

Sterling Business Intelligence



Implementation Guide

Version 9.1.0.5

Sterling Business Intelligence



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Note

Before using this information and the product it supports, read the information in "Notices" on page 103.

This edition applies to version 9.1 of IBM Sterling Business Intelligence and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Getting Started

The IBM® Sterling Business Intelligence solution can be extended and customized to meet specific business requirements. Sterling Business Intelligence provides a predefined set of content, including the Adaptive Warehouse model, Adaptive Analytics reports, and dashboards for sales order business processes. You can analyze your business requirements and customize each of this content according to individual requirements.

Intended Audience

This document is intended for use by application developers, analytic system administrators, and analytic users who implement the Sterling Business Intelligence solution.

Implement IBM Sterling Business Intelligence

Before you begin

Ensure that you have installed Sterling Business Intelligence, and that the content is deployed as per the instructions provided in the *Sterling Business Intelligence: Installation Guide*.

Use the following process to perform the implementation of the Sterling Business Intelligence solution:

Procedure

1. Review the reports and dashboards provided in Sterling Business Intelligence and understand whether they meet your business requirements. For more information about the reports and dashboards, refer to the .
2. Make appropriate configuration changes to the model. For more information about configuring Sterling Business Intelligence, refer to the topic Chapter 2, "Configure IBM Sterling Business Intelligence," on page 3.
3. Perform the initial data load, which helps load the existing data into the data mart database. For more information about initial data load, refer to the topic Chapter 3, "Load Management," on page 13.
4. Perform incremental data load, which helps load the transactional data into the data mart database. For more information about incremental data load, refer to the topic Chapter 3, "Load Management," on page 13.
5. Extend and customize Sterling Business Intelligence to meet your business requirements. For more information about extending and customizing, refer to the topic Chapter 6, "Extend and Customize IBM Sterling Business Intelligence," on page 37.

Conventions

In this manual, Windows refers to all the supported Windows operating systems.

The following conventions may be used in this manual:

Convention	Meaning
------------	---------

<AC_INSTALL_DIR>

User-supplied location of the Sterling Business Intelligence Analytics Content installation directory.

<AW_INSTALL_DIR>

User-supplied location of the Adaptive Warehouse Runtime installation directory.

<INSTALL_DIR>

User-supplied location of the IBM Sterling Selling and Fulfillment Foundation installation directory. This is only applicable for Release 9.1.

COGNOS_AW_HOME

This is an environment variable. The value of this environment variable is set to the user-supplied location of the Adaptive Warehouse Runtime installation directory.

Chapter 2. Configure IBM Sterling Business Intelligence

You can configure Sterling Business Intelligence to restrict the data that is loaded into the data warehouse from the online transaction processing (OLTP) system.

Prior to configuring Sterling Business Intelligence, ensure that you have performed all the steps mentioned in the *Sterling Business Intelligence: Installation Guide*. For details about setting up the Adaptive Warehouse Content, refer to the *Sterling Business Intelligence: Installation Guide*.

Configure the Data Mart Project

After setting up the Adaptive Warehouse Content, perform the following configurations to restrict the data that is loaded into the data mart schema.

Configure the Install Locale

Before you begin

To configure the install locale, perform the following tasks:

Procedure

1. Launch the IBM Cognos® Adaptive Warehouse application.
2. Open Sterling Data Source project.
3. Click the Source tab.
4. Click Parameter Maps and select Locale Code Map.
The Parameter Map Definition screen is displayed.
5. Change the values for the Country or Region and Language keys. By default, US and en are the values respectively for the Country or Region and Language keys. For example, if your base locale is ja_JP, the Country or Region and Language values must be changed to ja and JP respectively.
6. Click the Warehouse tab.
7. Click Save.

Define a Catalog

You must determine a catalog for analytical purpose. Only items belonging to this catalog will be considered for analysis.

About this task

Note: When an item belongs to multiple categories in a catalog, the item is displayed as a part of one category only.

To define a catalog, perform the following tasks:

Procedure

1. Launch the Cognos Adaptive Warehouse application.
2. Open Sterling Data Source project.
3. Click the Source tab.

4. Navigate to Source > Product Category Hierarchy source > Product Category Hierarchy Product Category Tree Input Source.
5. Double-click Category Domain Filter.
The Filter Definition screen is displayed.
6. Click the Parameter tab.
7. Select the required catalog code from Category Domain Map.
8. Click OK.
9. Click the Warehouse tab.
10. Double-click the Product Category Hierarchy dimension.
11. Click the Dataflow tab.
12. For each dataflow, apply the category domain filter.
13. Click Save.

Define Hold Types for Order Hold Analysis

About this task

The model that is shipped along with Sterling Business Intelligence consists of all the hold types, including the system-specific hold types. You can exclude specific hold types and perform the analysis. To perform analysis based on specific hold types, perform the following tasks:

Procedure

1. Launch the Cognos Adaptive Warehouse application.
2. Open Sterling Data Source project.
3. Click the following folders sequentially: **Warehouse, Order Management, Sales Order.**
4. Double click **SO Hold.**
5. Click the **Dataflow** tab.
6. Double click **SO Hold Initial Load Input Source.**
7. Click the **Filters** tab.
8. Add a new filter and provide a list of hold types that have to be considered, for example,
[SO Hold SO Hold Initial Load Input Source].[SO Hold Initial Load Input Source].[Hold Type] in (
9. Add the above Hold Type filter to the input query subject pertaining to **SO Hold** dataflow.
10. Click **Save.**

Define Credit Hold Types for Customer Rating

For customer rating, it is recommended that you consider only credit hold types.

Before you begin

To define credit hold types for customer rating:

Procedure

1. Launch the Cognos Adaptive Warehouse application.
2. Open Sterling Data Source project.
3. Click the Source tab.
4. Click Parameter Maps and select Credit Hold Type.

5. The Parameter Map Definition screen is displayed. In the **Value** field, enter the hold types considered for credit hold as the value of the **HOLD_TYPE** key. If there are more than one hold types, the hold types should be entered in the form of comma separated strings, for example, 'Credit Hold Type', 'Credit Fraud Check'.
6. Click Save.

Modify Weights for Customer Rating

About this task

To modify weights for customer rating:

Procedure

1. Launch the Cognos Adaptive Warehouse application.
2. Open Sterling Data Source project.
3. Click the Source tab.
4. Click Parameter Maps and select Customer Rating Weightage.
5. In the Parameter Map Definition screen that is displayed, perform the following steps:
 - a. Change the value of the Last Year Revenue Weightage key. By default, 0.6 is the value of this key.
 - b. Change the value of the Lifetime Revenue Weightage key. By default, 0.4 is the value of this key.
 - c. Change the value of the Current Credit Hold Revenue Weightage key. By default, 0.2 is the value of this key.
 - d. Change the value of the Last Year Credit Hold Weightage key. By default, 0.05 is the value of this key.
6. Click Save.

Configure the IBM Sterling Business Intelligence Application

After setting up the Adaptive Warehouse Content, perform follow the additional configurations to restrict the data that is loaded into the staging schema.

Map Address to a Region

You must define a region schema for analytical purpose. This region schema is used to determine the region associated with the customer's address and to perform analysis based on regions.

About this task

To define a region schema for analytics purpose, perform the following tasks:

Procedure

1. Launch Application Manager.
2. From the Application Rules Side panel, select Analytics > Region Usage For Analytics.
The Region Usage For Analytics window is displayed.
3. From the Schema for Analytics panel, select the region schema, you want to use for the data warehouse reports.
4. Click Save.

Convert Long Zip Code to Short Zip Code

Short zip code is used to obtain the best match region for a customer's address. It is a simplified format of an address' zip code. Short zip code regex expression defined for a country or region is used to convert long zip codes to a simplified format. You can also implement YCPGetShortZipCodeUE user exit to convert long zip code into short zip code.

If you have installed Sterling Selling and Fulfillment Foundation Release 9.1, in upgrade mode, you must follow the instructions provided in the section “Business Intelligence Enhancements: Best Match Region” in the . If you have installed Sterling Selling and Fulfillment Foundation, Release 9.1, in the nonupgrade mode, refer to the section “Update Best Match Region” in the *Selling and Fulfillment Foundation: Application Platform Configuration Guide*.

Configure Grades for Customer Rating

The grades for customer rating, defined in Applications Manager and stored in the YFS_CUSTOMER_GRADE table in Sterling Selling and Fulfillment Foundation, can be used by other applications. Sterling Business Intelligence imports this YFS_CUSTOMER_GRADE table from Sterling Selling and Fulfillment Foundation and maps the calculated customer's rating to the appropriate grade. For example, if a customer's rating is 1.2, the ETL looks for a grade in which the value of the grade_Code Minimum_Rating attribute is lesser than 1.2 and the value of Maximum_Rating attribute is greater than or equal to 1.2. For more information about configuring grades, refer to the *Sterling Distributed Order Management: Configuration Guide*.

Configure the Purge Criteria

Purge transactions determine when a record has to be purged, by determining the current date and subtracting the retention days specified in the purge criteria. If the timestamp on the table is less than or equal to the value of current days minus retention days, the record is purged.

You can define purge criteria rules for data purges not related to specific document types. Purge is the process by which old data is removed from the system database. A purge minimizes the number of unused database records to increase search efficiency and reduce the size of the required physical disk.

For more information about configuring a document's purge criteria, refer to the *Sterling Distributed Order Management: Configuration Guide*.

Order Timestamp Tag Purge

The Order Timestamp Tag (YFS_ORDER_TS_TAG) table maintains a record of each order and quote that is added or updated in the online transaction processing (OLTP) system. The ETL_TS column of this table is used as a Change Data Capture filter for all the order-related and quote-related dataflows. Based on the data volumes, this table can grow rapidly. To avoid this, a purge agent is provided to purge the records that are older than the configured retention days. The records are purged only if the data has been loaded into the staging system.

Purge Criteria

The following table displays the purge rule for the Order Timestamp Tag Purge:

Rule	Description	Retention Days
SBIORDERTAGTS	Order Tag Timestamp Purge	7

Attributes

The following table displays the attributes for the Order Timestamp Tag Purge transaction:

Attribute

Value

Base Transaction ID

ORDER_TS_TAG_PRG

Agent Criteria ID

ORDERTSTAGPRG

Base Document Type

General

Base Process Type

General

Abstract Transaction

No

APIs Called

None

User Exits Called

YFSBeforePurgeUE

Criteria Parameters

The following table displays the criteria parameters for the Order Timestamp Tag Purge transaction:

Criteria Parameter

Description

Action

Required. Triggers the transaction. If left blank, it defaults to Get, the only valid value.

CollectPendingJobs

If this parameter is set to N, the agent does not collect information about the pending jobs for this monitor. This pending job information is used for monitoring the monitor in the System Management Console.

Number of Records To Buffer

Optional. Number of records to retrieve and process at one time. If left blank or specified as 0 (zero), it defaults to 5000.

EnterpriseCode

Optional. The organization for which the Alert Purge has to be run. If it is not passed, all the enterprises are monitored.

Live

Optional. Mode in which to run. Valid values are:

Y - Deletes qualifying records from the YFS_ORDER_TS_TAG table.

N - Determines the rows that are deleted from the YFS_ORDER_TS_TAG table.

PurgeCode

Required. Cannot be modified. Used for internal calculations, such as determining retention days. Corresponds with the PurgeCode used in Business Rules Purge Criteria. Purge code is SBIORDERTAGTS.

Statistics Tracked

None.

Events Raised

None.

Tables Purged

YFS_ORDER_TS_TAG.

Shipment Timestamp Tag Purge

The Shipment Timestamp Tag (YFS_SHIPMENT_TS_TAG) table maintains a record of the orders that are shipped. The ETL_TS column of this table is used as a CDC filter for all the shipment-related dataflows. Based on the data volumes, this table can grow rapidly.

Attributes

The following table displays the attributes for the Shipment Timestamp Tag Purge transaction:

Attribute**Value****Base Transaction ID**

SHIPMENT_TS_TAG_PRG

Agent Criteria ID

SHIPMENTTSTAGPRG

Base Document Type

General

Base Process Type

General

Abstract Transaction

No

APIs Called

None

User Exits Called

YFSBeforePurgeUE

Purge Criteria

The following table displays the purge rule for the Shipment Tag Timestamp Purge:

Rule	Description	Retention Days
SBISHIPMENTTAGTS	Shipment Tag Timestamp Purge	7

Criteria Parameters

The following table displays the criteria parameters for the Shipment Timestamp Tag Purge transaction:

Criteria Parameter
Description

Action

Required. Triggers the transaction. If left blank, it defaults to Get, the only valid value.

CollectPendingJobs

If this parameter is set to N, the agent does not collect information on the pending jobs for this monitor. This pending job information is used for monitoring the System Management Console.

Number of RecordsTo Buffer

Optional. Number of records to retrieve and process at one time. If left blank or specified as 0 (zero), it defaults to 5000.

EnterpriseCode

Optional. The organization for which the Alert Purge has to be run. If it is not passed, all the enterprises are monitored.

Live

Optional. Mode in which to run. Valid values are:

Y - Default value. Moves qualifying records from the regular tables listed under Tables Purged to the corresponding history tables.

N - Test mode. Determines the rows that are being purged without actually purging them.

PurgeCode

Required. Cannot be modified. Used for internal calculations, such as determining retention days. Corresponds with the PurgeCode used in Business Rules Purge Criteria. Purge Code is SBISHIPMENTTAGTS.

Statistics Tracked

None

Events Raised

None.

Tables Purged

YFS_SHIPMENT_TS_TAG

Opportunity Timestamp Tag Purge

The Opportunity Timestamp Tag (YFS_OPPORTUNITY_TS_TAG) table maintains a record of each opportunity that is added or updated in the online transaction processing (OLTP) system. The ETL_TS column of this table is used as a Change Data Capture filter for all the opportunity-related dataflows. Based on the data volumes, this table can grow rapidly. To avoid this, a purge agent is provided to purge the records that are older than the configured retention days. The records are purged only if the data has been loaded into the staging system.

Purge Criteria

The following table displays the purge rule for the Opportunity Timestamp Tag Purge:

Rule	Description	Retention Days
SBIOPPONENTYTAGTS	Opportunity Tag Timestamp Purge	7

Attributes

The following table displays the attributes for the Opportunity Timestamp Tag Purge transaction:

Attribute

Value

Base Transaction ID

OPPORTUNITY_TS_TAG_PRG

Agent Criteria ID

OPPORTUNITYTSTAGPRG

Base Document Type

General

Base Process Type

General

Abstract Transaction

No

APIs Called

None

User Exits Called

YFSBeforePurgeUE

Criteria Parameters

The following table displays the criteria parameters for the Opportunity Timestamp Tag Purge transaction:

Criteria Parameter	Description
--------------------	-------------

Action	Required. Triggers the transaction. If left blank, it defaults to Get, the only valid value.
---------------	--

CollectPendingJobs	If this parameter is set to N, the agent does not collect information about the pending jobs for this monitor. This pending job information is used for monitoring the monitor in the System Management Console.
---------------------------	--

Number of Records To Buffer	Optional. Number of records to retrieve and process at one time. If left blank or specified as 0 (zero), it defaults to 5000.
------------------------------------	---

EnterpriseCode	Optional.
-----------------------	-----------

Live	Optional. Mode in which to run. Valid values are: Y - Deletes qualifying records from the YFS_OPPORTUNITY_TS_TAG table. N - Determines the rows that are deleted from the YFS_OPPORTUNITY_TS_TAG table.
-------------	---

PurgeCode	Required. Cannot be modified. Used for internal calculations, such as determining retention days. Corresponds with the PurgeCode used in Business Rules Purge Criteria. Purge code is SBIOPPONENTUNITYTAGTS.
------------------	--

Statistics Tracked

None.

Events Raised

None.

Tables Purged

YFS_OPPORTUNITY_TS_TAG.

Chapter 3. Load Management

Load management extracts, transforms, and loads (ETL) data from the online transaction processing (OLTP) database and other data sources into your data warehouse. Load management synchronizes the source model and target model to the warehouse model and updates the data mart database to reflect the changes in the warehouse model. Load management also publishes the source and target packages to the Cognos 8 portal. You can use load management differently, depending on the environment that you work in.

Note: The ETL process may not load some data into the data mart if the system time of the Cognos server is ahead of the OLTP database server. To avoid this, prior to starting the ETL process, you must ensure that the time in the Cognos Server is set to at least one minute slower than the OLTP database server. In case the platform considerations do not allow for time synching, the Cognos server should run one minute slower than the OLTP server.

Staging Database

Staging serves as a gateway for integrating data from multiple schemas, and delivering the same to the data mart database. Staging is required for an ETL process to deliver functionally correct data with the least impact on the source system. The advantages of the staging process are as follows:

- Staging reduces the load on the production server by ensuring that the incremental data is first copied to a staging database, and then transforms are applied from the staging database to the data mart database.
- In a multischema mode, staging helps obtain data from multiple colonies into a single data mart database.

Disk Sizing

Factors such as the amount of custom extensions and the frequency of the staging contribute to how much disk space is required. The following table gives information about the amount of disk space required:

Database	Temporary Space	Data Size
Staging	Same size as OLTP	Same size as OLTP
Datamart	4-5 times the size of OLTP	One fifth the size of OLTP

Data Mart Database

Sterling Data Mart database is a dimensionally modeled relational database. The reports in Sterling Business Intelligence are based on this database.

The Sterling Data Source project extracts data from the staging database and performs the necessary transformations and loads them into the warehouse database. This project contains all the metric calculations and star schema definitions. The Sterling Data Source project contains \s that extract data such as Configuration, Master, and Transaction.

Change Data Capture Filters

Change Data Capture (CDC) filters determine the updates to your OLTP source system from one load to another. You can set a date range to control the amount of data that is loaded.

CDC filters also determine the updates to your data warehouse from one load to another. You can set a date range to control the amount of data that is loaded. Let us for example, consider that you have previously loaded data for the period 2000-2006, and now want to load only the data pertaining to 2007. You must create a CDC filter to add only the new or changed data and avoid reloading data from 2000-2006.

Load Interval

You can set a load interval for a CDC filter. Specifying a load interval reduces the amount of data being read and processed by the Adaptive Warehouse load engine at one time by dividing the data into a number of smaller batches. This ensures that the server does not run out of memory and that the load operation completes successfully.

For example, for the initial load of your data warehouse, will probably have historical data from many years that you want to load. Calculate the number of batches for the filter by dividing the difference between the From and To dates by the number of load intervals. The Adaptive Warehouse load engine creates a maximum of 99 batches. Based on the volume of the data, you must find a balance between the batch limit and the memory capacity of your machine.

The load interval is measured in days for loading a fact with a change date. For example, if the date range for a CDC filter is from January 1, 2000, to June 15, 2007, and you specify a load interval of 30. When load management is run, multiple batches are generated by the Adaptive Warehouse load engine. Each batch consists of 30 days. The first batch extracts data from January 1, 2000, to January 30, 2000, the second batch extracts data from January 31, 2000, to March 1, 2000, and so on. In this example, the Adaptive Warehouse load engine generates 90 batches.

For more information about load management and optimizing performance, refer to the Cognos 8 Analytic Applications Installation and Configuration Guide and the Cognos 8 Analytic Applications Adaptive Warehouse User Guide.

Generate the Staging Project Package File

To load data from the OLTP database to the Staging database, you require the Staging Project Package file that can be generated by the Staging Project Package file generation tool. To run the Staging Project Package file generation tool, you must perform the following tasks:

1. Define a DB-Alias File
2. Staging Entity Metadata File
3. Generate the Staging Project Package File

The Staging Project Package file generation tool uses the data source connection information from the DB-Alias file and stores it in the generated Staging Project Package file. The Staging Entity Metadata file contains information about the entities required to be loaded into staging database. The tool gets the entity

information such as entity name, supported table types of entity, columns associated with the entity, extended columns, and so on from the entity repository. An ETL job takes the required information from the Staging Project Package file to load the data into the staging database.

Note: Ensure that you perform all these tasks from the server in which Sterling Selling and Fulfillment Foundation is installed.

Define a DB-Alias File

A DB-Alias file provides information about the data source connections.

Before you begin

To define a DB-Alias file:

Procedure

1. Create the <db_alias>.txt file.
2. Add the connection information for the required data sources in <db_alias>.txt file. The syntax for a connection string is as follows:

```
<PRODUCTION> '<data_source>' <catdb_driver> '<catdb_items>'
```

- <data_source> is the name of the data source. For staging and datamart schemas, the data source names should be STERLING_STAGING_DATA_SOURCE and STERLING_DATA_SOURCE respectively.

You must start all the transaction schemas data source names with TRANSACTION and the Configuration schema names with CONFIGURATION. Ensure that the complete value for this variable is defined in single quotes. It is assumed that master and transaction schemas are shared. Therefore, it is not required to define data source details of master data schema.

Note: In a multischema deployment, you must define the data source information of transaction schemas in all the colonies that are required to be loaded.

- <catdb_driver> specifies the database driver used to connect to the catalog containing the Job Stream. The value of this property depends on the database being used.

The database name and its corresponding <catdb_driver> values are as follows:

- Oracle: ORACLE
- DB2®: DB2
- Microsoft SQL: OLEDB

- <catdb_items> specifies the connection string that is required to connect to the data source. Ensure that the value for this variable is defined in single quotes.

The database name and its corresponding <catdb_items> values are as follows:

- Oracle: '<userid>/<password>@<SID>'
- DB2: '<DSN=<database>;UID=<userid>;PWD=<password>'
- Microsoft SQL: '<User Id=<userid>;Password=<password>;Database=<database>; Data Source=<server_name>'

Results

A sample DB-Alias file is as follows:

```
<PRODUCTION> 'STERLING_STAGING_DATA_SOURCE' ORACLE 'staging_test/staging_test@ORCL'  
<PRODUCTION> 'STERLING_DATA_SOURCE' ORACLE 'target_test/staging_test@ORCL'  
<PRODUCTION> 'CONFIGURATION-1' ORACLE 'oltp_config/oltp-config@ORCL'  
<PRODUCTION> 'TRANSACTION-1' ORACLE 'oltp_colony_1/oltp_colony_1@ORCL'  
<PRODUCTION> 'TRANSACTION-2' ORACLE 'oltp_colony_2/oltp_colony_2@ORCL'
```

Staging Entity Metadata File

The Staging Entity Metadata file contains information about the following:

- Entities that need to be loaded into the staging database.
- Entity information such as table name, table type, and so on.
- Relationship between the transaction entities, the driver tables, and filters.

The data is loaded into the staging database from all the columns of an entity including the extended columns. You should not change this file. If you want to add new entities, you need to define the extended Staging Entity Metadata file before generating the Staging Project Package file. For more information about customizing the staging project, refer to the Extend and Customize Sterling Business Intelligence topic.

Generate the Staging Project Package File

Execute the Staging Project Package file generation tool to generate the Staging Project Package file. This tool gets the required information from the DB-Alias file, Staging metadata entity file, and the entity repository.

Before you begin

To generate the Staging Project Package file:

Procedure

1. Navigate to the <install_dir>/bin folder.

Here, <install_dir> is the directory in which Sterling Selling and Fulfillment Foundation is installed.

2. Execute either of the following commands:

- To generate the initial load package file:

For Windows

```
sci_ant.cmd -f generate_staging_package.xml initial  
-Dfile_name=<package_file_name> -Ddb_alias=<db_alias_file_path>
```

For Linux or UNIX

```
sci_ant.sh -f generate_staging_package.xml initial  
-Dfile_name=<package_file_name> -Ddb_alias=<db_alias_file_path>
```

Here, <package_file_name> is the name of the generated Staging Project Package file. If you do not pass any argument, the Staging Project Package file is generated with Staging_Initial_Load_Package.pkg as the name.

<db_alias_file_location> is the path in which the DB-Alias file is defined. This argument is mandatory.

- To generate the incremental load package file:

For Windows

```
sci_ant.cmd -f generate_staging_package.xml incremental
-Dfile_name=<package_file_name> -Ddb_alias=<db_alias_file_path>
```

For Linux or UNIX

```
sci_ant.sh -f generate_staging_package.xml incremental
-Dfile_name=<package_file_name> -Ddb_alias=<db_alias_file_path>
```

Here, <package_file_name> is the name of the generated Staging Project Package file. If you do not pass any argument, the Staging Project Package file is generated with Staging_Incremental_Load_Package.pkg as the name.

<db_alias_file_location> is the path in which the DB-Alias file is defined. This argument is mandatory.

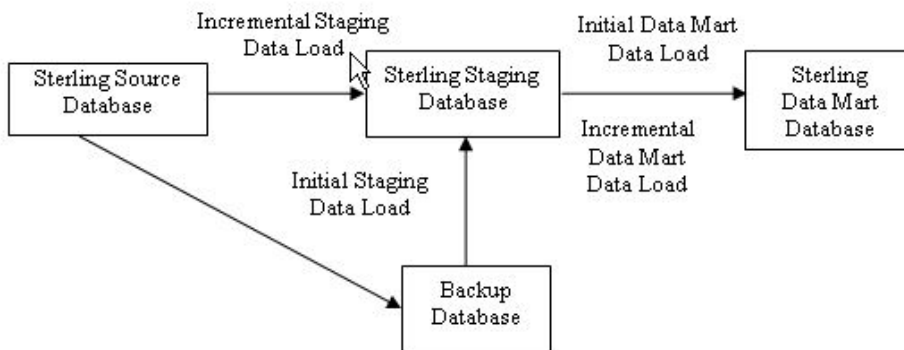
The package files generated are located in the <install_dir>/bin folder, where <install_dir> is directory in which Sterling and Fulfillment Foundation is installed.

For more information about load management, refer to the following:

- Load Initial Data into the Staging Database
- Load Incremental Data into the Staging Database

Load Data Into Data Mart

The load management process in Sterling Business Intelligence is illustrated here:



1. Back up the OLTP source database before you go live (typically two weeks earlier) with Sterling Business Intelligence.
2. Initial data load from the backup database to the Sterling staging database
3. Initial data load from the Sterling staging database to the Sterling data mart database
4. Incremental data load from the Sterling source database to the Sterling staging database
5. Incremental data load from the Sterling staging database to the Sterling data mart database

Create a Backup Database

It is recommended that you take a backup of your OLTP source database along with the history data as required (typically, 2 years) before you go live with Sterling Business Intelligence. Restore this backup into a different database and use this to perform initial data load.

For more information about taking a backup and restoring your database, refer to your database vendor documentation.

Configure the NLS_LANG Parameter for Oracle Database

To localize your reports to a multibyte language for oracle database, you must set the NLS_LANG environment variable to the appropriate value.

For Unix or Linux,

```
export NLS_LANG=<language>_<territory>.UTF8. For example, export  
NLS_LANG=American_America.UTF8
```

For Windows,

```
set NLS_LANG=<language>_<territory>.UTF8. For example, set  
NLS_LANG=American_America.UTF8
```

Initial Data Load

Initial load dataflow enables you to load existing data into the data mart. These dataflows load data from transaction tables and their history tables. You can set properties such as CDC filters and Load Interval, to improve the performance of the ETL process that occurs during load management. Initial data load is used to bring data into the data warehouse the first time. For loading existing data into staging project, the configuration, master, and transaction tables are used.

Because Initial Data Load is a long-running and memory-intensive process, you must control the amount of data that is loaded in order to avoid running into out-of-memory exceptions. This is done using the CDC filters and Load Interval properties.

Note: When an order is purged, the quantity in YFS_ORDER_RELEASE_STATUS record is set to zero. These records are not considered in the Volume Analysis metrics calculations.

Note: To configure parallel processes in the Cognos Adaptive Warehouse application click **Options** in the Load Management tab. The number of parallel processes that can be configured during ETL is one half the number of CPUs on your computer. Set this number in the **Number of Parallel Processes** field. Leave it at the default value of one if you have one CPU. The actual number of processes that run simultaneously can vary from the number specified.

Loading Initial Data into the Staging Database

The staging project loads the data from the following configuration, master, and transaction tables:

- **Configuration Tables**
 - YFS_ORGANIZATION
 - YFS_COMMON_CODE
 - YFS_PAYMENT_TYPE
 - YFS_HOLD_TYPE
 - YFS_STATUS_MODIFICATION_TYPE
 - YFS_PERSON_INFO_CONFIG
 - YFS_REGION

- YFS_DOCUMENT_PARAMS
- YFS_LOCALIZED_STRINGS
- YFS_REGION_BEST_MATCH
- YFS_CATEGORY_DOMAIN
- YFS_REGION_SCHEMA
- YFS_REGION_USAGE
- YFS_CAT_DOMAIN_LOCALE
- YFS_DATA_SECURITY_GROUP
- YFS_CHARGE_CATEGORY
- **Master Tables**
 - YFS_ITEM
 - YFS_CATEGORY
 - YFS_CATEGORY_ITEM
 - YFS_CUSTOMER
 - YFS_CONSUMER
 - YFS_CUSTOMER_CONTACT
 - YFS_USER
 - YFS_USER_GROUP_LIST
 - YFS_ITEM_LOCALE
 - YFS_CATEGORY_LOCALE
- **Transaction Tables**
 - YFS_ORDER_HEADER
 - YFS_ORDER_LINE
 - YFS_ORDER_RELEASE_STATUS
 - YFS_ORDER_DATE
 - YFS_ORDER_LINE_SCHEDULE
 - YFS_CHARGE_TRANSACTION
 - YFS_PAYMENT
 - YFS_ORDER_HOLD_TYPE
 - YFS_ORDER_HOLD_TYPE_LOG
 - YFS_ORDER_AUDIT
 - YFS_ORDER_AUDIT_LEVEL
 - YFS_SHIPMENT
 - YFS_SHIPMENT_LINE
 - YFS_OPPORTUNITY
 - YFS_PERSON_INFO
 - YFS_LINE_CHARGES

Loading Initial Data in Sterling Business Intelligence for the Data Mart Project

The data mart project contains dataflows that extract data from the configuration, master, and the transaction tables.

The dataflows that extract data pertaining to initial data load for the data mart project are listed below.

- **Configuration Dataflows and Master Dataflows**

- Enterprise Dataflow
- Ship Node Dataflow
- Seller Dataflow
- Buyer Dataflow
- Payment Type Dataflow
- Hold Type Dataflow
- Channel Dataflow
- Fulfillment Dataflow
- Delivery Method Dataflow
- Product Dataflow
- Product Category Tree Dataflow
- Modification Type Dataflow
- Customer Dataflow
- Customer Hierarchy Dataflow
- Customer Contact Dataflow
- Address Dataflow
- Address Region Hierarchy Dataflow
- Document Type Dataflow
- User Ranges Dataflow
- Time Period Dataflow
- Calendar Dataflow
- Sales Person Dataflow
- Sales Team Dataflow
- Industry Dataflow
- **Transaction Dataflows**
 - SO Line Initial Load Dataflow
 - Shipment Line Initial Load Dataflow
 - SO Payment Initial Load Dataflow
 - SO Hold Initial Load Dataflow
 - SO Modification Initial Load Dataflow
 - Opportunity Initial Load Dataflow
 - Quote Line Initial Dataflow
- **Aggregate (Summary) Dataflows**
 - SO Modification Summary Dataflow
 - SO Payment Summary Dataflow
 - SO Hold Summary Dataflow
 - SO Daily Category Summary Dataflow
 - SO Daily Region Summary Dataflow
 - Shipment Summary Dataflow
 - SO Daily Summary Dataflow
 - SO Customer Monthly Summary Dataflow
 - Customer Category Quotes Daily Summary Dataflow
- **SO Monthly Summary Dataflow**
 - SO Monthly Summary Dataflow
- **Customer Rating Dataflow**

- Customer Rating Dataflow

Load the Initial Data in IBM Sterling Business Intelligence for the Data Mart Project

To load the initial data in Sterling Business Intelligence for the data mart project, perform the following steps:

Before you begin

Procedure

1. Launch the IBM Cognos Adaptive Warehouse application.
2. Open the Sterling Data Source project.
3. From the Actions menu, select Load Management.
The Load Management screen is displayed with the available dataflows.
4. Select the required initial dataflow and click CDC Filters.
The Change Data Capture Parameters screen is displayed.
5. Enter the time period range in the From Value field and To Value field to load data in each filter item.
6. Repeat steps 3 to 5, for the other required dataflows.
7. Click Close.
8. Click Save.
9. From the Actions menu, select Load Management.
The Load Management screen is displayed with all the available dataflows.
10. Click Deselect All.
11. Generate the script for all Configuration, Master, and Transaction dataflows as follows:
Select all the Configuration, Master, and Transaction dataflows.
Click Script.
The Script dialog box is displayed.
Enter `\cognos\ap\bin\
<configuration_master_transaction_script_filename>.xml` in the Script Location field and click Save.
12. Generate the script for all Aggregate (Summary) dataflows as follows:
 - a. Select all the Aggregate (Summary) dataflows.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\
<aggregate_script_filename>.xml` in the Script Location field and click Save.
13. Generate the script for the SO Monthly Summary dataflow as follows:
 - a. Select all the SO Monthly Summary dataflow.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\
<SO_monthly_summary_script_filename>.xml` in the Script Location field and click Save.
14. Generate the script for the Customer Rating dataflow as follows:
 - a. Select all the Customer Rating dataflow.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\
<customer_rating_script_filename>.xml` in the Script Location field and click Save.
15. Click OK.

16. Click Close.

Note:

- If the Cognos Adaptive Application Framework (AAF) Runtime and Cognos Adaptive Application Framework (AAF) applications are installed on different servers, copy the generated script to the appropriate location.
- The script must be regenerated every time there is a change in the Sterling Staging Data Source project.

17. To run the load management scripts, execute the following command from the \cognos\ap\bin folder:

```
pwexec.cmd <path\filename>.xml (For Windows)
```

```
pwexec.sh <path\filename>.xml (For UNIX)
```

Note:

- If Oracle is the database for your datamart and you are using a 64 bit client on UNIX, before running the command, ensure that the 32 bit client libraries are present in the shared libraries path you provide.
- When running or scheduling the scripts, ensure that the scripts are executed in the following sequence:
 - a. Configuration, Master, and Transaction dataflow script
 - b. Aggregate dataflow script
 - c. SO Monthly Summary dataflow script
 - d. Customer Rating dataflow script
- After you run the scripts, you may see some “Circular referencing detected” and “Using non-string item [User Ranges].[User Ranges].[User Ranges].[Range Identifier].[Range Identifier] for _memberCaption role” warnings in the <AW_INSTALL_DIR>/ap/data/aaf/logs/aw- <timestamp>.log file. You can ignore these warnings.
- After you run the scripts, you may see some “ICCLConfiguration exception” and “CCLConfigurationException” errors in the <AW_INSTALL_DIR>/ap/logs/ipfInternal_cpp.log file. You can ignore these errors.

It is recommended that you truncate all the transaction tables in the staging database before starting the incremental load.

Note: Before running the datamart load ensure that you run the command to collect the database statistic on staging database. For more information, about the command to collect the database statistic, refer to your database vendor documentation.

Incremental Data Load

Incremental data load refers to changes in the OLTP source system. Every change in the OLTP source system must be reflected in the data mart system, and occurs through incremental load (basically, synchronizing the data between the OLTP source system and the data mart system). You must also add the configuration data and master data because they do not change frequently. It is recommended that the incremental load scripts are run as scheduled jobs, and the configuration data and master data are reloaded periodically.

Note: The CDC filters for the incremental data load use the ETL_TS column in the YFS_ORDER_TS_TAG table or the YFS_SHIPMENT_TS_TAG table.

Loading Incremental Data into the Staging Database

The staging project contains tables that extract data from the configuration, master, and transaction tables. For incremental data load, the tables that extract the configuration data and the master data are the same as that of the initial data load. The tables that extract transaction data are:

- YFS_ORDER_HEADER
- YFS_ORDER_LINE
- YFS_ORDER_RELEASE_STATUS
- YFS_ORDER_DATE
- YFS_ORDER_LINE_SCHEDULE
- YFS_CHARGE_TRANSACTION
- YFS_PAYMENT
- YFS_ORDER_HOLD_TYPE
- YFS_ORDER_HOLD_TYPE_LOG
- YFS_ORDER_AUDIT
- YFS_ORDER_AUDIT_LEVEL
- YFS_SHIPMENT
- YFS_SHIPMENT_LINE
- YFS_OPPORTUNITY
- YFS_ORDER_TS_TAG
- YFS_SHIPMENT_TS_TAG
- YFS_PERSON_INFO
- YFS_LINE_CHARGES
- YFS_OPPORTUNITY_TS_TAG

Note: Ensure that the Staging database schema is refreshed after loading initial load data into staging and datamart database and before performing the following task.

Load the Incremental Data in IBM Sterling Business Intelligence for the Staging Project

Before you begin

To load the incremental data in Sterling Business Intelligence for the staging project, perform the following steps:

Procedure

1. Copy the generated incremental load Staging Project Package file from the <install_dir>/bin folder to the SBI Adaptive Analytics Runtime (server 6) in the Sterling Business Intelligence application ecosystem.
Here, <install_dir> is the directory in which the Sterling Selling and Fulfillment Foundation is installed.
2. For Windows, copy the staging_load_management.cmd file from the <AC_INSTALL_DIR>/bin/ folder to the SBI Adaptive Analytics Runtime (server 6) in the Sterling Business Intelligence application ecosystem.
For Linux or UNIX, copy the staging_load_management.sh file from the <AC_INSTALL_DIR>/bin/ folder to the he SBI Adaptive Analytics Runtime (server 6) in the Sterling Business Intelligence application ecosystem. After copying the file, provide execute permission to the staging_load_management.sh file.

Note:

- If Oracle is the database for your datamart and you are using a 64 bit client on UNIX, before running the command, ensure that the 32 bit client libraries are present in the shared libraries path you provide.

Set the environment variables as follows:

- Set the value of the COGNOS_AW_HOME environment variable to the install directory of Adaptive Analytics Runtime.
- Set the value of the DB_ALIAS_DRIVER environment variable to the database name.

The database name and its corresponding values are as follows:

- Oracle: ORACLE
- DB2: DB2
- Microsoft SQL: OLEDB

- Set the value of the DB_ALIAS_ITEM environment variable to the connection string information of Sterling Staging database. This value must be passed in double quotes.

Database name and its corresponding values are as follows:

- Oracle: "<userid>/<password>@<SID>"
- DB2: "DSN=<database>;UID=<userid>;PWD=<password>"
- Microsoft SQL:"User
Id=<userid>;Password=<password>;Database=<database>;Data
Source=<server_name>;"

- Set the value of the LOG_DIR environment variable to the directory in which the ETL log files are stored. The default location of the ETL log files is <AW_Install_Dir>\datamanager\log.

3. To create the staging catalog tables, DDL, and CDC tables, run the following commands:

- For Windows

```
staging_load_management.cmd setup <incremental_load_package_file>
```

- For Linux or UNIX

```
staging_load_management.sh setup <incremental_load_package_file>
```

Here, the <incremental_load_package_file> variable indicates the path and name of the Sterling Staging Incremental Package file.

4. You can load data from the configuration and master tables at the same time. Alternatively, you can also choose to load data from the configuration and master tables one after the other.

- To load data from the configuration and master tables at the same time, run the following command:

- For Windows

```
staging_load_management.cmd Configuration_Master  
<incremental_load_package_file path>
```

- For Linux or UNIX

```
staging_load_management.sh Configuration_Master  
<incremental_load_package_file path>
```

- To load data from configuration tables only, run the following command:

- For Windows

```
staging_load_management.cmd Configuration  
<incremental_load_package_file path>
```

- For Linux or UNIX
staging_load_management.sh Configuration
<incremental_load_package_file path>
- To load data from master tables only, run the following command:
 - For Windows
staging_load_management.cmd Master <incremental_load_package_file path>
 - For Linux or UNIX
staging_load_management.sh Master <incremental_load_package_file path>
- 5. To load the incremental data, run the following command:
 - For Windows
staging_load_management.cmd ALL_Incremental
<incremental_load_package_file path>
 - For Linux or UNIX
staging_load_management.sh ALL_Incremental
<incremental_load_package_file path>

Loading Incremental Data in IBM Sterling Business Intelligence for Data Mart Project

In the incremental data load process for the data mart project, the dataflows that extract the configuration data and the master data are the same as that of the initial data load.

The dataflows that extract data pertaining to incremental data load for the data mart project are listed below.

- **Configuration Dataflows and Master Dataflows**
 - Enterprise Dataflow
 - Ship Node Dataflow
 - Seller Dataflow
 - Buyer Dataflow
 - Payment Type Dataflow
 - Hold Type Dataflow
 - Channel Dataflow
 - Fulfillment Dataflow
 - Delivery Method Dataflow
 - Product Dataflow
 - Product Category Tree Dataflow
 - Modification Type Dataflow
 - Customer Dataflow
 - Customer Hierarchy Dataflow
 - Customer Contact Dataflow
 - Address Dataflow
 - Address Region Hierarchy Dataflow
 - Document Type Dataflow
 - User Ranges Dataflow
 - Time Period Dataflow

- Calendar Dataflow
- Sales Person Dataflow
- Sales Team Dataflow
- Industry Dataflow
- **Transaction Dataflows**
 - SO Line Dataflow
 - Shipment Line Dataflow
 - SO Payment Dataflow
 - SO Hold Dataflow
 - SO Modification Dataflow
 - Opportunity Dataflow
 - Quote Line Dataflow
- **Aggregate (Summary) Dataflows**
 - SO Modification Summary Dataflow
 - SO Payment Summary Dataflow
 - SO Hold Summary Dataflow
 - SO Daily Category Summary Dataflow
 - SO Daily Region Summary Dataflow
 - Shipment Summary Dataflow
 - SO Daily Summary Dataflow
 - SO Customer Monthly Summary Dataflow
 - Customer Category Quotes Daily Summary Dataflow
- **SO Monthly Summary Dataflow**
 - SO Monthly Summary Dataflow
- **Customer Rating Dataflow**
 - Customer Rating Dataflow

Load the Incremental Data in Sterling Business Intelligence for the Data Mart Project

Before you begin

To load the incremental data in Sterling Business Intelligence for the data mart project, perform the following steps:

Procedure

1. Launch the Cognos Adaptive Warehouse application.
2. Open the Sterling Data Source project.
3. From the Actions menu, select Load Management.
The Load Management screen is displayed with all the available dataflows.
4. Click Deselect All.
5. To load incremental changes in the configuration data and master data, generate the script for all Configuration and Master dataflows as follows:
 - a. Select the Configuration and Master dataflows.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\ in the Script Location field and click Save.`
6. Generate the script for all Transaction dataflows as follows:

- a. Select the Transaction dataflows.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\ in the Script Location field and click Save.`
7. Generate the script for all Aggregate (Summary) dataflows as follows:
 - a. Select the Aggregate dataflow.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\ in the Script Location field and click Save.`
 8. Generate the script for the SO Monthly Summary dataflow as follows:
 - a. Select the SO Monthly Summary dataflow.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\ in the Script Location field and click Save.`
 9. Generate the script for the Customer Rating dataflow as follows:
 - a. Select the Customer Rating dataflow.
 - b. Click Script. The Script dialog box is displayed.
 - c. Enter `\cognos\ap\bin\ in the Script Location field and click Save.`
 10. Click OK.
 11. Click Close.

Note:

- If the Cognos Adaptive Application Framework (AAF) Runtime and Cognos Adaptive Application Framework (AAF) applications are installed on different servers, copy the generated script to the appropriate location.
 - The script must be regenerated every time there is a change in the Sterling Staging Data Source project.
12. To run the load management scripts, execute the following command from the `\cognos\ap\bin` folder:


```
pwexec.cmd <path\filename>.xml (For Windows)
```

```
pwexec.sh <path\filename>.xml (For UNIX)
```

Note:

- If Oracle is the database for your data mart and you are using a 64 bit client on UNIX, before running the command, ensure that the 32 bit client libraries are present in the shared libraries path you provide.
- When running or scheduling the scripts, ensure that the scripts are executed in the following sequence:
 - a. Configuration and Master dataflow script

Note: Execute Configuration and Master dataflow script only if there are incremental changes in the configuration data or master data.

- b. Transaction dataflow script
- c. Aggregate dataflow script
- d. SO Monthly Summary dataflow script
- e. Customer Rating dataflow script
- f.

- After you run the scripts, you may see some “Circular referencing detected” and “Using non-string item [User Ranges].[User Ranges].[User Ranges].[Range Identifier].[Range Identifier] for _memberCaption role” warnings in the <AW_INSTALL_DIR>/ap/data/aaf/logs/aw-<timestamp>.log file. You can ignore these warnings.
- After you run the scripts, you may see some “ICCLConfiguration exception” and “CCLConfigurationException” errors in the <AW_INSTALL_DIR>/ap/logs/ipfInternal_cpp.log file. You can ignore these errors.

Note: Before running the datamart load ensure that you run the command to collect the database statistic on staging database. For more information about the command to collect the database statistic, refer to your database vendor documentation.

About Purging the Staging Tables

The Staging database is used to stage the data before loading it into the data mart database. To keep the staging tables manageable, timely clean up has to be carried out. The purge is based on retention days, and only records older than the retention days are deleted. Retention days should be set based on the volumes of data and the frequency of the incremental load. To ensure that only data that is no longer useful is cleaned up, the data is cleaned only if the ETL job of the Sterling Data Source project has successfully run within the last 'n' days. Purging of transaction tables pertaining to YFS_ORDER_HEADER is done only when the order is in Closed status.

Note: The command to purge the staging tables deletes the records from the staging database permanently

Purge the Staging Tables

To purge the staging tables, perform the following tasks:

Before you begin

Procedure

1. In the SBI Adaptive Analytics Runtime (server 6) of the Sterling Business Intelligence application ecosystem, navigate to the folder in which the staging_load_management.cmd/.sh file is copied. Ensure that the environment variables are set as follows:
 - Set the value of the COGNOS_AW_HOME environment variable to the install directory of Adaptive Analytics Runtime.
 - Set the value of the DB_ALIAS_DRIVER environment variable to the database name.

The database name and its corresponding values are as follows:

 - Oracle: ORACLE
 - DB2: DB2
 - Microsoft SQL: OLEDB
 - Set the value of the DB_ALIAS_ITEM environment variable to the connection string information of Sterling Staging database. This value must be passed in double quotes.

Database name and its corresponding values are as follows:

- Oracle: "<userid>/<password>@<SID>"
 - DB2: "DSN=<database>;UID=<userid>;PWD=<password>"
 - Microsoft SQL: "User
Id=<userid>;Password=<password>;Database=<database>;Data
Source=<server_name>;"
- Set the value of the LOG_DIR environment variable to the directory in which the ETL log files are stored. The default location of the ETL log files is <AW_Install_Dir>\datamanager\log.
2. To purge data from the transaction tables in the staging database, run the following command:
- For Windows:
staging_load_management.cmd Purge <incremental_load_package_file>
<retention_days>
 - For Linux or UNIX:
staging_load_management.sh Purge <incremental_load_package_file>
<retention_days>

Here, the <retention_days> variable indicates the number of days for which you want to retain the data in staging. For example, if the value of this variable is set to 7, the records older than 7 days are considered for purge.

Chapter 4. Integration of Sterling Selling and Fulfillment Foundation with Sterling Business Intelligence Mashups

Sterling Business Intelligence provides out-of-the-box analytical reports to help users of applications such as Sterling Selling and Fulfillment Foundation, IBM Sterling Call Center and Sterling Store, and IBM Sterling Field Sales to analyze the data. The other applications can get the data from reports provided by Sterling Business Intelligence by using the Representational State Transfer (REST) Interface of the Cognos Content Mashup Service. The REST interface requires other applications to provide inputs such as Report Name, Required Format of the Report Data (Simple format) and Report Criteria for a given report, and gives back the report data in the specified format. For more information about the REST interface, refer to the Cognos Content Mashup Service Developer Guide.

The following prerequisites must be considered for accurate reports:

- Ensure that the other applications such as Sterling Selling and Fulfillment Foundation, Sterling Call Center and Sterling Store, and Sterling Field Sales are installed on the same server as Sterling Business Intelligence.
- Ensure that the required customer data is loaded into the data mart.

When the other application user views these reports, Sterling Business Intelligence provides the latest data up to when the last ETL was run.

Note: Sterling Business Intelligence assumes that B2C (Business to Customers) and B2B (Business to Business) customers are maintained by different customer organizations. When analyzing the customers and generating customer reports, Sterling Business Intelligence does not differentiate between B2C and B2B customers.

Integration with IBM Sterling Call Center and IBM Sterling Store

A Sterling Call Center and Sterling Store user uses the following reports provided by Sterling Business Intelligence:

- **Customer Appeasement Report:** This report is used to determine the appeasement to be given to a customer. When a customer reports not being satisfied or has a bad experience with any of the services that were provided, the Customer Appeasement report can be analyzed. Depending on the revenue generated by the customer, the user can present them with an option to appease them.

The Customer Appeasement report contains the following metrics:

- **Total Lifetime Revenue:** This indicates the revenue from a customer till the present date.
- **Revenue in the last year:** This indicates the revenue from a customer in the last 11 months and the current month.
- **Average Order Value for Lifetime:** This indicates the total revenue from order lines divided by the number of orders accumulated over lifetime for a customer.

These metrics are compared with metrics for the average customer to provide the report. The value of a metric for the average customer is calculated as the average of the metric for all the customers. For example, the Lifetime

Revenue of an average customer is equal to the sum of the lifetime revenue of all the customers divided by the number of customers.

- **Quote Adviser Report By Category:** This report provides the maximum, minimum, and average discount percentage provided on converted quotes for the item's category, aggregated over the lifetime. This report is provided at the quote line level for a specific Item and UOM that the user selected in the Sterling Call Center and Sterling Store application.
- **Quote Adviser Report By Industry:** This report provides the maximum, minimum, and average discount percentage provided on converted quotes for the item's category, within the customer's industry aggregated over the lifetime. This report is provided at the quote line level for a specific Item and UOM that the user selected in the Sterling Call Center and Sterling Store application.
- **Customer Rating Report:** This report provides the details of all the metrics used when calculating a customer's rating. Sterling Business Intelligence computes rating for the customers based on the data such as customers' past purchase history and credit holds. Based on the rating, Sterling Business Intelligence also determines a grade for each customer.

The Customer Rating report contains the following metrics:

- **Total Lifetime Revenue:** This indicates the revenue from the customer till the present date.
- **Revenue in the Last Year:** This indicates the revenue from the customer in the last 11 months and the current month.
- **Current[®] Orders on Credit Hold:** This indicates the number of orders that were on credit hold for the customer in the current quarter.
- **Past One Year Orders on Credit Hold:** This indicates the number of orders that were on credit hold for the customer in the last 11 months and the current month.
- **Customer Rating and Grade:** This indicates the rating calculated for the customer and the grade of the customer based on the rating. The description of the grade is also provided.

The Total Lifetime Revenue and Revenue in the Last Year metrics are compared with metrics for the average customer to provide the report. The value of a metric for the average customer is calculated as the average of the metric for all the customers. For example, the Lifetime Revenue of an average customer is equal to the sum of the lifetime revenue of all the customers divided by the number of customers for the organization.

For more information about how Sterling Call Center and Sterling Store use these reports, see the Sterling Call Center and Sterling Store: Implementation Guide.

Integration with IBM Sterling Field Sales

When considering discounts on a quote, a Sterling Field Sales user needs to understand the discounts provided on items in the same category and for the same industry in the past. To fulfill this requirement, Sterling Business Intelligence provides the following reports:

- **Quote Adviser Report By Category:** This report provides the maximum, minimum, and average discount percentage provided on converted quotes for the item's category, aggregated over the lifetime. This report is provided at the quote line level for a specific Item and UOM that the user selected in the Sterling Field Sales application.
- **Quote Adviser Report By Industry:** This report provides the maximum, minimum, and average discount percentage provided on converted quotes for

the item's category, within the customer's industry aggregated over the lifetime. This report is provided at the quote line level for a specific Item and UOM that the user selected in the Sterling Field Sales application.

- **Customer Rating Report:** This report provides the details of all the metrics used when calculating a customer's rating. Sterling Business Intelligence computes rating for the customers based on the data such as customers' past purchase history and credit holds. Based on the rating, Sterling Business Intelligence also determines a grade for each customer.

The Customer Rating report contains the following metrics:

- **Total Lifetime Revenue:** This indicates the revenue from the customer till the present date.
- **Revenue in the Last Year:** This indicates the revenue from the customer in the last 11 months and the current month.
- **Current Orders on Credit Hold:** This indicates the number of orders that were on credit hold for the customer in the current quarter.
- **Past One Year Orders on Credit Hold:** This indicates the number of orders that were on credit hold for the customer in the last 11 months and the current month.
- **Customer Rating and Grade:** This indicates the rating calculated for the customer and the grade of the customer based on the rating. The description of the grade is also provided.

The Total Lifetime Revenue and Revenue in the Last Year metrics are compared with metrics for the average customer to provide the report. The value of a metric for the average customer is calculated as the average of the metric for all the customers. For example, the Lifetime Revenue of an average customer is equal to the sum of the lifetime revenue of all the customers divided by the number of customers for the organization.

For more information about how the Sterling Field Sales application uses these reports, see the Sterling Field Sales: Implementation Guide.

Integration with IBM Sterling Selling and Fulfillment Foundation

In the quote approval process, other applications such as Sterling Call Center, Sterling Store, and Sterling Field Sales need to apply specific discounts to customers, based on the customer's rating. To fulfill this requirement, Sterling Business Intelligence computes rating for customers based on data such as customers' past purchase history and credit holds. The past purchase history comprises data such as total lifetime amount spent and amount spent over the last year compared with the average customer. The credit holds comprise data such as current orders on credit hold and last year's orders on credit hold. Based on the rating, Sterling Business Intelligence also determines a grade for the customer. When the users view the rating and grade for a customer, Sterling Business Intelligence provides the latest data up to when the last ETL was run for the corresponding configuration tables. For more information about configuring grades, refer to the *Sterling Distributed Order Management: Configuration Guide*.

By default, the customer rating is always between 0 and 2. The rating for a customer is calculated based on the following formula:

$$\begin{aligned}
&= \frac{\text{Customer Lifetime \$ Spent}}{\text{Average Customer Lifetime \$ Spent}} * W1 \\
&+ \frac{\text{Customer \$ spent over last 1 year}}{\text{Average Customer \$ spent over last 1 year}} * W2 - \text{Current orders on credit hold} \\
&* W3 - \text{Past 1 year orders on credit hold} * W4
\end{aligned}$$

Here, w1 is Lifetime Revenue Weightage, w2 is Last Year Revenue Weightage, w3 is Current Credit Hold Weightage, and w4 is Last Year Credit Hold Weightage. The default values of these weights are as follows:

- Last Year Revenue Weightage = 0.6
- Lifetime Revenue Weightage = 0.4
- Current Credit Hold Weightage = 0.2
- Last Year Credit Hold Weightage = 0.05

You can modify these weights as per your business' requirements. For more information about modifying weights and configuring grades, refer to the following sections:

- [Modify Weights for Customer Rating](#)
- [Configure Grades for Customer Rating](#)

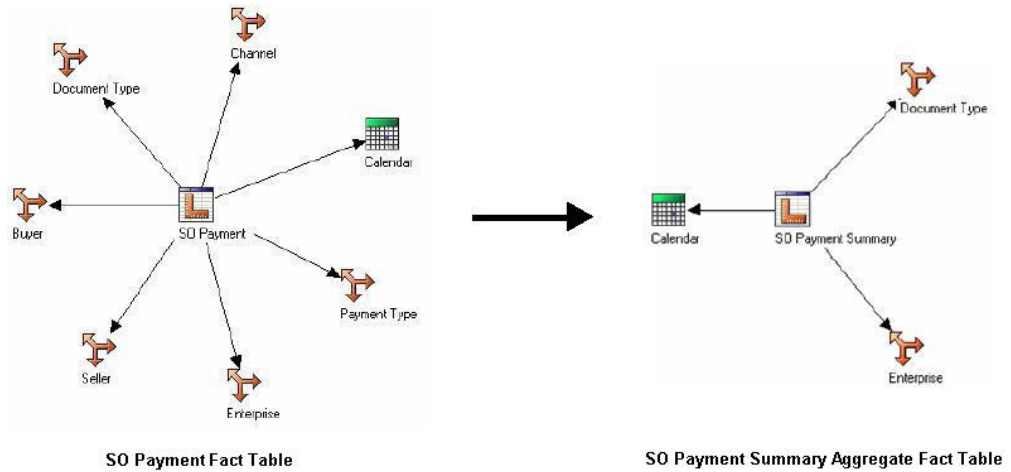
Chapter 5. Enhancing the Performance of the Sterling Business Intelligence Dashboards and Reports By Using Aggregate Fact Tables

Sterling Business Intelligence provides various dashboards and reports in which the metrics are associated with a time period. These metrics are stored in fact tables that are located at the centre of the corresponding star schemas. The fact tables are stored at the lowest level of granularity in a data mart. A report takes a long period of time to fetch data from the fact tables because the calculations and summarization of data is performed when executing the report. Because of this, the Sterling Business Intelligence user interface takes more time to display the dashboards and reports. To enhance the performance of the dashboards and reports, the pre-summarized or pre-aggregated data should be stored at a higher level of granularity. For example, Sterling Business Intelligence provides out-of-the-box aggregate fact tables that contain new metrics derived either from one or more aggregate functions such as COUNT, MIN, MAX, and so on. The new metrics in an aggregate fact table are stored and maintained in special fact tables at the grain of aggregation in the data mart. You can create an aggregate table by performing the following steps when summarizing a fact table:

- Excluding one or more dimensions. For example, the SO Payment Summary aggregate fact table is derived from the SO Payment fact table by excluding certain dimensions. The SO Payment fact table consists of the following dimensions:
 - Channel
 - Calendar
 - Payment Type
 - Enterprise
 - Seller
 - Buyer
 - Document TypeThe SO Payment Summary aggregate fact table consists of the following dimensions:
 - Enterprise
 - Document Type
 - Calendar
- Replacing one or more dimensions by their shrunken or rolled versions. For example, the SO Customer Monthly Summary aggregate fact table is created by replacing the dimensions by their shrunken and rolled versions. The daily-grain dimensions in the SO Daily Summary aggregate fact table have been replaced by the monthly-grain dimensions in the SO Customer Monthly Summary aggregate fact table.

Though maintaining aggregate fact tables in a data mart increases the time taken to complete an ETL process, but the time taken to display the dashboards and reports is remarkably decreased. For example, the SO Payment Summary aggregate fact table has been created from the SO Payment fact table. Because of this, the report execution time for the Percentage Authorization Failure and Percentage Settlement Failure metrics in the Perfect Order dashboard has been reduced approximately by a factor of 10.

The following figure illustrates the SO Payment fact table being aggregated to the SO Payment Summary aggregate fact table:



Based on your business requirements, you can analyze the metrics required by a dashboard or report and the existing grain to create aggregate fact tables to enhance the performance of the dashboard or report. When creating an aggregate fact table, consider the following:

- Number of records: As compared to a fact table, decrease the total number of records in an aggregate table by ten to twenty times.
- Storage: As compared to a fact table, increase the size of a record at the most by a factor of two.
- Granularity: Select a grain that addresses the maximum number of metrics. You can create a daily, monthly, or yearly summary aggregate tables based on the time dimension. However, it is recommended to create a daily summary aggregate tables that addresses most of the metrics for a report.

Chapter 6. Extend and Customize IBM Sterling Business Intelligence

Before you begin

Sterling Business Intelligence can be customized to meet your business requirements. Prior to extending and customizing Sterling Business Intelligence, you must perform the following tasks:

Procedure

1. Analyze the reports, models, and dashboards that are shipped along with Sterling Business Intelligence.
2. Based on your business requirements, identify the customizations that have to be performed.
3. Identify the components that have to be customized to meet your business requirements.

Based on your analysis, perform the following tasks:

- Extend the Adaptive Warehouse Content
- Extend the Adaptive Analytics Reports
- Extend the Dashboards
- Customize the User Interface
- Customize the Staging Project

Note: This version of Sterling Business Intelligence is shipped with the Order data mart. All the extensions should be limited to bringing in data that is related to orders or shipments because incremental change data capture is supported only for the order and shipment objects.

Extend the Adaptive Warehouse Content

The Sterling Business Intelligence model can be customized based on your business requirements. A model is a set of related warehouse objects such as dimensions, facts, and calendars required for one or more related reporting applications. To customize your model, you must identify the warehouse objects required to meet your business requirements, create the warehouse model, and publish it.

Prerequisites: To extend the Adaptive Warehouse content, you must be familiar with developing metadata model using the Cognos Adaptive Warehouse and the Cognos Framework Manager applications.

To extend and customize the Adaptive Warehouse content, perform the following tasks:

- Modify the existing dimensions, facts, and add new warehouse objects
- Add new facts, dimensions, and create a new star schema
- Add custom hierarchy, target model filters, and new target model calculation
- Add custom hierarchy, hierarchy levels to existing hierarchy, source and target model filters, filters on warehouse objects, and new target model calculation

When extending and customizing the Adaptive Warehouse content, you must not perform the following tasks:

- Delete existing warehouse objects, including facts, dimensions, and references
- Modify the existing target model calculations, filters, and hierarchy

To extend the Adaptive Warehouse content, modify the existing Adaptive Warehouse projects that are shipped with Sterling Business Intelligence, namely Sterling Staging Data Source (staging project) and Sterling Data Source (data mart project).

For more information about working with warehouse objects, refer to the Cognos 8 Analytic Applications Adaptive Warehouse User Guide.

Extend the Adaptive Analytics Reports

Before you begin

Based on your business requirements, you can add new reports in Sterling Business Intelligence. For customizing the reports, you must determine the metric types, hierarchy references, and the corresponding packages, create a deployment archive, and publish the reports.

Prerequisites: To extend the reports in Sterling Business Intelligence, you must be familiar with developing reports in the Cognos Adaptive Analytics application.

Note: When extending and customizing reports using Sterling Business Intelligence, you can add new reports, but you should not delete or modify the existing reports.

To create a new analytic report, follow the process listed here:

Procedure

1. Open the Sterling Data Source Adaptive Analytics project.
2. Create a Report Pack within a metric type. The metric type defines what you are reporting on.
3. Select an Hierarchy to report.
4. Create an Analytic Type. The Analytic Type defines the style of the report.
5. Optionally, set other properties as follows:
 - Define additional measures or levels (hierarchy)
 - Define filters

Note: All adaptive analytic reports must contain a time reference. If the time hierarchy is not present in the report, you must select an available prompt parameter in the Parameter Configuration screen and set the time reference properties to Yes.

Results

For more information about generating analytic reports, refer to the Cognos 8 Analytic Applications Adaptive Analytics User Guide.

Extend the Dashboards

Based on your business requirements, you can add dashboards in Sterling Business Intelligence. For customizing the dashboards, you must clearly understand the business requirements and the layout of the dashboards. Ensure that the metrics and the dimensions required are available in the model. If the metrics and dimensions are not available, modify the model to meet your business requirements.

Prerequisites: To extend and customize the dashboards, you must be familiar with the task of authoring reports using Cognos 8 Report Studio Professional.

Note:

- You must not modify or delete the existing dashboards. If you want to modify the existing dashboards, ensure that you make a copy of the dashboard and modify it in the same folder where the existing dashboards are present.
- All customizations of the dashboards must be saved in the Analytic Applications/Info Packs/Sterling Analytics Package/Metric Type Report Packs/Sterling TOC /Dashboards folder in the Content Store.

For more information about creating reports, refer to the Cognos 8 Report Studio Professional Authoring User Guide.

Customize the User Interface

You can customize the Sterling Business Intelligence user interface by using the Designer Workbench application, which allows you to add new screens.

Prerequisites: To customize the Sterling Business Intelligence user interface, you must be familiar with the task of developing an user interface using the Sterling Web UI Framework.

In Sterling Business Intelligence, you can perform the following customizations:

- **Create new screens:** You must create a new screen if you are adding a new report or a dashboard and want to deliver this using the Web UI Framework. You can create new screens using the Sterling Designer Workbench application.
Note: You cannot modify an existing screen. You can only add new screens. When customizing the user interface, copy the standard resources of the application and then modify your copy. Do not modify the standard resources of the application.
- **CSS:** Icons and font sizes in the user interface can be customized by modifying the CSS entries in the CSS file. You can create a new CSS entry, and extend and override the existing CSS entries. This is done by creating a file in the extn folder with the same structure as the sbi folder. For more information about customizing a CSS file, refer to the *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*.
- **Menu:** The menu bar and the menu options in the interface can be customized. You can customize the sequence of the menu options and add new menu options. For more information about customizing menu options, refer to the *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*.

For more information about extending the Web user interface, refer to the *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*.

Create a New Screen

Procedure

1. Install the Sterling Business Intelligence application and build a WAR file for it.

Deploy the WAR file on the server in the exploded format.

After the deployment is completed, start the application server.

2. Explode the `smcfs.ear` to obtain `sbi.war` and extract the contents of `sbi.war` to a folder, say `<web_ui_extn>`.
3. If you need to launch the designer work bench, make the following modifications : Go to `<web_ui_extn>/designer` folder and double click on `platform_workbench.html` to launch the Designer workbench. Open the `<screenname>.json` file in Designer Workbench.
4. Copy the `SBISample.json` file from the `<web_ui_extn>/sbi/bi/json` folder to the appropriate folder and rename it as `<screenname>.json`.
5. Open the `<screenname>.json` file in Designer Workbench. Change the properties of the screen that you want to create as follows:
 - `sciId` as `<screen name >`
 - class name as `sc.bi.<screenname>`
 - `regxtype` as `sc.bi.<screenname>`
 - Source namespaces as the namespace names as required by the added widgets in the screen.
6. Change the value of the hidden parameter `report_name` to `<cognos report name>`.
7. Add the required widgets in the SearchPanel. For details about adding a widget to a screen, refer to the *Selling and Fulfillment Foundation: Customizing the Web UI Framework Guide*.

Note: If you do not require the Time Period drop-down list in a screen, remove the TimePanel from the screen.

8. If the custom report has a new parameter, which needs to be displayed as a list of values, for example, as a check box or combination box, from the datamart database, then you must change the value of a hidden parameter named `QueryIds`. The `QueryIds` should be same as the parameter in the report. Change the value of the hidden parameter `QueryIds` as required, using the added widgets in the screen.

Note:

- The `sbi_query.xml` file defines a list of queries used by the entityLookup API. Each query defined in `sbi_query.xml` is identified by a `QueryId`. For details about the entityLookup API, refer to API javadocs.
 - If you are adding a new query to populate a widget in a screen, you must define a new entry in a new file named `sbi_query.xml` inside the `<Runtime>/repository/xapi/template/merged/metadata/extn` folder.
 - For new `QueryIds`, you must extend and add new corresponding entries pertaining to the mashups. The `id` attribute of the mashup entry should be `get<queryid>`. The value of `QueryIds` must be a coma separated value and each value must be same as defined in the `sbi_query.xml` file.
 - To extend the `sbi_mashups.xml` file, create a new file, `<filename>.xml`, in the `<Runtime>/repository/eardata/sbi/war/mashupxmls/extn` folder.
9. Navigate to **Screen > SearchPanel > Buttons > Btn_Search**.

10. Change the value of Handler property to sc.bi.utils.generateReportForPrompt.
11. Click **Save**.

The <screen name>_config.js and <screen name>.js files are created.

12. Add the following code in the <screen name>.js file within the <screen name> class:

```
getViewID :function(){
return "<screenname>";
},
getScreenContext : function(){
return "<screenname>";
}
```

13. Copy the <screen name>_config.js and <screen name>.js files, created in step 10 to <INSTALL_DIR>/extensions/sbi/webpages/bi/screens folder. If this folder does not exist, create the same.
14. Create a Java Script builder file sbi.jsb in the <INSTALL_DIR>/extensions/<sbi>/webpages/bi/screens folder. The folder contains entries for the newly created screens.

Note: If you have chosen to retain the Time Period drop-down list, add the entry in the same target element of sbi.jsb file.

Following is the sample code for JSB:

```
<?xml version="1.0" encoding="utf-8"?>
<project name="sbi" author="Sterling Commerce Pvt.Ltd"
version="1.0" source="False"
source-dir="$output/source" minify="True"
min-dir="$output/build" doc="False"
doc-dir="$output/docs" master="true"
master-file="$output/yui-ext.js" zip="false"
zip-file="$output/yuo-ext.$version.zip">
  <target name="<screenname>"
file="/extn/bi/scripts/<screenname>Lib.js" allowDynamicLoad="true"
debug="true" shorthand="false" shorthand-list="">
  <include name="/extn/bi/screens/<screenname>_config.js" />
  <include name="/extn/bi/screens/<screenname>.js" />
  <include name="/bi/common/TimeScreen_config.js" />
  <include name="/bi/common/TimeScreen.js" />
  </target>
</project>
```

15. Create a new servlet to register the new JSB and mashup file.

Following is a sample code for creating servlet:

```
import javax.servlet.ServletConfig;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import
com.sterlingcommerce.ui.web.framework.helpers.SCUIJSLibraryHelper;
import
com.sterlingcommerce.ui.web.framework.helpers.SCUI MashupHelper;
public class CreateServlet extends HttpServlet {
private static final long serialVersionUID =
4693417985837892469L;
public synchronized void init(final ServletConfig config)
throws ServletException {
//loads the JSB specified at the path
SCUIJSLibraryHelper.loadJSLibraryXml
("/extn/bi/screens/sbi.jsb", config.getServletContext());
//loads the mashup XML specified at the path
SCUI MashupHelper.loadMashupXml
("/extn/bi/screens/<filename.xml>", config.getServletContext());
}
}
```


16. Compile the above mentioned sample code and package the servlet into a JAR file and place it in the <INSTALL_DIR>/extensions/<sbi>/webpages/bi/screens folder.

17. Go to the <INSTALL_DIR>/repository/eardata/sbi/extn/web.xml directory and rename the existing web.xml.sample to web.xml and add the entry for the servlet in web.xml file as follows:

```
<servlet>
<display-name><servletName></display-name>
<servlet-name><servletName></servlet-name>
<servlet-class><full servlet class name> </servlet-class>
<load-on-startup>1500</load-on-startup>
</servlet>
```

18. Run the following command in the <INSTALL_DIR>/bin directory so that the JAR file containing the servlet is added to the WAR file when the WAR file is generated:

```
install3rdParty.sh <vendorName> <vendorVersion> -j <full path of the
JAR file> -targetJVM APP (for UNIX)
install3rdParty.cmd <vendorName> <vendorVersion> -j <full path of the
JAR file> -targetJVM APP (for Microsoft Windows)
```

Note: install3rdParty.sh script should be executed only when EAR is built with -Dsupportmultiwar=false. If the EAR is built with -Dsupportmultiwar=true execute Step 19.

19. Copy the servlet.jar in <smcfs_install>/repository/eardata/sbi/war/WEB-INF/lib folder.

20. Create a minified file using the following command:

```
sci_ant.sh -f jsUtil.xml minify-js -Dgis.install=<Install>
-Dminify=true (for UNIX)
sci_ant.cmd -f jsUtil.xml minify-js -Dgis.install=<Install>
-Dminify=true (for Microsoft Windows)
```

For more details about compiling and minimizing JavaScript files, refer to *Platform Customizing the Web UI Framework Guide*.

21. Create the resource.jar file using the following command:

```
<INSTALL_DIR>/bin/deployer.sh -t resourcejar (for UNIX)
<INSTALL_DIR>/bin/deployer.cmd -t resourcejar (for Microsoft Windows)
```

22. Create a new menu item using Application Manager, and attach the Resource ID. For more information about configuring presentation components, refer to the *Selling and Fulfillment Foundation: Application Platform Configuration Guide*.

Note: To create a new menu add the property yfs.sc.configurator.devmode=Y to the <INSTALL_DIR>/properties/customer_overrides.properties file. For additional information about the customer_overrides.properties file, refer to the *Selling and Fulfillment Foundation: Properties Guide*.

23. Create user permissions for the resources that have been added. For more information about user permissions, refer to the *Selling and Fulfillment Foundation: Application Platform Configuration Guide*.

24. Re-create the smcfs.ear file.

For more information about recreating the EAR file, refer to the *Selling and Fulfillment Foundation: Installation Guide*. Create a resource with resourceId as <screenname> for the new screen. For more information about creating a resource, refer to the *Selling and Fulfillment Foundation: Application Platform Configuration Guide*.

Customize the Staging Project

You can customize the staging project by creating a new Staging Entity Metadata file. In the Staging Entity Metadata file, you can add new filters to an existing entity if you want to exclude certain records when analyzing the data. You can also add a new entity and configure load partitions by modifying the NumberOfLoadIntervals attribute.

You can perform the following tasks when customizing the Staging Entity Metadata file:

- Add a New Entity
- Add Filters to an Existing Entity
- Configure Load Partitions
- Deploy the Customization

Note: You cannot perform the following tasks when customizing the Staging Entity Metadata file:

- Change the value of the DriverEntity attribute
- Change the existing filter of an entity
- Add a new relationship to an existing entity

Add a New Entity

To add a new entity:

Before you begin

Procedure

1. Create the `sbi_staging_entities.xml` file, if it does not already exist, in the `<INSTALL_DIR>/extensions/global/template/metadata` directory.
2. Create a new element, Entity. Consider the following structure of a sample Entity element when creating a new entity:

```
<DBSchema>
  <Entities>
    <Entity TableName="YFS_ORDER_HOLD_TYPE_LOG"
      DriverEntity="YFS_ORDER_TS_TAG" NumberOfLoadIntervals="4" >
      <Attributes>
        <Attribute ColumnName="STATUS" AttributeQuery="NFLIKE">
          <AttributeValues>
            <AttributeValue Value="1300"/>
          </AttributeValues>
        </Attribute>
      </Attributes>
      <Relationships>
        <Relationship ForeignEntity="YFS_ORDER_HOLD_TYPE">
          <Attribute Name="ORDER_HOLD_TYPE_KEY"
            ParentName="ORDER_HOLD_TYPE_KEY"/>
        </Relationship>
        <Relationship ForeignEntity="YFS_ORDER_TS_TAG">
          <Attribute Name="ORDER_HEADER_KEY" ParentName="ORDER_HEADER_KEY"/>
        </Relationship>
      </Relationships>
    </Entity>
  </Entities>
</DBSchema>
```

3. Set the value of the XML attributes.

Results

Refer to the following table for more information about defining the values of the otherXML attributes:

Component	Component Type	Component Location	Description
TableName	Attribute	Entities/Entity	Indicates the table name of the entity that is required to be loaded into staging database.
DriverEntity	Attribute	Entities/Entity	Indicates the tablename of the driver entity that is related with this entity. The system supports the following driver tables: <ul style="list-style-type: none"> • YFS_ORDER_TS_TAG • YFS_SHIPMENT_TS_TAG • YFS_OPPUTUNITY_TS_TAG Based on the entity being defined, you must provide the correct driver entity value that is related with this entity. For example, for the YFS_ORDER_HOLD_TYPE_LOG entity that is related to ORDER, set the value of the DriverEntity attribute to YFS_ORDER_TS_TAG. The DriverEntity attribute is defined only for transaction tables. However, certain transaction tables such as YFS_PERSON_INFO do not contain any driver entity. Therefore, the value of the DriverEntity attribute should be left blank.
NoOfLoadIntervals	Attribute	Entities/Entity	This attribute is used to generate the initial load package file. For example, if you want to load data for one year from the YFS_ORDER_HEADER table and the value of the NumberOfLoadIntervals attribute is set to 4, four build streams are created for the YFS_ORDER_HEADER table when loading data in to Staging database and each build stream loads data of 3 months.
Attributes	Element	Entities/Entity	This element contains the filter information such as the column name on which a filter is applied, the filter operation, and the applicable filter attribute values.
ColumnName	Attribute	Entities/Entity/ Attributes/ Attribute	Indicates the column name of the table on which a filter is applied.

Component	Component Type	Component Location	Description
AttributeQuery	Attribute	Entities/Entity/ Attributes/ Attribute	Indicates the filter operation. The system supports the following filter operations: <ul style="list-style-type: none"> • EQ • NE • GT • GE • LT • LE • IS • ISNOT • BETWEEN • FLIKE • ELIKE • NFLIKE • NELIKE • IN • NOTIN
Value	Attribute	Entities/Entity/ Attributes/ Attribute	Indicates the value of the filter attribute.
Relationship	Element	Entities/ Entity/ Relationship	This element defines the relationship of an entity with its corresponding driver entity. It must be defined in the order in which the entities are related. For example, the YFS_ORDER_HOLD_TYPE_LOG entity is related with the YFS_ORDER_HOLD_TYPE driver entity and the YFS_ORDER_HOLD_TYPE entity is related with the YFS_ORDER_TS_TAG driver entity. Therefore, the relationship between the YFS_ORDER_HOLD_TYPE_LOG entity and YFS_ORDER_HOLD_TYPE driver entity must be defined first and then the relationship between the YFS_ORDER_HOLD_TYPE entity and the YFS_ORDER_TS_TAG driver entity must be defined.
ForeignEntity	Attribute	Entities/Entity/ Attributes/ Attribute/ Relationships/ Relationship	Indicates the foreign entity.
Name	Attribute	Entities/Entity/ Relationships/ Relationship	Indicates the column name of the entity.

Component	Component Type	Component Location	Description
ParentName	Attribute	Entities/Entity/ Relationships/ Relationship	Indicates the column name of the ForeignEntity that has a foreign key element relationship.

Add Filters to an Existing Entity

You can add new filters to an existing entity if you want to exclude certain records when analyzing the data. For example, the model that is shipped along with Sterling Business Intelligence consists of all the hold types, including the system-specific hold types. You can exclude specific hold types and perform the analysis.

Before you begin

To add filters to an existing entity:

Procedure

1. Create the `sbi_staging_entities.xml` file, if it does not already exist, in the `<INSTALL_DIR>/extensions/global/template/metadata` directory.
2. Create a structure of the existing entity. For example, create a structure as follows:

```
<DBSchema>
  <Entities>  <Entity TableName="YFS_HOLD_TYPE"  >
    </Entity>
  </Entities>
</DBSchema>
```
3. Create an element, `Attribute`, as a child element of the root element, `Attributes`.
4. Set the value of the `ColumnName` attribute.
5. Set the value of the `AttributeQuery` attribute.
6. Create an element, `AttributeValues`, as child element of the root element, `Attribute`.
7. Set the value of the `Value` attribute.
8. To add multiple filters, repeat steps 3 through 7.

Following is the sample of the Staging Entity Metadata file that contains new filters for an existing entity:

```
<DBSchema>
<Entities>
  <Entity TableName="YFS_HOLD_TYPE"  >
    <Attributes>
      <Attribute ColumnName="HOLD_TYPE" AttributeQuery="IN">
        <AttributeValues>
          <AttributeValue Value="Fraud Check"/>
          <AttributeValue Value="Credit Fraud"/>
        </AttributeValues>
      </Attribute>
    </Attributes>
  </Entity>
</Entities>
</DBSchema>
```

Configure Load Partitions

You can configure the load partitions by modifying the `NumberOfLoadIntervals` attribute in the Staging Entity Metadata file. The `NumberOfLoadIntervals` attribute

is used to load initial data. For example, if you want to load data for one year from the YFS_ORDER_HEADER table and the value of the NumberOfLoadIntervals attribute is set to 4, four build streams are created for the YFS_ORDER_HEADER table when loading data into the Staging database and each build stream loads data of 3 months. The default value of this attribute is 2. By increasing the value of this attribute, the number of processes and database connections are also increased. Set this value based on the number of connections and processes that the environment can support.

Before you begin

To modify the NumberOfLoadIntervals attribute in an existing entity:

Procedure

1. Create the sbi_staging_entities.xml file, if it does not already exist, in the <INSTALL_DIR>/extensions/global/template/metadata directory.
2. Create an element, Entity.
3. Set the value of the TableName attribute.
4. Set the value of the NumberOfLoadIntervals attribute.

Following is the sample of the Staging Entity Metadata file that contains a modified NumberOfLoadIntervals attribute in an existing entity:

```
<DBSchema>
<Entities>
  <Entity TableName="YFS_ORDER_RELEASE_STATUS" NumberOfLoadIntervals="4" >
</Entity>
</Entities>
</DBSchema>
```

Deploy the Customization

After performing the required customizations in a Staging Entity Metadata file, perform the following steps:

Before you begin

Procedure

1. To create the resource jar file, run the following command:
For Windows:
<INSTALL_DIR>/bin/deployer.cmd -t resourcejar
For Linux or UNIX:
<INSTALL_DIR>/bin/deployer.sh -t resourcejar
2. Re-create the smcfs.ear file. For more information about recreating the EAR file, refer to the *Selling and Fulfillment Foundation: Installation Guide*.
3. Generate the staging project package file. For more information about generating the staging project package file, see Generate the Staging Project Package File.

Chapter 7. The IBM Sterling Business Intelligence Model

This topic explains the data model and the schemas pertaining to Sterling Business Intelligence.

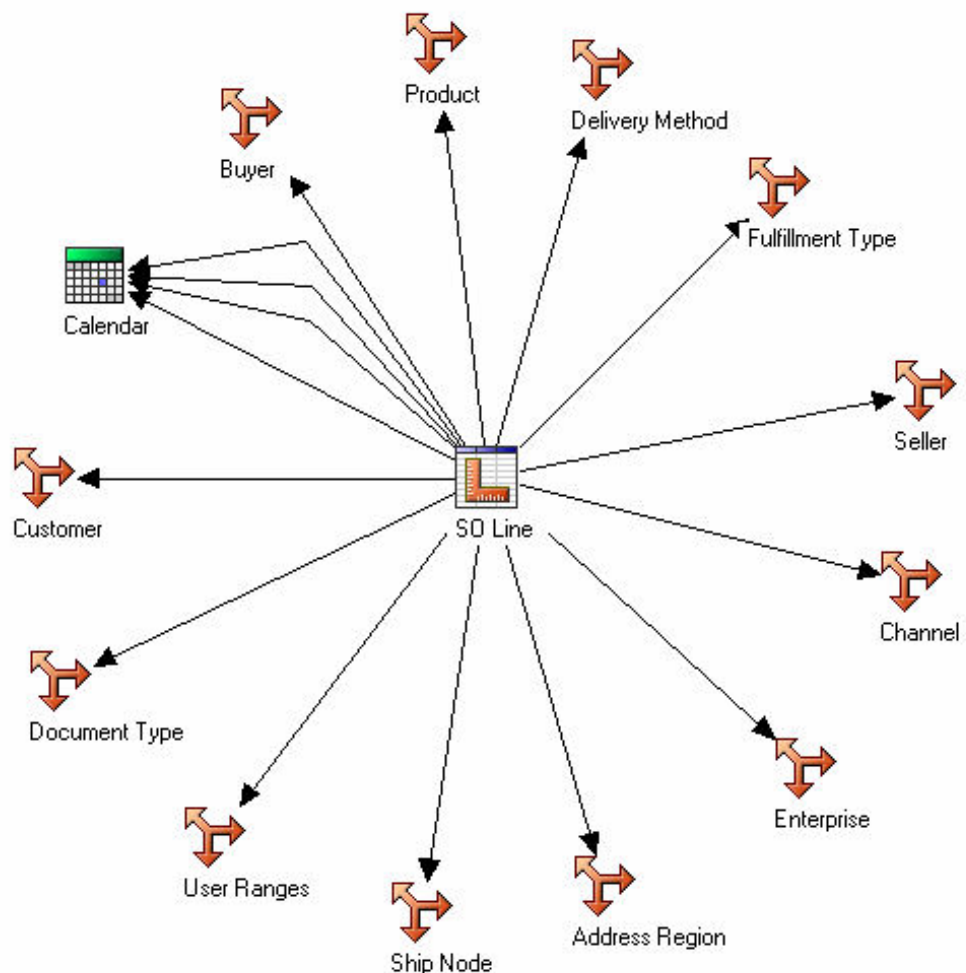
Warehouse Model Star Schemas for IBM Sterling Business Intelligence

Sterling Business Intelligence provides metadata to deliver the warehouse content in the warehouse model using the star schemas shown in the following illustration.

The tables in this section list the dimensions and the corresponding role names for each star schema. A role is the role name given when multiple references exist between a fact and a dimension.

SO Line Star Schema

The SO Line star schema is illustrated here.



The SO Line star schema consists of SO Line measures and references to the dimensions listed in the following table:

Dimension
Role

Enterprise

Default

Address Region

Default

Calendar

Actual Ship Date-SO Line

Released Date

Confirmed Date

Promised Ship Date

Ship Node

Default

User Ranges

Default

Buyer

Default

Seller

Default

Customer

(Default)

Product

Default

Delivery Method

Default

Fulfillment Type

Default

Document Type

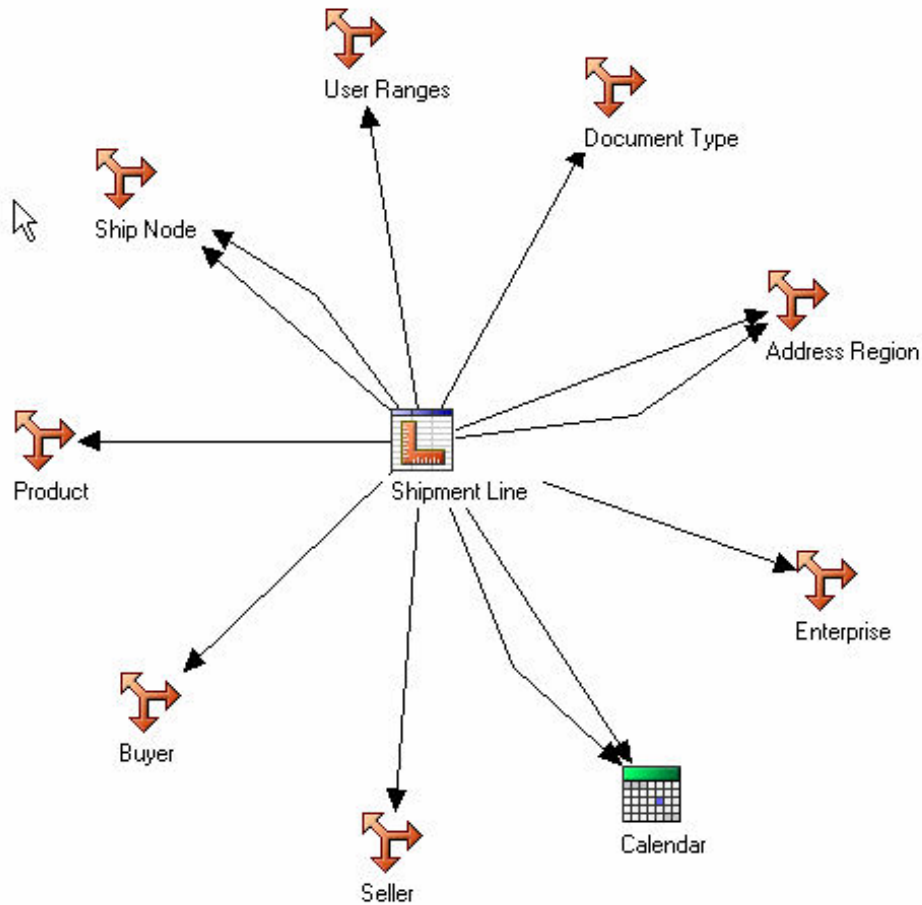
Default

Channel

Default

Shipment Line Star Schema

The Shipment Line star schema is illustrated here.



The Shipment Line star schema consists of the Shipment Line measures and references to the dimensions listed in the following table:

Dimension

Role

Enterprise

Default

Address Region

Ship To

Bill To

Calendar

Actual Ship Date-Shipment Line

Expected Shipment Date

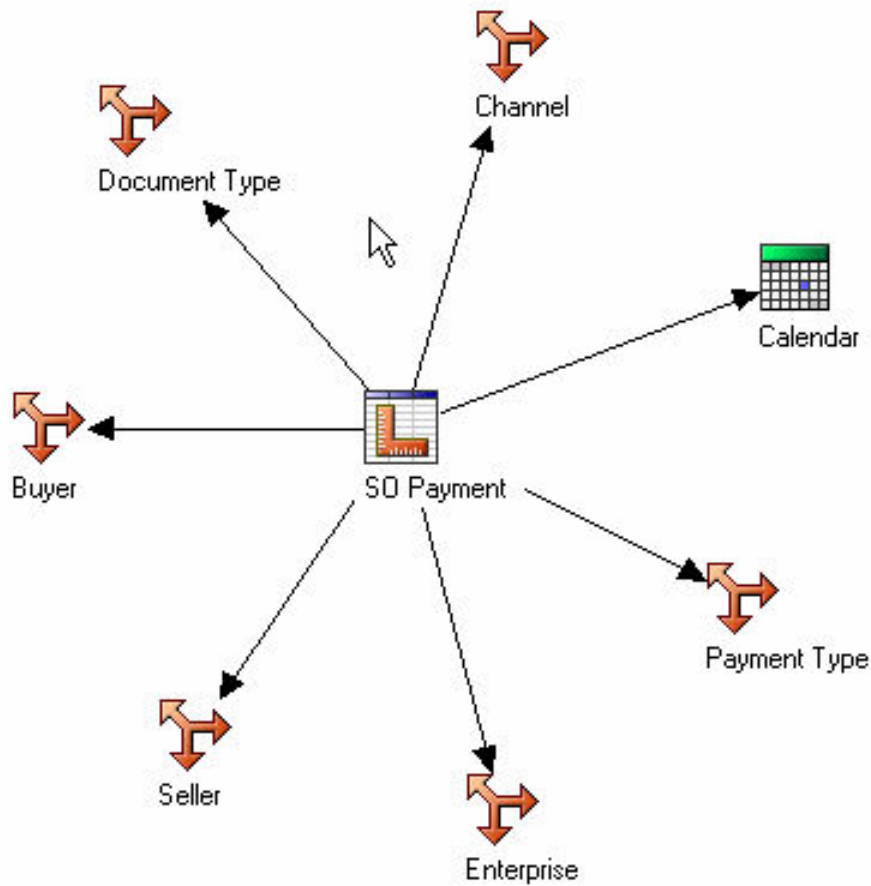
Ship Node

Default

Procurement Node
User Ranges
Default
Buyer
Default
Seller
Default
Product
Default
Document Type
Default

SO Payment Star Schema

The SO Payment star schema is illustrated here.



The SO Payment star schema consists of the SO Payment measures and references to the dimensions listed in the following table:.

Dimension
 Role

Calendar
 Charge Date

Channel
 Default

Document Type
 Default

Seller
 Default

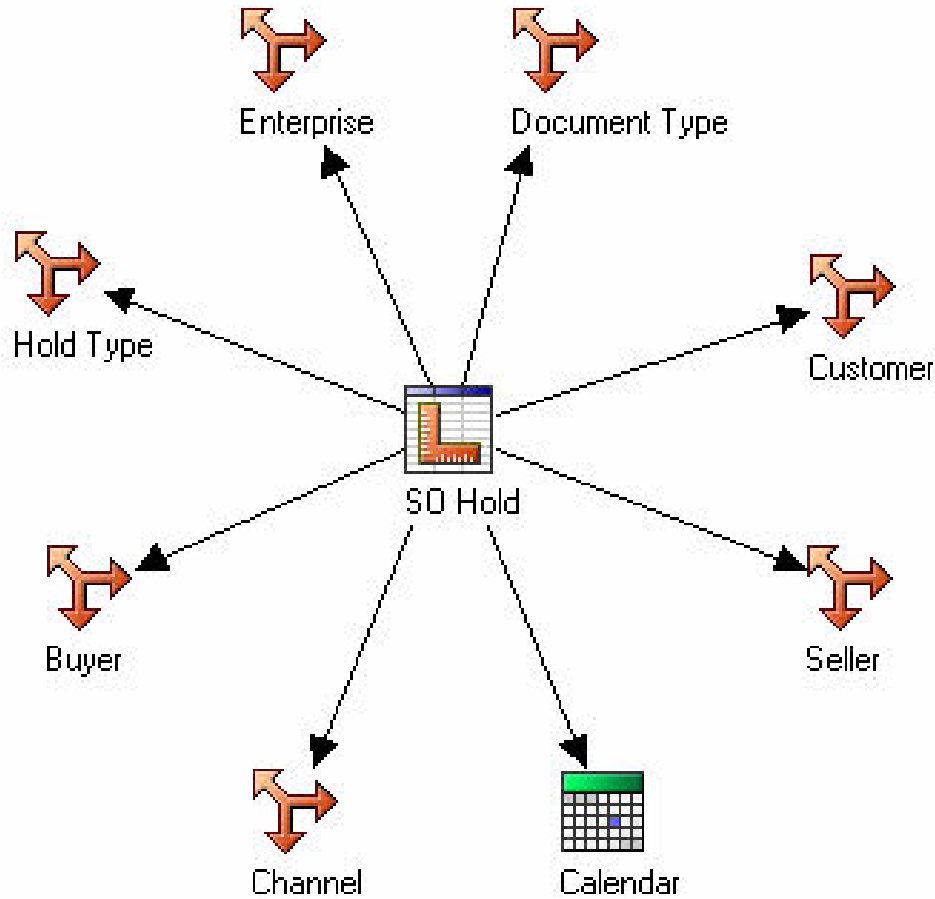
Buyer
 Default

Enterprise
 Default

Payment Type
 Default

SO Hold Star Schema

The SO Hold star schema is illustrated here.



The SO Hold star schema consists of the SO Hold measure and references to the dimensions listed in the following table.:

Dimension
Role

Enterprise

Default

Customer

Default

Document Type

Default

Calendar

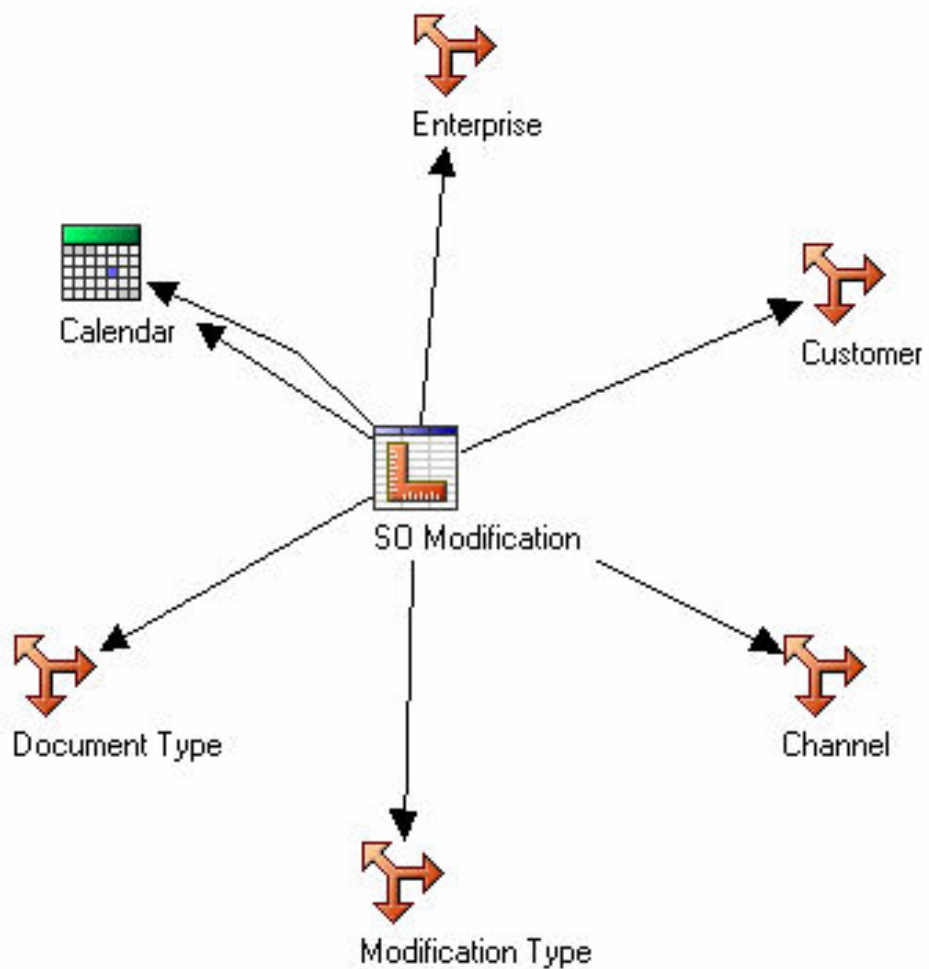
Hold Date

Seller

Default
Channel
 Default
Buyer
 Default
Hold Type
 Default

SO Modification Star Schema

The SO Modification star schema is illustrated here.



The SO Modification star schema consists of the SO Modification measure and references to the dimensions listed in the following table:.

Dimension
Role

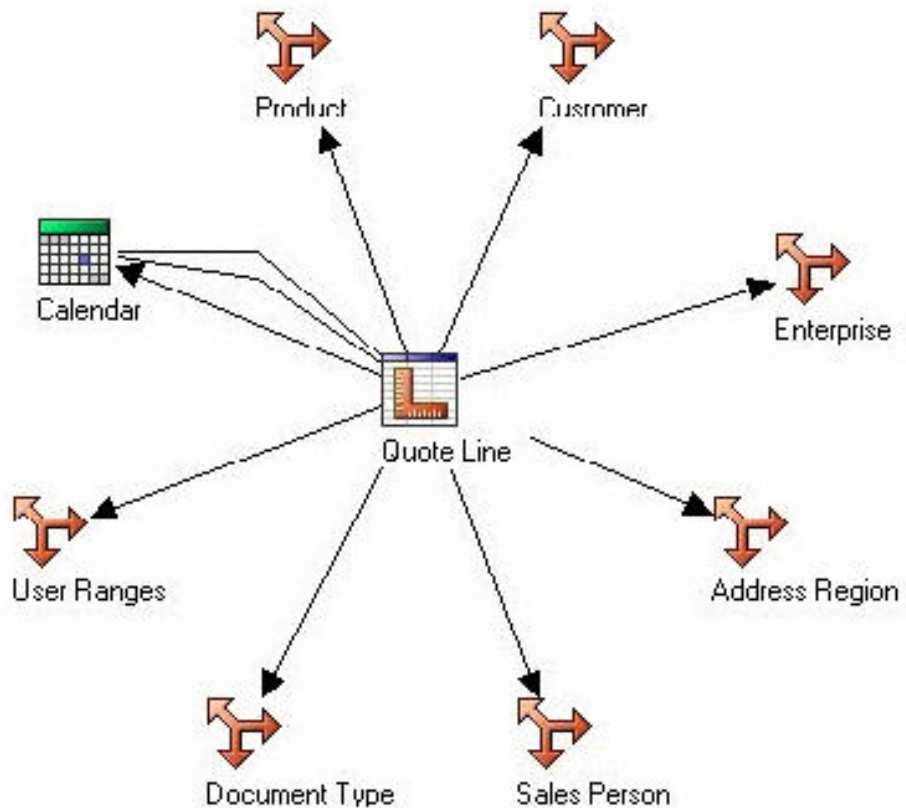
Enterprise
 Default

Customer

Default
Channel
 Default
Modification Type
 Default
Document Type
 Default
Calendar
 Confirmed Date
 Modify Date

Quote Line Star Schema

The Quote Line star schema is illustrated here:



The Quote Line star schema consists of the Quote Line measure and references to the dimensions listed in the following table:

Dimension
 Role
Sales Person
 Owner

Document Type

Default

Product

Default

Customer

Default

Enterprise

Default

Sales Team

Owner

Address Region

Default

Calendar

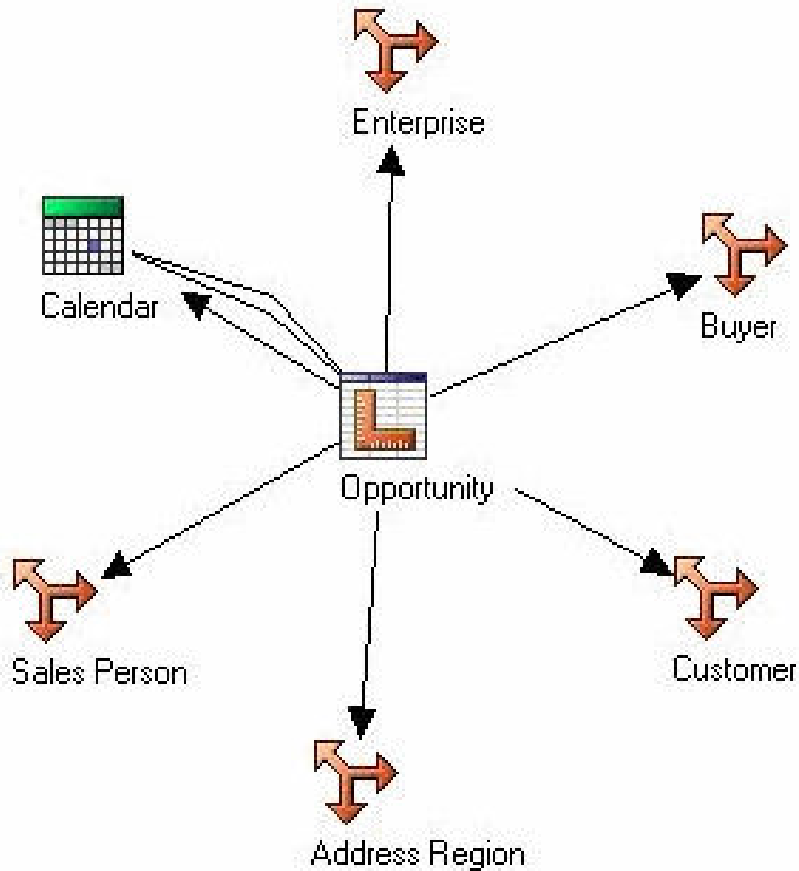
Ordered Date

Abandoned Date

Created Date

Opportunity Star Schema

The Opportunity star schema is illustrated here:



The Opportunity star schema consists of the Opportunity measure and references to the dimensions listed in the following table:

Dimension

Role

Sales Person

Owner

Address Region

Default

Calendar

Opportunity Creation Date

Opportunity Won Date

Expected Close Date

Enterprise

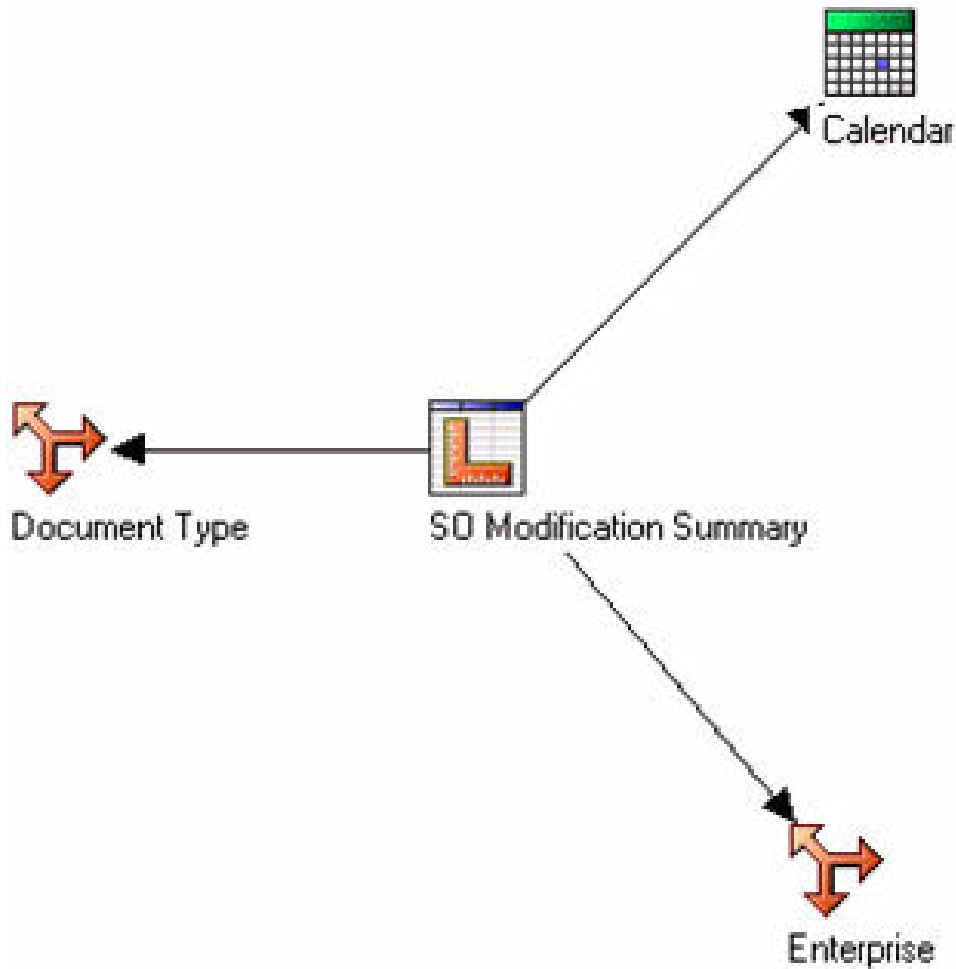
Default

Buyer

Default
Customer
Default
Sales Team
Owner

SO Modification Summary Star Schema

The SO Modification Summary star schema is illustrated here:



The SO Modification Summary star schema consists of the SO Modification Summary measure and references to the dimensions listed in the following table:

Dimension
Role

Calendar

Default

Enterprise

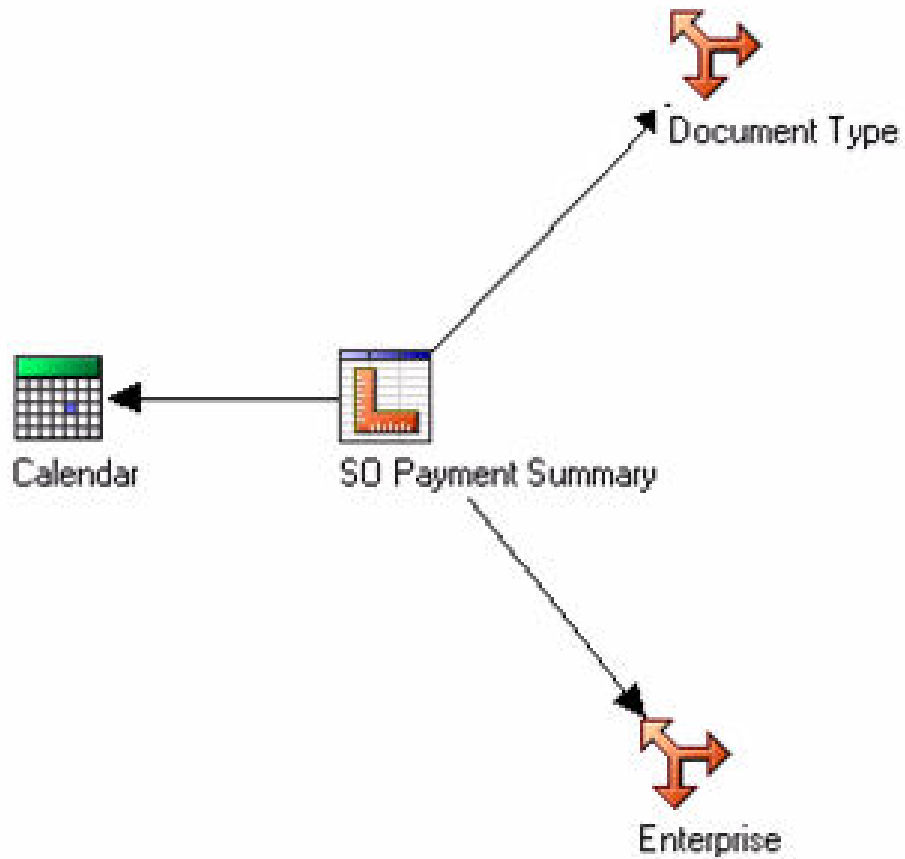
Default

Document Type

Default

SO Payment Summary Star Schema

The SO Payment Summary star schema is illustrated here:



The SO Payment Summary star schema consists of the SO Payment Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Calendar

Default

Enterprise

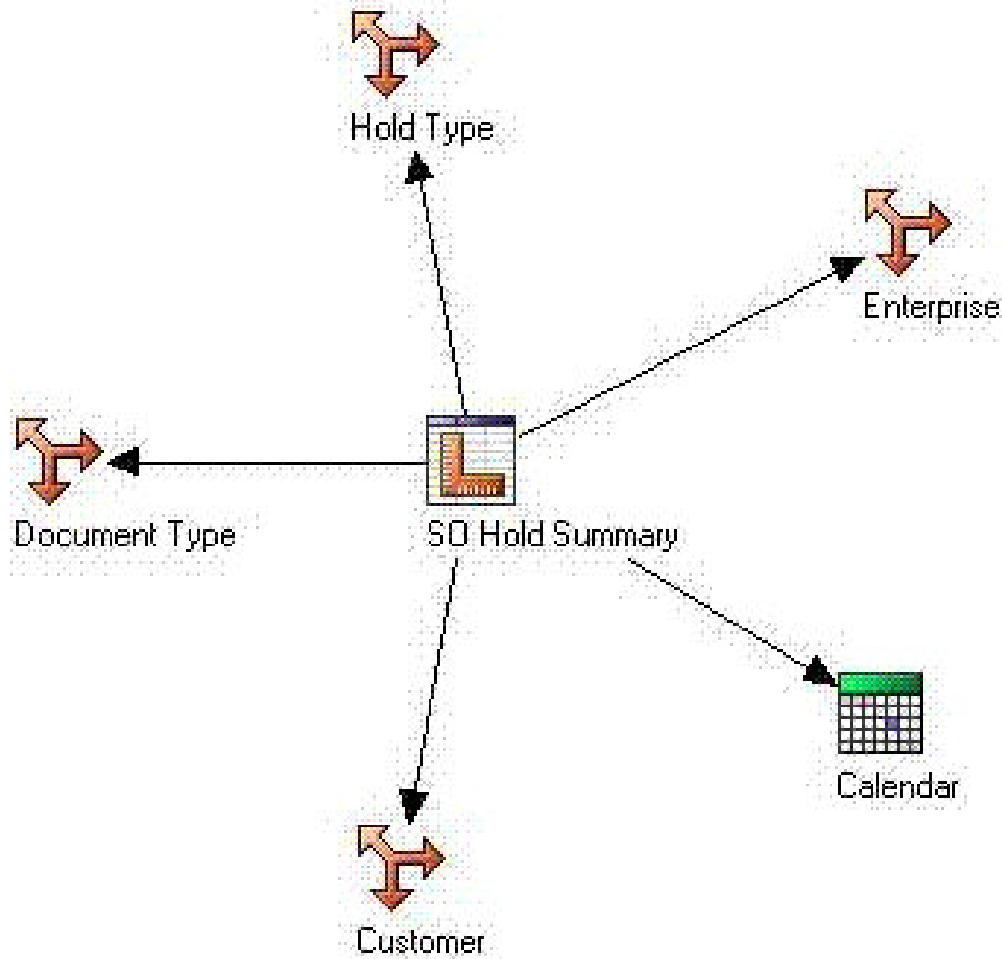
Default

Document Type

Default

SO Hold Summary Star Schema

The SO Hold Summary star schema is illustrated here:

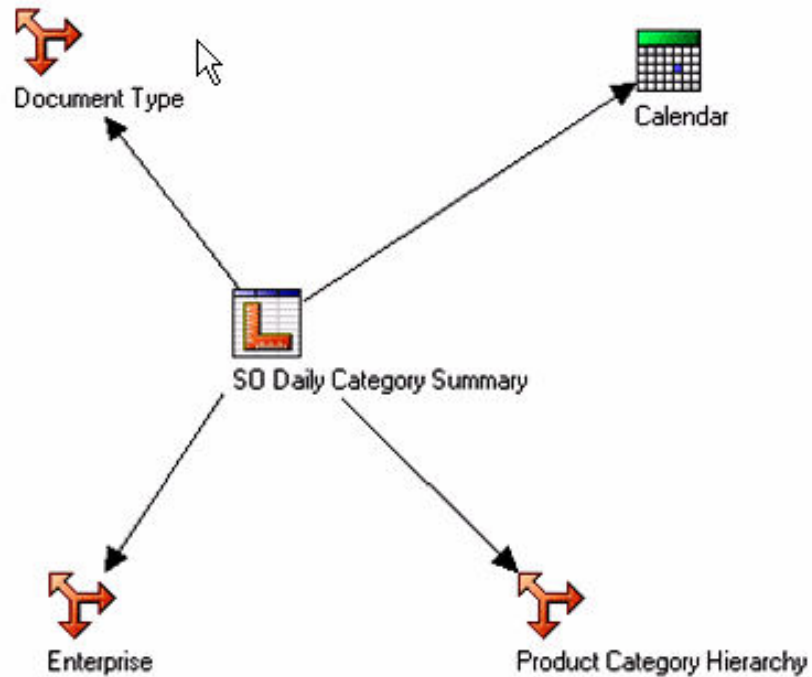


The SO Hold Summary star schema consists of the SO Hold Summary measure and references to the dimensions listed in the following table:

Dimension	Role
Hold Type	Default
Document Type	Default
Calendar	Default
Enterprise	Default

SO Daily Category Summary Star Schema

The SO Daily Category Summary star schema is illustrated here:



The SO Daily Category Summary star schema consists of the SO Daily Category Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Calendar

Default

Product Category Hierarchy

Default

Enterprise

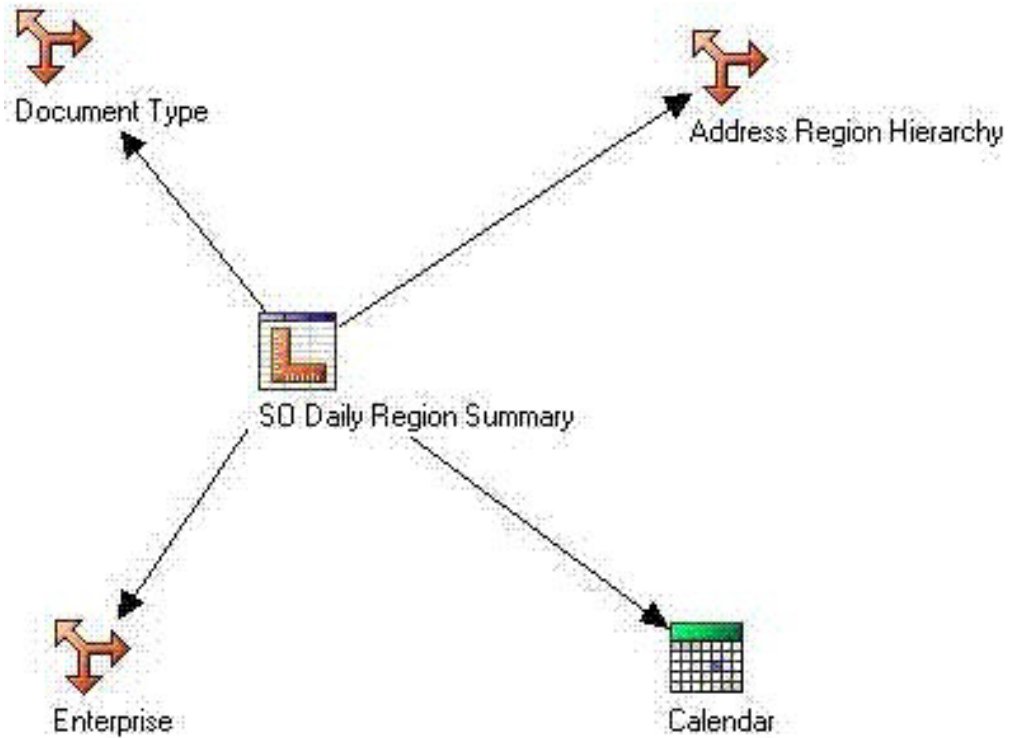
Default

Document Type

Default

SO Daily Region Summary Star Schema

The SO Daily Region Summary star schema is illustrated here:



The SO Daily Region Summary star schema consists of the SO Daily Region Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Address Region Hierarchy

Default

Calendar

TranDate

Enterprise

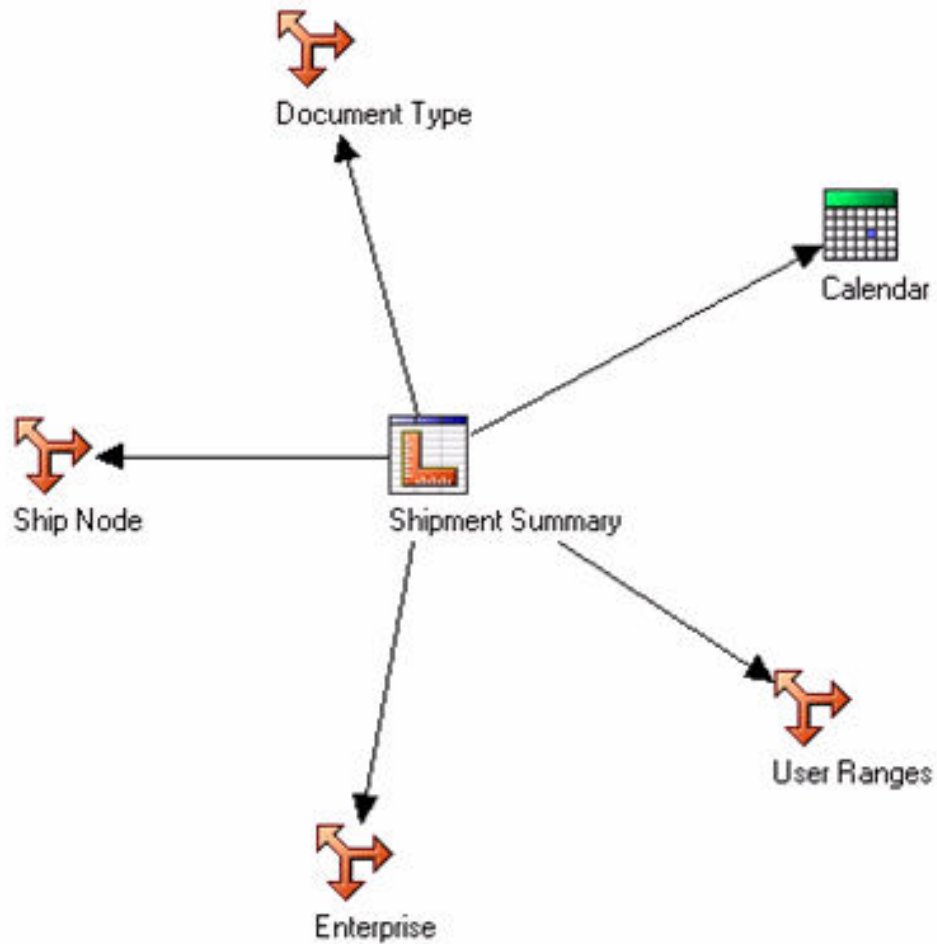
Default

Document Type

Default

Shipment Summary Star Schema

The Shipment Summary star schema is illustrated here:

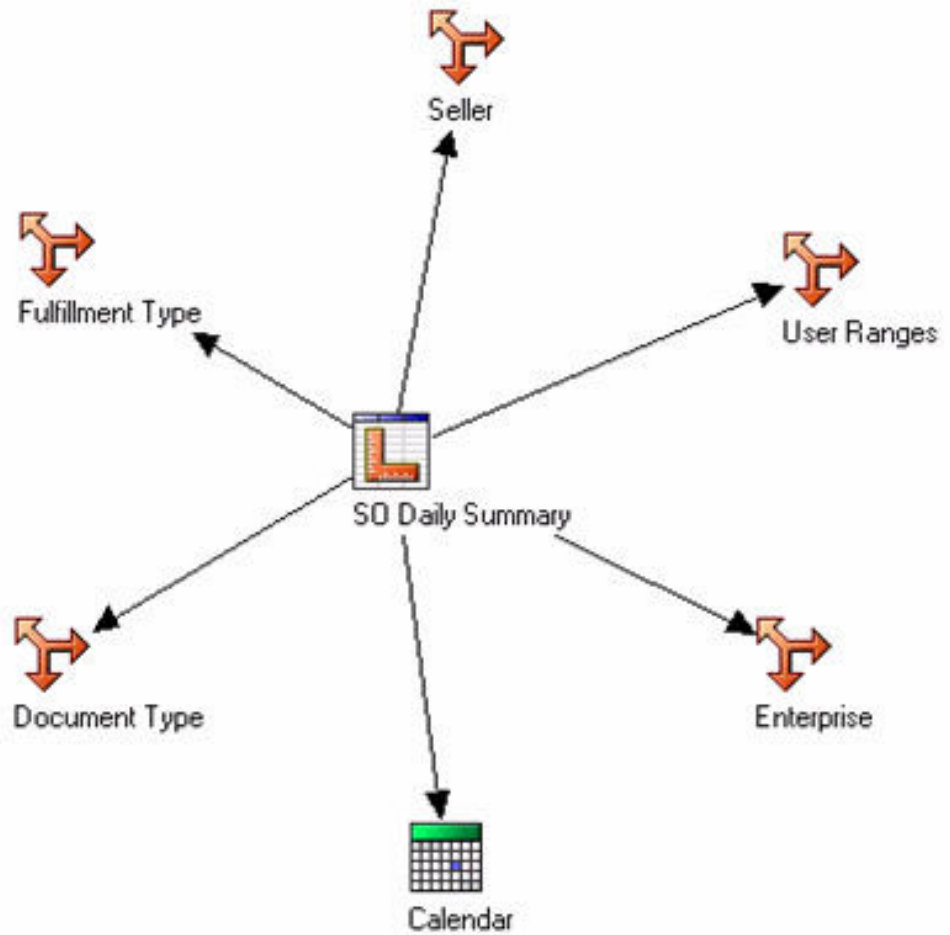


The Shipment Summary star schema consists of the Shipment Summary measure and references to the dimensions listed in the following table:

Dimension	Role
Calendar	Default
User Ranges	Default
Enterprise	Default
Ship Node	Default
Document Type	Default

SO Daily Summary Star Schema

The SO Daily Summary star schema is illustrated here:



The SO Daily Summary star schema consists of the SO Daily Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Seller

Default

User Ranges

Default

Enterprise

Default

Calendar

TranDate

Document Type

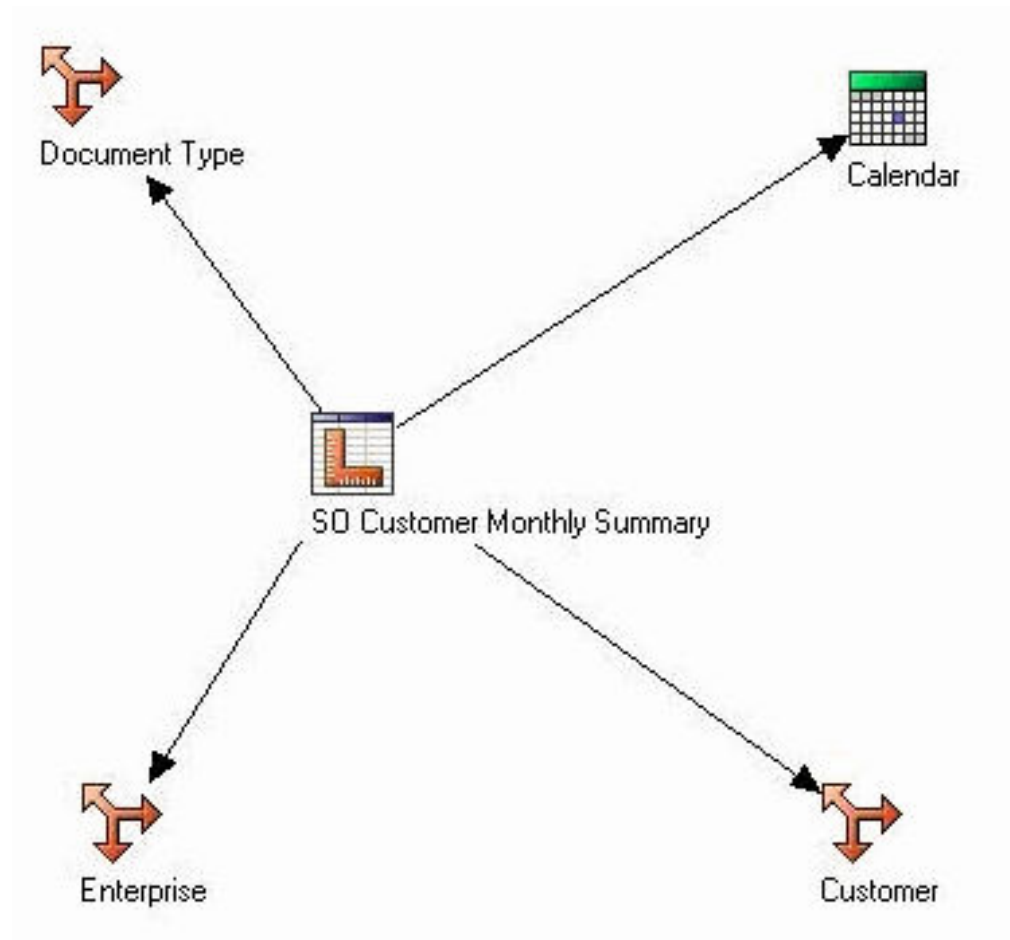
Default

Fulfillment Type

Default

SO Customer Monthly Summary Star Schema

The SO Customer Monthly Summary star schema is illustrated here:



The SO Customer Monthly Summary star schema consists of the SO Customer Monthly Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Calendar

Default

Enterprise

Default

Customer

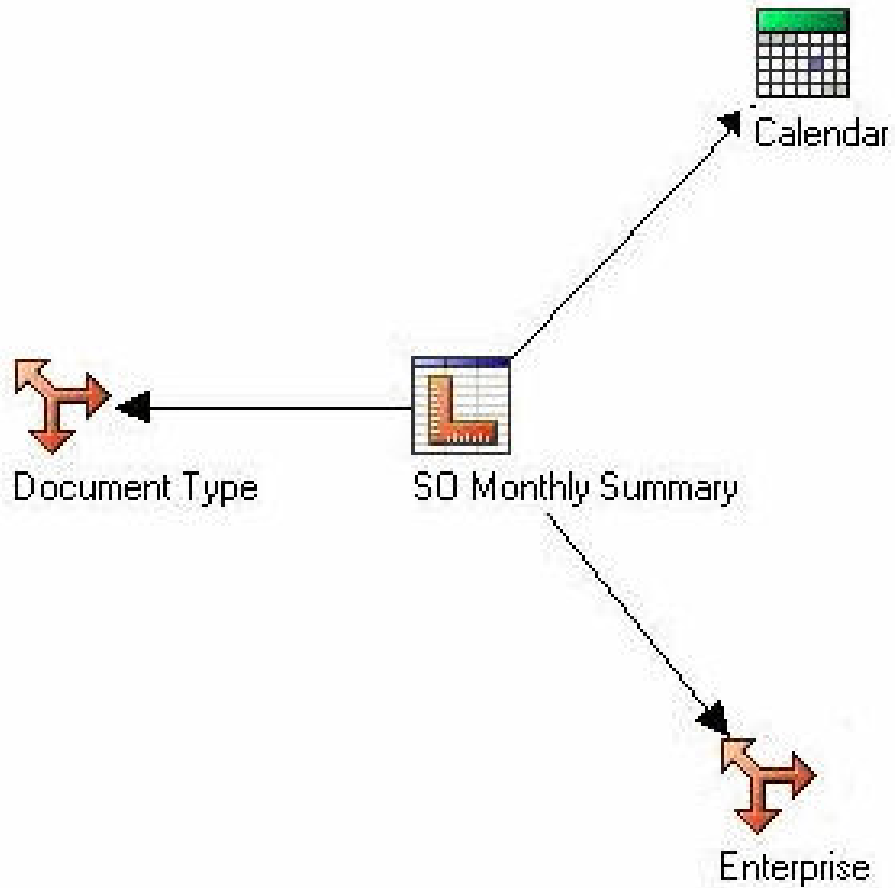
Default

Document Type

Default

SO Monthly Summary Star Schema

The SO Monthly Summary star schema is illustrated here:



The SO Monthly Summary star schema consists of the SO Monthly Summary measure and references to the dimensions listed in the following table:.

Dimension

Role

Calendar

Default

Enterprise

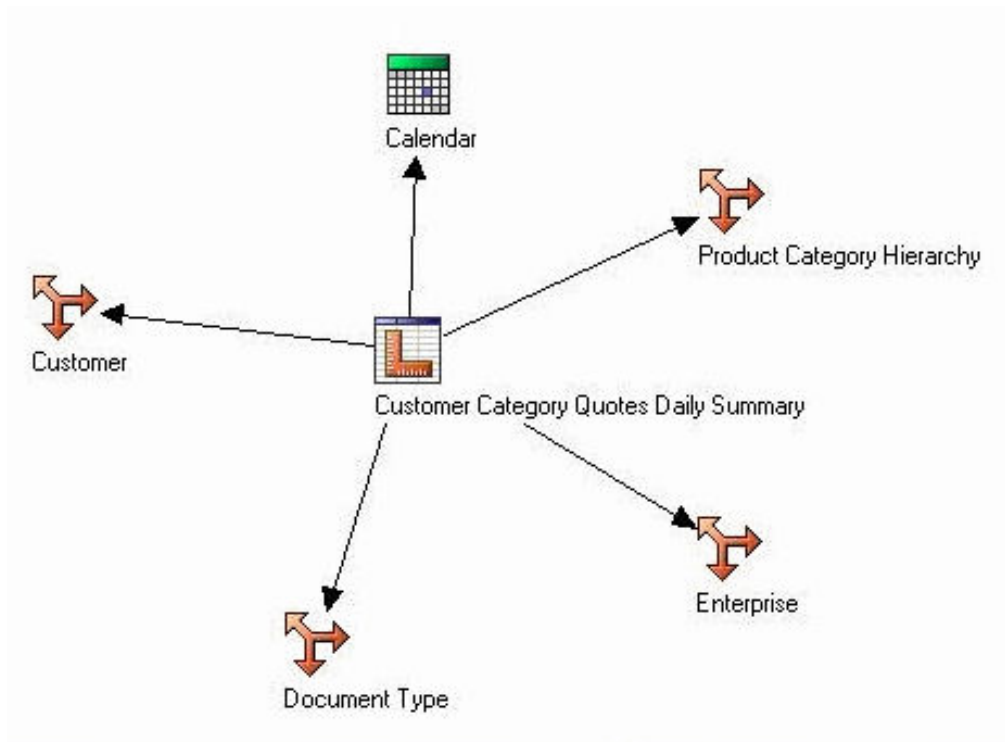
Default

Document Type

Default

Customer Category Quotes Daily Summary Star Schema

The Customer Category Quotes Daily Summary star schema is illustrated here:



The Customer Category Quotes Daily Summary star schema consists of the Customer Category Quotes Daily Summary measure and references to the dimensions listed in the following table:

Dimension

Role

Calendar

Default

Product Category Hierarchy

Default

Enterprise

Default

Document Type

Default

Customer

Default

Target Model Star Schemas for IBM Sterling Business Intelligence

The target model generated by the Adaptive Warehouse applies the best practices for reporting. The target model provides a business view of the information in the source model, and is used to simplify the building of reports, analyses, and queries. The following star schema groupings are delivered in the target model of the Sterling Business Intelligence Warehouse content.

SO Line Star Schema Grouping

The SO Line star schema grouping consists of the SO Line measures and the following dimensions.

Dimensions

- Enterprise
- Buyer
- Seller
- Channel
- Calendar
- Delivery Method
- Fulfillment Type
- Product
- Product Category Hierarchy
- Address Region
- Ship Node
- Address Region Hierarchy
- Customer
- Customer Hierarchy
- Document Type
- User Ranges

Measures

The following table provides a list of the SO Line measures:

Measure	Description
---------	-------------

Bundle Line count	This measure is count of bundle components for bundle orders.
--------------------------	---

Total Line Charges	This is the total amount pertaining to an order line.
---------------------------	---

Is Shipped	This measure indicates whether the order line is shipped.
-------------------	---

Elapsed Time Actual Ship Promised	The time that has elapsed between the actual shipment time and the promised time (in minutes).
--	--

Elapsed Time Actual Ship Released	The time that has elapsed between the actual shipment time and the released time (in minutes).
--	--

Elapsed Time Confirm Release	The time that has elapsed between the released time and confirmed time (in minutes)
-------------------------------------	---

Shipped Quantity	This is the shipped quantity of the order lines.
-------------------------	--

Is ASAP Order

This measure indicates whether the order is an ASAP order.

Ordered Quantity

This is the ordered quantity of the order lines.

Capture to Shipment Time for ASAP Order

This is the time between the shipped time and the captured time for ASAP orders.

Is Delayed

This measure indicates whether the order line has been delayed.

Is BackOrdered

This measure indicates whether the order line has been backordered.

Is BackOrdered and Delayed

This measure indicates whether the order line has been backordered and delayed.

Is Shipped On Time

This measure indicates whether the order line has been shipped on time.

Elapsed Time Actual Ship Confirmed

The time that has elapsed between the actual shipment time and the confirmed time (in minutes).

Elapsed Lead Time ASAP

The time that has elapsed for the ASAP orders (in minutes).

Sales Order Line Count

This is the total number of order lines.

Fulfilled Revenue (Currency)

This is the fulfilled revenue of an order line.

Is Released

This measure indicates whether the order line has been released.

Booked Value (Currency)

This measure indicates the booked value.

Is Shipped ASAP Order

This measure indicates whether the shipped order is an ASAP order.

Not Cancelled

This measure indicates whether the order line has been cancelled.

Grouped Measures△The following table provides a list of the SO Line group measures:

Measure	Description
Percentage Shipped on Time	

This is the percentage of order lines shipped on or before the first promised date.

No. of Orders Shipped

This is the total number of orders shipped.

Avg. Exp. Lead Time (ASAP Orders)

This is the time between the promised date and the confirmed date for ASAP orders.

Avg. Capture to Ship Time (ASAP)

This is the average amount of time between the stage an ASAP order line is captured and the time it is shipped.

Avg. Lead Time to Ship

This is the average time required to move the order lines from the release stage to the ship stage.

Avg. Value of an Order

This is the average booked value of confirmed orders.

No. of Order Lines Confirmed

This is the total number of order lines confirmed.

Percentage BackOrdered

This is the percentage of shipment lines backordered from a node.

No. of Order Lines Shipped

This is the total number of order lines shipped.

Avg. Capture to Ship Time (ASAP)

This is the average amount of time between the stage when an ASAP order line is captured and the time it is shipped.

Avg. Order to Release Time

This is the average time required to move the order lines from the order capture stage to the order release stage.

Avg. Order Lines per Order

This is the average number of order lines in a confirmed order.

Shipment Line Star Schema Grouping

The Shipment Line star schema grouping consists of the Shipment Line measures and following dimensions.

Dimensions

- Seller
- Ship Node
- Enterprise
- Buyer
- Address Region
- Product
- Product Category Hierarchy

- Address Region Hierarchy
- Calendar
- Document Type

Measures

The following table provides a list of the Shipment Line measures:

Measure

Description

Shipped Quantity

This measure indicates the quantity that has been shipped.

Elapsed Time Expected Ship

This measure indicates the difference between the shipped time and the expected time (in minutes).

Is Procured

This measure indicates whether the shipment line has been procured.

Is Shipped

This measure indicates whether the shipment has been shipped.

Is Delayed

This measure indicates whether a shipment line has been delayed.

Delay in Shipment per Line

This measure indicates the delay in shipment for each shipment Line.

Elapsed Time Released Ship

This measure indicates the difference between the shipment time and the released time (in minutes).

Is Shipped on Time

This measure indicates whether the shipment has been shipped on time.

Is Backordered from Node

This measure indicates whether the order line has been backordered from a node.

Ordered Quantity

This measure provides the ordered quantity.

Is Fulfillment Partner

This measure indicates whether the ship node of a shipment line is a fulfilled partner.

Delay in Shipment

This measure indicates the delay in shipment for each shipment.

Grouped Measures

The following table provides a list of the Shipment Line group measures:

Measure**Description****Percentage Shipped on Time**

This is the percentage of order lines that are shipped on or before the first promised date.

No. of Shipment Lines Shipped

This is the total number of shipment lines shipped.

Avg. Release to Ship Time

This is the average time required to move the shipment lines from the release stage to the ship stage.

Percentage Procured

This is the percentage of shipment lines procured for a node.

No. of Shipments Shipped

This is the total number of shipment shipped.

Avg. Value of an Order

This is the average booked value of the confirmed orders.

Avg. Delay in Shipment

This is the average delay in the delayed shipments shipped.

SO Payment Star Schema Grouping

The SO Payment star schema grouping consists of the SO Payment measures and the following dimensions.

Dimensions

- Enterprise
- Calendar (Charge Date)
- Buyer
- Seller
- Channel
- Payment Type
- Document Type

Measures

The following table provides a list of the SO Payment measures:

Measure**Description****Authorization Count**

This measure indicates whether the transaction has been authorized.

Authorization Failure Count

This measure indicates whether the authorization of transaction has failed.

Credit Amount

This is the amount that is actually charged or refunded to the buyer.

Authorized Amount

This is the amount that is authorized for an order.

Settlement Count

This measure indicates whether the transaction settlement has been completed or not.

Settlement Failure Count

This measure indicates whether the settlement of transaction has failed.

Request Amount

This is the amount that has been requested for settlement or authorization.

Settled Amount

This measure is the amount for which a settlement has been requested.

Grouped Measures

The following table provides a list of the SO Payment grouped measures:

Measure**Description****Percentage Authorization Failures**

This is the percentage of payment instruments that failed during the authorization of payment.

Percentage Settlement Failures

This is the percentage of settlements that failed during the settlement cycle.

SO Hold Star Schema Grouping

The SO Hold star schema grouping consists of the SO Hold measure and following dimensions.

Dimensions

- Calendar (Hold Date)
- Enterprise
- Seller
- Buyer
- Channel
- Hold Type
- Document Type
- Customer
- Customer Hierarchy

Measures

The SO Hold measure is Hold Duration. This field indicates the duration of hold applied on an order (in minutes).

Grouped Measures

The following table provides a list of the SO Hold grouped measures:

Measure
Description

No. of Orders on Hold

This is the total number of orders on hold.

Avg. Hold Duration

This is the average time the orders are kept on hold.

SO Modification Star Schema Grouping

The SO Modification star schema grouping consists of the SO Modification measure and following dimensions.

Dimensions

- Calendar (Modify Date)
- Channel
- Modification Type
- Enterprise
- Document Type
- Customer
- Customer Hierarchy

Measures

The SO Modification measure is Is Manually Modified. This field indicates whether the order is manually modified.

Grouped Measures

The following table provides a list of the SO Modification grouped measures:

Measure
Description

Orders from SO Modification

This is the total number of orders manually modified after confirmation.

Orders from SO line

This is the total number of orders confirmed.

Percentage of Orders Manually Modified

This is the percentage of orders that have been manually modified after confirmation.

Quote Line Star Schema Grouping

The Quote Line star schema grouping consists of the Quote Line measures and the following dimensions:

Dimensions

- Sales Person
- Document Type
- Product
- Customer

- Enterprise
- Sales Team
- Address Region
- Calendar

Measures

The following table provides a list of the Quote Line measures:

Measure	Description
Is Ordered	Indicates If the quote to which this quote line belongs has been converted to an order.
Is Abandoned	Indicates if the quote to which this quote line belongs has been abandoned.
Sold At Price	Indicates the price of a quote line at which it is sold. This price includes all the charges considered for the quote line.
Ordered Quantity	Indicates the quantity of a quote line in an order.
Profit Margin Percentage	Indicates the percentage of the profit margin made when an order was created for a quote line.
Selling Price	Indicates the selling price of a quote line as specified in a quote.
Cost Price	Indicates the cost price of a quote line.
Quote Line Count	Indicates the count of a quote line for a specific criteria.
Total Profit Margin	Indicates the total profit margin made when an order was created for a quote line.
Total Discount	Indicates the total discount provided for a quote line.
Discount Percentage	Indicates the percentage of the discount that is provided on a quote line.

Grouped Measures

The following table provides a list of the Quote Line grouped measures:

Measure	Description
Average Discount Percentage	

Indicates the average of the discount percentage that is provided for a quote line.

Maximum Discount Percentage

Indicates the maximum discount percentage that is provided for a quote line.

Minimum Discount Percentage

Indicates the minimum discount percentage that is provided for a quote line.

Average Profit Margin Percentage

Indicates the average of the profit margin percentage that is made for a quote line.

Opportunity Star Schema Grouping

The Opportunity star schema grouping consists of the Opportunity measures and the following dimensions:

Dimensions

- Sales Person
- Address Region
- Calendar
- Enterprise
- Buyer
- Customer
- Sales Team

Measures

The following table provides a list of the Opportunity measures:

Measure	Description
----------------	--------------------

Is Opportunity Won	Indicates if an opportunity is won and converted into an order.
---------------------------	---

Opportunity Value	Indicates the budget allocated for an opportunity.
--------------------------	--

Opportunity Revenue	Indicates the total revenue generated by an opportunity after being converted into an order.
----------------------------	--

Opportunity Count	Indicates the count of an opportunity for a specific criteria.
--------------------------	--

Grouped Measures

The Opportunity grouped measure is Opportunity Conversion Percentage. It indicates the percentage of the opportunities that were successfully converted into orders.

SO Modification Summary Star Schema Grouping

The SO Modification Summary aggregate fact table is derived from the SO Line and SO Modification facts and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Calendar (Confirmed Date)

Measures

The following table provides a list of the SO Modification Summary measures:

Measure	Description
---------	-------------

Modified Order	Indicates the total number of modified orders.
-----------------------	--

Confirmed Order	Indicates the total number of confirmed orders.
------------------------	---

Grouped Measures

The SO Modification Summary grouped measure is % Orders Manually Modified. It indicates the percentage of the orders that were manually modified.

SO Payment Summary Star Schema Grouping

The SO Payment Summary aggregate fact table is derived from the SO Payment fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Calendar (Execution Date)

Measures

The following table provides a list of the SO Payment Summary measures:

Measure	Description
---------	-------------

Authorized Amount	Indicates the amount that has been authorized for a payment.
--------------------------	--

Credit Amount	Indicates the amount that has been allowed for credit in a payment.
----------------------	---

Settled Amount	Indicates the amount that has been settled for a payment.
-----------------------	---

Request Amount	Indicates the amount that has requested for a payment.
-----------------------	--

Authorization Count

Indicates the number of payments that have been authorized.

Settlement Count

Indicates the number of settlements.

Authorization Failure Count

Indicates the number of authorizations that have failed.

Settlement Failure Count

Indicates the number of settlements that have failed.

Grouped Measures

The following table provides a list of the SO Payment Summary grouped measures:

Measure**Description****Percentage Authorization Failures**

Indicates the percentage of the failed authorizations.

Percentage Settlement Failures

Indicates the percentage of the failed settlements.

SO Hold Summary Star Schema Grouping

The SO Hold Summary aggregate fact table is derived from the SO Hold fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Hold Type
- Calendar (Hold Date)

Measures

The following table provides a list of the SO Hold Summary measures:

Measure**Description****Hold Duration**

Indicates the duration for which an order is held.

Order Count

Indicates the number of orders that are on hold.

Grouped Measures

The following table provides a list of the SO Hold Summary grouped measures:

Measure**Description**

No. of Orders on Hold

Indicates the number of orders on hold.

Avg. Hold Duration

Indicates the average duration for which an order is kept on hold.

SO Daily Category Summary Star Schema Grouping

The SO Daily Category Summary aggregate fact table is derived from the SO Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Product Category Hierarchy (Category)
- Calendar (Transaction Date)

Measures

The following table provides a list of the SO Category Summary measures:

Measure**Description****Shipped Count**

Indicates the number of orders that have been shipped.

Shipped On Time Count

Indicates the number of orders that have been shipped on time.

Shipped Quantity

Indicates the shipped quantity.

B2C Fulfilled Revenue

Indicates the fulfilled revenue of B2C orders.

B2B Fulfilled Revenue

Indicates the fulfilled revenue of B2B orders.

Backordered Count

Indicates the number of orders that have been backordered.

Grouped Measures

The following table provides a list of the SO Category Summary grouped measures:

Measure**Description****B2C Fulfilled Revenue (Currency)**

Indicates the fulfilled revenue of a B2C order.

B2B Fulfilled Revenue (Currency)

Indicates the fulfilled revenue of a B2B order.

Percentage Shipped On Time

Indicates the percentage of the orders that have been shipped on time.

SO Daily Region Summary Star Schema Grouping

The SO Daily Region Summary aggregate fact table is derived from the SO Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Address Region Hierarchy
- Calendar (Transaction Date)

Measures

The following table provides a list of the SO Daily Region Summary measures:

Measure	Description
---------	-------------

Shipped Count	Indicates the number of orders that have been shipped.
----------------------	--

Shipped On Time Count	Indicates the number of orders that have been shipped on time.
------------------------------	--

Shipped Quantity	Indicates the shipped quantity.
-------------------------	---------------------------------

B2C Fulfilled Revenue	Indicates the fulfilled revenue of B2C orders.
------------------------------	--

B2B Fulfilled Revenue	Indicates the fulfilled revenue of B2B orders.
------------------------------	--

Grouped Measures

The SO Daily Region Summary grouped measure is B2C Fulfilled Revenue (Currency). It indicates the fulfilled revenue of B2C orders.

Shipment Summary Star Schema Grouping

The Shipment Summary aggregate fact table is derived from the Shipment Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Calendar (Actual Ship Date)
- User Ranges
- Ship Node

Measures

The following table provides a list of the Shipment Summary measures:

Measure	Description
Procured Count	Indicates the number of shipments that have been procured.
BackOrdered from Node Count	Indicates the number of shipments that have been backordered from a node.
Shipped Count	Indicates the number of shipments that have been sent.
Ordered Quantity	Indicates the ordered quantity.
Delay in Shipment per Line	Indicates the delay in shipment per line.
Elapsed Time Released Ship	Indicates the time elapsed between the released date and the actual shipment date.
Shipment Number	Indicates the shipment number.
Shipped On Time Count	Indicates the number of shipments that have been sent on time.

Grouped Measures

The following table provides a list of the Shipment Summary grouped measures:

Measure	Description
No. of Shipment Lines Shipped	Indicates the number of shipment lines that have been shipped.
Percentage Backordered From Node	Indicates the percentage of orders that have been backordered from a given node.
Percentage Procured	Indicates the percentage of the orders that have been procured.
No. of Shipments Shipped	Indicates the number of shipments that have been shipped.
Avg. Delay in Shipment	Indicates the average amount of delay that occurred when sending shipments.

SO Daily Summary Star Schema Grouping

The SO Daily Summary aggregate fact table is derived from the SO Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Seller
- Fulfillment Type
- Calendar (Transaction Date)

Measures

The following table provides a list of the SO Daily Summary measures:

Measure	Description
---------	-------------

ASAP Order Count	Indicates the number of orders that are to be shipped as soon as possible.
-------------------------	--

BackOrdered Count	Indicates the number of orders that have been backordered.
--------------------------	--

BackOrdered and Delayed Count	Indicates the number of orders that have been backordered and delayed.
--------------------------------------	--

Released Count	Indicates the number of orders that have been released.
-----------------------	---

Shipped Count	Indicates the number of orders that have been shipped.
----------------------	--

Shipped On Time Count	Indicates the number of orders that have been shipped on time.
------------------------------	--

Elapsed Lead Time ASAP	Indicates the time that has elapsed between the promised time and the confirmed time (in minutes).
-------------------------------	--

Elapsed Time Actual ship Confirmed	Indicates the time that has elapsed between the actual shipment time and the confirmed time (in minutes).
---	---

Elapsed Time Actual ship Promised	Indicates the time that has elapsed between the actual shipment time and the promised time (in minutes).
--	--

Elapsed Time Actual ship Released	Indicates the time that has elapsed between the promised time and the released time (in minutes).
--	---

Elapsed Time Confirm Release	Indicates the time that has elapsed between the released time and confirmed time (in minutes).
-------------------------------------	--

Fulfilled Revenue

Indicates the fulfilled revenue of an order.

Shipped Quantity

Indicates the shipped quantity.

Promised Count

Indicates the number of orders that have been promised to be delivered.

Confirmed Order Lines

Indicates the confirmed order lines.

Ordered Quantity

Indicates the ordered quantity.

Confirmed Orders

Indicates the confirmed orders.

Booked Value

Indicates the booked value of the confirmed order.

B2B Booked Value

Indicates the booked value of the B2B orders.

B2C Booked Value

Indicates the booked value of the B2C orders.

B2B Fulfilled Value

Indicates the fulfilled value of the B2B orders.

B2C Fulfilled Value

Indicates the fulfilled value of the B2C orders.

B2B Shipped Quantity

Indicates the shipped quantity of the B2B orders.

B2C Shipped Quantity

Indicates the shipped quantity of the B2C orders.

B2B Ordered Quantity

Indicates the ordered quantity of the B2B orders.

B2C Ordered Quantity

Indicates the ordered quantity of the B2C orders.

B2B Orders Confirmed

Indicates the B2B orders that have been confirmed.

B2C Orders Confirmed

Indicates the B2C orders that have been confirmed.

B2B Order Lines Confirmed

Indicates the B2B order lines that have been confirmed.

B2C Order Lines Confirmed

Indicates the B2C order lines that have been confirmed.

B2B Shipped Count

Indicates the number of B2B orders lines that have been shipped.

B2C Shipped Count

Indicates the number of B2C orders lines that have been shipped.

B2B Shipped Order Count

Indicates the number of B2B orders that have been shipped.

B2C Shipped Order Count

Indicates the number of B2C orders that have been shipped.

B2B Order Count

Indicates the number of B2B orders.

B2C Order Count

Indicates the number of B2C orders.

Order Delay

Indicates the time taken to ship an order.

Capture to Ship Time

Indicates the amount of time between the stage an order is captured and the time it is shipped.

Delayed Count

Indicates the number of orders that have been delayed.

Shipped ASAP Order Count

Indicates the number of ASAP orders that have been shipped.

Grouped Measures

The following table provides a list of the SO Daily Summary grouped measures:

Measure

Description

Percentage Shipped on Time

Indicates the percentage of orders that have been shipped on time.

Percentage BackOrdered

Indicates the percentage of orders that have been backordered.

No. of Order Lines Shipped

Indicates the number of order lines that have been shipped.

Avg. Exp. Lead Time (ASAP Orders)

Indicates the average expected lead time for ASAP orders.

Avg. Capture to Ship Time (ASAP)

Indicates the average amount of time between the stage an ASAP order line is captured and the time it is shipped.

Avg. delay for Delayed Orders

Indicates the average amount of delay occurred in the delayed orders.

Avg. Order to Release time

Indicates the average time required to move the order lines from the order capture stage to the order release stage.

Avg. Lead Time to Ship

Indicates the average time required to move the order lines from the release stage to the ship stage.

Avg. Order Lines per Order

Indicates the average number of order lines in a confirmed order.

Avg. Value of an Order

Indicates the average booked value of confirmed orders.

No. of Orders Confirmed

Indicates the number of orders that have been confirmed.

No. of Order Lines Confirmed

Indicates the number of order lines that have been confirmed.

No. of Order Lines Shipped (B2B)

Indicates the number of shipped order lines pertaining to a B2B order.

No. of Order Lines Shipped (B2C)

Indicates the number of shipped order lines pertaining to a B2C order.

B2B Booked Value (Currency)

Indicates the booked value of a B2B order.

B2C Booked Value (Currency)

Indicates the booked value of a B2C order.

B2B Fulfilled Value (Currency)

Indicates the fulfilled value of a B2B order.

B2C Fulfilled Value (Currency)

Indicates the fulfilled value of a B2C order.

Avg. Value of an Order B2B

Indicates the average value of a B2B order.

Avg. Value of an Order B2C

Indicates the average value of a B2C order.

Avg. Order Lines per Order B2B

Indicates the average number of order lines confirmed per a B2B order (excluding bundle component line).

Avg. Order Lines per Order B2C

Indicates the average number of order lines confirmed per a B2C order (excluding bundle component line).

No. of Order Lines Confirmed B2B

Indicates the average number of B2B order lines confirmed.

No. of Order Lines Confirmed B2C

Indicates the average number of B2C order lines confirmed.

No. Of B2B Orders Shipped

Indicates the number of B2B orders that have been shipped.

No. Of B2C Orders Shipped

Indicates the number of B2C orders that have been shipped.

SO Customer Monthly Summary Star Schema Grouping

The SO Customer Monthly Summary aggregate fact table is derived from the SO Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Customer
- Calendar (Month)

Measures

The following table provides a list of the SO Customer Monthly Summary measures:

Measure	Description
----------------	--------------------

Fulfilled Revenue	Indicates the fulfilled revenue by a customer in a month.
--------------------------	---

Order Count	Indicates the total number of orders placed by a customer.
--------------------	--

Grouped Measures

The SO Customer Monthly Summary grouped measure is Average Order Value. It indicates the average lifetime order value for a customer.

SO Monthly Summary

The SO Monthly Summary aggregate fact table is derived from the SO Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Calendar (Month)

Measures

The following table provides a list of the SO Monthly Summary measures:

Measure	Description
----------------	--------------------

Fulfilled Revenue

Indicates the fulfilled revenue of a customer in a month.

Order Count

Indicates the total number of orders placed by a customer.

Customer Count

The number of customers for the Enterprise.

Grouped Measures

The following table provides a list of the SO Monthly Summary grouped measures:

Measure**Description****Average Customer Revenue**

Indicates the amount of revenue generated by an average customer. An average customer is the customer with whom other customers are compared in terms of revenue generated

Customer Spent

Indicates the total amount that a customer has spent.

Customer Spent Ratio

Indicates the ratio of the amount spent by a customer by the total amount.

Customer Category Quotes Daily Summary Star Schema Grouping

The Customer Category Quotes Daily Summary aggregate fact table is derived from the Quote Line fact and consists of the following dimensions:

Dimensions

- Enterprise
- Document Type
- Calendar
- Customer
- Product Category Hierarchy

Measures

The following table provides a list of the Customer Category Quotes Daily Summary measures:

Measure**Description****Maximum Discount Percentage**

Indicates the maximum discount percentage that is provided for a quote line.

Minimum Discount Percentage

Indicates the minimum discount percentage that is provided for a quote line.

Discount Percentage Total

Indicates the percentage of the discount that is provided on a quote line.

Number of Quote Lines

Indicates the total number of quote lines selected for the given criteria.

Profit Margin Percentage Total

Indicates the total profit margin percentage made when an order was created for a quote.

Grouped Measures

The following table provides a list of the Customer Category Quotes Daily Summary grouped measures:

Measure**Description****Average Discount Percentage**

Indicates the average of the discount percentage that is provided for a quote line.

Maximum Discount Percentage

Indicates the maximum discount percentage that is provided for a quote line.

Minimum Discount Percentage

Indicates the minimum discount percentage that is provided for a quote line.

Average Profit Margin Percentage

Indicates the average of the profit margin percentage that is made for a quote line.

Target Model Dimensions for IBM Sterling Business Intelligence

Dimensions reflect the attributes of a business, such as enterprise, channel, seller, buyer, and so on. Each dimension consists of one or more hierarchy that typically contain several levels. For example, the enterprise dimension contains the enterprise hierarchy and the corresponding levels such as Enterprise (All) and Enterprise Code.

Dimensions also provide contextual information to facts. For example, order being shipped is a fact, However, data such as the order ship date, ship to address, ship from address, and so on are contextual information that is captured by a dimension. Dimensions can be used to filter data and arrive at an appropriate data set. Sterling Business Intelligence contains the following target model dimensions.

Enterprise

An enterprise is an organization that brokers business. An enterprise represents the organization that owns and controls all transactions. An enterprise controls the flow of documents such as a sales order, and is considered the owner of the documents. Most business rules and fulfillment processes pertaining to an order are defined by an enterprise.

Dimension Hierarchy

The dimension hierarchy related to enterprise is Enterprise.

The levels associated with enterprise are:

- Enterprise (All)
- Enterprise Code

Location in the target model: Enterprise

Filter

The filter associated with the enterprise dimension is Enterprise Code.

Ship Node

This dimension contains all the ship nodes. Ship node is the warehouse or distribution center that is shipping the shipment or products.

Dimension Hierarchy

The dimension hierarchy related to ship node is Ship Node.

The levels associated with ship node are:

- Ship Node (All)
- Ship Node Code

Location in the target model: Ship Node

Filter

The filter associated with the ship node dimension is Ship Node Code.

Dimension Role Play

The dimension role play related to ship node is Ship Node (Procurement Node).

Seller

This dimension contains all the sellers. A seller is an organization that supplies products to an enterprise or other buyer organizations.

Dimension Hierarchy

The dimension hierarchy related to seller is Seller.

The levels associated with seller are:

- Seller (All)
- Seller Code

Location in the target model: Seller

Filter

The filter associated with the seller dimension is Seller Code.

Buyer

This dimension contains all the buyers. A buyer is an organization that purchases product from an enterprise or other seller organizations.

Dimension Hierarchy

The dimension hierarchy related to buyer is Buyer.

The levels associated with buyer are:

- Buyer (All)
- Buyer Code

Location in the target model: Buyer

Filter

The filter associated with the buyer dimension is Buyer Code.

Payment Type

This dimension contains the credit card payment types supported by various organizations. Payment type is the type of payment that a customer uses to pay for an order, for example, check, credit card, store value card, and so on.

Dimension Hierarchy

The dimension hierarchy related to payment type is Payment Type.

The levels associated with payment type are:

- Payment Type (All)
- Enterprise Code
- Payment Type Code

Location in the target model: Payment Type

Filter

There is no filter associated with the payment type dimension.

Hold Type

Holds are applied on orders because of exception conditions and can be used to stop order processing. For example, an order can be put on fraud hold. Holds can be applied at either the order level or the order line level that meeting a certain condition.

Dimension Hierarchy

The dimension hierarchy related to hold type is Hold Type.

The levels associated with hold type are:

- Hold Type (All)
- Enterprise Code
- Hold Type Code

Location in the target model: Hold Type

Filter

There is no filter associated with the hold type dimension.

Channel

This dimension contains the channel. Orders are placed through various channels, for example, Web channel, catalog, call center, so on.

Dimension Hierarchy

The dimension hierarchy related to channel is Channel.

The levels associated with channel are:

- Channel (All)
- Channel Code

Location in the target model: Channel

Filter

The filter associated with the channel dimension is Channel Code.

Fulfillment Type

An enterprise can define the list of valid values for fulfillment type, and specify them on the order line. Fulfillment type specifies how the order line will be sourced.

Dimension Hierarchy

The dimension hierarchy related to fulfillment type is Fulfillment Type.

The levels associated with fulfillment type are:

- Fulfillment Type (All)
- Enterprise Code
- Fulfillment Type Code

Location in the target model: Fulfillment Type

Filter

There is no filter associated with the fulfillment type dimension.

Delivery Method

This dimension contains all the delivery methods. This specifies how an order is delivered.

Dimension Hierarchy

The dimension hierarchy related to delivery method is Delivery Method.

The levels associated with delivery method are:

- Delivery Method (All)
- Enterprise Code
- Delivery Method Code

Location in the target model: Delivery Method

Filter

There is no filter associated with the delivery method dimension.

Product

This dimension contains the products. A product is an item that has at least one characteristic that is different from all other products, and which requires a unique identifier such as a Stock Keeping Unit (SKU) or part number. A product is the most basic part of a catalog hierarchy.

Note: When an item has multiple units of measures (UOM) defined, only one unit of measure is considered for analysis in Sterling Business Intelligence.

Dimension Hierarchy

The dimension hierarchy related to product are:

- Product
 - The levels associated with Product are:
 - Product (All)
 - Catalog Organization Code
 - Product Code
 - Unit of Measure Code
- Products
 - The levels associated with Products are:
 - Product (All)
 - Product Code

Location in the target model: Product

Filter

There is no filter associated with the product dimension.

Product Category Hierarchy

Items are classified based on categories. You can define an hierarchy of categories for a product.

Dimension Hierarchy

The dimension hierarchy related to product category hierarchy are:

- Categories (Product)
 - The levels associated with Categories (Product) are:
 - Categories (Product) (All)
 - Top Level Categories (Product)
 - Second Level Categories (Product)

- Third Level Categories (Product)
- Fourth Level Categories (Product)
- Fifth Level Categories (Product)
- Product Category Hierarchy
 - The levels associated with Products are:
 - Product Category Hierarchy (All)
 - Catalog Organization Code
 - Category Identifier

Location in the target model: Product Category Hierarchy

Filter

The filter associated with the product category hierarchy dimension is Product Category.

Customer

This dimension contains a repository of all customers. Customers are further categorized into Business Customers (Organizations or Businesses) and Consumer Customers (Individual).

Dimension Hierarchy

The dimension hierarchies related to customer are Customer, Customer Membership Type, Customer Membership Level, and Customer Industry.

The levels associated with Customer are:

- Customer (All)
- Customer Organization Code
- Customer Identifier

The levels associated with Customer Membership Type are:

- Customer Membership Type (All)
- Customer Membership Type
- Customer Identifier

The levels associated with Customer Membership Level are:

- Customer Membership Level (All)
- Customer Membership Level
- Customer Identifier

The levels associated with Customer Industry are:

- Customer Industry (All)
- Customer Industry
- Customer Identifier

Location in the target model: Customer

Filters

The filter associated with the category dimension is Industry.

Customer Hierarchy

This dimension contains the entire customer hierarchy. It signifies the hierarchy of customers. Customers are further categorized into Business Customers (Organizations or Businesses) and Consumer Customers (Individual). Sterling Business Intelligence supports up to five levels of customer hierarchy.

Dimension Hierarchy

The dimension hierarchy related to customer hierarchy is Customer Hierarchy.

The levels associated with customer hierarchy are:

- Customer Hierarchy
 - The levels associated with customer hierarchy are:
 - Customer Hierarchy (All)
 - Customer Organization Code
 - Customer Identifier Customers
- Customers
 - The levels associated with customers are:
 - Customers (All)
 - Top Level Customers
 - Second Level Customers
 - Third Level Customers
 - Fourth Level Customers
 - Fifth Level Customers

Location in the target model: Customer Hierarchy

Filters

The filters associated with the customer hierarchy dimension are Business Customer and Consumer Customer.

Customer Contact

Customer contacts represent individuals at a customer location. You can define multiple contacts for each customer.

Dimension Hierarchy

The dimension hierarchy related to customer contact is Customer Contact.

The levels associated with customer contact are:

- Customer Contact (All)
- Customer Identifier
- Customer Contact Identifier
- Customer Organization Code

Location in the target model: Customer Contact

Filter

There is no filter associated with the Customer Contact dimension.

Address Region

This dimension contains the address of a customer.

Dimension Hierarchy

The dimension hierarchy related to address region is Address Region.

The levels associated with address region are:

- Address Region (All)
- Address Identifier

Location in the target model: Address Region

Filter

There is no filter associated with the address region dimension.

Dimension Role Play

The dimension role plays related to address region are:

- Address Region (Ship To)
- Address Region (Bill To)

Address Region Hierarchy

This dimension contains the region hierarchy corresponding to an address. A typical region hierarchy would be Country or Region (Territory) > State > City > Zip Code.

Dimension Hierarchy

The dimension hierarchy related to address region hierarchy is Address Region Hierarchy.

The levels associated with address region hierarchy are:

- Address Region Hierarchy

The levels associated with address region hierarchy are:

- Address Region Hierarchy (All)
- Region Identifier

- Region Hierarchy (Address)

The levels associated with region hierarchy (Address) are:

- Region Hierarchy (Address) (All)
- Top Level Address Region
- Second Level Address Region
- Third Level Address Region
- Fourth Level Address Region
- Fifth Level Address Region

Location in the target model: Address Region Hierarchy

Filter

The filter associated with the address region hierarchy dimension is Region Hierarchy.

Dimension Role Play

The dimension role plays related to address region hierarchy are:

- Address Region Hierarchy (Ship To)
- Address Region Hierarchy (Bill To)

Document Type

This dimension contains the document type. Document type is a kind of document defined by a specific XML template that has been designed to support a specific transaction set or business process. The document type defines possible processes and system behaviors that occur as the document goes through its life cycle.

Dimension Hierarchy

The dimension hierarchy related to document type is Document Type.

The levels associated with document type are:

- Document Type (All)
- Document Type Code

Location in the target model: Document Type

Filter

The filter associated with the document type dimension is Document Type Code.

User Ranges

This dimension contains different range types and their possible range values. Customers can extend this dimension to define their own range type and analyze based on the defined range type.

Dimension Hierarchy

The dimension hierarchy related to user ranges is User Ranges.

The levels associated with user ranges are:

- User Ranges (All)
- Range Identifier
- RangeType Code
- Range (Days)

Location in the target model: User Ranges

Filters

There is no filter associated with the user ranges dimension.

Calendar

This dimension contains the default year, quarter, month, and day for the Gregorian calendar. The dimension hierarchy related to calendar and its role play's are:

- Calendar
 - The levels associated with Calendar are:
 - Calendar YMD
 - Calendar YQMD
- Calendar (Charge Date)
 - The levels associated with Calendar (Charge Date) are:
 - Calendar (Charge Date) YMD
 - Calendar (Charge Date) YQMD
- Calendar (Modify Date)
 - The levels associated with Calendar (Modify Date) are:
 - Calendar (Modify Date) YMD
 - Calendar (Modify Date) YQMD
- Calendar (Hold Date)
 - The levels associated with Calendar (Hold Date) are:
 - Calendar (Hold Date) YMD
 - Calendar (Hold Date) YQMD
- Calendar (Actual Ship Date-SO Line)
 - The levels associated with Calendar (Actual Ship Date-SO Line) are:
 - Calendar (Actual Ship Date-SO Line) YMD
 - Calendar (Actual Ship Date-SO Line) YQMD
 - Calendar (Actual Ship Date-SO Line) YWD
- Calendar (Released Date)
 - The levels associated with Calendar (Released Date) are:
 - Calendar (Released Date) YMD
 - Calendar (Released Date) YQMD
- Calendar (Confirmed Date)
 - The levels associated with Calendar (Confirmed Date) are:
 - Calendar (Confirmed Date) YMD
 - Calendar (Confirmed Date) YQMD
 - Calendar (Confirmed Date) YWD
 - Calendar (Confirmed Date) MD
- Calendar (Actual Ship Date-Shipment Line)
 - The levels associated with Calendar (Actual Ship Date-Shipment Line) are:
 - Calendar (Actual Ship Date-Shipment Line) YMD
 - Calendar (Actual Ship Date-Shipment Line) YQMD
 - Calendar (Actual Ship Date-Shipment Line) MD
 - Calendar (Actual Ship Date-Shipment Line) YWD
- Calendar (Expected Shipment Date)
 - The levels associated with Calendar (Expected Shipment Date) are:
 - Calendar (Expected Shipment Date) YMD
 - Calendar (Expected Shipment Date) YQMD

- Calendar (Promised Ship Date)
 - The levels associated with Calendar (Promised Ship Date) are:
 - Calendar (Promised Ship Date) YMD
 - Calendar (Promised Ship Date) YQMD
- Calendar (Transaction Date)
 - The levels associated with Calendar (Transaction Date) are:
 - Calendar (Transaction Date) YMD
 - Calendar (Transaction Date) YQMD
- Calendar (Execution Date)
 - The levels associated with Calendar (Execution Date) are:
 - Calendar (Execution Date) YMD
 - Calendar (Execution Date) YQMD
- Calendar (Month)
 - The levels associated with Calendar (Month) are:
 - Calendar (Month) YM
 - Calendar (Month) YQM

Location in the target model: Calendar

Filter

There is no filter associated with the calendar dimension.

Sales Person

This dimension contains the information about the field sales person.

Dimension Hierarchy

The dimension hierarchy related to sales person is Sales Person.

The levels associated with user ranges are:

- Sales Person (All)
- Login Id
- Organization Code

Location in the target model: Sales Person

Filters

The filter associated with the sales person dimension is Owner Sales Person.

Sales Team

This dimension contains the sales team information of a sales person. Therefore, the Sales Team dimension out triggers from the Sales Person dimension.

Dimension Hierarchy

The dimension hierarchy related to sales team is Sales Team.

The levels associated with sales team are:

- Sales Team (All)
- Team Id
- Organization Code

Location in the target model: Sales Team

Filters

The filter associated with the sales team dimension is Owner Sales Team.

Chapter 8. Troubleshooting

You may encounter the following issues when using Sterling Business Intelligence. Use the information provided here to solve some of the specific problems that you may encounter.

For additional troubleshooting tips, it is recommended that you refer to the Cognos 8 Analytic Applications Adaptive Warehouse User Guide, the Cognos 8 Analytic Applications Adaptive Analytics User Guide, and the Cognos 8 Analytic Applications Installation and Configuration Guide.

Load Management Process is Stalled

The load management process is stalled when the load process is restarted after the previous run is terminated abnormally.

On analyzing the aw-etl<timestamp>.log file, it has been found that, queries such as `SELECT count(*) FROM PWP_ETL_LOCKTABLE WHERE WAREHOUSE_OBJECT_ID = '420f9506-93a3-11de-b501-9a43165eb0f8'` are repeated periodically.

Resolving the Problem

The lock rows must exist only for the duration of a build, after the load management process, system will release them. If there is an abnormal termination of this process, the lock rows remain in the table. The application then truncates the PWP_ETL_LOCKTABLE table.

If job streams are manually halted, or the application fails for some reason, then the PWP_ETL_LOCKTABLE table must be truncated manually. You must ensure that no application activity is taking place when truncating the table manually.

Report Execution Displays an RSV-BBP-0022 Error

When reports are executed in Microsoft Internet Explorer, an RSV-BBP-0022 error is displayed stating the following:

The absolute affinity request 'asynchWait_Request' fails, the requested session does not exist.

Resolving the Problem

Ensure that the Cognos URL (`http://<hostname>/cognos8/cgi-bin/cognos.cgi`) has not been added to the Restricted sites list in the Internet Explorer Options dialog box (**Tools > Internet Options > Security > Restricted sites**).

Schema Not Displayed When Creating an Adaptive Warehouse Project

When creating an Adaptive Warehouse project, after selecting the Sterling Data Source project, no target schema is displayed. You will thus not be able to create the Adaptive Warehouse project.

Resolving the Problem

Launch Cognos Configuration and click **Save**.

ETL Script Running in CLI Stalls in an IBM AIX Environment

The aw-<timestamp>.log file contains two entries that are similar to Running script <script_name> EEM-INFO-0001 Running script: <script_name>.

When executing a load with Cognos Adaptive Warehouse Runtime on IBM AIX® 5.3, the load management is not executed and no error is displayed.

Resolving the Problem

Download and install the December 2007 IBM XL C/C++ runtime program temporary fix (PTF) from the IBM Web site. Run the ETL script after you have installed the PTF.

ETL Process Does Not Load All the Data into the Data Mart Database

Orders created in the online transaction processing (OLTP) database after the last ETL process, is not loaded to the Data Mart Database, despite being in the change data capture (CDC) time window.

Resolving the Problem

Check if the system time of Cognos Server is ahead of OLTP DB Server. If this is the case, you must ensure that all servers are time synched using services like Network Time Protocol (NTP) to a single clock source. Restart the ETL process by resetting the CDC Time Interval. In case the Platform considerations do not allow for time synching, the Cognos server should run one minute slower than the OLTP server.

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