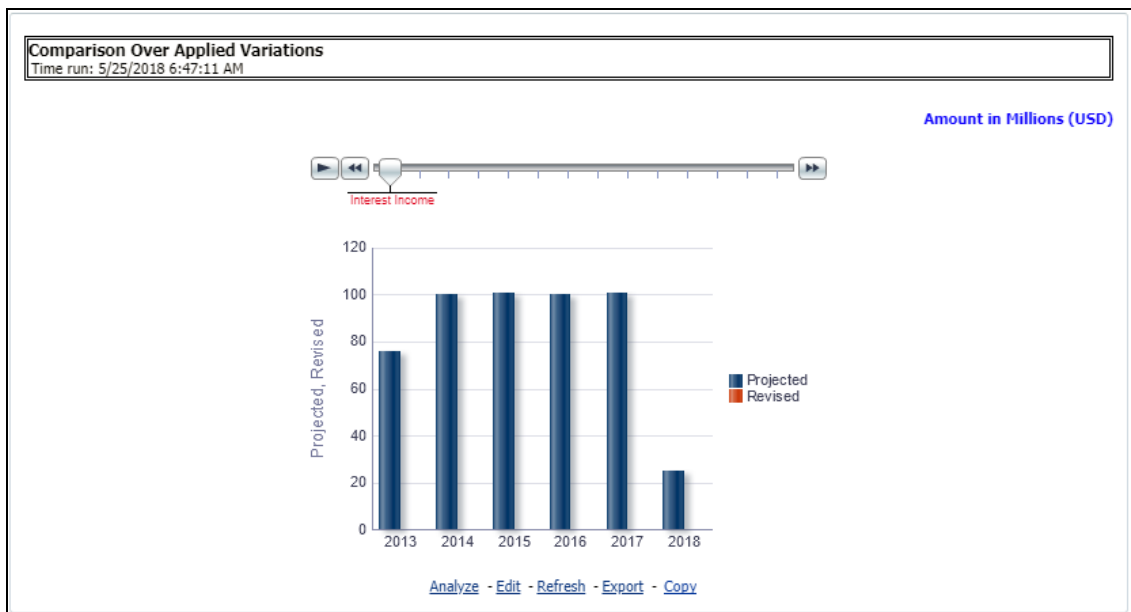
16.1.5 What-If Analysis

This report enables the user to account for the change in profitability owing to any probable changes in the projected components of profitability. This report is displayed through three sections; (i) Income Statement Variation (ii) Comparison Over Applied Variation and (iii) Projected Vs Revised.

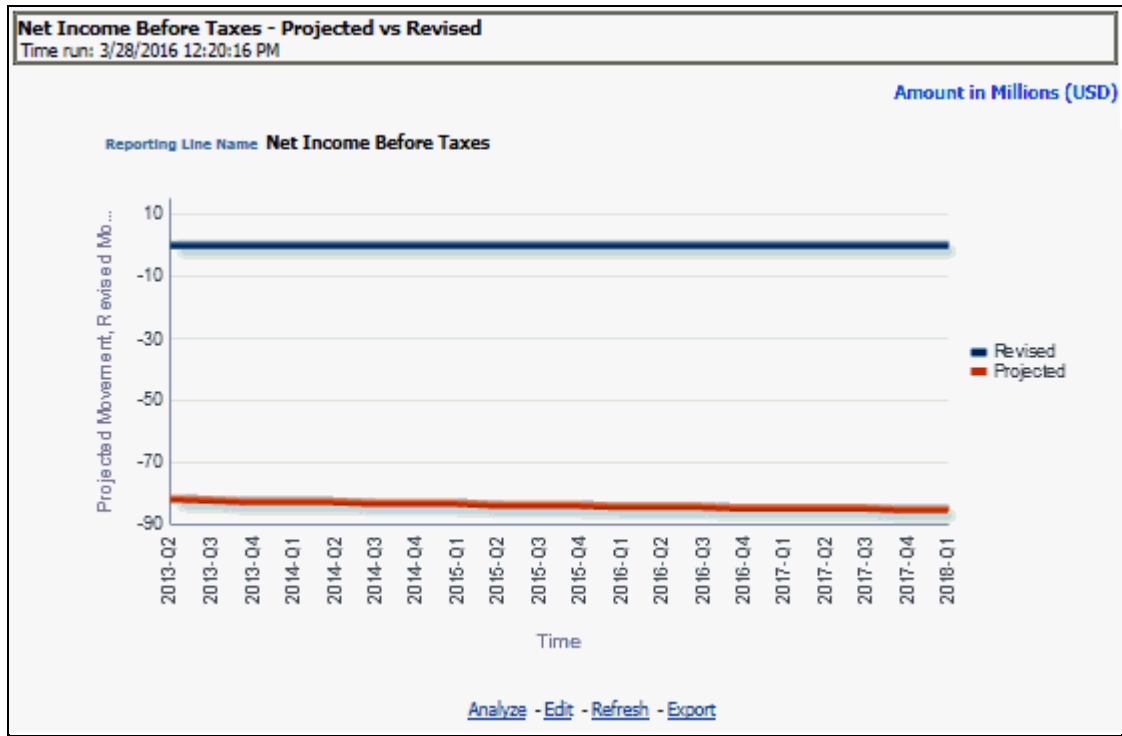
16.1.5.1 Income Statement Variation

		2013		2014		2015		2016		2017		2018	
		Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement
Net Income Before Taxes		-246.27		-330.95		-333.85		-336.55		-339.09		-65.13	

16.1.5.2 Comparison Over Applied Variations



16.1.5.3 Projected vs. Revised



16.1.6 Customer Central

The purpose of this Dashboard is to provide detailed information about the customer, information related to the accounts of the customer, and other behavioral attributes. It enables the user to analyze a customer in its entirety. The report is specific to a customer and the selection of customer for which the report is to be viewed is done through the dashboard prompt. The search is enabled either by Customer or Account.

This Dashboard provides complete demographic details of the customer as well as the engagements of the customer with the bank. The engagement with the bank is specified in terms of the accounts held by the customer as well as the other services/activities through which the customer interacts with the bank.

All accounts of the customer (current as well as previous) are reported along with their specifics such as the start date, balance, peak balances, net income, relationship manager, and so on. Other reports include the specifics of the subscriptions and enrollments of the customer and the various offers that are provided to the customer and the accounts to which those offers have been provided. It also displays the details of transactions of the customer which can be viewed by classification into monetary or non-monetary transactions. Any predictive modeling scores that have been computed or are available for the customer are also reported.

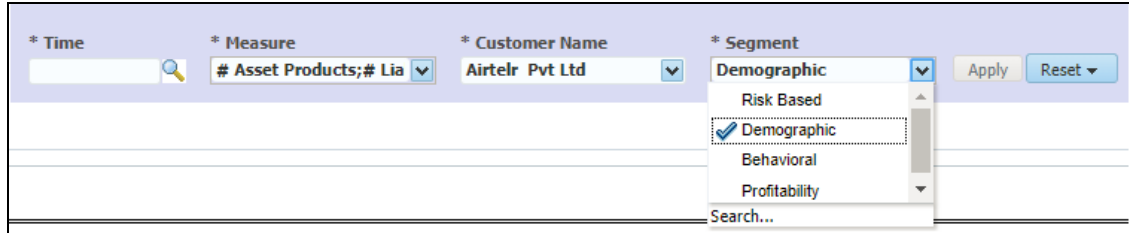
Based on the profitability of the accounts, the future behavior of accounts is predicted and this predicted value is used to compute Customer Life-Time Value (CLTV). The CLTV can be analyzed for different periods of projections and accordingly the projected data to be considered for reporting CLTV is selected. Various reports available under this tab are discussed in the following sections:

The following Tabs and Reports are present in the Customer Central tab:

16.1.6.1 Customer 360

Based on the Segment filter prompt selected the reports are generated. The options available under Segment filter prompt are as follows:

- Risk Based
- Demographics
- Behavioral
- Profitability



Maximum number of measure/dimensions that can be selected are 15. On selecting more than 15 measure/dimension, the first selected dimensions in the hierarchy are deselected.

16.1.6.1.1 Retail Profile

This report provides the basic demographics of a particular customer.

Retail Profile							
Time run: 5/25/2018 6:52:24 AM							
Customer Full Name	Gender	Marital Status	Occupation	Industry Description	Nationality	Immigration Status	No. of customers linked to household
Airtelr Pvt Ltd	F	M		Other Industries		Y	258

[Analyze](#) • [Edit](#) • [Refresh](#) • [Print](#)

Customer Central (Sunburst-Wheel): This report displays circular graphical representation that is divided into number of sectors. Each sector represents the value of the dimension or measure, that is, Turnover, Customer Since, Total Assest Balance, Total Liability Balance, No. of Assest Product, No. of Liability Product, No. of Products Held (currently), No. of Products Held (Since inception of customer), Debit Turnout, Mitigant Value, Total Spent, and so on, of the customer that has been selected. This is a sunburst report. On clicking a particular segment, the selected segment rotates and appears on the top part of the circle for better visualization.

The radial axis on the anti-clock side of every sector represents the scale for that sector. The following values are represented in each sector:

- **Customer Value:** This represents the dimensional value of customer across the scale.
- **Segment Average:** This represents the average value of the dimension of the segment that the customer belongs to.
- **Enterprise Average:** This represents customers from all the segments considered to compute the average value of dimension or measure.

Hyperlinks are provided under the Customer, Scores, and Ratings section. On clicking these hyperlink, you are navigated to the respective detail reports.

Income Statement
Time run: 3/28/2016 12:31:10 PM

Time: 2013

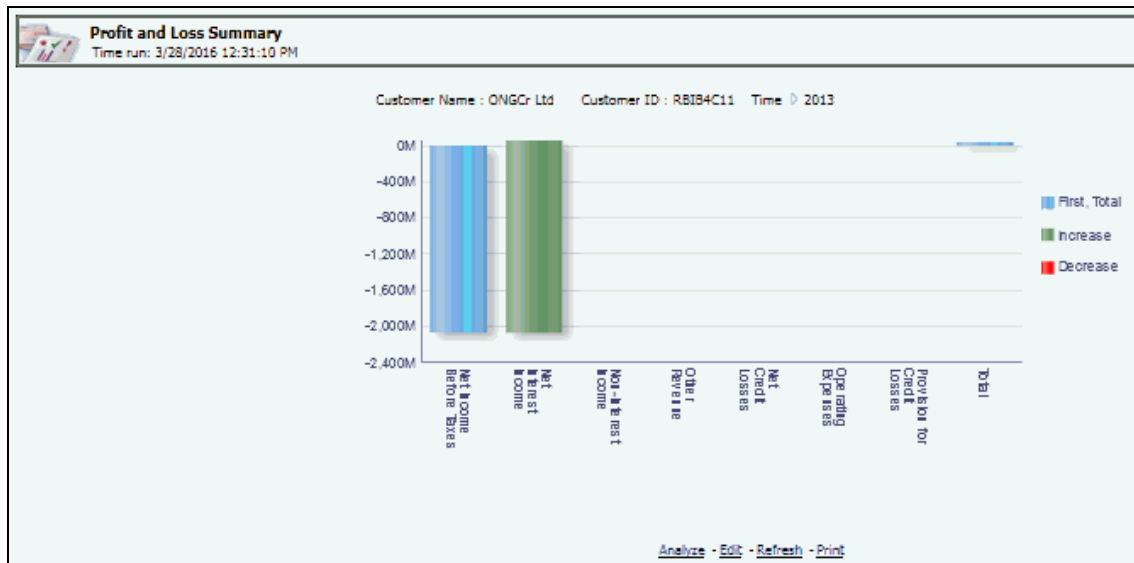
Customer Name: ONGCr Ltd Customer ID: RBIB4C11

	Current	Previous	Percentage Change
> Total Interest Income	205369577.27	1687582384.02	-0.878%
> Total Interest Expense	134009178.49	-3747674506.00	-0.964%
Net Interest Income	71360398.78	-2060092121.98	-1.035%
> Non-Interest Revenue			
Non Interest Income		-3792013.00	
Total Revenue	71360398.78	-2063884134.98	-1.035%
> Operating Expenses			
> Non Operating Expenses	9737.60	3008543.80	-0.997%
Total Operating and Non Operating Expenses	9737.60	-14025633.80	-0.999%
Income Before Taxes	71350661.18	-2077909768.78	-1.034%
Net Income Before Taxes	71350661.18	-2077909768.78	-1.034%
Tax Expense		-5706790.00	
Net Income After Taxes	71350661.18	-2083616558.78	-1.034%

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#)

16.1.6.2.3 Profit and Loss Summary

This report displays Profit and Loss statement for all products which the user can then limit to specific Line of Business (LOB) or slices of the P&L for a specific LOB across individual customer segments like age, gender, and Income.



16.1.7 Product Summary

16.1.7.1 All Product

16.1.7.1.1 Risk Adjusted Performance Metrics

This report helps you to determine the ratio of risk-adjusted Net Income against the Economic Capital.

This metric is also called Risk Adjusted Return On Capital (RAROC). It helps in determining the efficiency of Economic Capital corresponding to every customer. This Report shows a snapshot of measures against various reporting lines eg; Total Revenue, Total Expenses, Net Income, return on Total Asset RAROC-Economic Capital and Return on Equity.

Risk Adjusted Performance Metrics Time run: 5/28/2018 7:00:47 AM				
Amount in USD				
RAROC- Economic Capl...	0.00%	-2.75B	125.05M	2.08B
	<u>Return on Total Assets</u>	<u>Net Income Before Tax...</u>	<u>Total Revenue</u>	<u>Total Expenses</u>

16.1.7.1.2 Income Statement

This report displays Revenues and Expenses under various reporting lines. The numbers are displayed for the current time period selected and in comparison with numbers recorded during previous same time period and move in terms of percentage change.

Income Statement Time run: 3/28/2016 12:43:54 PM					
Year	2013	Quarter	2013-Q1	Month	Jan-2013
	Current	Previous	Percentage Change		
> Total Interest Income	1740190	24004812	(0.928%) ↓		
> Total Interest Expense	313200	(6206826)	(0.950%) ↓		
Net Interest Income	1426990	17797986	(0.920%) ↓		
> Non-Interest Revenue	1423431	46088200	(0.969%) ↓		
Non Interest Income	1423431	46088200	(0.969%) ↓		
Total Revenue	2850421	63886185	(0.955%) ↓		
> Non Operating Expenses	(28244)	(154259)	(0.817%) ↓		
Total Operating and Non Operating Expenses	(28244)	154259	(0.817%) ↓		
Income Before Taxes	2878665	64040444	(0.955%) ↓		
Net Income Before Taxes	2878665	64040444	(0.955%) ↓		
Net Income After Taxes	2878665	64040444	(0.955%) ↓		

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

16.1.7.1.3 Profit and Loss Summary

This report displays Profit and Loss statement for all products which the user can then limit to specific Line of Business (LOB) or slices of the Profit and Loss for a specific LOB across individual customer segments like age, gender, and Income.



16.1.7.1.4 Profit and Loss - Scenario Comparison

This report provides the comparison of the details of the income generated to predefine scenarios.

Profit & Loss - Scenario Comparison
Time run: 7/22/2015 8:49:00 PM

Amount in Millions (USD)

	Actual		Scenario				YTD Actuals % FY Scenario
	Mar-2015	YTD Actual	YTD Scenario	(B/W)	(B/W) %	FULL YEAR	
▽ Net Income Before Taxes	-44.43	-44.43	-4.24	-	0.90	-5.02	
▽ Income before Taxes	-44.43	-44.43	-4.24	-	0.90	-5.02	
▽ Total Revenue	-44.33	-44.33	-3.98	-	0.91	-4.76	
▷ Net Interest Income	-44.33	-44.33	-3.98	-	0.91	-4.76	
▷ Net Credit Losses	0.09	0.09	0.26	-0.17	-1.79	0.26	

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#) - [Export](#)

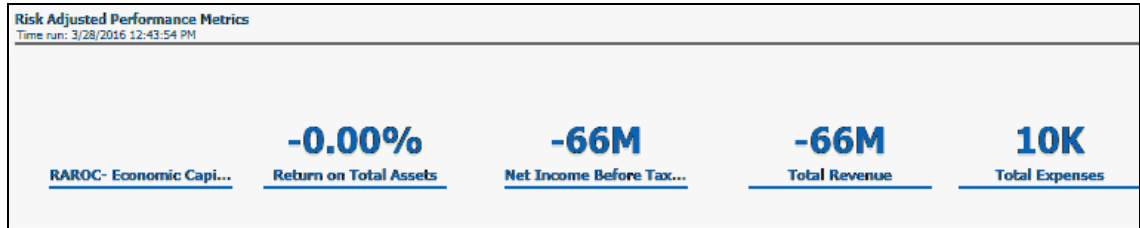
Some of the dashboard filters, that is, Vintage, The Age On Book, Customer Gender, Customer Age/Customer Income, Geography Filter prompt selection is not applicable to this report.

16.1.7.2 Cards

16.1.7.2.1 Risk Adjusted Performance Metrics

This report helps you to determine the ratio of risk-adjusted Net Income against the Economic Capital.

This metric is also called Risk Adjusted Return On Capital (RAROC). It helps in determining the efficiency of Economic Capital corresponding to every customer. This Report shows a snapshot of measures against various reporting lines e.g; Total Revenue, Total Expenses, Net Income, return on Total Asset RAROC-Economic Capital and Return on Equity.



16.1.7.2.2 Income Statement

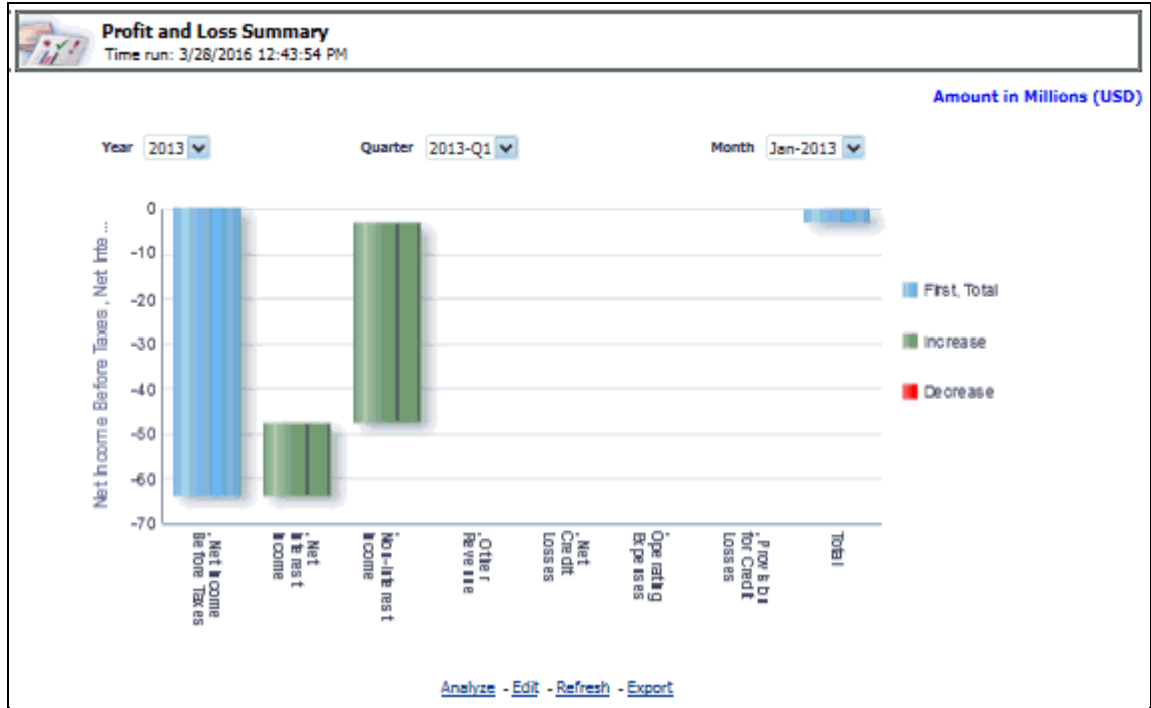
This report displays Revenues and Expenses under various reporting lines. The numbers are displayed for the current time period selected and in comparison with numbers recorded during previous same time period and move in terms of percentage change.

	Current	Previous	Percentage Change
> Total Interest Income	1740190	24004612	(0.928%) ↓
> Total Interest Expense	313200	(6206826)	(0.950%) ↓
Net Interest Income	1426990	17797986	(0.920%) ↓
> Non-Interest Revenue	1423431	46088200	(0.969%) ↓
Non Interest Income	1423431	46088200	(0.969%) ↓
Total Revenue	2850421	63886185	(0.955%) ↓
> Non Operating Expenses	(28244)	(154259)	(0.817%) ↓
Total Operating and Non Operating Expenses	(28244)	154259	(0.817%) ↓
Income Before Taxes	2878665	64040444	(0.955%) ↓
Net Income Before Taxes	2878665	64040444	(0.955%) ↓
Net Income After Taxes	2878665	64040444	(0.955%) ↓

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

16.1.7.2.3 Profit and Loss Summary

This report displays Profit and Loss statement for Cards products that can be viewed as slices of individual customer segments like age, gender and Income.



16.1.7.2.4 Performance by Card Type

This report displays Key Metrics such as Number of New accounts, Number of Open customers and so on reported across various card types demonstrating the mix across the card types.

Performance by Card Type
Time run: 3/28/2016 12:43:54 PM

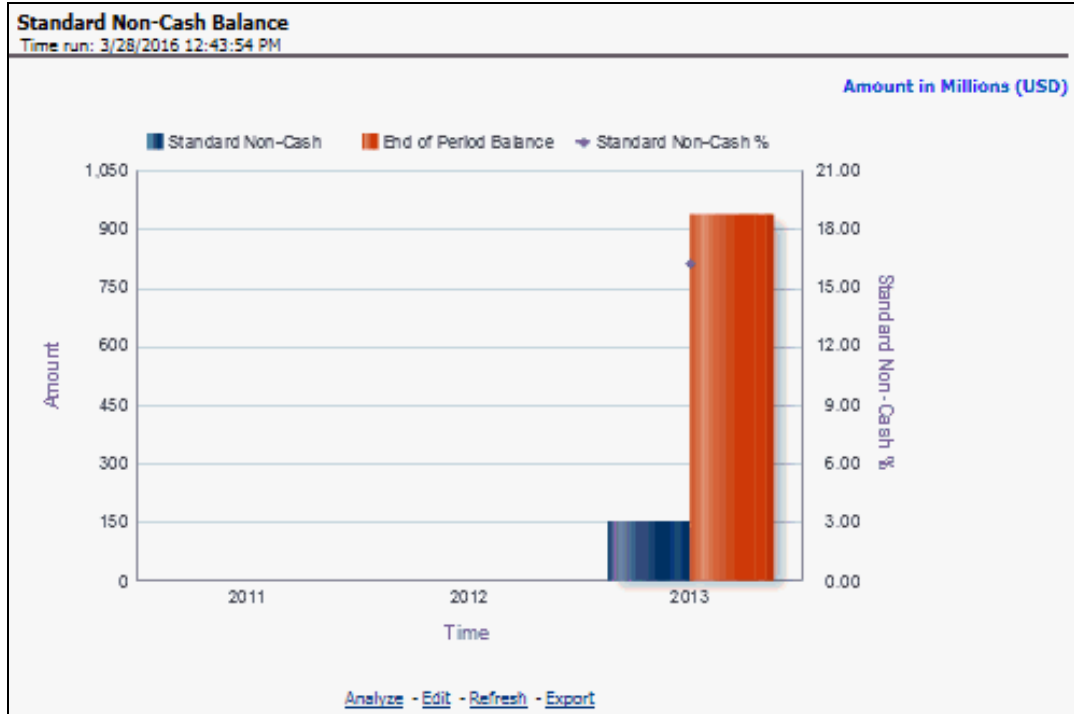
Amount in Millions (USD)

Time	Card Type	No. of Accounts	No. of New Accounts	No. of Open Customers	Fee Revenue	Total Payments	Total Revenue
2011	Platinum Card	2	1	2	14.15	0.13	142.42
	Signature Card	2	2	2	14.45	0.16	136.89
2012	Platinum Card	2	0	2	12.09	0.13	148.79
	Signature Card	2	0	2	15.43	0.16	127.22
2013	Gold Card	9	4	2	4.33	0.05	53.67
	Platinum Card	13	6	5	8.62	0.07	77.43
	Platinum Plus	12	7	6	6.12	0.09	92.60
	Signature Card	9	5	4	6.03	0.07	55.35

Buttons: [Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

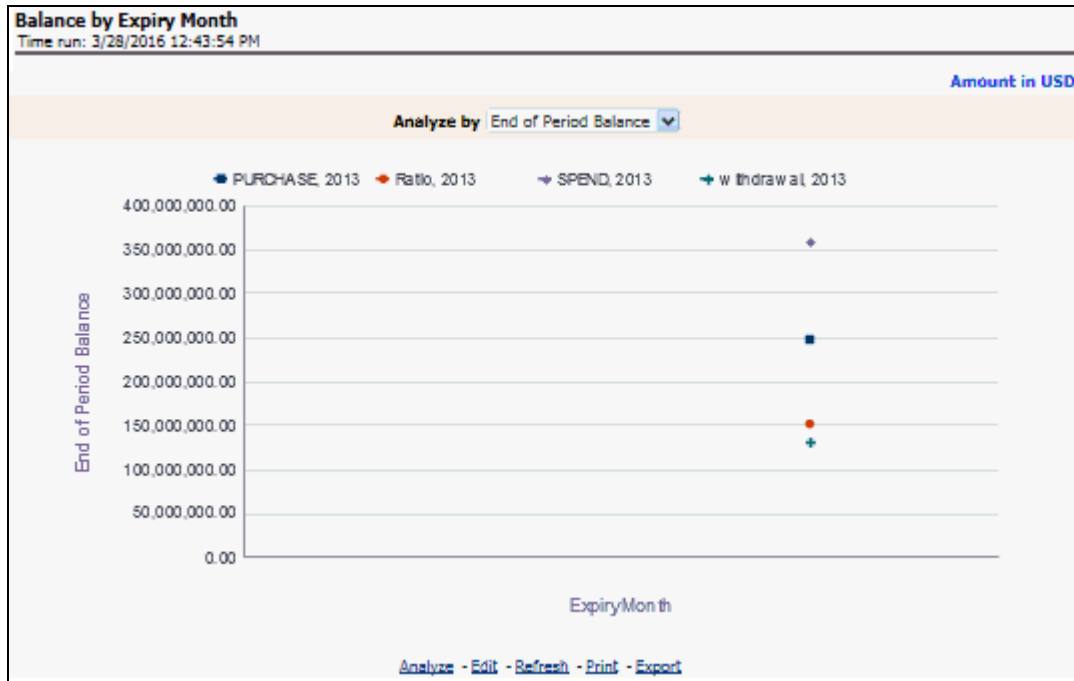
16.1.7.2.5 Standard Non-Cash Balance

This report displays growth (or decline) of customer non-cash balance over time.



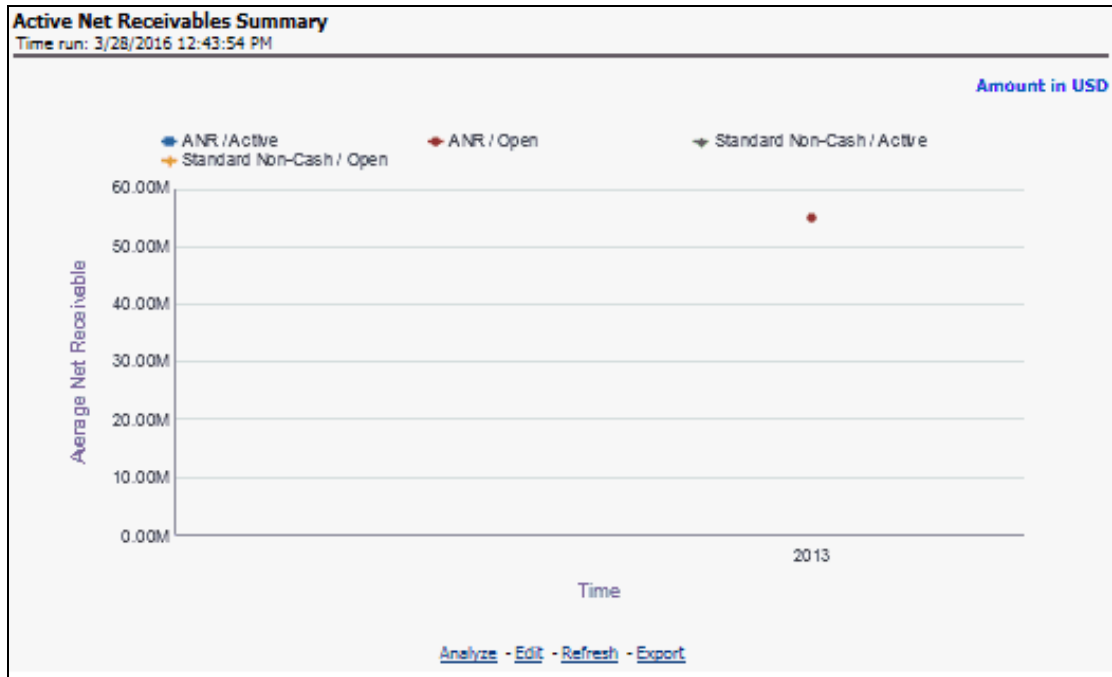
16.1.7.2.6 Balance by Expiry Month

This report displays balance distribution across offer expiry dates gives the user an indication of the balance that is scheduled to flip to a different balance bucket.



16.1.7.2.7 Active Net Receivables Summary

This report displays the average growth (or decline) of balances per open customer in relation to how the standard non-cash balance is growing (or declining).



16.1.7.2.8 Summary of Balance (Receivables) Breakdown

This report summarizes the Average Net Receivable (ANR) mix across the different balance buckets available within the bank and the effective interest rate across each balance bucket.

Summary of Balance (Receivables) Breakdown
Time run: 3/28/2016 12:43:54 PM

Amount in Millions (USD)

	Balance	Revolve Rate	Effective Interest Rate
PURCHASE	247.47	0.31%	0.32%
Ratio	152.32	0.37%	0.32%
SPEND	401.96	0.29%	0.32%
withdrawal	132.15	0.37%	0.32%
Total Grand Total	933.89	0.32%	0.32%

Year: --Select Value-- Scenario: PLAN Apply Reset

Analyze - Edit - Refresh - Export

16.1.7.2.9 Profit and Loss - Scenario Comparison

This report provides the comparison of the details of the income generated to predefine scenarios.

Profit & Loss - Scenario Comparison
 Time run: 7/22/2015 9:00:07 PM

Amount in Millions (USD)

	Actual		Scenario		(B/W)	(B/W) %	FULL YEAR	YTD Actuals % FY Scenario
	Mar-2015	YTD Actual	YTD Scenario					
▽ Net Income Before Taxes	-128.01	-128.01	-8.67	-	0.93	-13.31		
				119.34				
▽ Income before Taxes	-128.01	-128.01	-8.67	-	0.93	-13.31		
				119.34				
▽ Total Revenue	-126.55	-126.55	-8.20	-	0.94	-12.83		
				118.35				
▷ Net Interest Income	-126.55	-126.55	-8.20	-	0.94	-12.83		
				118.35				
▷ Net Credit Losses	1.47	1.47	0.47	1.00	0.68	0.48		

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#) - [Export](#)

Some of the dashboard filters, that is, Vintage, The Age On Book, Customer Gender, Customer Age/Customer Income, Geography Filter prompt selection is not applicable to this report.

16.1.7.3 Retail Bank

16.1.7.3.1 Risk Adjusted Performance Metrics

This report helps you to determine the ratio of risk-adjusted Net Income against the Economic Capital.

This metric is also called Risk Adjusted Return On Capital (RAROC). It helps in determining the efficiency of Economic Capital corresponding to every customer. This Report shows a snapshot of measures against various reporting lines eg; Total Revenue, Total Expenses, Net Income, return on Total Asset RAROC-Economic Capital and Return on Equity.

Risk Adjusted Performance Metrics
 Time run: 8/25/2015 7:07:40 AM

Amount in USD

<u>RAROC- Economic Capli...</u>	<u>Return on Total Assets</u>	-1.43B <u>Net Income Before Tax...</u>	-928.44M <u>Total Revenue</u>	498.29M <u>Total Expenses</u>
---------------------------------	-------------------------------	--	---	---

16.1.7.3.2 Income Statement

This report displays Revenues and Expenses under various reporting lines. The numbers are displayed for the current time period selected and in comparison with numbers recorded during previous same time period and move in terms of percentage change.

Income Statement
Time run: 3/30/2016 1:08:19 PM

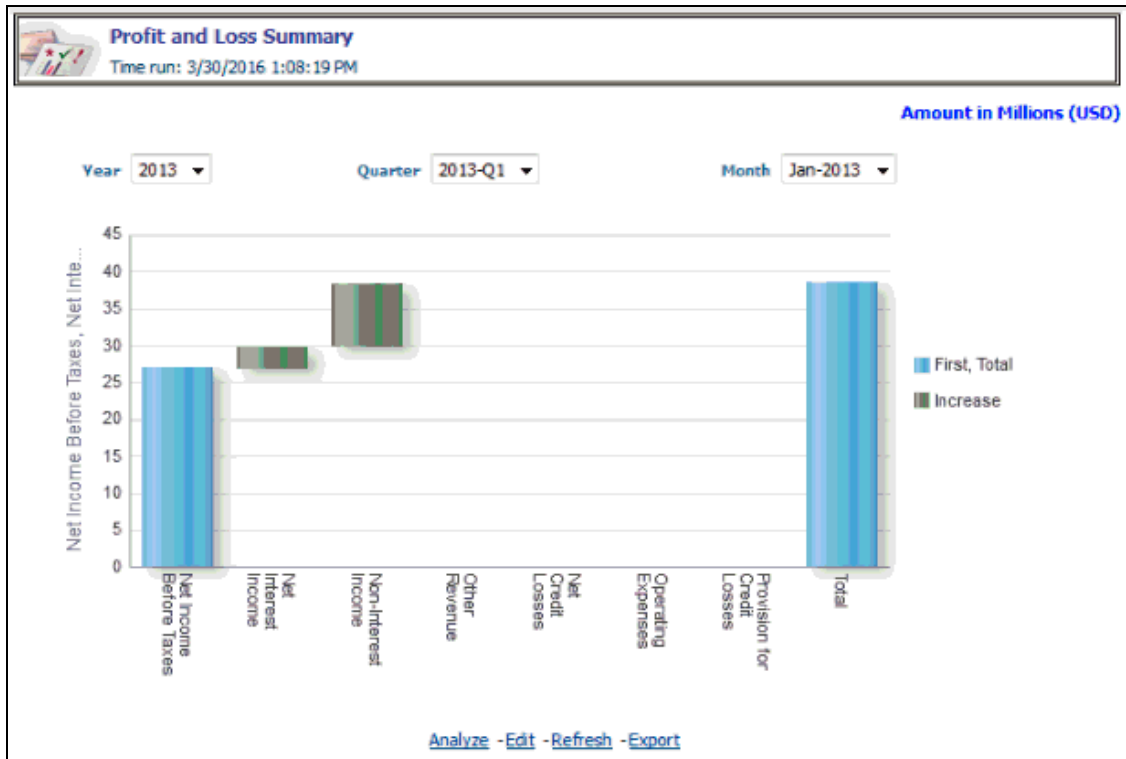
Year: 2013 Quarter: 2013-Q1 Month: Mar-2013

	Current	Previous	Percentage Change
▶ Total Interest Income	835431315		
▶ Total Interest Expense	920421813	(14617332)	61.968% ↑
Net Interest Income	(84990498)	(14617332)	4.814% ↑
▶ Non-Interest Revenue			
Non Interest Income	0	(37233147)	0.000%
Total Revenue	(84990498)	(51850479)	0.639% ↑
Income Before Taxes	(84990498)	(51850479)	0.639% ↑
Net Income Before Taxes	(84990498)	(51850479)	0.639% ↑
Net Income After Taxes	(84990498)	(51850479)	0.639% ↑

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

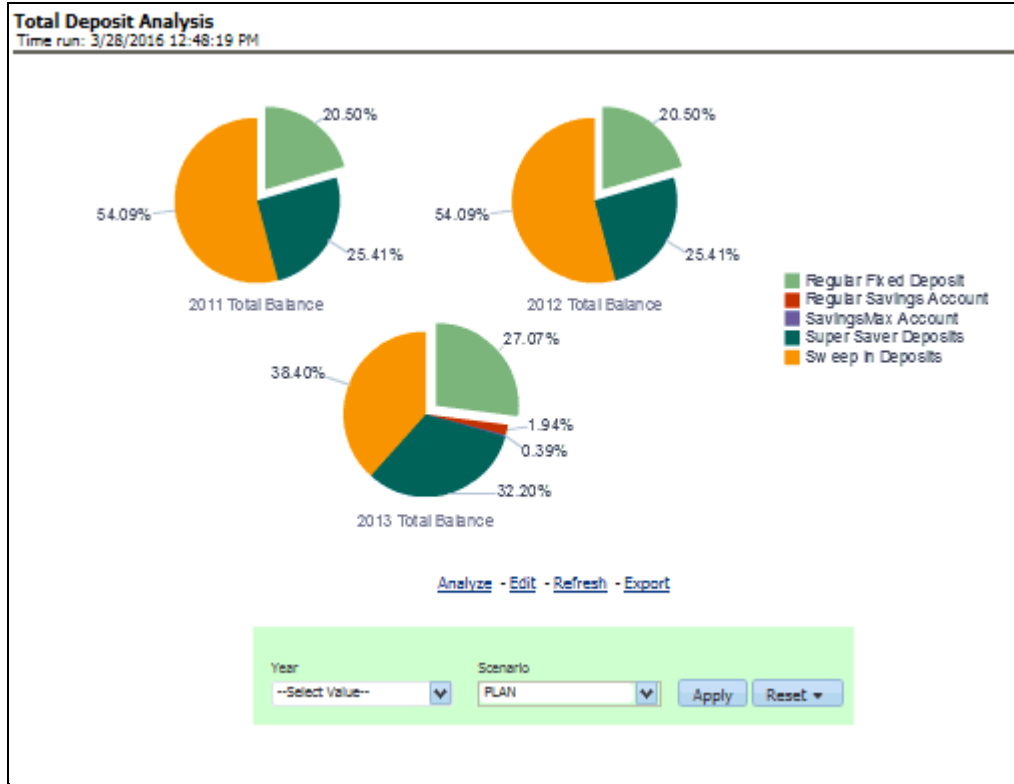
16.1.7.3.3 Profit and Loss Summary

This report displays Profit and Loss statement for Cards products that can be viewed as slices of individual customer segments like age, gender and Income.



16.1.7.3.4 Total Deposit Analysis

This report displays the distribution of deposits booked by the bank across various product categories.



16.1.7.3.5 Profit and Loss - Scenario Comparison

This report provides the comparison of the details of the income generated to predefine scenarios.

Profit & Loss - Scenario Comparison
Time run: 7/22/2015 9:49:18 PM

Amount in USD

	Actual		Scenario				YTD Actuals % FY Scenario
	Mar-2015	YTD Actual	YTD Scenario	(B/W)	(B/W) %	FULL YEAR	
▽ Net Income Before Taxes	-22.18	-22.18	-1.30	-20.89	0.94	-1.30	
▽ Income before Taxes	-22.18	-22.18	-1.30	-20.89	0.94	-1.30	
▽ Total Revenue	-22.16	-22.16	-1.09	-21.07	0.95	-1.09	
▷ Net Interest Income	-22.16	-22.16	-1.09	-21.07	0.95	-1.09	
▷ Net Credit Losses	0.03	0.03	0.21	-0.18	-6.96	0.21	

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#) - [Export](#)

Some of the dashboard filters, that is, Vintage, The Age On Book, Customer Gender, Customer Age/Customer Income, Geography Filter prompt selection is not applicable to this report.

16.1.7.4 Mortgage

16.1.7.4.1 Risk Adjusted Performance Metrics

This report helps you to determine the ratio of risk-adjusted Net Income against the Economic Capital.

This metric is also called Risk Adjusted Return On Capital (RAROC). It helps in determining the efficiency of Economic Capital corresponding to every customer. This Report shows a snapshot of measures against various reporting lines e.g; Total Revenue, Total Expenses, Net Income, return on Total Asset RAROC-Economic Capital and Return on Equity.

Risk Adjusted Performance Metrics				
Time run: 5/25/2016 7:17:29 AM				
Amount in USD				
<u>RAROC- Economic Cap...</u>	-0.00	-31.14M	661.13M	386.83M
	<u>Return on Total Assets</u>	<u>Net Income Before Tax...</u>	<u>Total Revenue</u>	<u>Total Expenses</u>

16.1.7.4.2 Income Statement

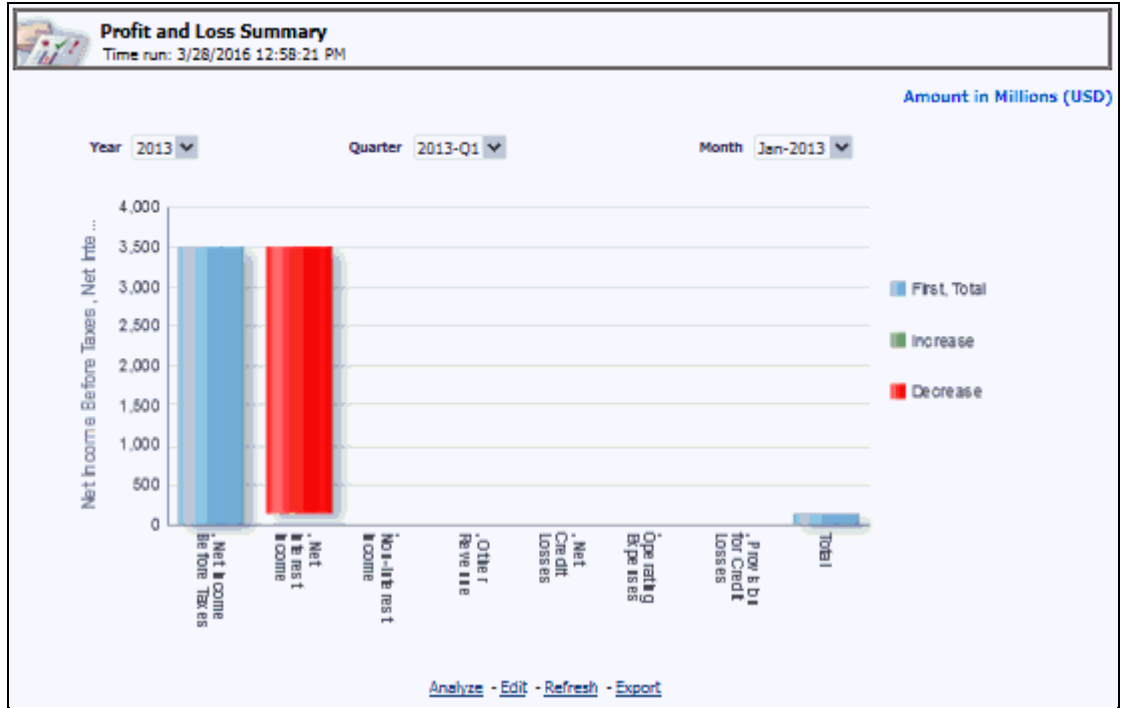
This report displays Revenues and Expenses under various reporting lines. The numbers are displayed for the current time period selected and in comparison with numbers recorded during previous same time period and move in terms of percentage change.

Income Statement			
Time run: 3/28/2016 12:58:21 PM			
Year	2013	Quarter	2013-Q1
Month	Jan-2013		
	Current	Previous	Percentage Change
> Total Interest Income	128057433	3486916242	(0.963%) ↓
Net Interest Income	128057433	3486916242	(0.963%) ↓
Total Revenue	128057433	3486916242	(0.963%) ↓
> Non Operating Expenses	(31525)	(988956)	(0.968%) ↓
Total Operating and Non Operating Expenses	(31525)	988956	(0.968%) ↓
Income Before Taxes	128088958	3487905198	(0.963%) ↓
Net Income Before Taxes	128088958	3487905198	(0.963%) ↓
Net Income After Taxes	128088958	3487905198	(0.963%) ↓

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

16.1.7.4.3 Profit and Loss Summary

This report provides the comparison of the details of the income generated to predefined scenarios



16.1.7.4.4 Profit and Loss - Scenario Comparison

This report provides the comparison of the details of the income generated to predefine scenarios.

Profit & Loss - Scenario Comparison
Time run: 7/22/2015 9:49:18 PM

Amount in USD

	Actual		Scenario				YTD Actuals % FY Scenario
	Mar-2015	YTD Actual	YTD Scenario	(B/W)	(B/W) %	FULL YEAR	
Net Income Before Taxes	-22.18	-22.18	-1.30	-20.89	0.94	-1.30	
Income before Taxes	-22.18	-22.18	-1.30	-20.89	0.94	-1.30	
Total Revenue	-22.16	-22.16	-1.09	-21.07	0.95	-1.09	
Net Interest Income	-22.16	-22.16	-1.09	-21.07	0.95	-1.09	
Net Credit Losses	0.03	0.03	0.21	-0.18	-6.96	0.21	

Buttons: Analyze - Edit - Refresh - Print - Export

Some of the dashboard filters, that is, Customer Gender, Customer Age/Customer Income, Geography Filter prompt selection is not applicable to this report.

16.1.8 Relationship Manager Insights

16.1.8.1 Relationship Manager Portfolio

This report displays the various assets of a Relationship Manager. This report provides account-wise product portfolio with Revenue of customers held by each RM.

Relationship Manager Portfolio						
Time run: 3/28/2016 1:00:37 PM						
						Amount in USD
ROBERT QUINLAN						
Customer Name	Product	Account ID	Percentage Contribution	Primary Officer (Y/N)	Total Revenue	Contributed Revenue
DAVID WARNER	Salary Accounts	RCASA001	100%	N	(160.00)	-160.00
SUCHITHRA C	Salary Accounts	RCASA007	100%	Y	(1,190.00)	-1190.00
MARY H LAMB	Institutional Savings	RCASA008	100%	Y	(2,160.00)	-2160.00
LAKSHMI P	Salary Accounts	RCASA012	100%	Y	(3,955.00)	-3955.00
SACHIN TOM	Supreme Current Account	RCASA013	100%	Y	(4,795.00)	-4795.00
MEERA R	Supreme Current Account	RCASA014	100%	N	(4,830.00)	-4830.00

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#) - [Export](#)

16.1.8.2 Relationship Manager Org Performance

This report provides details of each Relationship Manager's performance at an Account Manager's level with details of customers, holding, total revenue, percent contribution to business and both direct and indirect revenue generation.

Relationship Manager Org Performance									
Time run: 3/28/2016 1:00:37 PM									
								Amount in USD	
Relationship Manager Hierarchy	Product	Customer	Account ID	Primary Officer Flag	Total Revenue	Percentage Contribution	Direct Contribution	Indirect Revenue	Overall Revenue Contribution
> ROBERT QUINLAN	Institutional Savings	MARY H LAMB	RCASA008	Y	(2,160.00)	100.00	(2,160.00)	0.00	(2,160.00)
	Salary Accounts	DAVID WARNER	RCASA001	N	(160.00)	100.00	(160.00)	0.00	(160.00)
		LAKSHMI P	RCASA012	Y	(3,955.00)	100.00	(3,955.00)	0.00	(3,955.00)
		SUCHITHRA C	RCASA007	Y	(1,190.00)	100.00	(1,190.00)	0.00	(1,190.00)
	Supreme Current Account	MEERA R	RCASA014	N	(4,830.00)	100.00	(4,830.00)	0.00	(4,830.00)
		SACHIN TOM	RCASA013	Y	(4,795.00)	100.00	(4,795.00)	0.00	(4,795.00)

[Analyze](#) - [Edit](#) - [Refresh](#) - [Print](#) - [Export](#)

17 What-If Analysis

This report enables the user to account for the change in profitability owing to any probable changes in the projected components of profitability. The probable change can be defined by the user and is termed as 'Variation'. The user could define the parameters to which variation is being applied and the magnitude of variation. The net effect on profitability as a result of these variations can be applied.

The effect of variations on profitability can be analyzed at differing levels of granularity like enterprise, LOB, Product, Customer, and Account. This selection is enabled to the user through dashboard prompt selections. The projected data of income statement is available at an account level. Aggregations are done based on the desired level of granularity. The projections are created based on historical data of the account.

Users could define the variations through the UI, which when imposed on the income statement provide the resulting net income. The resulting income statement post applying the variations is called as a 'Scenario'. The projections are by default created for 5 years, but the change in projection may not necessarily be applied for the entire 5 years. The tenure for which the specified variation is applicable can also be defined while specifying the variation. The magnitude of variation being applied can be specified either in 'percentage' or 'absolute'. If the variation is specified as a percentage then the value of the component to which variation is being applied changes by the corresponding percentage value for the specified time. Similarly, when the variation is applied in absolute terms the value of the component to which variation is being applied changes by the corresponding absolute value for the specified time.

Certain users should have the authority to save a scenario which can later be accessed by other users for reference. The variations once applied can be applied on the income statement by either of the following two methods:

- **Basic:** The variations that are applied get simply aggregated with the modified values of components to show the resulting net income. The basic version supports variations to be applied to multiple parameters at the same time.
- **Advanced:** The variations that are applied also affect the other components it is correlated to and the modified values of all such parameters get aggregated to show the resulting net income. In the Advanced version variation can be applied to only a single component at a time.

The scenarios that are thus created can be used to analyze the outcome on the profitability of any probable change in the future. Certain users should have the authority to save a scenario which can later be accessed by other users for reference. It is also possible to create a scenario on an existing scenario by applying variations to the components of the income statement in the scenario.

		2013		2014		2015		2016		2017		2018	
		Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement
Net Income Before Taxes		-246.27		-330.95		-333.85		-336.55		-339.09		-85.13	

The following input parameters are applicable for OFS PA:

Table 43: Input Parameters for OFS Performance Analytics

V_PARAMETER_NAME	V_PARAMETER_VALUE
VAR_STRT_DT_IPA	This input parameter indicates the start date for the variance calculation.
VAR_END_DT_IPA	This input parameter indicates the end date for the variance calculation.
TSHLD_FCTR_IPA	This input parameter indicates the threshold factor for replines.
EXCL_LMT_IPA	This input parameter indicates the maximum outlier exclusion percentage.

NOTE

There is a limitation on the graph. Default upper limit for the graph will be based on underlying data in the fact table. Variations applied above the normal can be applied using the grid. If the user wants to apply variation beyond the upper limit shown in the graph, it is not possible through the graph and hence, it should be applied through the grid. The same applies to Negative Values. The graph does not allow applying negative variations. That is, the graph nodes cannot be dragged below the X-Axis. This change needs to be done using the grid mode.

17.1.1 Basic Scenario

The following procedure describes the steps to create a variation:

1. Navigate to the OBIEE Dashboard page of What-If Analysis.
2. Click **Create Scenario** after selecting the relevant dimensions to display the **Scenario - Basic** screen.

Scenario - Basic Save Cancel

Definition

Dimension Details

Account	ALL	Customer	ALL
LOB	Retail Banking	Product	ALL

Graph

Measure: Interest Income Zoom In Zoom Out Reset Zoom Reset Lines

Current Changes:

NOTE:

1. Percentage variation applied & final value are displayed in the tooltip of the respective point.
2. Variations while changing are displayed above the Graph.

Variation Specification 0 to 10 of 0

<input type="checkbox"/>	Measure	Start Date	End Date	Percent Variation	Absolute Variation
<input type="checkbox"/>					

NOTE:

1. Please select the option in the dropdown below even if the desired option is already selected.
2. To delete a row select the and click the Delete icon in the above bar.

Preview Variations >>

Save Cancel

>> ✎ ✕

3. Apply the necessary **Dimension Details** for the following:

- Account
- Customer
- LOB
- Product

4. Select the relevant repline **Measure** from the dropdown list to which you want to apply the variation.

5. Select a point on the graph and drag to apply the desired variations. Percentage variation and applied, final values in the dropdown are displayed on the graph and as a tooltip on the point that is being changed.

6. Select the relevant details for the following under the **Variation Specification** section of the screen.

- Measure
- Start Date
- End Date
- Percent Variation: Enter the % value. If you enter this, you cannot enter the Absolute Variation.

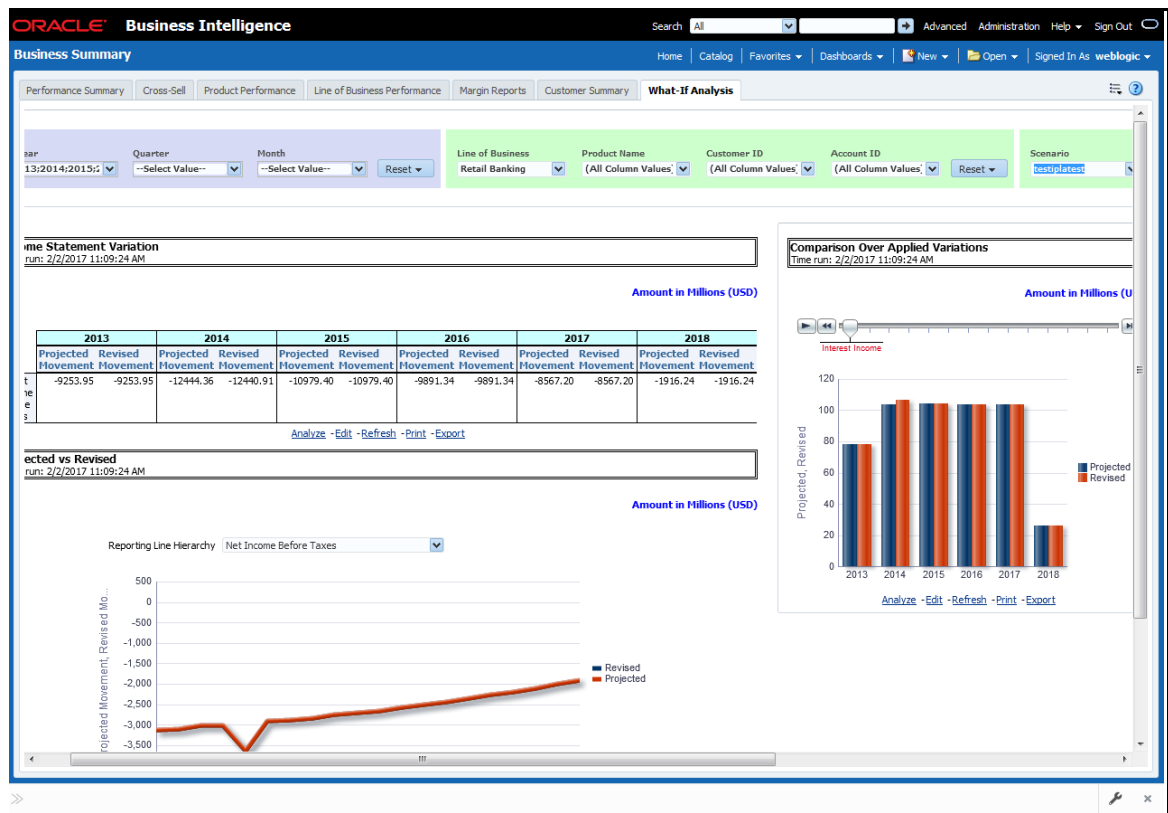
- **Absolute Variation:** Enter the absolute value. If you enter this, you cannot enter the Percent Variation.

If there is an overlap in dates among various variation specification rows, the same can be overridden to apply the respective change.

Always the most recent changed value is considered for variation and the other value will be cleared.

7. Click **Preview Variations** to see the results.
8. Click **Save** after confirming the variations. After this, you will be redirected to the OBIEE screen where the applied variations can be seen and analyzed further.

The OBIEE screen is displayed as shown below:

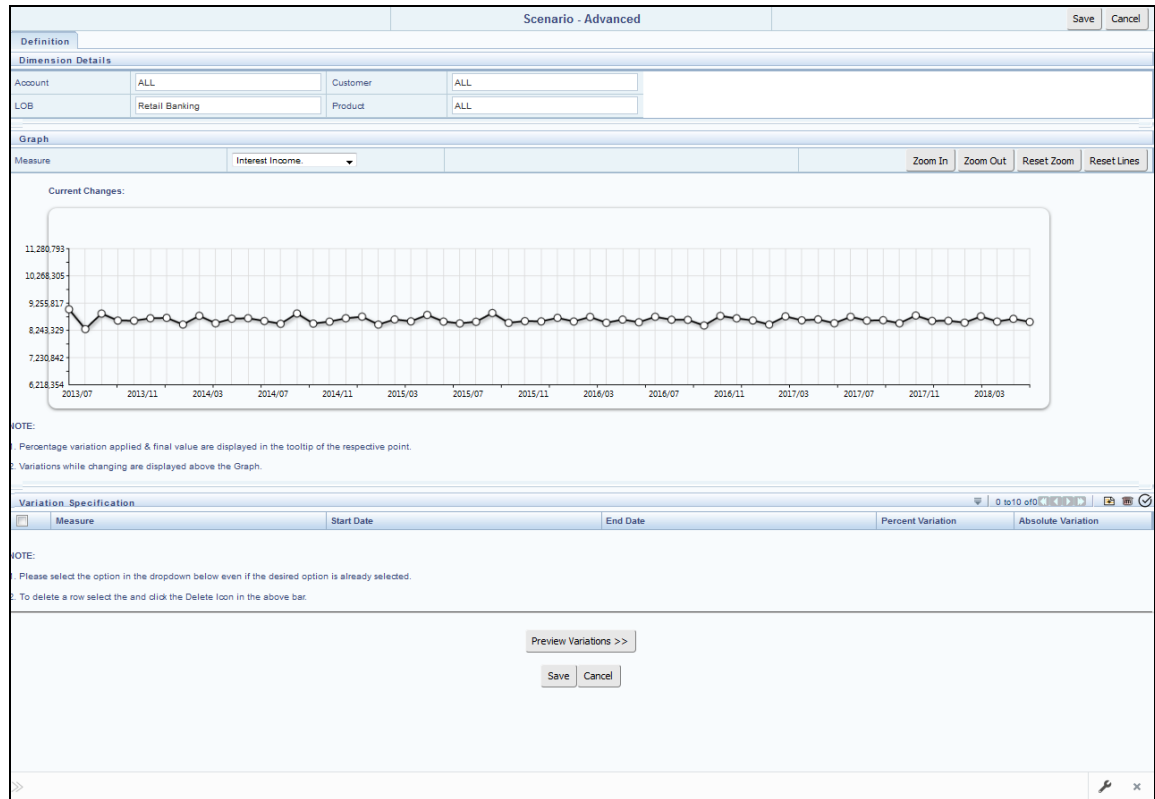


17.1.2 Advanced Scenario

In the advanced scenario, when a change is applied to a repline, then all its corresponding correlated changes affecting other replines are also made. These correlated changes can be preview in the preview results view by clicking on the Preview Variation button at the bottom of the page.

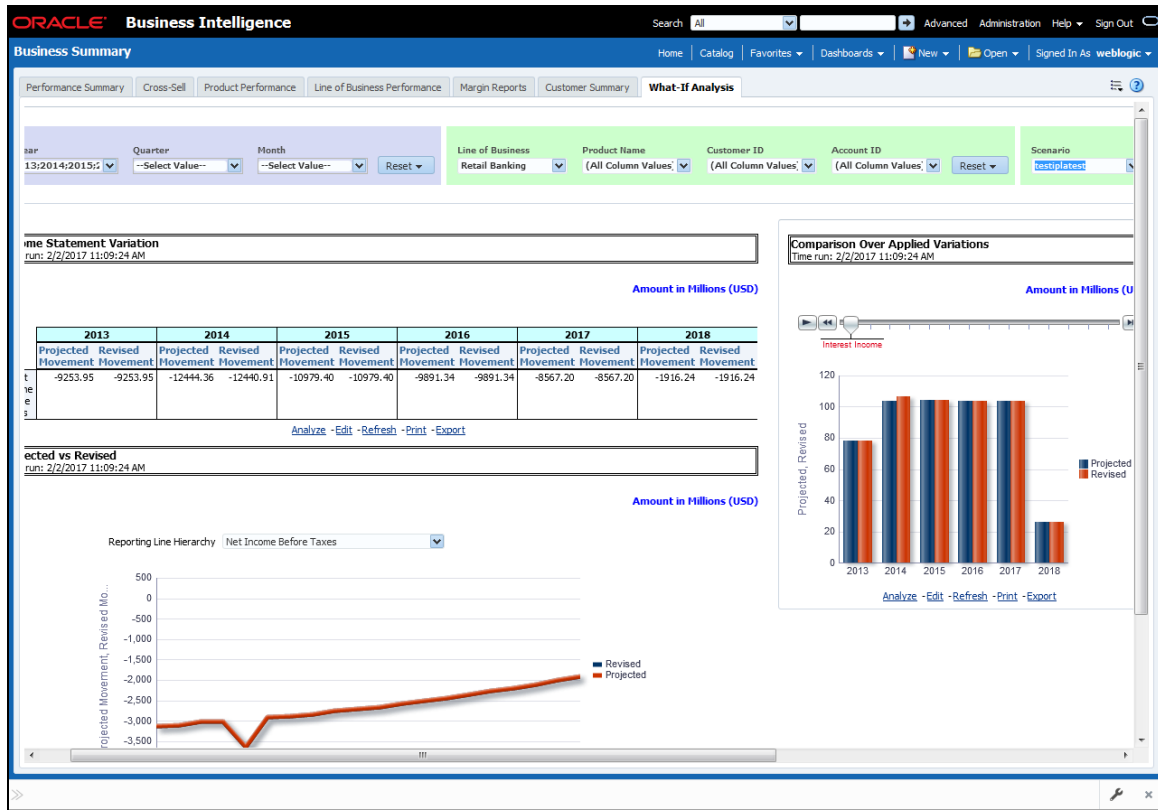
The following procedure describes the steps to create a variation:

1. Navigate to the What If Definition dashboard to display the Scenario - Advanced screen.
This screen allows you to zoom in, zoom out, and reset the zoom.



2. Apply the necessary **Dimension Details** for the following:
 - Account
 - Customer
 - LOB
 - Product
3. Select the relevant repline **Measure** to which you want to apply the variation.
4. Select a point on the graph and drag to apply the desired variations.
5. Click **Preview Variations** to see the results.
6. Click **Save** after confirming the variations. After this, you will be redirected to the OBIEE screen where the applied variations can be seen and analyzed further.

The OBIEE screen is displayed as shown below:



This chapter discusses the following topics:

- [Configuration for What-If Analysis](#)
- [PACS Integration with Price Creation and Discovery \(PCD\)](#)
- [Reporting Line Correlation Calculations](#)
- [What-If Analysis Limitation](#)

17.2 Configuration for What-If Analysis

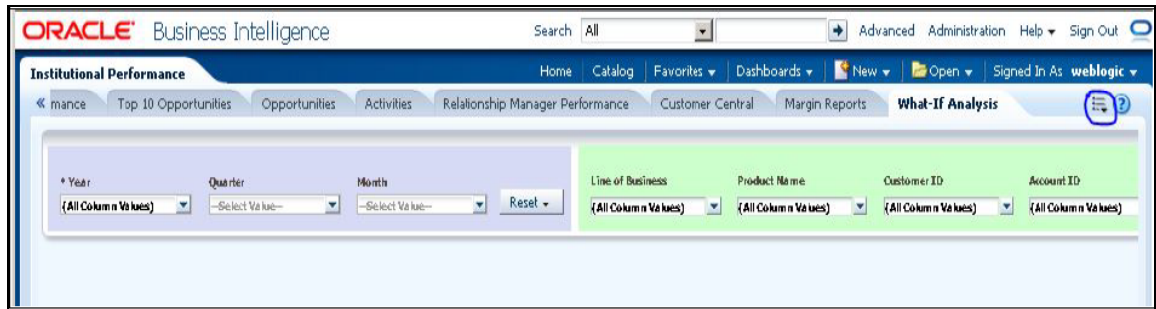
Configure the connection to the What-If Variation application page in OFSAAI in the Create Scenario Analysis. OFSAAI is Oracle Financial Services proprietary tool that uses Java to enable users to apply variations on the projected data.

Example: Assume that the OFSAA hostname is 10.184.150.107 and the OBIEE analytics port is 7001. Hence, the

OBIEE analytics access URL would be <http://xx.xx.xxx.xxx:xxxx/PFT810>.

To configure these details to the What-If analysis framework, the user needs to perform the following steps:

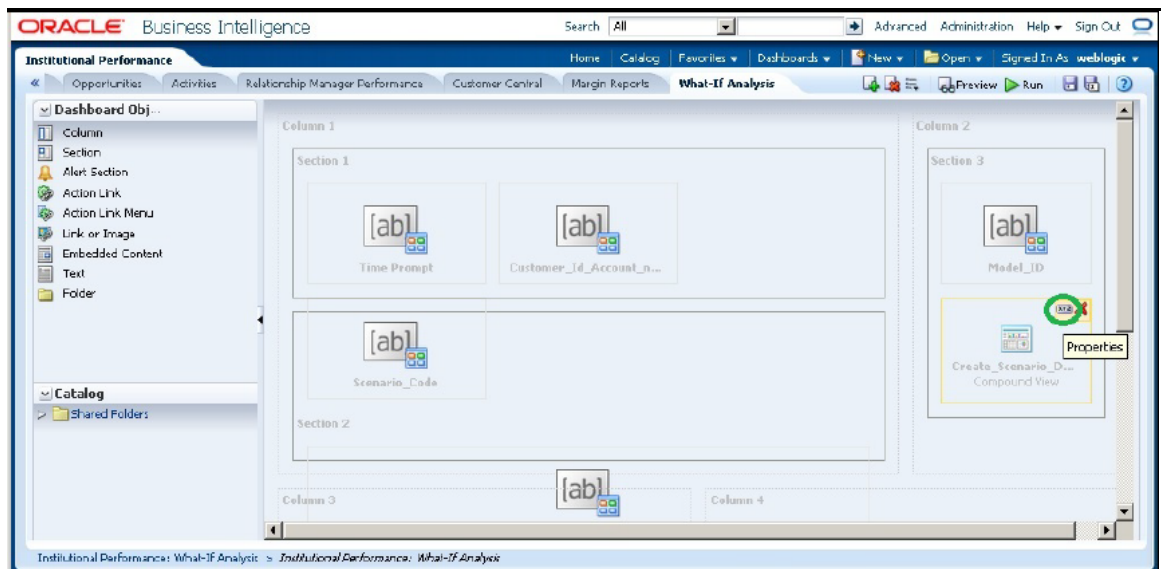
1. Navigate to What-If Analysis Dashboard Page and Edit Dashboard Page. This page would be under the Dashboard –Retail Performance for OFSRPA.



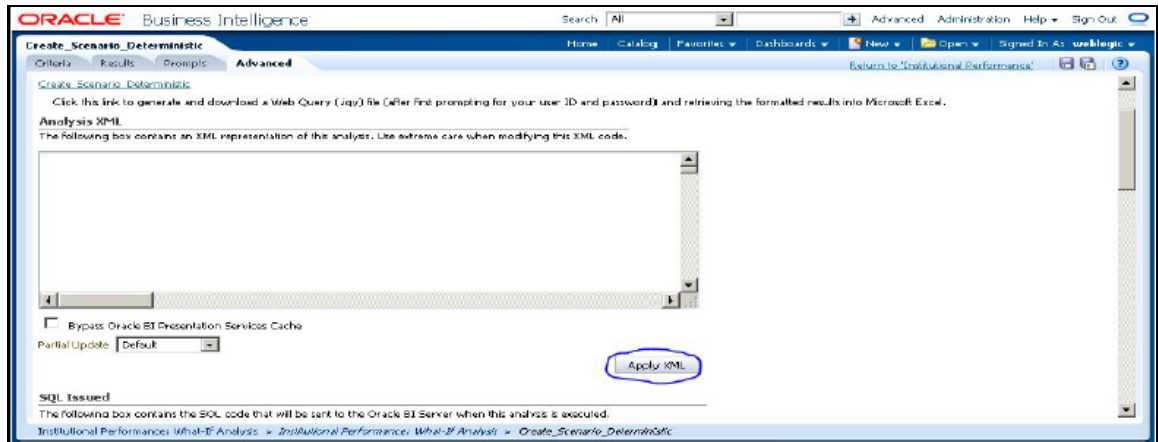
Edit the analysis Create Scenario.

NOTE Only users with OBIEE roles higher than BI Author will be able to edit.

2. Navigate to the Advanced XML section and edit the contents of the Analysis XML.



3. Replace all occurrences of `##ofsa_hostname##` with the OFSAI user hostname (example: `bank_host`), `##ofsa_port##` with the OFSAI servlet port (example : `8080`) and the `##ofsa_context##` with the context of the OFSAI instance (example : `PFT801`).
4. Click **Apply XML** and save the analysis after the occurrences of placeholders have been replaced and the XML contents have been pasted.



5. Configure the OBIEE URL in the What-If Model Definition setup tables to be able to navigate between the OFSAAI and OBIEE screens.

Example: Assume that the user hostname is – 10.184.150.107 and the OBIEE analytics port is 7001. Hence, the OBIEE analytics access url would be:

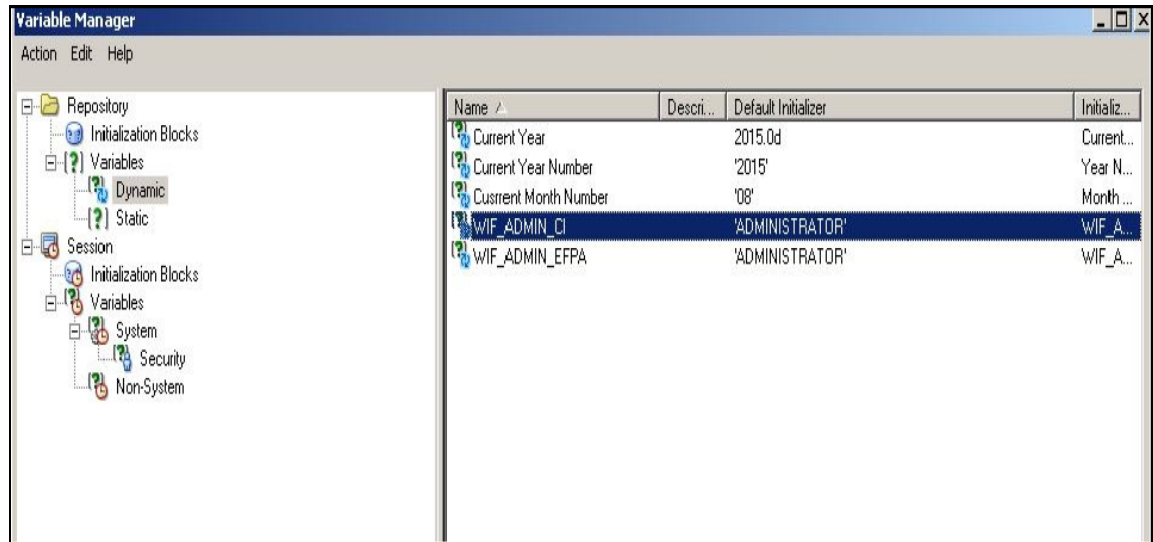
`http://10.184.150.107:7001/analytics`

To configure these details to the What-If analysis framework, the user needs to execute the following update on the atomic schema:

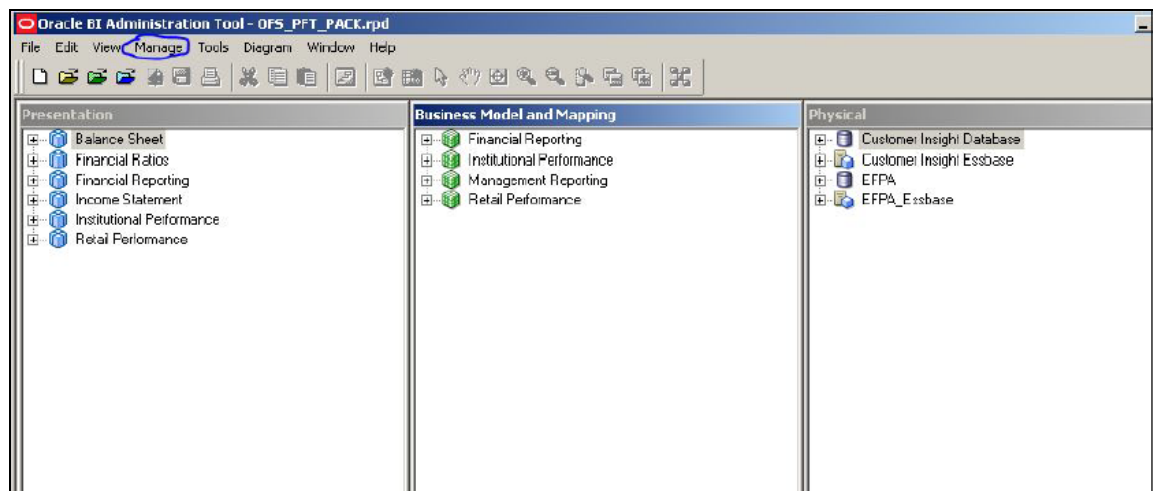
```
update fsi_m_wif_model_defn set output_page =
replace(replace(output_page, '##hostname##',
'10.184.150.107' ), '##port##', '7001')
/
Commit
/
```

Where the hostname and port replaced would be the user's corresponding hostname and port instead of the examples mentioned above.

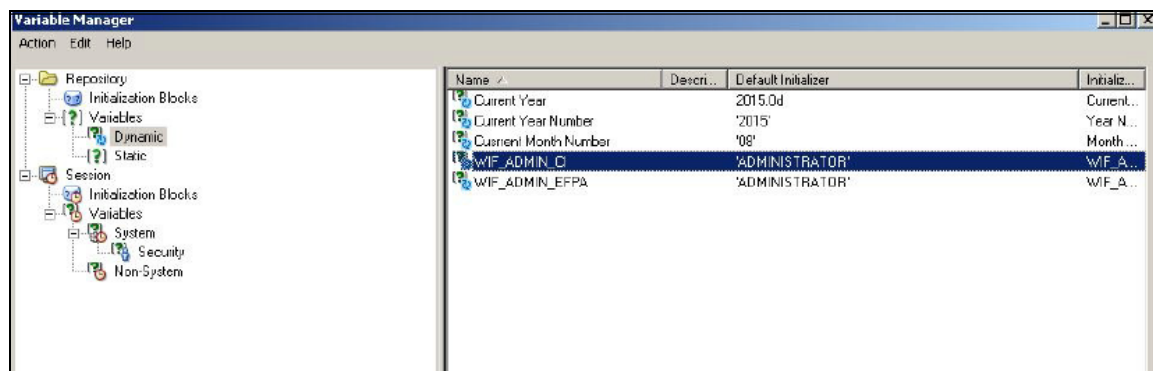
6. Configure What-If Admin Role in RPD to configure security roles to restrict Scenario Creation. If a user is not a What-If administrator, the user will only have access to `!$Display Results!`. The results of this operation will not be persisted beyond one session per user.



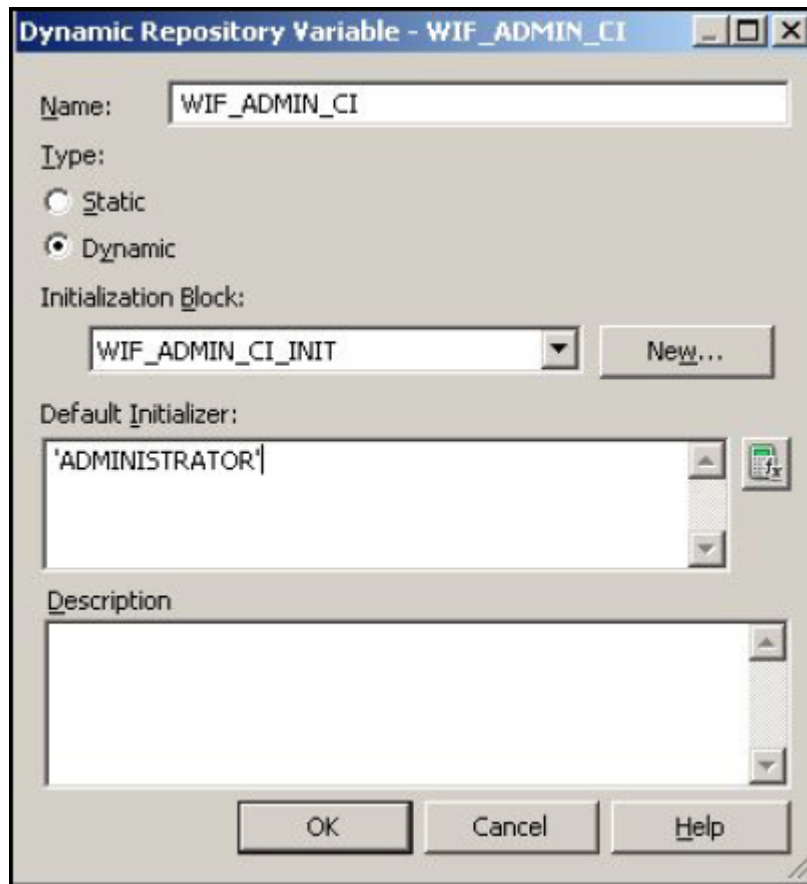
- Open the OFS_PFT_PACK RPD and navigate to the Variable Definition Screen.



- Modify the WIF_ADMIN_CI Repository Dynamic Variable:



- Edit the default initializer to enter the desired What-If Administrator role. The user with this role will have the privilege to create and save a scenario. Users without this privilege will only be able to create a scenario, but not save it.



10. If the webserver is Tomcat of version $\geq 8.0.18$, following additional configuration needs to be done to avoid Performance Issues while performing What-If Analysis:

Add the following tags in the server.xml file under tomcat_folder/conf/:

Insert the below tag inside the “Context” tag as the first nested tag:

```
<Loader delegate="true"/>
```

Insert the following attributes for all the “Resource” tags under the “Context” tag :

```
removeAbandonedOnBorrow = "true"
```

```
removeAbandonedOnMaintenance="true"
```

Example :

```

<Context path="/PFT" docBase="/scratch/ofsaapp/tomcat-7.0.19/webapps/PFT" debug="0" reloadable="false" crossContext="true"
  <Loader delegate="true"/>
  <Resource auth="Container"
    name="jdbc/FICMASTER"
    type="javax.sql.DataSource"
    driverClassName="oracle.jdbc.driver.OracleDriver"
    username="pftconf30"
    password="ofsaasx"
    url="jdbc:oracle:thin:@10.184.153.87:1521:DEV12C"
    maxActive="1000"
    maxIdle="30"
    maxWait="10000" removeAbandoned="true" removeAbandonedTimeout="60" logAbandoned="true"
    removeAbandonedOnBorrow = "true" removeAbandonedOnMaintenance="true"/>
  <Resource auth="Container"
    name="jdbc/OFSPTINFO"
    type="javax.sql.DataSource"
    driverClassName="oracle.jdbc.driver.OracleDriver"
    username="pftatm30"
    password="ofsaasx"
    url="jdbc:oracle:thin:@10.184.153.87:1521:DEV12C"
    maxActive="1000"
    maxIdle="30"
    maxWait="10000" removeAbandoned="true" removeAbandonedTimeout="60" logAbandoned="true"
    removeAbandonedOnBorrow = "true" removeAbandonedOnMaintenance="true"/>

```

17.3 OFS PA Integration with OFS Price Creation and Discovery (PCD)

The input from OFS PA to OFS PCD is enhanced from the current setup with projected values for extended future periods based on the available current actual data for each customer account. Output on current and projected values have been determined for each product type through various measures such as EOP Balance, Fee Income, Other Income of Customers, Expenses, Credit utilization ratio, and credit card revolving rate.

17.4 Reporting Line Correlation Calculations

For the reporting lines, regression coefficients are calculated using the R-model based on the threshold values. It is considered that a pairwise relationship exists between independent and dependant reporting lines.

In what-if analysis, you can make variations to the value of a variable. Variations can be applied only to the following reporting lines in the income statement:

- Interest Income
- Interest Expenses
- Transfer Pricing Charge
- Transfer Pricing Credit
- Non-Interest Income
- Operating Expenses
- Net Credit Losses
- Other Revenue

The following parameters are available in the FSI_MODEL_PARAMETERS table:

- The start date of the reference time period
- The end date of the reference time period
- Percentage of values that lie within the threshold
- Percentage of outliers that need to be removed

The following steps are used in repline correlation calculation:

1. Excluding Outliers
2. Testing for Stationarity
3. Testing for Cointegration

Excluding Outliers

For each variable, the sigma and mean are calculated within the reference time period as defined in the database. If the value of the variable lies outside the threshold provided, the respective pairs are excluded for all associated variables.

Pairs are excluded based on the Mahalanobis distance, i.e., pairs are excluded in descending order of their absolute distance from the mean.

Testing for Stationarity

After the outliers are excluded, the ADF test is used to check for stationarity on the time replines. The stationary is checked for each repline at two levels: I(0) and I(1). If any time repline is not found to be stationary, do a differencing of data, and repeat the test.

NOTE adf.test is a function of the R-library. A limitation of the R-library is that the stationary value can be calculated only if the records or data points are more than or equal to 6.

Results are reported and used in the cointegration test.

Testing for Cointegration

After the stationary test is done, the causal relations between regression variables are checked. Then cointegration is done.

The following table shows the action that is performed for pairwise stationarity and pairwise integration based on the stationarity level:

Table 44: Action performed Pairwise Stationary and Pairwise Cointegration

Pairwise Stationarity	Pairwise Cointegration	Action
Both I(1)	Exists	Do regression without any transformation
	Does not exist	Do regression after differencing
Both(0)	NA	Do regression without any transformation

Pairwise Stationarity	Pairwise Cointegration	Action
One I(1) other I(0)	NA	Do regression after differencing I(1) series

17.5 What-If Analysis Limitation

There is a limitation on the graph. Default upper limit for the graph will be based on underlying data in the fact table. Variations applied above the normal can be applied using the grid. If the user wants to apply variation beyond the upper limit shown in the graph, it is not possible through the graph and hence, it should be applied through the grid.

The same applies to Negative Values. The graph does not allow applying negative variations. That is, the graph nodes cannot be dragged below the X-Axis. This change needs to be done using the grid mode.

18 Visibility

Visibility is implemented to restrict the user's access to the data and the metadata. The user can view based on the role and the privileges assigned to the user.

Visibility has been implemented using two security models:

- OBIEE Security
- Data Security

18.1 OBIEE Security

This has been implemented using the Roles and Privileges settings, the dashboard level, Report level, and the object level.

18.2 Data Security

This has been implemented with a sequence of tables used for controlling the data access to the user.

The set of tables are:

- **FSI_M_USER:** This table stores all the users who are not relationship managers and are business users who have access to data at different levels. The user id in this table should match the user's login id of OBIEE.
- **FSI_M_USER_MANAER_MAP:** This table stores all the users who are relationship managers. V_User_name should hold the Obiee login Id of the user who is a relationship manager. The Manager Code column should match with the entry in dim_management.
- **FCT_ACCOUNT_MGR_REL:** This table restricts the user who is a relationship manager to a certain account of customer/Customers. This defines the user at the lowest granularity.
- **DIM_CUSTOMER:** This table is to define if the user has access to all the accounts the customer holds. This is again to define the relationship manager's visibility. This data will be moved from dim_party. Dim_party will be sourced from stg_party_master.
- **FSI_USER_DATA_ACCESS:** This is a mapper table enabled on AAI Mapper that provides UI for the user to set the visibility. The visibility of the user can be set at the following levels using the mapper - Product, Branch, Legal Entity, and Line of Business.
- **FSI_USR_CTRL_ACCESS** - This table contains all the records for each user and the access available to the user for every date. The data is sourced from FSI_M_USER_MANAGER_MAP, FSI_USER_DATA_ACCESS, DIM_MANAGEMENT, FCT_COMMON_ACCOUNT_SUMMARY, FCT_ACCOUNT_MGR_REL, and DIM_CUSTOMER. The Parent-Child hierarchies (derived entities) need to be refreshed before this table load. The names of the hierarchies are MGRPC and CUSTPC. The User has access to all the child nodes in the manager Hierarchy and all the customer hierarchies the user is managing, and the customer hierarchies managed by the child node managers as well.
- **CTRLACC:** This is a materialized view on the table FSI_USR_CTRL_ACCESS giving the distinct user access to accounts, customers, products, lines of business, and legal entity. This view is used for applying visibility on the rpd. This is created as a derived entity and there is a job to refresh this derived entity.

NOTE

Users insertion in FSI_M_USER and FSI_M_USER_MANAGER_MAP has to be done directly into the table. For example, in the presence of a Single Signon System, these tables need to be loaded with data from a single signon system directly.

19 Appendix A: Adding a New Dimension

This section explains the steps to be performed by the user for adding a new dimension to the cube.

As a prerequisite, dimension tables should be added in the data model and the fact table needs to have the referential key with the dimension table. These dimension tables will hold dimension members and can be level-based or parent-child.

Level based dimension tables contain columns for each level of the hierarchy, while parent-child dimension tables contain columns for storing the relationship between the parent and child members. These dimension tables can be loaded from external systems or can be maintained within the Dimension Management component of OFSAAL.

If the user intends to maintain the dimension within OFSAAL, see Data Model Utilities Guide for adding dimension tables under the "Object Management" chapter.

This chapter discusses the following topics:

- [Introduction to Dimensions](#)
- [Dimension Definition Process](#)
- [Metadata](#)

19.1 Dimension Definition Process

Step 1 - Add Business Hierarchy

1. To define a new **Business Hierarchy**, go to **Unified Metadata Manager**, select **Business Metadata Management**, and choose the type of hierarchy.

Hierarchy Types are:

- **Regular:** For representing non-time and non-measure dimensions in a hierarchical format. For example, this type is Product, Organization Unit, and so on.
- **Measure:** For representing the measures in the hierarchical format. This corresponds to an ACCOUNT hierarchy within the ESSBASE. An example of this type is the Management Reporting Line.
- **Time:** For representing the calendar or date dimension in a hierarchical format. This corresponds to a TIME hierarchy within Essbase. An example of this type is the Calendar hierarchy.

2. Choose the Hierarchy subtype. Hierarchy SubTypes are:
 - **Non Business Intelligence Enabled:** For representing the hierarchy with an underlying data store containing just leaves and nodes are built within the metadata of the hierarchy. This subtype is useful for modeling bucket/range, ragged, and non-additive hierarchies.
 - **Business Intelligence Enabled:** For representing the hierarchy with the underlying data store as a level-based dimension table. This subtype is useful for modeling balanced hierarchies.
 - **Parent Child:** For representing the hierarchy with the underlying data store as a parent-child dimension table. This subtype is useful for modelling ragged hierarchies.
3. Select the "Total Required" property, if a TOTAL is required to be included as the root node of the hierarch and select the "List" property if the hierarchy is a flat list of members without any levels.
4. Choose the entity and attribute on which the hierarchy is based. The components for the hierarchy definition differ for each subtype of the hierarchy.
 - If subtype is "Non Business Intelligence Enabled", then the user can add nodes and order in which the node should appear in the hierarchy (sort-order). Node identifiers
 - are SQL expressions that are specified for leaf members and data is classified based on the node identifiers.
 - If the sub-type is "Business Intelligence Enabled", then the user can specify the levels and SQL expression for each level within the hierarchy.
 - If the sub-type is "Parent-Child", then the user can specify the column that contains the parent member and that contains the child member.

For more details, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Step 2 – Add Business Dimension

A Business Dimension is a structure of one or more logical grouping (hierarchies) that classifies data. It is the categorization across which measures are viewed. A dimension can have one or more hierarchies. Business Dimension facilitates you to create a logical connection with measures. It gives you various options across which you can view measures.

5. To define a new **Business Dimension**, go to **Unified Metadata Manager**, select **Business Metadata Management**.
6. Choose **Dimension Type**. Dimension Type is the same as Hierarchy Type and helps to filter the hierarchies that will be part of the dimension. A dimension will contain one or many hierarchies. Choose the hierarchies that are part of the dimension.

The User Info grid at the bottom of the screen displays the metadata information about the Business Dimension created along with the option to add comments.

7. Click **Save** in **Add Business Dimension** screen to save the details.

The screenshot displays the 'Add Business Dimension' interface. The main form area contains the following details:

- Business Dimension Details:**
 - Code: DEPM001
 - Short Description: PRODUCT DIMENSION
 - Dimension Type: REGULAR (dropdown menu)
 - Data Type: TEXT (dropdown menu)
 - Long Description: (empty text area)
- Hierarchies:**
 - Selected Hierarchies: (table with 'No hierarchies selected')
- User Info:**
 - Created By: (empty)
 - Created Date: (empty)
 - Last Modified By: (empty)
 - Modified Date: (empty)
 - Authorized By: (empty)
 - Authorized Date: (empty)

Buttons for 'Save' and 'Cancel' are located below the main form area.

For more details, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Step 3 – Modify Data Set

To modify **Data Sets**, go to **Unified Metadata Manager --> Business Metadata Management**.

Identify data sets that are based on the modified fact table. Open the data set definition. Include the new dimension table in the data set. Modify the data set JOIN to include the join clause between the fact table and the new dimension table. Save the data set.

The screenshot displays the 'Edit Data Sets' window. It is divided into three main sections:

- Data Set Details:** Contains fields for Code (DSFVWCP), Short Description (Account Fair-Value Inception), and Long Description (Hedge Management Inception Dataset for Account FV).
- Entities:** A list of selected tables including DIM_DATES, DIM_FCST_RATES_SCENARIO, DIM_HEDGE, FCT_ACCOUNT_FAIR_VALUE, and FSI_HM_HEDGE_INSTRU_MAP.
- Data Set Definition:** Shows the ANSI Join clause: `DIM_HEDGE.N_HEDGE_ID = FSI_HM_HEDGE_INSTRU_MAP.HEDGE_ID AND FCT_ACCOUNT_FAIR_VALUE.N_ID_NUMBER = FSI_HM_HEDGE_INSTRU_MAP.ID_NUMBER`.

For more details, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Step 4 – Modify Cube Definition

Modify "Cubes" in **Unified Metadata Manager -> Business Metadata Management**.

Identify the cube that needs to be modified. Open the cube definition. Add the new dimension. Map the measures to the newly added dimension and Save the cube definition.

For more details, the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Step 5 – Build Cube

Assuming that the dimension table and the fact table is loaded with relevant data, a cube can be built. Define batch to execute the CREATE CUBE component that will build the outline and load data in ESSBASE.

For more information on executing batch, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

19.1.1 Steps to follow while using ESSBASE Source for Relationship Manager Hierarchy

The following are the steps to follow while using ESSBASE Source for Relationship Manager Hierarchy.

1. When creating a Parent Child hierarchy using ESSBASE, ESSBASE creates two additional parents to the existing hierarchy. For example:

Relationship Manager Hierarchy
▽ Relationship Manager Dimension
▽ HEPMRM02:HEPMRM02:ND
▽ A
B
▽ C
▽ D
▽ E
F

Relationship Manager Hierarchy
▽ A
B
▽ C
▽ D
▽ E
F

The first hierarchy is generated by the RDBMS source and the second is generated by the ESSBASE source. The additional parents are the Hierarchy Name and the Dimension Name of the metadata bearing the hierarchy.

2. In the context of using Relationship Manager Hierarchy for Institutional Performance, there is a concept of visibility of data implemented. This means that while using a cube source, D can see A listed as a manager in the hierarchy. However, D does not have the privilege to view the data (revenue, movement, and so on) related to A but can view the data for all the child nodes of D, for example, E and F. As a result, if Relationship Manager Hierarchy is selected along with Direct Movement, no results are displayed.

▽ **Selected Columns**

Double click on column names in the Subject Areas pane to add them to the Selected Columns pane. To remove a column, click on the delete button next to its name.

Dim - Management	Fact - Account Profitability
Relationship Manager Hierarchy	Direct Movement

Compound Layout

No Results

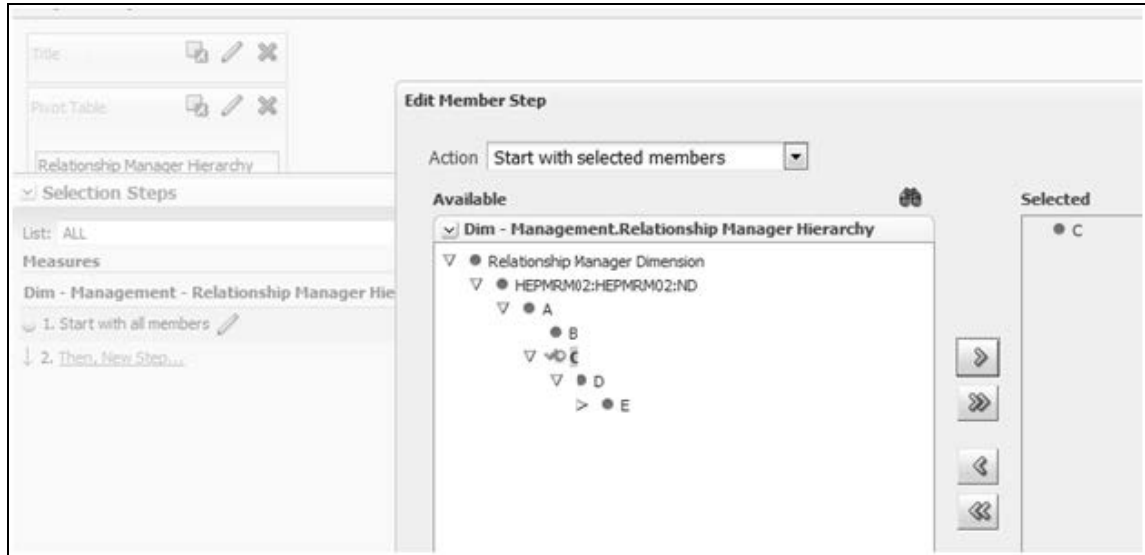
The specified criteria didn't result in any data.

[Refresh](#)

3. To view results for the logged-in Relationship Manager, the user must choose the Relationship Manager who is mapped to the user. In this case, the logged-in user is WebLogic. From FSI_M_USER_MANAGER_MAP, the following is seen:

	V_USERNAME	V_MANAGER_CCDE	D.V_AM_ACCT_MANAGER_FIRST_NAME
1	RELATIONSHIP MANAGER ...	A01	A
2	SALES REPRESENTATIVE ...	A02	B
3	weblogic	A03	C

4. Thus the user must start the hierarchy with C.



As a result, the user will be able to see the data related to the manager.

Relationship Manager Hierarchy	Direct Movement
▽ C	-827.25
▽ D	-827.25
▽ E	-827.25
F	-1611.25

19.2 Technical Metadata

- Sheet_for_DIM_STG_MAP.XLS excel sheet lists the SCD's packaged in the RPA application.
- OFS_RPA_Technical_Metadata.xls lists the Institutional Performance Analytics technical metadata.

19.3 Optional Metadata

- PFT Acc_Sum_tech.xlsx lists the technical metadata related to the PFT account summary.
- FTP Acc_Sum_tech.xlsx lists the technical metadata related to the FTP account summary.

19.4 Business Metadata

- OFS RPA Business metadata.xlsx lists the Oracle Financial Services Retail Performance Analytics BI 6.0 Business Metadata.

19.5 Reporting Metadata

- Customer Attributes - RPA.xlsx lists Customer Attributes.
- RPA-RPD_webcat.xlsx lists the RPA-RPD-Webcat metadata.

20 Appendix B: Adding a New Measure

This section details the steps to be performed by the user for adding a new measure to the cube. As a prerequisite, the fact table needs to have the column that holds values for the new measure.

This chapter discusses the following topics:

- [Measure Definition Process](#)
- [Build Cube](#)

20.1 Measure Definition Process

Step 1 – Add Business Measure

1. From **Unified Metadata Manager**, select **Business Metadata Management**, then select **Business Measures**.
2. From Business Measures, click **Add** to create a Business measure definition. In the Business Measure Definition (Add mode) window, select the **Aggregation Function**. Aggregation Function can be:
 - **SUM**: For summing up the values in the column of the fact table.
 - **COUNT**: For determining the number of records in the fact table.
 - **MAXIMUM**: For identifying the maximum value of a column in the fact table.
 - **MINIMUM**: For identifying the minimum value of a column in the fact table.
 - **COUNT DISTINCT**: For determining the distinct count of records in the fact table.
3. Specify if this measure needs to be rolled up against hierarchies.
4. Select the fact table as part of the Entity.
5. Select the column of the fact table as part of the Attribute. This column will hold the value of the measure.
6. Specify Business Exclusions and Filters, if required.
7. Save the measure.

Business Measure Details	
Code *	MEPM001
Short Description *	EOP Balance
Long Description	End of period balance

Business Measure Definition	
Aggregation Function	SUM
Roll up	<input checked="" type="checkbox"/>
Entity	
Attribute	
Business Exclusions	
Filter Expression	

For more information on Business Measures, see the Business Measures section under the Unified Metadata Manager chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Step 2 – Modify Cube Definition

1. From **Unified Metadata Manager**, select **Business Metadata Management**, then select **Cube**.
2. Identify the cube that needs to be modified.
3. Edit the cube definition.
4. Add the new measure.
5. Map the measures for the required dimensions.
6. Save the cube definition.

20.2 Build Cube

Assuming that the dimension table and the fact table is loaded with relevant data, a cube can be built.

Define batch to execute the CREATE CUBE component that will build the outline and load data in ESSBASE.

For more information on executing the batch, the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

21 Appendix C: Developing a New Cube

This section details the steps to be performed by the user for developing a new cube. Make sure that the existing cubes do not provide the required analytics/reporting coverage before deciding to define a new cube. In case the user would like to see measures against a new dimension that is not part of the existing seeded metadata, then suggest including the new dimension as part of the existing cubes instead of creating a new cube. As a prerequisite, a user must have defined datasets, measures, hierarchies, and dimensions before defining a cube.

21.1 Procedures to Develop a New Cube

Step 1 – Add Cube

From Unified Metadata Manager, select Business Metadata Management, then select Cube. Specify the MDB details that will be created in ESSBASE.

Step 2 – Include Dimensions

Include dimensions that are part of the cube definition. Users mandatorily need to include TIME and MEASURE dimensions.

Step 3 – Specify Variations

Specify variations between each of the measures to the respective dimensions. All the measures that are part of the cube need not vary against all of the dimensions. Depending on business needs, variations can be specified to control the rollup of measures against a set of dimensions.

Step 4 – Specify Dataset

Specify the dataset corresponding to the selected dimensions and measures. The data set will supply the required data to the cube.

Step 5 – Specify Node Level Formula

If node level formulae are required to be specified for the nodes within the hierarchy, then they can be specified in this UI.

Step 6 – Save and Build

Save the cube. Define and execute batch in ICC to build the cubes.

For more information on Cubes, see Cubes under the Unified Metadata Manager chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

22 Appendix D: Defining a Batch

Batch refers to a set of executable processes based on a specified rule. Batch Maintenance framework within OFSAAI facilitates you to create and maintain the Batch Definitions. You can process the Batch scheduled for execution from Batch Maintenance and also from other modules.

You need to have a Data Centre Manager function role mapped to access the Operations framework within OFSAAI. You can access Batch Maintenance by expanding the Operations section within the tree structure of the LHS menu. The Batch Maintenance window displays a list of Batches scheduled for maintenance with the other details such as Batch ID, Batch Description, and the editable state of the Batch.

You can create a batch from the Batch Maintenance screen as mentioned below:

1. From the OFSAAI Home menu, navigate to **Operations > Batch Maintenance**.
2. In the Batch Maintenance window, select the '+' button from the Batch Name toolbar.

The New Batch Definition window is displayed.

Enter the Batch details as given in the following table.

Table 45: Field Description

Field	Description
Batch Name	The Batch Name is auto-generated by the system. You can edit to specify a Batch name based on the following conditions: <ul style="list-style-type: none"> • The Batch name should be unique across the \ Information Domain. • The Batch name must be alpha-numeric and should not start with a number. • The Batch name should not exceed 41 characters in length. • The Batch name should not contain special characters "." and "-".
Batch Description	Enter a description for the Batch based on the Batch Name.
Duplicate Batch	(Optional) Select the checkbox to create a new Batch by duplicating the existing Batch details. On selection, the Batch ID field is enabled.
Batch ID (If duplicate Batch is selected)	It is mandatory to specify the Batch ID if the Duplicate Batch option is selected. Select the required Batch ID from the list.
Sequential Batch	Select the check box if the Batch has to be created sequentially based on the task specified. For example, if there are 3 tasks defined in a Batch, task 3 should have precedence as task 2, and task 2 should have precedence as task 1.

3. Click **Save** to save the Batch definition details.

The new Batch definition details are displayed in the Batch Name section of the Batch Maintenance window with the specified Batch ID.

For more comprehensive coverage of configuration and execution of a batch, refer to the Operations Chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

23 Appendix E: List of Hardcoded Members

The following are the dimension members that are hardcoded within the application.

Table 46: Hardcoded Members

Table Name	Column Name	Expected Values
DIM_CUSTOMER_TYPE	V_CUST_CATEGORY	C
FCT_CRM_ACCOUNT_SUMMARY	V_SCENARIO_CODE	PLAN, BUDGET
FCT_OPPORTUNITY_ACTIVITY	V_ACTIVITY_STATUS	O, C
DIM_BANDS	V_BAND_TYPE	AGEONBOOK TURNOVER
FCT_ACCOUNT_PROFITABILITY	N_REP_LINE_CD	98000: Net Income Before Taxes 98500: Tax Expense 99000: Net Income After Taxes 107100: Number of Customers 107130: Number of Open Customers 107200: Number of Accounts 107230: Number of Open Accounts 107300: Attrition Rate

24 Appendix F: Run Rule Framework

In cases where data is required to be loaded for fact tables in multiple runs, the OFSAAI Rule Run Framework comes in handy. For example, for population of FCT_CRM_ACCOUNT_SUMMARY, the parameters of the batch execution include a parameter \$RUNSK = -1.

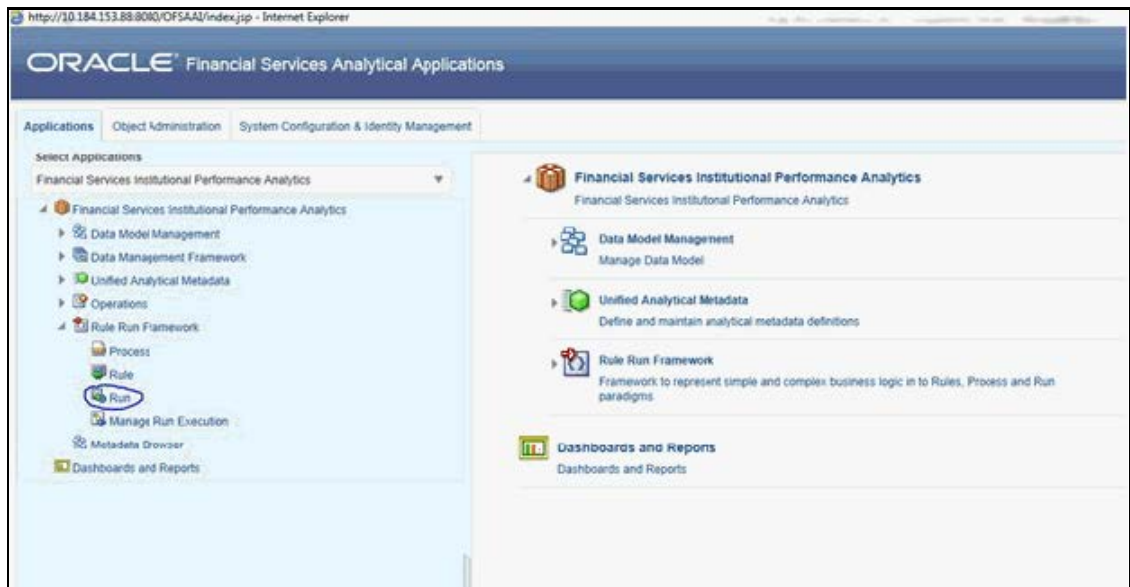
This batch execution loads the column N_RUN_SKEY in FCT_CRM_ACCOUNT_SUMMARY as -1. This will be a default run from the seeded batch. To be able to enter data for multiple runs, the batch tasks can be defined in Rule Run Framework. This will then create a batch internally which will load data for a different run into the fact table.

This chapter discusses the following topics:

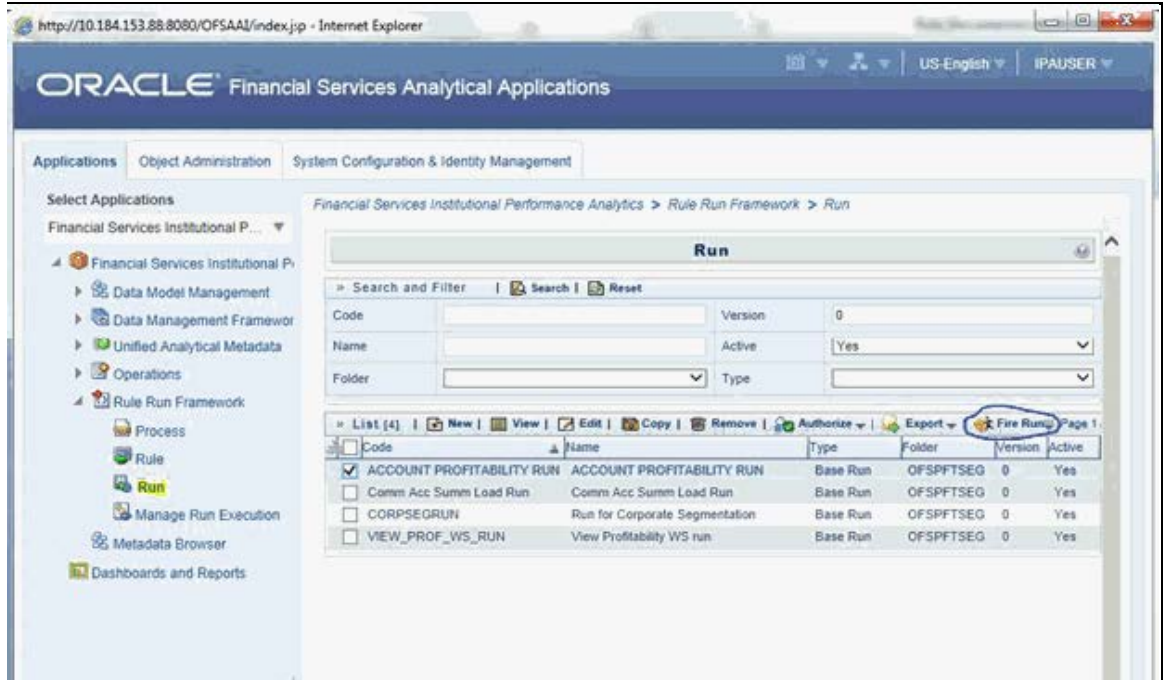
- [Executing a seeded run](#)
- [Runs Available](#)

24.1 Executing a seeded run

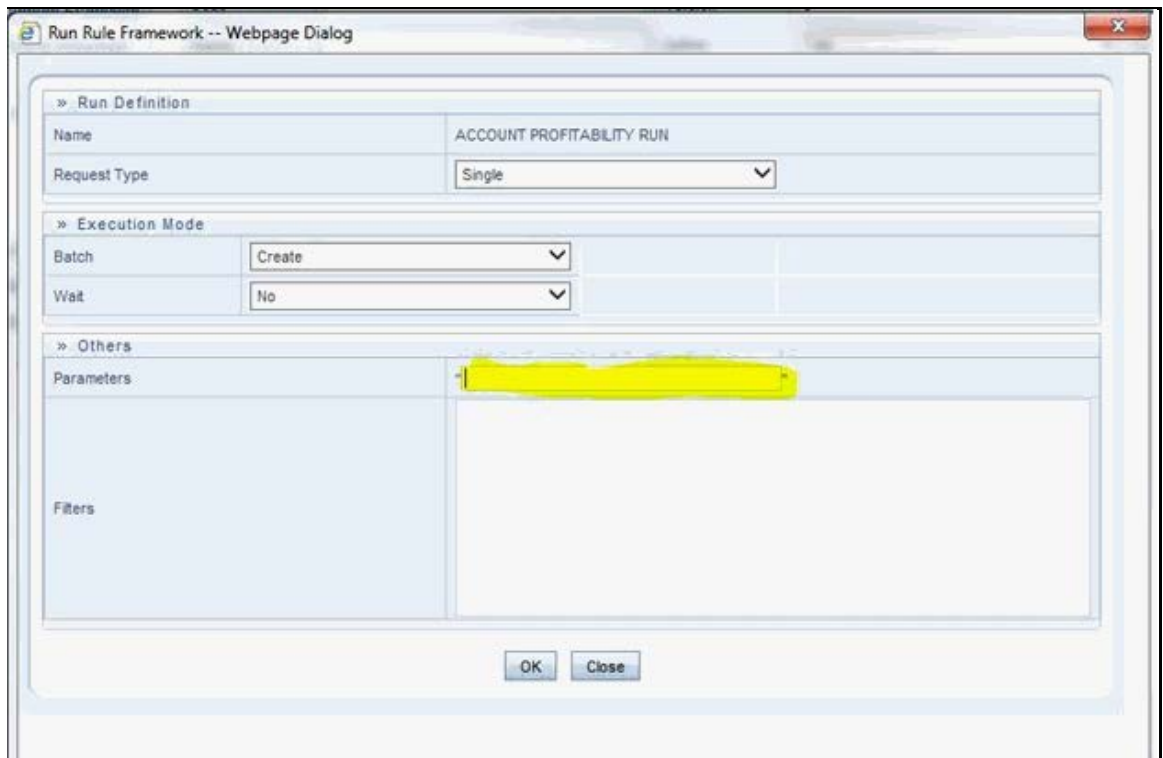
1. Navigate to **Rule Run Framework > Run**.



2. Choose a Run by checking the box before it and click **Fire Run**.



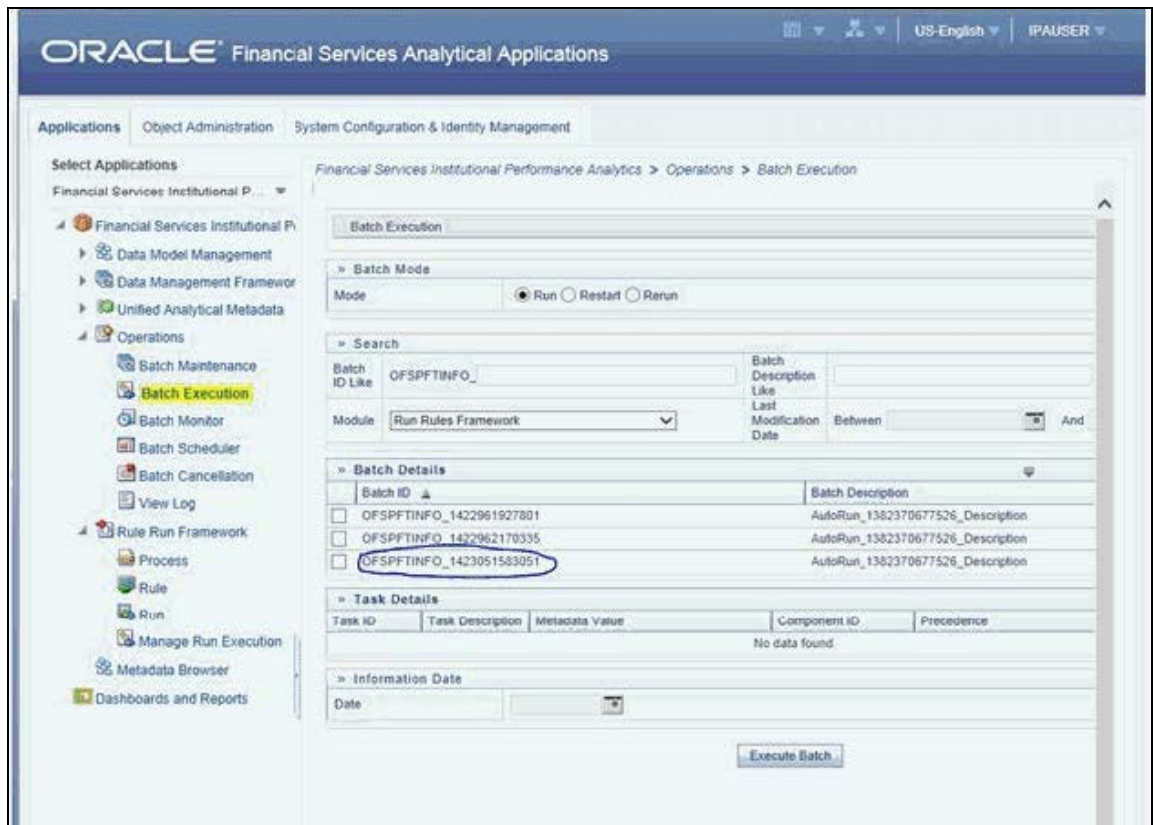
3. Enter the parameters required to execute the run (refer to details of individual runs) and click OK.



The following message will be displayed: Fire run successful.



4. Execute the batch by navigating to Operations>Batch Execution and select the latest batch created in the Run Rules Framework module.



24.2 Runs Available

Following are the runs available for PA applications:

1. ACCOUNT PROFITABILITY RUN: Run for loading FCT_CRM_ACCOUNT_SUMMARY and FCT_ACCOUNT_PROFITABILITY

Parameters to be entered as follows:

##RCY##", "<INFODOM>", "FCT_ACCOUNT_PROFITABILITY

NOTE

There are no quotes at the beginning and the end of the string. Consider as if the quotes are enclosing the delimiter (comma).

2. Comm Acc Summ Load Run: Run for loading FCT_COMMON_ACCOUNT_SUMMARY
3. VIEW_PROF_WS_RUN: Run for executing Web Service
4. RETSEGRUN: Run for executing Retail Segmentation Rule

25 Appendix G: Loading Multiple Load Runs in OFSAA

Multiple load run enables data to be loaded multiple times during the day for staggered processing of data by analytical applications. The degree of complexity of data required by analytical applications vary from one to the other, the load run ensures that the customer can process the data as soon as it is ready for an application to uptake. This reduces the turnaround time to reporting, by avoiding the 'end of day' type of processing of information as part of the original design.

The load run is enabled only in the model and is defaulted to '0' in the model. This would not impact the data previously available.

FSDF staging model provides customers the flexibility to load multiple snapshots of the data in the staging tables (Product Processor's). A column named `n_load_run_id` was introduced as part of the primary key of the product processor tables to enable this. But the full-fledged functionality to load and manage these snapshots will be part of the platform release at a later stage. Customers who would like to leverage this design in 8.0.3 release, the following mentioned changes will need to be done as a workaround to load multiple snapshots of data from staging to results tables such as Fact Common Account Summary.

For Loading Multiple Snapshots of Data for the same `FIC_MIS_DATE`, the existing T2T's need to be executed via Run Rule Framework and load needs to be filtered accordingly for each load run via the run filter. To enable execution of this run, navigate to `/$FIC_HOME/ficweb/webroot/conf` and edit the file `excludeURLList.cfg` and add the following entry at the end of the file `[SQLIA]./pr2`

There should not be any blank line in the file.

This chapter discusses the following topics:

- [Features](#)
- [Design Details](#)
- [Data Transformations](#)

25.1 Features

Following are the features:

- To optimize the end-to-end data flow and the need for intra-day reporting, institutions could load intra-day records into OFSAA. The current application can only handle one set of records per date (incremental loads are not possible).
- Users need to adjust and reload data (either full or partial) for the current date.
- Users need to adjust and reload data (either full or partial) for any of the past dates.

25.2 Design Details

Loading of data into OFSAA can be done in any of the following ways:

- ETL Tool
- OFSAA F2T

- OFSAA T2T
- OFSAA Excel upload
- OFSAA DIH

OFSAA data model includes a load run identifier as part of the primary key for a set of staging tables. This enables data to be stored for multiple load runs for any date. OFSAA data model also has a table to maintain master information about load run and can be used for identifying/filtering load run during run execution within OFSAA.

OFSAA data model also another entity that tracks the load run mapped to the functional key of each of the staging tables. Since OFSAA processing is on a snapshot of data, this entity helps users to identify a set of records that are latest to be used in processing. If there is a need to load multiple sets of data within a day, customers can use the below components to manage the same.

If the set of data is a snapshot:

- Register table that got loaded in the load run through a DT (Register_load_run_details)
- Register table that got loaded in the load run through a DT (Register_load_run_details)
- Use the load run identifier to load data into OFSAA staging. You can use the same load run identifier for all the entities loaded in the same batch/group.
- Specify run-filter during OFSAA execution to filter records for the maximum run identifier within the day

If the set of data is incremental:

- Register load run information in a master table through a DT (Register_Load_Run_Master)
- Register table that got loaded in the load run through a DT (Register_load_run_details)
- Register table that got loaded in the load run through a DT (Register_load_run_details)
- Execute another DT (Populate_Load_Run_Map) with different parameters for each entity to maintain the latest load run for each record.
- Modify the T2T's to join with the load run map tables for identifying and filtering on the latest set of records to be used in processing.

There could be some entities that can follow snapshots and some entities incremental load. The decision of snapshot vs incremental depends on the above use-case.

25.3 Data Transformations

Function - Register Load Run

Parameters - Batch ID, MIS-Date, Load Run Name, Load Run Purpose, Load Run Type

Steps

1. Check if the parameters are valid. Load run type can be 'B – Base, A – Adjustments, P – Backdated adjustments'.
2. Check the uniqueness of the load run name. Load run name is a user-specified string for easier retrievals could be MIS-DATE <Sequence> or the starting timestamp of load run.
3. Increment the load run id for a given MISDATE and insert the rest of the details.

4. Return the load run identifier (if possible, else user will query this table to get the load run id given a name).
5. Log messages accordingly.
6. Return success/failure.

25.3.1 Execution

Execute this DT before loading any fact for intra-day load. Use the registered load run identifier as a value to map to load run identifier field in staging. When one load run is ongoing (loading data to OFSAA using the load run identifier), do not register any new load runs. Else, make sure load run name is used as a filter instead of max load run identifier when querying the load run master table.

Function – Register Load Run Details

Parameters – batch id, mis-date, load run name, load run id, stage table name, load type

Steps:

1. Check if the parameters are valid. Load type can be 'S – Snapshot, I - Incremental'.
2. A load run name or ID can be provided. If the load run name is provided, we can look up into the load run master for retrieving the ID. Check if the table name exists.
3. Register the information in the load run details table.
4. Log messages accordingly.
5. Return success/failure.

25.3.2 Execution

Execute this DT after registering load run master and before loading any fact for intra-day load. When one load run is ongoing (loading data to OFSAA using the load run identifier), do not register any new load runs.

Function – Populate Load Run Map

Parameters – batch id, mis-date, and stage table name

Steps:

1. Check if the parameters are valid.
2. Pick the corresponding load run map table from a setup table. Pick the corresponding functional key columns and their mapping to load run map tables from a setup table.
3. If the record does not exist in the load run map table for the functional key in staging, then insert a new record with the functional key and load run identifier.
4. If the record exists in load run map table for the functional key in staging, then update the latest record indicator for existing rows to 'N' and then insert a new record with the functional key and load run identifier.
5. This operation has to be done in bulk mode.
6. Log messages accordingly.
7. Return success/failure.

25.3.3 Execution

Execute this DT after loading any fact for intra-day load in case the table has incremental loads.

Multiple data runs can be done for the same date using one of the following two approaches:

1. Using the Load Run ID, multiple data runs can be done for the same date. By default, the load run ID will be 0.
2. There will be multiple run_keys generated for each extraction date. If there are four sources, then four distinct run keys are generated for the load date. Some of the out-of-the-box dashboards will show partial data as there is a filter for the Run. If all the sources need to be seen at a time, the processing should happen in a single run.
3. All the T2T's which are loading data into Fact CRM Account Summary has to be modified for ANSI Join conditions to include table DIM_DATA_ORIGIN.
4. The Existing process "ACCOUNT PROFITABILITY PROCESS" is modified to have all the T2T's which are loading data into Fact Common Account Summary. All the T2T's which are loading data into Fact Common Account Summary is set as Precedence for the existing task "FN_RUN_EXE_PARAM".
5. A new UMM regular BI Enabled hierarchy with only one level is created based on entity "DIM_DATA_ORIGIN".
6. New run definitions will be created for each data source which would be based on the same process "ACCOUNT PROFITABILITY PROCESS". Each run definitions would be set to have data source as the filter using the hierarchy defined earlier.

For example, if there are three sources then,

- ACCOUNT PROFITABILITY Src1 with "Source1" as the filter
 - ACCOUNT PROFITABILITY Src2 with "Source2" as the filter
 - ACCOUNT PROFITABILITY Src3 with "Source3" as the filter
7. After defining the Run definitions, the run's are executed for the required MIS date. This approach requires as many run definitions for each of the sources which have to be processed at once. Each Run definition execution would be storing its Run Skey value in the target fact table.
 8. Modify the existing DT "FCT_ACCT_TRANSFORMATION" for passing additional parameters to PL/SQL function "FN_FCT_ACCT_PFT_DT".
 9. Grant Select privileges on few tables from Config schema user to atomic schema user.
 10. Create Database views in the atomic schema.

Following are the details of the approach:

11. All the T2T's which are loading data into Fact CRM Account Summary has to be modified for ANSI Join conditions to include table DIM_DATA_ORIGIN.

- Navigate to Database Extracts and the required Application & Data Source.
- Select T2T T2T_STG_CRMAS_ANNUIITY_CONTRACTS and Edit the definition.
- Modify the ANSI join condition by appending the following:

```
LEFT OUTER JOIN DIM_DATA_ORIGIN ON
```

```
DIM_DATA_ORIGIN.V_DATA_SOURCE_CODE =
STG_ANNUITY_CONTRACTS.V_DATA_ORIGIN
```

- Save the T2T definition.
- Similarly, do the changes for the other T2T's

```
T2T_STG_CRMAS_BILLS_CONTRACTS
```

```
T2T_STG_CRMAS_BORROWINGS
```

```
T2T_STG_CRMAS_CARDS
```

```
T2T_STG_CRMAS_CASA
```

```
T2T_STG_CRMAS_INVESTMENTS
```

```
T2T_STG_CRMAS_LC_CONTRACTS
```

```
T2T_STG_CRMAS_LOAN_CONTRACTS
```

```
T2T_STG_CRMAS_MM_CONTRACTS
```

```
T2T_STG_CRMAS_OD_ACCOUNTS
```

```
T2T_STG_CRMAS_TD_CONTRACTS
```

```
T2T_STG_CRMAS_LEASES_CONTRACTS
```

```
T2T_STG_CRMAS_GUARANTEES
```

```
T2T_STG_CRMAS_TRUSTS
```

```
T2T_STG_CRMAS_COMMITMENTS
```

```
T2T_STG_CRMAS_MUTUAL_FUNDS
```

12. The Existing process "ACCOUNT PROFITABILITY PROCESS" is modified to have all the T2T's which are loading data into Fact Common Account Summary. All the T2T's which are loading data into Fact Common Account Summary is set as Precedence for the existing task "FN_RUN_EXE_PARAM".

- Edit the "ACCOUNT PROFITABILITY PROCESS".
- Select the "Component" button.
- Navigate to Component>Insertion Rules><Source> section from the LHS menu.
- Select the T2T's that load data into Fact Common Account Summary.

```
T2T_STG_ANNUITY_CONTRACTS_CAS
```

```
T2T_STG_BILLS_CAS
```

```
T2T_STG_BORROWINGS_CAS
```

```
T2T_STG_CARDS_CAS
```

```
T2T_STG_CASA_CAS
```

```
T2T_STG_GUARANTEES_CAS
```

```
T2T_STG_INVESTMENTS_CAS
```

```
T2T_STG_LC_CAS
```

```
T2T_STG_LEASES_CONTRACTS_CAS
```

```
T2T_STG_LOANS_CAS
```

T2T_STG_MM_CAS
 T2T_STG_OD_CAS
 T2T_STG_TD_CONTRACTS_CAS
 T2T_STG_TRUSTS_CAS
 T2T_STG_COMMITMENT_CONTRACTS_CAS
 T2T_STG_MUTUAL_FUNDS_CAS

- Select the Precedence button and select FN_RUN_EXE_PARAM from the drop-down. All the T2T's which are loading data into Fact Common Account Summary is set as Precedence for the existing task "FN_RUN_EXE_PARAM".

T2T_STG_ANNUITY_CONTRACTS_CAS
 T2T_STG_BILLS_CAS
 T2T_STG_BORROWINGS_CAS
 T2T_STG_CARDS_CAS
 T2T_STG_CASA_CAS
 T2T_STG_GUARANTEES_CAS
 T2T_STG_INVESTMENTS_CAS
 T2T_STG_LC_CAS
 T2T_STG_LEASES_CONTRACTS_CAS
 T2T_STG_LOANS_CAS
 T2T_STG_MM_CAS
 T2T_STG_OD_CAS
 T2T_STG_TD_CONTRACTS_CAS
 T2T_STG_TRUSTS_CAS
 T2T_STG_COMMITMENT_CONTRACTS_CAS
 T2T_STG_MUTUAL_FUNDS_CAS

- Save the process definition as the same version.

13. A new UMM regular BI Enabled hierarchy with only one level is created based on the entity "DIM_DATA_ORIGIN".

- Create a new hierarchy as mentioned in the following:
- After the hierarchy is defined, Authorize and save the metadata. Ensure data exists in DIM_DATA_ORIGIN before saving the metadata.

14. New run definitions will be created for each data source which would be based on the same process "ACCOUNT PROFITABILITY PROCESS". Each run definitions would be set to have data source as the filter using the hierarchy defined earlier.

For example, if there are 3 sources then,

ACCOUNT PROFITABILITY Src1 with "Source1" as the filter
 ACCOUNT PROFITABILITY Src2 with "Source2" as the filter
 ACCOUNT PROFITABILITY Src3 with "Source3" as the filter

Create a new run definition say "ACCOUNT PROFITABILITY Source 1" as the run definition name.

Code: AccountProfitabilitySrc1

Name: Account Profitability Source 1

Type: Base Run

- Select Add>Job.
- Select the process modified earlier from the LHS menu.
- Select Add>Run Condition.
- Select Data Origin from the LHS menu.
- After selecting Run Condition and Job, select Next.
- Add the condition to Run Condition by selecting the "Launch Browser".
- Select the required source from the LHS menu.
- Select Save.
- Similarly, new run definitions have to be defined for each source that the user wants to process, by repeating the above-mentioned process.

15. Grant Select privileges on few tables from Config schema user to atomic schema user.

pr2_run_object_member

metadata_master

metadata_element_master

metadata_attribute_master

metadata_locale_master

Execute the script "ConfigPrevsRunFilter.sql" by modifying the file. Replace the values ##ATOMIC_USER## with actual Atomic Schema user.

ConfigPrevsRunFilter.sql

```
GRANT SELECT ON pr2_run_object_member to ##
/
ATOMIC_USER##/GRANT SELECT ON metadata_master to ##
/
ATOMIC_USER##/GRANT SELECT ON metadata_element_master to ##
/
ATOMIC_USER##/GRANT SELECT ON metadata_attribute_master to ##
/
ATOMIC_USER##/GRANT SELECT ON metadata_locale_master to
##ATOMIC_USER##
/
```

16. Create Database views in the atomic schema which are required.

Execute the script "Create_Run_Filter_Views.sql" by modifying it. Replace the values **##CONFIG_USER##** with actual Config schema user and **##INFODOM##** with the Infodom name.

```
Create_Run_Filter_Views.sql
```

```
CREATE OR REPLACE VIEW Vw_pr2_run_object_member AS SELECT * FROM
##CONFIG_USER##.pr2_run_object_member WHERE v_infodom_name =
'##INFODOM##'
```

```
/
```

```
CREATE OR REPLACE VIEW VW_metadata_master AS SELECT * FROM
##CONFIG_USER##.metadata_master WHERE dsn_id = '##INFODOM##'
```

```
/
```

```
CREATE OR REPLACE VIEW VW_metadata_element_master AS SELECT * FROM
##CONFIG_USER##.metadata_element_master WHERE v_metadata_infodom =
'##INFODOM##'
```

```
/
```

```
CREATE OR REPLACE VIEW VW_metadata_attribute_master AS SELECT * FROM
##CONFIG_USER##.metadata_attribute_master WHERE v_metadata_infodom =
'##INFODOM##'
```

```
/
```

```
CREATE OR REPLACE VIEW VW_metadata_locale_master AS SELECT * FROM
##CONFIG_USER##.metadata_locale_master WHERE metadata_infodom =
'##INFODOM##'
```

```
/
```

17. Modify the PL/SQL function "FN_FCT_ACCT_PFT_DT." Execute the script "FN_FCT_ACCT_PFT_DT.sql" in atomic schema.
18. Modify the existing DT "FN_FCT_ACCOUNT_PFT" for passing additional parameters to PL/SQL function "FN_FCT_ACCT_PFT_DT".
 - Navigate to Post Load transformation screen.
 - Edit the definition "FCT_ACCT_TRANSFORMATION".
 - Navigate to the Stored Procedure section.
 - Copy and paste the contents of the file "fn_fct_acct_pft.sql" into the Stored Procedure Editor Section and save the definition.
 - Execute the Run's as required.

26 Appendix H: PA Metrics Computation Logic

Topics:

- [Projection Logic](#)
- [Data Treatment for Months](#)
- [Aggregation and Projection Logic for Forecasting of Replines under PA](#)

26.1 Projection Logic

We have data up to the last MIS Date based on which projections are done on Replines in FCT_ACCOUNT_VALUE_FORECAST. For each repline, for last MIS Date, there is a projection on every projected date (generally last date of every month)

PA Metrics calculation

The following table list the available web services (APIs) for OFSPA Cloud Service:

Table 47: Web Services (APIs) Available for OFS PA

Web Service	Input	Output	Version
Account Level Metrics (without UDM)	Account Number, Date	ROTA, RAROC, ROE, Total Expenses, Total Income, Net Income	
Customer Level Metrics (without UDM)	Customer Number, Date	ROTA, RAROC, ROE, Total Expenses, Total Income, Net Income	
Account Segmentation	Account Number, Date	Account Segment Code	
Customer Segmentation	Customer Number, Date	Customer Segment Code	
Metrics on existing Customer/Account with UDM	Account Number, Date of Report, {Date of UDM, UDM} repeated for all UDMs	ROTA, RAROC, ROE, Total Expenses, Total Income, Net Income, Customer ROTA, Customer RAROC, Customer ROE, Customer Total Expenses, Customer Total Income, Customer Net Income	
Metrics for New Account of existing Customer	Customer Number, Date of Report, Account Schedule	ROTA, RAROC, ROE, Total Expenses, Total Income, Net Income, Customer ROTA, Customer RAROC, Customer ROE, Customer Total Expenses, Customer Total Income, Customer Net Income	
Metrics for New Account of New Customer	Date of Report, Account Schedule	Account Level ROTA, RAROC, ROE, Total Expenses, Total Income, Net Income	

NOTE Segment Metrics are done through the batch process. The segment metrics considering the lifetime calculations of all the accounts in that segment.

At Present Customer level segment metrics are based on the segment of the first account identified (by the system) of the customer. The segment averages as computed against the identified account segment would be reported.

26.2 Data Treatment for Months

Data to be considered for the end of every month

- **Historical Data:** Take data for each month (as of month end date) from FCT_ACCOUNT_PROFITABILITY (aggregated under NIBT hierarchy)
- **Projected Data:** For Last MIS Date, take data from FCT_ACCOUNT_VALUE_FORECAST for each subsequent Projected Date (aggregated under NIBT hierarchy: for aggregations, we will consider all forecasted replines whether leaf or node)
- Union the above two queries so that we get a data set from the first-month end date to last month-end date. This will be inclusive of both actual + forecasted.
- Discount each row in this dataset to the account start date; N_Origination_date
- Sum up all the discounted values
- Arrive at the value of NIBT

NOTE Discounting: For projection purposes, to arrive at the Net Present Value (NPV) of the future stream of NIBT; a discount factor be applied to arrive at the expected value of NIBT.

1. Treatment of Data of Month End Values and for Missing Months

- **Actual Data with Missing Value:** For profitability calculations or reporting the missing value should be considered as 0.
- **For Forecasting of data:** If there is a missing value in the actual data then, the missing value treatment should be applied only to fill in a value that can be used for forecasting.

2. Calculation of Profitability Metrics

- **Return on Total Assets (ROTA) =**
 - Loan Products- NIBT/ Sanctioned Limit (For Loans);
 - Line of Credit Products - NIBT/ Max of EOP Balance for Line of Credits
- **Risk-adjusted return on capital (RAROC) = NIBT/ Sum of Unexpected Losses**
 - Unexpected Losses comprise of- Operating Risk Capital - Economic, Credit Risk Capital - Economic, Market Risk Capital - Economic.

- **Return on Equities (ROE)**
 - Loan Products- NIBT/ Sanctioned Limit (For Loans); [N_SANCTIONED_LIMIT for Loans (first MIS Date), FCAS]
 - Credit Products -
 - NIBT/ Max of EOP Balance for Line of Credits [max(N_EOP_BAL), FCAS for Line of Credit (across all MIS Dates)]
 - Average of EOP Balance for all deposits (including term deposits) [average(N_EOP_BAL), FCAS for all deposits (including term deposits)]
- **TOTAL REVENUE** = NET INTEREST INCOME + NON-INTEREST INCOME [Non-Interest Revenue' + 'Indirect Non-Interest Income' + 'Other Revenue]
- **Total Expenses:** Total Operating and Non-Operating Expenses [Net Credit Losses = Credit Losses- Recoveries of amounts previously written-off]
- **Net Income:** Net Income Before Tax
- **Currency:** Metrics would be reported in reporting Currency.

NOTE

As per the current functionality, by default, is there is no requested currency code, the customer would be showing in reporting currency and the Accounts are shown in its natural currency. In case of any requested currency code, both customer and currency would be shown in the requested currency code.

- Customer Metrics
 - ROTA and RAROC would be aggregated only against asset products.
 - All other metrics would be aggregated against all products.
 - Customer Metrics would be reported in Reporting Currency.
- Customer Level Metrics Calculation
 - ROTA: (Sum of ROTA Numerator overall asset accounts)/(sum of ROTA denominator overall asset accounts)
 - RAROC: (Sum of RAROC Numerator overall asset accounts)/(sum of RAROC denominator overall asset accounts)
 - ROE: (Sum of ROE numerator overall accounts)/(Sum of ROE denominator overall accounts)
 - TOTAL INCOME, TOTAL EXPENSES, NET INCOME: Sum over all accounts
- Segment Metrics
 - Segment Level Metrics will be reported against Segmentation done at Account Level
 - Segment Metrics to be reported in Reporting Currency.

26.3 Aggregation and Projection Logic for Forecasting of Replines under PA

Current Behavior/Functionality:

At present, the following Replines are considered for forecasting (@ (fsi model parameters table):

Table 48: Replines for Forecasting

N_REP_LINE_CD	Repline Name	Whether Forecasted
82100	Interest Income	Yes
82200	Transfer Pricing Credit	Yes
83300	Interest Expenses	Yes
90000	Transfer Pricing Charge	Yes
91900	Customer Non-Interest Income	Yes
94000	Non-Customer Non-Interest Revenue	Yes
107420	Indirect Non-interest Income	Yes
107501	Other Revenue	Yes
107502	Net Credit Losses	Yes
107503	Operating Expenses	Yes
107504	Non-Interest Income	Yes
107505	Outstanding Balance	Yes
87000	Utilization Rate	Yes
87500	Revolve Rate	Yes
90000	Purchases	Yes
86000	Payments	Yes

Observation:

- From the above, Interest Income (82100) and Transfer Pricing Credit (82200) are two leaf-level Replines which are the members of the Node Total Interest Income (82000) are being forecasted while the other leaf level members coming under Node Total Interest Income are not considered for forecasting

All Leaf Level members of the Node Total Interest Income is given below:

Table 49: Leaf-Level Members of Node Total Interest Income

Leaf members of Node Total Interest Income		
82000	Total Interest Income	Node

Leaf members of Node Total Interest Income		
84000	Amortization of Discount for Liability	Leaf
84100	Amortization of Premium for Asset	Leaf
82900	Central Bank Int. Income	Leaf
83000	Credit for Float	Leaf
82800	Credit for Liquidity	Leaf
82700	Credit for Other Allocated Liabilities	Leaf
82300	Customer Break Funding Fees	Leaf
82100	Interest Income	Leaf, Forecasted
82200	Transfer Pricing Credit	Leaf, Forecasted

4. From the above, Interest Expense (83300) and Transfer Pricing Charges (90000) are two leaf-level Replines which are the members of the Node Total Interest Expenses (82001) are being forecasted while the other leaf level members coming under Node Total Interest Expenses are not considered for forecasting.

Table 50: Leaf-Level Members of Node Total Interest Expenses

Leaf members of Node Total Interest Expenses		
82001	Total Interest Expense	This is a node
82500	Amortization of Discount for Asset	Leaf
82600	Amortization of Premium for Liability	Leaf
83500	Charge for Basis Risk	Leaf
83900	Charge for Central Bank Reserves	Leaf
83400	Charge for Liquidity	Leaf
83600	Charge for Optionality	Leaf
83700	Charge for Other Allocated Assets	Leaf
84500	Credit for Equity	Leaf
84200	Economic Provision	Leaf
82400	Pricing Incentive	Leaf
83300	Transfer Pricing Charge	Leaf, Forecasted
83200	Interest Expenses	Leaf, Forecasted

Reason for Considering Specific leaf-level Replines for forecasting in-place of Node level forecasting

Reason for forecasting interest income, Transfer Pricing Credit, interest expense, and Transfer Pricing Charges at leaf members and not their respective parent nodes, to apply variations on

interest income/expense and transfer pricing charge/credit separately in what-if analysis and monitor sensitivity at each of these leaf levels.

Doing projections, at the parent node, the level would not allow monitoring and reflecting variations at such micro levels; as both interest income & Transfer Pricing Credit belong to Parent Node Total Interest Income, as well as both Interest Expense and Transfer Pricing Charges belong to Parent Node Total Interest Expense.

Issues arising out of such an approach

If only the above leaf level replines are projected, and other leaf-level replines under their respective node replines are not projected, leading to an incorrect aggregation of NIBT in forecasted values.

Suggested Approach

Repline Forecasting: RPA

- The leaf level members under Total Interest Income & Total Interest Expense, which are missed out in forecasts, should be aggregated to one head each respectively, and then forecasted.
- The head can be an additional node in the income statement hierarchy

Details: Other than the 4 leaf-level replines viz. Interest Income, Interest Expense, TP Charge, and TP Credit, aggregate the remaining replines under the nodes 'Total Interest Income' and 'Total Interest Expense' to form two notional replines under their heads respectively. Then forecast for these two notional replines and use for aggregation. These notional replines would be named as "Other Interest Income" and "Other Interest Expenses"

The node replines of 'Total Interest Income' and 'Total Interest Expense' are not projected; instead only 4 child leaf replines from the hierarchy viz interest income/expense, TP charge/credit are projected.

Introduce two new replines, which would be aggregations of several replines as:

- Additional repline 1 (Other Interest Income) = $\text{sum}(\text{All leaf replines which are a child of Total Interest Income}) - \text{Interest Income} - \text{TP Credit}$

When calculating total interest income; it will be, $\text{total interest income} = \text{other interest income} + \text{interest income} + \text{TP Credit}$

- Additional repline 2 (Other Interest Expenses) = $\text{sum}(\text{All leaf replines which are a child of Total Interest Expense}) - \text{Interest Expense} - \text{TP Charge}$

When calculating total interest expense; it will be, $\text{total interest expense} = \text{other interest expense} + \text{interest expense} + \text{TP charges}$

These 2 new replines would be a part of the income statement hierarchy.

When aggregating for NIBT in the historical data, these two new replines would not get considered.

When aggregating for NIBT in projected data, the new replines 1&2 should roll up into Total Interest Income and Total Interest Expense respectively.

New Structure of Repline Hierarchy:

Total Interest Income:

Table 51: Leaf Members of Node Total Interest Income

Leaf members of Node Total Interest Income		
82000	Total Interest Income	Node
	+ Other Interest Income - New Repline	Node
	84000 Amortization of Discount for Liability	
	84100 Amortization of Premium for Asset	
	82900 Central Bank Int. Income	
	83000 Credit for Float	
	82800 Credit for Liquidity	
	82700 Credit for Other Allocated Liabilities	
	82300 Customer Break Funding Fees	
82100	Interest Income	Leaf, Forecasted
82200	Transfer Pricing Credit	Leaf, Forecasted

Total Interest Expense:**Table 52: Leaf Members of Node Total Interest Expenses**

Leaf members of Node Total Interest Expenses		
82001	Total Interest Expense	This is a node
	+ Other Interest Expenses - New Repline	Node
	82500 Amortization of Discount for Asset	
	82600 Amortization of Premium for Liability	
	83500 Charge for Basis Risk	
	83900 Charge for Central Bank Reserves	
	83400 Charge for Liquidity	
	83600 Charge for Optionality	
	83700 Charge for Other Allocated Assets	
	84500 Credit for Equity	
	84200 Economic Provision	
	82400 Pricing Incentive	
83300	Transfer Pricing Charge	Leaf, Forecasted
83200	Interest Expenses	Leaf, Forecasted

Key Point:

- The New nodes other interest income and other interest expenses would be a part of the income statement hierarchy

- The forecasts required for PCD, Profitability, LTV, and What-if. The inputs would be required at this granularity.

Addendum and Update

- Repline Codes: 81000 (Other Interest Income) and 81001 (Other Interest Expenses) are finalized and accepted.
- Operational Signage: Operational Signage for Both Replines would be +. These replines are having other leaf replines under each, which are in turn aggregated to Total Interest Income (82000) and Total Interest Expenses (82001) respectively.
- The New nodes other interest income and other interest expenses would be a part of the income statement hierarchy
- The forecasts required for PCD, Profitability, LTV, and What-if. The inputs would be required at this granularity.
- These new Notional Replines needs to be introduced under What-if Logic and for calculation under Advanced What-If Logic.
- What-if logic would be following the changes to be made in the Repline Hierarchy (on Aggregation and Projection Logic for forecasting of Replines under PA). In case of addition to any new (or notional repline), the same would be required to be introduced under what-if logic.
- For what if Advanced Logic; the newly introduced replines to be added to the calculation while establishing the impacts (happening through Linear Regression Approach)

OFSAA Support

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