Sales Analysis
Fourth Shift Release 8.00

Fourth Shift Help
Release 8.00

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Sales Analysis Module

Fourth Shift Sales Analysis for SQL Server allows you to analyze and report business information tracked by your Fourth Shift system. Sales analysis related transactions and activity are recorded during data entry into your Fourth Shift system and loaded into Sales Analysis tables for analyzing and reporting.

Sales Analysis on SQL Server allows you to:

- Perform Sales Analysis administrative tasks using the Sales Analysis Console.
- Use the Microsoft SQL Server Management Studio to schedule automatic loading of Sales Analysis data.
- Use Microsoft SQL Server Reporting Services to view and print Sales Analysis reports.

For information on installing Sales Analysis on SQL Server, as well as information on converting the Microsoft Access-based Sales Analysis to SQL Server, refer to the Fourth Shift Installation Instructions and Release Notes for the current release.

Sales Analysis Components

Sales Analysis Database

During installation, you selected where to install the Sales Analysis database—either within Fourth Shift (recommended) or separate from the Fourth Shift database. Regardless of the location, the Sales Analysis database contains historical sales information data you can use to analyze:

- customer buying patterns
- custom product and custom product component details
- gross profit components
- backlog by item, unit price, commission code, and so on
- shipments and invoices
- payment history
- sales by product line

For details on Sales Analysis tables and fields, see Sales Analysis Tables.

Sales Analysis Data Loading

Sales Analysis data from your Fourth Shift system is written to a set of staging tables. Using the Microsoft SQL Server Management Studio, you can schedule Sales Analysis data loading. Data loading can also be performed via a Fourth Shift batch function, SAIL, or manually using the SA Console. For information on scheduling Sales Analysis data loading, see Loading Sales Analysis Data.

Staging Tables

Staging tables contain transactional activity that create, change, or delete the following information:

General Baseline Data

- Commission Codes
- Customer Information—including Ship To Delivery Location
- Items—including Item Costs
- Fiscal Calendar Maintenance
- General Ledger Accounts

Customer Orders

- Co Header—including Sales categories and Ship To Delivery Location
- Co Line Items
- Co Line Transactions for changes to quantity, price, or commission code

Shipments and Adjustments

- Shipments
    - Shipment Line Transactions—shipments and reverse shipments
- Inventory Adjustments
    - To link INVA transactions for customer order returns to customer order and invoicing activity

Invoicing and Payments

- Invoice Headers and Lines
- Payments for Invoices

Custom Product Closed Order Processing

- OVAR—Custom Product line and Component data
    - Costs at the time the order changes to Status *6* (*Complete*)

Sales Analysis Console

During installation, you provided control parameters that determine the data Sales Analysis uses for reports. You can view and change the control parameters using the Sales Analysis Console.

In addition, the console allows you to categorize and/or provide descriptions for some Sales Analysis fields used in reports, make inventory adjustments, and perform maintenance tasks on the Sales Analysis database and staging tables.

The Sales Analysis Console is available on the Fourth Shift server desktop. For details on using the console, see Using the Sales Analysis Console.

Sales Analysis Reports

Sales Analysis views and reports make use of Microsoft SQL Server Reporting Services. To view and print Sales Analysis reports, you must install Microsoft SQL Server Reporting Services. For information on installing the Microsoft SQL Server Reporting Services, refer to the Fourth Shift Release Instructions. For information on Sales Analysis views, refer to Using Views and Reports.

E-mail Notification

Important: At Release 7.50, the **E-mail** tab on the Sales Analysis console was removed. The e-mail functionality for SAAM is now included as part of the Fourth Shift configuration setup in the fs.cfg file. For more information, see also the **Configuration Variables** topic in the *Administration Reference* section of the System Administration online manual.

The following FS.CFG configuration variables are used to define the e-mail recipients who should receive notification for severe database-related errors detected during SAAM Incremental Load processing.

- **SAAMAdminEmailRecipient=**
  The *administrative* e-mail recipient will receive e-mails directly if the Incremental Load process can not be processed. In all other error conditions, the administrator will receive *Cc* (electronic carbon) copies of problems detected for either financial or production related problems.
- **SAAMFinancialEmailRecipient=**
  The *financial* e-mail recipient will receive e-mails for errors processing the following areas:
  - Fiscal Period definition
  - GL Accounts
  - AR Invoice Header and AR Invoice Lines
- **SAAMProductionEmailRecipient=**
  The *production* e-mail recipient will receive e-mails for errors processing the following areas:
  - Customer Orders
  - Customers and Ship To/Delivery Locations
  - Custom Product and Custom Product Component data generated by OVAR
  - Inventory Adjustments
  - Items and Product Lines
  - Shipments
  - Deletion of data

These e-mail configuration variables are set up as part of the post-installation tasks and can be changed as necessary to reflect current business procedures. For more information, contact your System Administrator.

Note: Transactions that are in this type of error condition will not be processed until the database problem is resolved.

Setting Up Sales Analysis

This section summarizes Sales Analysis on SQL Server setup tasks:

- Selecting the reporting fiscal period.
- Setting up schedules for data loading.
- Establishing procedures for cleaning up Sales Analysis tables.

Selecting the Reporting Fiscal Period

Before generating any Sales Analysis reports, you must select the fiscal period for which you want to produce reports.

To set the fiscal reporting period, use the Sales Analysis Console. For instructions, refer to Setting the Sales Analysis Reporting Fiscal Period.

Setting Up Schedules for Loading Data

During installation, initial data was loaded into the Sales Analysis tables. You can determine when and how often you want to update Sales Analysis data. For information on scheduling automatic data loading for Sales Analysis, refer to Loading Sales Analysis Data.

Establishing Procedures for Cleaning Up Sales Analysis Staging Tables

As Sales Analysis transactions are entered into your Fourth Shift system, the Sales Analysis staging tables are populated with the transaction data. As the staging tables grow in size, each Sales Analysis data load requires more time and system resources in proportion to the size of the staging tables.

If you load data often, you may want to routinely clean up the Sales Analysis staging tables to reduce the time and resources required for each data load. For information on how to clean up Sales Analysis staging tables, refer to Cleaning Up Staging Tables.

Using the Sales Analysis Console

The Sales Analysis Console is the control station for all Sales Analysis administrative tasks:

- Setting, viewing, and changing Sales Analysis control parameters.
- Creating and assigning categories to group customer classes, item classes, and regions.
- Entering text descriptions for report fields.
- Performing maintenance tasks for Sales Analysis data and staging tables.

The console is available on the desktop of your Fourth Shift server.

Starting the Console

To start the Sales Analysis Console:

- From the Start menu, select **Programs—Fourth Shift Tools—Sales Analysis—SA Console**.

Exiting the Console

To exit the Sales Analysis Console:

- Click the **File** menu then select **Exit**.

Fiscal Period Tab

The **Fiscal Period** tab display allows you to view, set, or modify the reporting period for Sales Analysis reports, as well as provide descriptions for fiscal reporting periods.

Note: After installation, you must set the fiscal reporting period prior to viewing any Sales Analysis reports—there is no initial default value.

Fiscal Period Tab Fields

Reporting Fiscal Period	Displays the current value for the fiscal reporting period. To change the reporting fiscal period, click **Modify**. You can set the reporting fiscal year and/or period to a prior year or period to generate prior-year reports.
Period Description	Allows you to enter or change descriptions for fiscal reporting periods. **Fiscal Year** A drop-down list of fiscal years as defined for your system on the Fourth Shift GLCF screen. **Fiscal Period** A drop-down list of fiscal periods for the fiscal year as defined for your system on the Fourth Shift GLCF screen. **Period Description** An optional period description. Enter a description up to fifty characters in length that describes the fiscal reporting period.

Setting the Sales Analysis Reporting Fiscal Period

1. If you have not already done so, start the Sales Analysis Console.

   The **Fiscal Period** tab is displayed.
2. Click **Modify**.
3. Select **Select Reporting Fiscal Period**, and select the **Fiscal Year** and **Fiscal Period** from the drop-down lists.
4. Click **OK**.
5. Click **OK** to confirm changes.
6. Click **OK** to exit the console.

Changing the Sales Analysis Reporting Fiscal Period

1. Start the Sales Analysis Console, if you have not already done so.

   The **Fiscal Period** tab is displayed.
2. Click **Modify**.
3. Select one of the following:
   - **Set Reporting Fiscal Period to next period** to advance the reporting fiscal period to the next available period.
   - **Select Reporting Fiscal Period**, and select the **Fiscal Year** and **Fiscal Period** from the drop-down lists.
4. Click **OK**.
5. Click **OK** to confirm changes.
6. Click **OK** to exit the console.

   As part of the Incremental Load process, updates to the Reporting Fiscal Period are processed first.

Entering a Text Description for a Reporting Period

1. Start the Sales Analysis Console, if you have not already done so.

   The **Fiscal Period** tab is displayed.
2. In the **Period Description** portion of the display, select the **Fiscal Year** and **Fiscal Period** for which you want to enter a description.
3. Enter a description in the **Period Description** field.
4. Click **Apply**.
5. Click **OK** to exit the console.

Changing a Text Description for a Reporting Period

1. Start the Sales Analysis Console, if you have not already done so.

   The **Fiscal Period** tab is displayed.
2. In the **Period Description** area of the display, select the **Fiscal Year** and **Fiscal Period** for which you want to change the description.
3. Enter a description in the **Period Description** field.

4. Click **Apply**.
5. Click **OK** to exit the console.

GL Accounts Tab

The GL Accounts tab display allows you to assign general ledger accounts to use for Sales Analysis reports. You can assign general ledger account types S (Sales) or COGS (Cost of Goods Sold).

Note: Financial data for tax and “900” lines data will reside in the Non Sales Local Amount column in the SA_ARInvoiceHeader table.

GL Accounts Tab Fields

Identify Sales GL Accounts	Allows you to view and assign Sales GL accounts to be included in Sales Analysis reports.
Identify COGS GL Accounts	Allows you to view and assign COGS GL accounts to be included in Sales Analysis reports.

Assigning GL Accounts

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **GL Accounts** tab.
3. Do one of the following to assign GL Sales accounts:
   - Select **Identify Sales GL Accounts**.
   - Move accounts from **Unassigned GL Accounts** and **Assigned GL Accounts** as needed by selecting one or more accounts from a column and using the **>** and **<** buttons.
4. Do one of the following to assign general ledger COGS accounts:
   - Select **Identify COGS GL Accounts**.
   - Move accounts from **Unassigned GL Accounts** and **Assigned GL Accounts** as needed by selecting one or more accounts from a column and using the **>** and **<** buttons.
5. Click **Apply** when you’ve finished assigning GL accounts.
6. Click **OK** to exit the console.

Tips

- You must assign GL accounts (type S or COGS) to Sales Analysis to include the accounts in Sales Analysis reports.
- Only transactions for the assigned account numbers are reflected in your Sales Analysis reports.
- If you change the GL accounts assigned to Sales Analysis, the accounts are included in subsequent data loads.
- To link inventory adjustments to invoices, the INVA Inventory Offset Account Number must be selected as a COGS account.

Customer Class Tab

The Customer Class tab display allows you to identify the customer class field number used for Sales Analysis reports. Customer Class field numbers are defined on the Customer Name/ Address Detail screen in your CUSM Fourth Shift system or on the **Customer—General tab—Customer Class** screen in SOPM.

In addition, you can also group customer classes into categories, as well as enter text descriptions for customer classes.

Customer Class Tab Fields

Current Customer Class	**Customer Class Number** Identifies the position in the **Cust Class** field that contains the sales analysis code. The value is used as a sorting mechanism to generate sales analysis reports. To change the customer class used for Sales Analysis reports, click **Modify.**
Classifications	Allows you to enter descriptions for each customer class value, as well as group customer class values into named categories. **Customer Class Number** Lists the available positions in the **Cust Class** field. By default, shows the **Customer Class Number** currently used by Sales Analysis. **Customer Class Value** Lists the values available for the selected **Customer Class Number.** **Customer Class Category** An optional category descriptor. Enter a category name up to fifteen characters in length. **Customer Class Description** An optional customer class description. Enter a description up to fifty characters in length.

Identifying the Customer Class used for Sales Analysis

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Customer Class** tab.
3. Click **Modify**.
4. Select a **Customer Class Number** from the drop-down list, then click **OK**.
5. Click **OK** to confirm changes.
6. Click **OK** to exit the console.

Categorizing Customer Classes

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Customer Class** tab.
3. In the **Classifications** area of the display:
    - Select a **Customer Class Number** from the drop-down list.
    - Select a **Customer Class Value** from the drop-down list.

- Select an *existing category* or enter a *new category* in the **Customer Class Category** field.

4. Click **Apply**.
5. Click **OK** to exit the console.

Entering Text Descriptions for a Customer Class

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Customer Class** tab.
3. Complete the following **Classifications** information:
   - Select the **Customer Class Number** from the drop-down list.
   - Select the **Customer Class Value** from the drop-down list.
   - Enter a new description, in the **Customer Class Description** field.
4. Click **Apply**.
5. Click **OK** to exit the console.

   Once you change the **Customer Class** settings, results from previously generated reports will not match the new sorting results.

Item Class Tab

The Item Class tab display allows you to identify the item class field number used to classify information in Sales Analysis. (The Item Class fields are defined on the Item Detail screen of your Fourth Shift system.) In addition, you can also group item classes into categories, as well as enter text descriptions for item classes.

Item Class Tab Fields

Item Class	Identifies the item class field number used to classify information for Sales Analysis. To change the item class used for Sales Analysis, click **Modify**.
Classifications	Allows you to categorize item classes, as well as enter text descriptions for item classes. **Item Class Number** Lists the available item class field numbers used to classify information for the Sales Analysis daily activity table. **Item Class Value** List the available item class values for the selected I**tem Class Number** by which to sort Sales Analysis data. **Item Class Category** An optional item class category name. Enter a category name up to fifteen characters in length. **Item Class Description** An optional item class description. Enter a description up to fifty characters in length.

Identifying the Item Class

1. Start the Sales Analysis Console, if you have not already done so.

2. Click the **Item Class** tab.
3. Click **Modify**.
4. Select an **Item Class** from the drop-down list, then click **OK**.
5. Click **OK** to confirm changes.
6. Click **OK** to exit the console.

Categorizing Item Classes

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Item Class** tab.
3. Complete the following **Classifications** information:
   - Select the **Item Class Number** from the drop-down list for which you want to include in a category.
   - Select an **Item Class Value** from the drop-down list.
   - Select an *existing category* name or enter a *new category* name in the **Item Class Category** field.
4. Click **Apply**.
5. Click **OK** to exit the console.

Entering a Text Description for an Item Category or Class

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Item Class** tab.
3. Complete the following **Classifications** information:
   - Select the **Item Class Number** from the drop-down list for which you want to include in a category.
   - Select an **Item Class Value** from the drop-down list.
   - Enter a new description in the **Item Class Description** field.
4. Click **Apply**.
5. Click **OK** to exit the console.

   Note: After changing the **Item Class** settings, results from previously generated reports will not match the new sorting results.

Region Tab

The Region tab display allows you to categorize and/or assign a description to a specific region identification.

Region Tab Fields

Region Type	For Sales Order Processing (SOP) customers, displays a list of region types you can use to sort sales analysis data. Select a region from the pull-down list, either Sales or Distribution. (Region types are defined in your Fourth Shift system on either the Customer Master Detail screen (CUSM) or the General tab of SOPM.)
Region Identification	A list of region identifiers you can use to sort sales analysis data. Select a region identification from the pull-down list.
Region Category	An optional category name you can assign to sort sales regions. Either enter a new category or select an existing category from the drop-down list. A region category name can be up to fifteen characters in length.
Region Description	An optional description for the sales or distribution region. Enter a description up to fifty characters in length.

Categorizing Region Identifications

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Region** tab.
3. Select the **Region Type** from the drop-down list.
4. Select the **Region Identification** from the drop-down list.
5. Select an existing category or enter a new category name.
6. Click **Apply**.
7. Click **OK** to exit the console.

Entering a Description for a Region or Region Category

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Region** tab.
3. Select the **Region Type** from the drop-down list.
4. Select the **Region Identification** from the drop-down list.
5. Enter a text description in the **Region Description** field.
6. Click **Apply**.
7. Click **OK** to exit the console.

Data Load Tab

The Data Load tab display allows you the ability to load data into Sales Analysis or to schedule when you want to execute incremental load processing using Microsoft SQL Server Management Studio.

Note: Staging tables prefaced by SAS contain the records processed by the Incremental Load activity. The values displayed in the **Is Processed** field indicate the processing status as follows:

0 = Not processed
2 = Processed successfully
3 = Errored out

Fields

Load Sales Analysis	Allows you to immediately execute the Incremental Load
New Incremental Load Schedule	Allows you to create a schedule to automatically execute the Incremental Load process
Modify Incremental Load Schedule	Allows you to modify an existing Incremental Load schedule

Loading Data Manually

- Click the **Load** button.

Scheduling Incremental Data Loads

To schedule automatic incremental data loads:

1. Click the **New** button.

   The **New Schedule** screen is displayed.

2. Give the new schedule a name.
3. Set up the loading duration using the other dialogs on the screen.

   Note: When creating a schedule, note the following:

   - In general, the frequency at which you schedule data loading during production hours affects system performance. Make sure you schedule data loading that makes business sense for your site.
   - You can create multiple schedules to meet the needs of your site. For example, you can create one schedule for Monday through Friday; another schedule for weekend hours, and so on.

   If you use the Fourth Shift Custom Product module, you should also schedule an incremental data load at the end of your Fourth Shift nightly batch.

   OVAR will create staging table transactions for the Custom Product and Custom Product Component detail information whenever a Custom Product CO line (type - X) is changed to a Status *6* (*Complete*). This schedule will ensure timely updates to the Sales Analysis database.

Modifying an Existing Schedule

To modify an existing automatic incremental load schedule:

1. Click the **Modify** button.

   The **Modify Schedule** screen is displayed.

2. Select a schedule to modify from the drop-down list.
3. Modify the schedule as needed.

Utilities Tab

The **Utilities** tab display allows you to make inventory adjustments, perform maintenance tasks on Sales Analysis data and staging tables, modify the Sales Analysis cost type, and update costs.

Utilities Tab Fields

Inventory Adjustments	Allows you to make inventory adjustments for customer returns.
Sales Analysis Table Maintenance	Allows you to perform maintenance tasks on the Sales Analysis data and staging tables.
Data Update	Allows you to update the Sales Analysis cost type.
Reset Transactions	Allows you to reset failed transactions in the staging table.

Making Inventory Adjustments

Inventory adjustments can be used to record goods into inventory. This activity may be required, if the related customer order has been closed by OVAR.

Note: Only transactions using a COGS (Cost of Goods Sold) account defined on the SA Console\GL Accounts tab will be displayed.

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Click the **Adjust** button.
4. Select the inventory adjustment by using the record indicators to move through the listing.

   To filter for a smaller listing:

   Click the **Filter** Icon to open the **Filter Inventory Adjustment** form. You can filter by many combinations of parameters: Date, Item or Document Number. The more precise the search criteria, the smaller the listing.

   Position the cursor on the inventory adjustment line and click **OK**. The filter criteria will be retained until the Adjust Inventory form is closed or the **Remove Filter** Icon is clicked. Once the Filter is removed, the original listing will redisplay.

   Note that:

   - The From date defaults to the 1st day of the current month.
   - The Through date defaults to the current date.
   - The Through Item will default from the From Item.

- The Through Document Number will default from the From Document Number.

5. Select the **Fiscal Year** and/or **Fiscal Period** from the drop-down list(s) if you want to apply the adjustment in a different Fiscal Year or Fiscal Period.
6. At the bottom portion of the screen:
   - Select the invoice for which you want to apply the adjustment. Click the **Ellipse** button (…) to select the invoice from the **Invoice/Line** pop-up window.
   - Select how you want to populate the adjustment detail: either from the selected invoice or customer order. If you choose **Customer Order**, click the **Ellipse** button (…) to select the **Customer Order/Line** from which you want to populate detail.
   - Select the **Commission Code** and/or **Region** from the drop-down lists if you want to change the Commission Code or Region for the adjustment.
7. Click the **Validate Details** button (optional).
8. Click **Apply Adjustment**.
9. Click **Cancel** to return to the Utilities tab.
10. Click **OK** to exit the console.

Tips

- Use the Fourth Shift INVA screen to enter inventory adjustment transactions for product returns.
- To make the return process more efficient, use the Remark field on the Fourth Shift INVA screen to list related customer or invoice information.

Cleaning Up Staging Tables

Large staging tables can affect SAAM performance. You can increase performance by periodically cleaning up these tables.

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Select **Clean Up Staging Tables**.
4. Click the **Setup** button.

   The **Clean Up Staging Tables** screen is displayed.
5. Select one of the following:

Purge from All Staging tables	To purge data from all staging tables.
Purge ONLY the following Staging tables	To purge date from selected tables only. Check the tables where you want to purge data.
Purge successful staging transactions only	To purge only successful transactions—purge tables where **IsProcessed = 2**.
Purge all processed transactions	To purge all processed transactions—purge tables where **IsProcessed = 2** or **3**.
Transaction Date	Select the date through which you want to purge the selected transactions.

6. Click **Purge** when you have finished selecting purge options.
7. Click **OK** to confirm the purge request.
8. Click **OK** to confirm the purge when the purge is complete.
9. Click **Cancel** to return to the **Utilities** tab.
10. Click **OK** to exit the console.

Tips

If your company does a lot of “cost rolls” (CROL), it is a good idea to purge the SAS_Item Cost table frequently.

Purging Sales Analysis Data

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Select **Purge Sales Analysis data**.
4. Click **Setup**.

   The **Purge Sales Analysis Data** screen is displayed.
5. Select one or more of the following:

   Purge SA_Inventory Adjustment table data—Select the method on how you want to purge the SA_Inventory Adjustment table.

   Note: We recommend that you purge Inventory Adjustments before selecting to purge invoices, shipments, and customer orders.

   Purge SA_Daily Activity table data—To purge from the SA_Daily Activity table.

   Purge Invoices, Shipments, and Customer Orders—To purge all Invoice, Shipments and Customer Order data, including CO Line transactions and Custom Product data.

   - Invoice lines and headers will be purged first under the following conditions:
     - The invoice date is earlier than the Purge date
     - The invoice is paid-in-full
     - The invoice is not linked to an inventory adjustment in SAAM
     - The invoice header has been purged from Fourth Shift
   - Shipments are evaluated for the following:
     - The Shipment CO Line isn’t linked to any invoice line
     - The shipment has been purged from Fourth Shift
     - Linked CO lines in SAAM are available for purging
   - Customer Orders and associated lines can be purged if:
     - The last maintained date is earlier than the Purge date
     - The CO Header isn’t linked to an Invoice Header
     - Status must be greater than ‘6’
     - All line statuses can not be less than ‘6’

Note: When a CO Line is purged, all associated records in the SA_CustomProductComponent, SA_CustomProduct, and SA_COLineTransaction tables will also be purged.

6. Select the date through which you want to purge the data.
7. Click **OK**.
8. Click **OK** to confirm changes.

   Note: Be sure to verify the date selected before confirming the purge.
9. Click **OK** to confirm the purge.
10. Click **Cancel** to return to the **Utilities** tab.
11. Click **OK** to exit the console.

    Note: We recommend moving any specific data, that must be retained longer than normal purge parameters, to a separate custom database.

Modifying the Sales Analysis Cost Type

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Click **Modify**.

   The **Modify Cost Type** dialog is displayed.
4. Select a **New Sales Analysis Cost Type** from the drop-down list.
5. Click **OK**.
6. Click **OK** again to confirm the change.
7. Click **OK** to exit the console.

Updating Costs

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Click **Update**.

   The **Update Item Cost** dialog is displayed.
4. Select the following:

Update Sales Analysis Cost For All Items	To update all four Sales Analysis cost fields with the current Sales Analysis cost type.
Update Standard Cost For All Items	To update all four standard cost fields with the value 0.

5. Click **OK**.
6. Click **OK** again to confirm the update.
7. Click **OK** after costs have been updated for the SA_Item table.
8. Click **OK** to exit the console.

Tips

- If your company does a lot of *cost rolls* (CROL), we recommend that you develop a procedure to update SAAM so reporting reflects current, standard costs.
- Before updating the Sales Analysis item cost, do the following:
  - Make sure there are no Fourth Shift users currently running the Fourth Shift ITMC process.
  - Make sure there are no Fourth Shift users currently using the Fourth Shift CROV or CROL batch processes.

Resetting Transactions

This utility enables you to mass-update any staging table transactions marked as *failed* (**IsProcessed** = 3) to *unprocessed* (**IsProcessed** = 0). The next time Incremental Load occurs, these transactions will be reprocessed.

1. Start the Sales Analysis Console, if you have not already done so.
2. Click the **Utilities** tab.
3. Click **Reset**.

   The **Reset Transaction** dialog is displayed.
4. Select the staging table to work with from the drop-down list.

   The utility automatically changes the **Is Processed** field value from 3 to 0.
5. Click **Cancel** to exit the screen.
6. Click **OK** to exit the console.

Loading Sales Analysis Data

About Sales Analysis Data Loading

During installation, Sales Analysis data was automatically loaded into the Sales Analysis tables. Subsequently during production, Sales Analysis data from your Fourth Shift system is automatically written to staging tables (SAS tables) which are then used to load data into Sales Analysis tables (SA tables).

Data Loading can be accomplished in one of three ways:

- Performed using the batch task SAIL. For more information, see SAIL - Sales Analysis Incremental Load.
- Regularly scheduled job tasks executed by SQL Server Management Studio.
- Manually initiated via the SA Console Data Load tab.

All processing generated by these three approaches will create records in the SA_DataLoadingRun and SA_DataLoadingLog files. The SA_Log (SAAM Incremental Load Log) report in Reporting Services will display the log information.

These log file records must be purged periodically by the RWFL (Database Table Row Purge) process. See the System Administration manual for more details.

For details on the Sales Analysis staging tables, refer to Sales Analysis Staging Tables; for information on Sales Analysis tables, refer to Sales Analysis Tables.

Note: We recommend that you manually perform incremental data loads before putting scheduled data loads into production. In this way, you can make sure that the data loading is occurring without error and as expected. For information on loading data manually, refer to Data Load Tab.

SAIL - Sales Analysis Incremental Load

The Sales Analysis Incremental Load batch task processes pending records in the Sales Analysis staging tables (SAS) generated by Fourth Shift business activities. This task can be created for nightly batch processing instead of using a SQL Agent scheduled job.

Parameters

To request the Sales Analysis Incremental Load, enter the SAIL task as one of the sequenced tasks in a batch process. See “Batch Processing” in the System Administration manual for the task prerequisites and processing frequency.

There are no parameters currently required for the SAIL task.

Processing Result

In addition to processing pending staging table records, the SAIL task creates records in the SA_DataLoadingRun and SA_DataLoadingLog tables to record the log file activity.

Output Log File

The Sales Analysis log file report, SAILxxyyy.PDF (where xx = Sequence Number and yyy = Process ID) is generated automatically. Records from the SAIL process will also appear in the SA_Log (SAAM Incremental Load) report accessible via Reporting Services in the SAAM directory.

SAIL - Sales Analysis Incremental Load

Overview

The Sales Analysis Incremental Load batch task processes pending records in the Sales Analysis staging tables (SAS) generated by Fourth Shift business activities. This task can be created for nightly batch processing instead of using a SQL Agent scheduled job.

Parameters

To request the Sales Analysis Incremental Load, enter the SAIL task as one of the sequenced tasks in a batch process. See “Batch Processing” in the System Administration manual for the task prerequisites and processing frequency.

There are no parameters currently required for the SAIL task.

Processing Result

In addition to processing pending staging table records, the SAIL task creates records in the SA_DataLoadingRun and SA_DataLoadingLog tables to record the log file activity.

Output Log File

The Sales Analysis log file report, SAILxxyyy.PDF (where xx = Sequence Number and yyy = Process ID) is generated automatically. Records from the SAIL process will also appear in the SA_Log (SAAM Incremental Load) report accessible via Reporting Services in the SAAM directory.

Using Views and Reports

Sales Analysis on SQL Server provides a set of views you can use to produce reports for the most commonly requested Sales Analysis data. You can view and use the standard Sales Analysis reports or create your own reports using the Microsoft SQL Server Reporting Services.

For detailed information on the Microsoft SQL Server Reporting Services product, refer to documentation provided with the product. Another option for accessing Sales Analysis table data is through the Fourth Shift Report Model via the Report Builder in SQL Server Reporting Services.

Using SQL Server Reporting Services

1. Start SQL Server Reporting Services, if you have not already done so.
2. Select the report folder for your SQL Server instance.
3. Select the SAAM folder.

   A list of Sales Analysis reports is displayed.
4. Double-click on the report you want to view.

   Note: To refresh a report screen, click **View Report**.

Sales Analysis Reports and Views

The Sales Analysis Reports table includes the name of each report and other information provided with your system.

Several terms used in this table are defined as follows:

- **Sales Amounts**—are taken by multiplying the *Ship Quantity* by the *Invoice Unit Price*
- **Costs**—are calculated by taking the *Ship Quantity* multiplied by the *Standard Total Shipped Cost* found on the **SA_ShipmentCOLineTransaction** table.
- **Fiscal Period**—within the database is assigned during the Incremental Load process and is determined by the information provided by Fourth Shift for an AR Invoice Header.

  Note: With Release 7.50D, several report views were changed to include financial reporting of "900" lines on invoices and credit memos. These lines pertain to Freight Amounts on Shipments and Reverse Shipments as well as any manually created lines on Invoices and Credit Memos. These lines are reflected in report calculations.

Name	Description	Comments
SA_Cecc	Commission Earned by Commission Code	This report presents a total of all Sales Amounts and Commission Earned amounts associated with each commission code. **Note**: This is a total amount that sums up all activity within Sales Analysis. View: RPT_SACommissionEarnedbyCommissionRole

Name	Description	Comments
SA_Cefp	Commission Earned by Fiscal Period	Users can use this report to filter for Sales Amounts and Commission Earned amounts by Fiscal Year. The report sorts by Fiscal Period. View: RPT_SACommissionEarnedbyFiscalPeriod
SA_Clts	CO Line Transaction Summary	This report reports all transactions for CO lines where price, quantity or commission code were changed. View: RPT_SACOLineTransactionSummary
SA_Col	Customer Order Listing	Lists all active customer orders in the Sales Analysis database by Customer ID regardless of order status. View: RPT_SA_Col
SA_Cpca	Custom Product Line Data	Custom Product line information (quantity required and shipped, planned and actual costs,) is captured at the time OVAR changed the CO Line status to ‘6’ (Complete) View: RPT_SACompletedCustomProductComponent **Note**: This only applies to data added to the Sales Analysis database during Incremental Load. Initial load activity must use the current costs at the time of processing.
SA_Cpcs	Custom Product Component Summary	This report displays Custom Product line component detail and related costs captured at the time OVAR changed the CO Line status to ‘6’ (Complete). View: RPT_SACompletedCustomProductCost **Note**: This only applies to data added to the Sales Analysis database during Incremental Load. Initial load activity must use the current costs at the time of processing.
SA_Dar	Daily Activity Report	Daily tracking of customer orders, cancelled orders, shipments, invoices and credit memos grouped by date, customer class, and item class. View: RPT_SADailyActivity **Note**: The Business Date parameter reflects that date the actual transaction took place.
SA_Dtr	Daily Totals Report	This report allows the users to select a range of Business Dates to review daily totals. View: RPT_SADailyTotals

Name	Description	Comments
SA_Fcecc	Paid-in-full Commission Earned by Commission Code	Lists all sales “paid-in-full” commissions earned by each commission code. View: RPT_SAPaidInFullCommissionEarnedbyCommissionCode
SA_Fcefp	Paid-in-full Commission Earned by Fiscal Period	Users can use this report to filter for “paid-in-full” commissions earned within a fiscal year. View: RPT_SAPaidInFullCommissionEarnedbyFiscalPeriod
SA_Gpci	Gross Profit By Customer By Item	Lists item purchased by each customer with associated sales and cost information for the current year-to-date and prior year-to-date *up through the designated reporting period.* View: RPT_SAGrossProfitByCustomerByItem
SA_Gppli	Gross Profit by Product Line By Item	Lists items purchases within a product line with associated sales and cost information for the current year-to-date and prior year-to-date ***up through the designated reporting period.*** **Note:** This report will not include 900 line financial data for non-Fourth Shift item numbers because there is no product line defined. View: RPT_SAGrossProfitByProductLineByItem
SA_Log	SAAM Incremental Load Log	Provides start and finish dates and times for incremental load processes. These processes can be initiated via the SA Console, SAIL batch task, or a scheduled job. The report also includes errors encountered during processing. There is no RPT_SAxx view for this report.
SA_Ocod	Open Customer Order Detail	Lists order detail information for open customer orders by region and customer including line item information View: RPT_SACOLine
SA_Ocol	Open Customer Order Listing	Lists all open customer orders by Customer ID. View: RPT_SACOHeader
SA_Pabr	Profit Analysis by Region	Lists the gross profit by region code in a period-to-date and prior period-to-date analysis for the *designated reporting period only* and year-to-date and prior year-to-date *up through the designated reporting period.* View: RPT_SAProfitAnalysisByRegion

Name	Description	Comments
SA_Pacc	Profit Analysis By Customer Class	This report provides gross profit by customer class in a period-to-date and prior period-to-date analysis for the *designated reporting period only* and year-to-date and prior year-to-date *up through the designated reporting period.* View: RPT_SAProfitAnalysisByCustomerClass
SA_Qsci	Quantity Sold By Customer By Item	Lists each customer and items purchased for the current and prior year's period-to-date and year-to-date. View: RPT_SAQuantitySoldByCustomerByItem
SA_Sabr	Sales Analysis by Region	Lists the sales by region code in a period-to-date and prior period-to-date analysis for the *designated reporting period only* and year-to-date and prior year-to-date *up through the designated reporting period.* View: RPT_SASaleAnalysisByRegion
SA_Sacc	Sales Analysis By Customer Class	This report provides sales grouped by customer class for period-to-date and prior period-to-date analysis for the *designated reporting period only* and year-to-date and prior year-to-date *up through the designated reporting period.* View: RPT_SASalesAnalysisByCustomerClass
SA_Sbap	Summary of Booked Amount by Period	Within a Fiscal Year, this report provides a summary of all new and cancelled CO Line activity. The information is grouped within a period by customer, region and item for the period in which the order was created. Note: In SOPM, this report is generated for the Ship To Customer of Customer Orders. View: RPT_SABookedPeriodSummary
SA_Siap	Summary of Invoiced Amount by Period	Within a Fiscal Year, this report provides a summary of all sales and credit memo Invoice activity. The information is grouped within a period by customer, region and item. Note: In SOPM, this report is generated for the Bill To Customer of an Invoice. View: RPT_SAInvoicedPeriodSummary
SA_Ssa	Summary of Shipments	Provides a summary listing of ALL shipment CO Line activity. Note: In SOPM, this report is generated for the Ship To Customer of Customer Orders. View: RPT_SAShipmentSummary

Name	Description	Comments
SA_Ssap	Summary of Shipped Amount by Period	This report provides a summary of all shipment activity within a fiscal year. The information is grouped within a period by customer, region and item. Note: In SOPM, this report is generated for the Ship To Customer of Customer Orders. View: RPT_SAShippedPeriodSummary
SA_Ytds	Year-To-Date Sales by Customer	This report lists the year-to-date and prior year-to-date sales and costs for each customer *up through the designated reporting period.* View: RPT_SAGrossProfitByCustomer

Sales Analysis Tables

Introduction

This section lists the tables and corresponding fields that comprise the Sales Analysis tables. All Sales Analysis tables are named using the SA_ prefix.

SA_ARInvoiceHeader

Name	Data Type	Key
InvoiceNumber	varchar(10)	Unique
COReferenceNumber	varchar(30)	
InvoiceType	char	
InvoiceStatus	char	
SalesLocalAmount	float	
NonSalesLocalAmount	float	
TotalInvoiceLocalAmount	float	
InvoiceDate	datetime	
InvoicePaidInFullDate	datetime	
InvoiceExchangeRate1	float	
InvoiceExchangeRate2	float	
InvoiceExchangeRateOperator1	char	
InvoiceExchangeRateOperator2	char	
InvoiceTriangulationCode	tinyint	
RegionKey	int	Foreign
FiscalPeriodKey	int	Foreign
COHeaderKey	int	Foreign
BillToCustomerKey	int	Foreign
ShipToDeliveryLocationKey	int	Foreign
ARInvoiceHeaderRowVersion	rowversion	
ARInvoiceHeaderKey	int	Primary
COSequenceNumber	smallint	
IsCommissionPaid	bit	

SA_ARInvoiceLine

Name	Data Type	Key
InvoiceLineNumber	smallint	Unique
InvoiceLineType	char	
LineItemNumber	varchar(30)	
ShipQuantity	float	
InvoiceLocalUnitPrice	float	
InvoiceForeignUnitPrice	float	
CommissionAmount	float	
SalesAccount	varchar(20)	
SalesGLAccountGroupKey	int	Foreign
COLineKey	int	Foreign
CommissionCodeKey	int	Foreign
ShipmentCOLineKey	int	Foreign
ItemKey	int	Foreign
ARInvoiceHeaderKey	int	Foreign Unique
ARInvoiceLineRowVersion	rowversion	
ARInvoiceLineKey	int	Primary

SA_COHeader

Name	Data Type	Key
CONumber	varchar(30)	Unique
COStatusAA	char	
SalesCategory1	varchar(3)	
SalesCategory2	varchar(3)	
CarrierName	varchar(30)	
CustomerPONumber	varchar(30)	
COCreatedDate	datetime	
COLastMaintainedDate	datetime	
GrossLinesLocalAmount	float	
FreightLocalAmount	float	
PriceAdjustmentLinesLocalAmount	float	

Name	Data Type	Key
COTriangulationCode	tinyint	
CommissionCodeKey	int	Foreign
RegionKey	int	Foreign
BillToCustomerKey	int	Foreign
EndUserCustomerKey	int	Foreign
ShipToCustomerKey	int	Foreign
CustomerKey	int	Foreign
ShipToDeliveryLocationKey	int	Foreign
COHeaderRowVersion	rowversion	
COHeaderKey	int	Primary

SA_COLine

Name	Data Type	Key
COLineNumber	smallint	Unique
COLineType	char	
COLineStatus	char	
ItemUM	varchar(4)	
ItemOrderedQuantity	float	
ItemLocalNetUnitPrice	float	
UnitPriceSourceCode	char	
UserDefinedSourceType	char	
RequestedShipDate	datetime	
PromisedShipDate	datetime	
LineOpenedDate	datetime	
OriginalRequestedShipDate	datetime	
OriginalPromisedShipDate	datetime	
CreatedDate	datetime	
MoveUpCount	smallint	
MoveOutCount	smallint	
OriginalUnitPrice	float	
ItemStandardLocalUnitPrice	float	
ItemControllingNetUnitPrice	float	
CustomerItemNumber	varchar(30)	
CustomerItemUMConversion	float	
CustomerItemUM	varchar(4)	
COLineExchangeRate1	float	
COLineExchangeRate2	float	
COLineExchangeRateOperator1	char	
COLineExchangeRateOperator2	char	
CommissionCodeKey	int	Foreign
ItemKey	int	Foreign
COHeaderKey	int	Foreign Unique
COLineRowVersion	rowversion	
COLineKey	int	Primary

SA_COLineTransaction

Name	Data Type	Key
TransactionDateTime	datetime	Unique
PriorItemOrderedQuantity	float	
NetChangeQuantity	float	
PriorItemLocalNetUnitPrice	float	
NetChangeUnitPrice	float	
PriorCommissionCodeKey	int	
NewCommissionCodeKey	int	
COLineKey	int	Foreign
COLineTransactionRowVersion	rowversion	
COLineTransactionKey	int (identity column)	Primary
UserID	varchar(4)	

SA_CommissionCode

Name	Data Type	Key
CommissionCode	varchar(3)	Unique
CommissionCodeDescription	varchar(35)	
CommissionCodeRowVersion	rowversion	
CommissionCodeKey	int	Primary

SA_CommissionRate

Name	Data Type	Key
CommissionRate	real	
PrimarySalesperson	varchar(6)	
SalesAmount	float	
CommissionAmount	float	
InEffectivityDate	datetime	Unique
OutEffectivityDate	datetime	
CommissionCodeKey	int	Foreign Unique
CommissionRateRowVersion	rowversion	
CommissionRateKey	int	Primary
PaidInFullSalesAmount	float	
PaidInFullCommissionAmount	float	

SA_ControlParameters

Name	Data Type	Key
CompanyName	varchar(40)	
SACostType	char	
CustomerClassNumber	tinyint	
ItemClassNumber	tinyint	
GLAccountMask	varchar(20)	
IsSOP	bit	
UseCurrentCostOnInitialLoad	bit	
InitialLoadDateTime	datetime	
PriorProcessedDateTime	datetime	
CurrentProcessedDateTime	datetime	
ReportingFiscalPeriodKey	int	Foreign
LastFourthShiftRowVersion	bigint	
ControlParametersRowVersion	rowversion	
ISProcessRunning	bit	

SA_CustomProduct

Name	Data Type	Key
UnitPriceCalculationCode	char	
PlannedMaterialCost	float	
PlannedLaborCost	float	
PlannedFixedOverheadCost	float	
PlannedVariableOverheadCost	float	
PlannedOutsideCost	float	
PlannedTotalCost	float	
PlannedCostDate	datetime	
ActualMaterialCost	float	
ActualLaborCost	float	
ActualFixedOverheadCost	float	
ActualVariableOverheadCost	float	
ActualOutsideCost	float	
ActualTotalCost	float	
Planner	varchar(3)	
Buyer	varchar(3)	
WIPGLAccountGroupKey	int	Foreign
InventoryGLAccountGroupKey	int	Foreign
COLineKey	int	Foreign
CustomProductRowVersion	rowversion	
CustomProductKey	int	Primary
ShippedQuantity	float	

SA_CustomProductComponent

Name	Data Type	Key
OperationSequenceNumber	smallint	
ComponentItemNumber	varchar(30)	
ComponentItemNumberUM	varchar(4)	
ComponentType	char	
RequiredQuantity	float	
QuantityType	char	
ComponentUnitCostPrice	float	
StandardRolledMaterialCost	float	
StandardRolledLaborCost	float	
StandardRolledFixedOverheadCost	float	
StandardRolledVariableOverheadCost	float	
StandardRolledTotalCost	float	
SARolledMaterialCost	float	
SARolledLaborCost	float	
SARolledFixedOverheadCost	float	
SARolledVariableOverheadCost	float	
SARolledTotalCost	float	
ItemKey	int	Foreign
CustomProductKey	int	Foreign
CustomProductComponetRowVersion	rowversion	
CustomProductComponentKey	int	Primary
IssuedQuantity	float	
IssuedComponentExtendedCostPrice	float	

SA_Customer

Name	Data Type	Key
CustomerID	varchar(13)	Unique
CustomerName	varchar(60)	
CustomerStatus	char	
CustomerState	varchar(10)	
CustomerZip	varchar(12)	

Name	Data Type	Key
CustomerCountry	varchar(15)	
BillToName	varchar(60)	
BillToCustomerID	varchar(13)	
BillToState	varchar(10)	
BillToZip	varchar(12)	
BillToCountry	varchar(15)	
TradeClassName	varchar(15)	
DistributionZone	varchar(10)	
DistributionRegionKey	int	Foreign
SalesRegionKey	int	Foreign
ParentCustomerKey	int	Foreign
CustomerClassDefinition1Key	int	Foreign
CustomerClassDefinition2Key	int	Foreign
CustomerClassDefinition3Key	int	Foreign
CustomerClassDefinition4Key	int	Foreign
CustomerClassDefinition5Key	int	Foreign
CustomerClassDefinition6Key	int	Foreign
CustomerClassDefinition7Key	int	Foreign
CustomerClassDefinition8Key	int	Foreign
SalesGLAccountGroupKey	int	Foreign
CommissionCodeKey	int	Foreign
CustomerRowVersion	rowversion	
CustomerKey	int	Primary

SA_CustomerClassDefinition

Name	Data Type	Key
CustomerClassNumber	tinyint	Unique
CustomerClassValue	varchar(6)	Unique
CustomerClassCategory	varchar(15)	
CustomerClassDefinitionDescription	varchar(50)	
CustomerClassRowVersion	rowversion	
CustomerClassDefinitionKey	int	Primary

SA_DailyActivity

Name	Data Type	Key
BusinessDate	datetime	Unique
NewCOLineCount	int	
NewCOLineAmount	float	
CancelledCOLineCount	int	
CancelledCOLineAmount	float	
ShipmentCount	int	
ShipmentAmount	float	
SalesCount	int	
SalesAmount	float	
CreditMemoCount	int	
CreditMemoAmount	float	
ItemClassDefinitionKey	int	Foreign Unique
CustomerClassDefinitionKey	int	Foreign Unique
DailyActivityRowVersion	rowversion	
DailyActivityKey	int	Primary

SA_DataLoadingLog

Name	Data Type	Key
LogContent	varchar (1024)	
ProcessName	varchar (50)	
LogStatus	char (1)	
DataLoadingRunKey	int	Foreign
DataLoadingLogRowVersion	rowversion	
DataLoadingLogKey	int	Primary

SA_DataLoadingRun

Name	Data Type	Key
LoadingType	char (1)	
StartDateTime	datetime	
EndDateTime	datetime	
UserID*	varchar (4)	
ProcessStatus	tinyint	
DataLoadingLogRowVersion	rowversion	
DataLoadingLogKey	int	Primary

*Only generated for SAIL batch task processing.

SA_FiscalPeriod

Name	Data Type	Key
FiscalYear	smallint	Unique
FiscalPeriod	smallint	Unique
PeriodDescription	varchar(50)	
PeriodStartDate	datetime	
PeriodEndDate	datetime	
FiscalPeriodRowVersion	rowversion	
FiscalPeriodKey	int	Primary

SA_GLAccountGroup

Name	Data Type	Key
GLAccountGroup	varchar(10)	
GLAccountType	char	
GLAccountGroupDescription	varchar(70)	
SAType	char	
GLAccountGroupRowVersion	rowversion	
GLAccountGroupKey	int	Primary

SA_InventoryAdjustment

Name	Data Type	Key
IsApplied	bit	
AppliedDateTime	datetime	
UserID	varchar(4)	
TransactionDateTime	datetime	
DocumentNumber	varchar(10)	
ItemNumber	varchar(30)	
Stockroom	varchar(6)	
Bin	varchar(12)	
InventoryCategory	char	
LotNumber	varchar(20)	
ActionCode	char	
AdjustmentQuantity	float	
ItemUM	varchar(4)	
ChangingBalanceReasonCode	char	
InventoryOffsetMasterAccountNumber	varchar(20)	
Remark	varchar(59)	
StandardRolledMaterialCost	float	
StandardRolledLaborCost	float	
StandardRolledFixedOverheadCost	float	
StandardRolledVariableOverheadCost	float	
StandardTotalAdjustmentCost	float	
SARolledMaterialCost	float	
SARolledLaborCost	float	
SARolledFixedOverheadCost	float	
SARolledVariableOverheadCost	float	
SATotalAdjustmentCost	float	
COLineKey	int	Foreign
CommissionCodeKey	int	Foreign
RegionKey	int	Foreign
GLAccountGroupKey	int	Foreign
FiscalPeriodKey	int	Foreign
CustomerKey	int	Foreign

Name	Data Type	Key
ShipToDeliveryLocationKey	int	Foreign
ARInvoiceLineKey	int	Foreign
ItemKey	int	Foreign
InventoryAdjustmentRowVersion	rowversion	
InventoryAdjustmentKey	int	Primary

SA_Item

Name	Data Type	Key
ItemNumber	varchar(30)	Unique
ItemDescription	varchar(70)	
ItemStatus	char	
ItemReference1	varchar(2)	
ItemReference2	varchar(2)	
ItemReference3	varchar(3)	
ItemReference4	varchar(3)	
GroupTechnologyCode	varchar(15)	
FamilyItemNumber	varchar(30)	
FamilySubgroup	varchar(6)	
StandardRolledMaterialCost	float	
StandardRolledLaborCost	float	
StandardRolledFixedOverheadCost	float	
StandardRolledVariableOverheadCost	float	
SARolledMaterialCost	float	
SARolledLaborCost	float	
SARolledFixedOverheadCost	float	
SARolledVariableOverheadCost	float	
ItemClassDefinition1Key	int	Foreign
ItemClassDefinition2Key	int	Foreign
ItemClassDefinition3Key	int	Foreign
ItemClassDefinition4Key	int	Foreign
ItemClassDefinition5Key	int	Foreign
ItemClassDefinition6Key	int	Foreign
ItemClassDefinition7Key	int	Foreign
ItemClassDefinition8Key	int	Foreign
InventoryGLAccountGroupKey	int	Foreign
SalesGLAccountGroupKey	int	Foreign
CostOfGoodsSoldGLAccountGroupKey	int	Foreign
ProductLineKey	int	Foreign
ItemRowVersion	rowversion	
ItemKey	int	Primary

Name	Data Type	Key
ItemReference5	varchar(30)	

SA_ItemClassDefinition

Name	Data Type	Key
ItemClassNumber	tinyint	Unique
ItemClassValue	varchar(6)	Unique
ItemClassCategory	varchar(15)	
ItemClassDefinitionDescription	varchar(50)	
ItemClassRowVersion	rowversion	
ItemClassDefinitionKey	int	Primary

SA_ProductLine

Name	Data Type	Key
ProductLine	varchar(15)	Unique
ProductLineDescription	varchar(50)	
ProductLineStatus	char	
ProductLineRowVersion	rowversion	
ProductLineKey	int	Primary

SA_Region

Name	Data Type	Key
RegionID	varchar(10)	Unique
RegionType	char	Unique
RegionCategory	varchar(15)	
RegionDescription	varchar(50)	
RegionRowVersion	rowversion	
RegionKey	int	Primary

SA_ShipmentCOLine

Name	Data Type	Key
ShipmentNumber	int	Unique
ItemKey	int	Foreign
COLineKey	int	Foreign
ShipmentCOLineRowVersion	rowversion	
ShipmentCOLineKey	int	Primary

SA_ShipmentCOLineTransaction

Name	Data Type	Key
IssueType	char	
ShippedQuantity	float	
ShippedDate	datetime	
StandardMaterialCost	float	
StandardLaborCost	float	
StandardFixedOverheadCost	float	
StandardVariableOverheadCost	float	
SAMaterialCost	float	
SALaborCost	float	
SAFixedOverheadCost	float	
SAVariableOverheadCost	float	
SATotalShippedCost	float	
ShipmentCOLineKey	int	Foreign
ShipmentCOLineTransactionRowVerison	timestamp	
ShipmentCOLineTransactionKey	int	Primary
StandardOutsideCost	float	
CostOfGoodsSoldMaterialGLAccountKey	int	Foreign
CostOfGoodsSoldLaborGLAccountKey	int	Foreign
CostOfGoodsSoldFixedOverheadGLAccountKey	int	Foreign
CostOfGoodsSoldVariableOverheadGLAccountKey	int	Foreign
CostOfGoodsSoldOutsideGLAccountKey	int	Foreign
CostOfGoodsSoldMasterGLAccountKey	int	Foreign
StandardTotalShippedCost	float	

SA_ShipToDeliveryLocation

Name	Data Type	Key
ShipToDeliveryLocationID	varchar(13)	Unique
ShipToDeliveryLocationName	varchar(60)	
ShipToDeliveryLocationState	varchar(10)	
ShipToDeliveryLocationZip	varchar(12)	
ShipToDeliveryLocationCountry	varchar(15)	
RegionKey	int	Foreign
CustomerKey	int	Foreign Unique
ShipToDeliveryLocationRowVersion	rowversion	
ShipToDeliveryLocationKey	int	Primary

Sales Analysis Staging Tables

Introduction

This section lists the tables and corresponding fields that comprise the Sales Analysis staging tables. All Sales Analysis staging tables are named using the SAS_ prefix.

SAS_ARInvoiceHeader

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
CustomerID	varchar(13)
CONumber	varchar(30)
ShipToDeliveryLocationID	varchar(13)
COSequenceNumber	smallint
InvoiceType	char
InvoiceNumber	varchar(10)
InvoiceStatus	char
InvoiceDate	datetime
InvoicePaidInFullDate	datetime
SalesLocalAmount	float
TotalInvoiceLocalAmount	float
InvoiceExchangeRate1	float
InvoiceExchangeRate2	float
InvoiceExchangeRateOperator1	char
InvoiceExchangeRateOperator2	char
InvoiceTriangulationCode	tinyint
FiscalYear	smallint
FiscalPeriod	smallint
ARInvoiceHeaderKey	int
ARInvoiceHeaderRowVersion	rowversion

SAS_ARInvoiceLine

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime

Name	Data Type
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
InvoiceLineNumber	smallint
ARInvoiceNumber	varchar(10)
LineItemNumber	varchar(30)
ShipQuantity	float
InvoiceLocalUnitPrice	float
CommissionCode	varchar(3)
SalesMasterAccount	varchar(20)
InvoiceLineType	char
InvoiceForeignUnitPrice	float
ShipmentNumber	int
ARInvoiceLineKey	int
ARInvoiceLineRowVersion	rowversion

SAS_COHeader

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
CustomerID	varchar(13)
CONumber	varchar(30)
COStatus	char
ShipToCustomerID	varchar(13)
ShipToDeliveryLocationID	varchar(13)
SalesCategory1	varchar(3)
SalesCategory2	varchar(3)
CustomerPONumber	varchar(30)
CommissionCode	varchar(3)
COCreatedDate	datetime
COLastMaintainedDate	datetime
GrossLinesLocalAmount	float
FreightLocalAmount	float
PriceAdjustmentLinesLocalAmount	float
COTriangulationCode	tinyint
CarrierName	varchar(30)
RegionID	varchar(10)
BillToCustomerID	varchar(13)
EndUserCustomerID	varchar(13)
COHeaderKey	int
COHeaderRowVersion	rowversion

SAS_COLine

Name	Data Type
UserID	varchar(4)

Name	Data Type
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
CONumber	varchar(30)
COLineNumber	smallint
CommissionCode	varchar(3)
ItemNumber	varchar(30)
ItemUM	varchar(4)
ItemOrderedQuantity	float
ItemLocalNetUnitPrice	float
PromisedShipDate	datetime
COLineType	char
COLineStatus	char
UnitPriceSourceCode	char
UserDefinedSourceType	char
RequestedShipDate	datetime
ItemStandardLocalUnitPrice	float
CustomerItemNumber	varchar(30)
CustomerItemUMConversion	float
CustomerItemUM	varchar(4)
OriginalRequestedShipDate	datetime
OriginalPromisedShipDate	datetime
CreatedDate	datetime
OriginalUnitPrice	float
ItemControllingNetUnitPrice	float
COLineExchangeRate1	float
COLineExchangeRate2	float
COLineExchangeRateOperator1	char
COLineExchangeRateOperator2	char
COLineKey	int
COLineRowVersion	rowversion

SAS_Commission

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
CommissionCode	varchar(3)
CommissionCodeDescription	varchar(35)
CommissionRate	real
PrimarySalesperson	varchar(6)
CommissionKey	int
CommissionRowVersion	rowversion

SAS_CustomProduct

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
UnitPriceCalculationCode	char
PlannedMaterialCost	float
PlannedLaborCost	float
PlannedFixedOverheadCost	float
PlannedVariableOverheadCost	float
PlannedOutsideCost	float
PlannedCostDate	datetime
ActualMaterialCost	float
ActualLaborCost	float
ActualFixedOverheadCost	float

Name	Data Type
ActualVariableOverheadCost	float
ActualOutsideCost	float
Planner	char(3)
Buyer	char(3)
WIPAccount	varchar(20)
InventoryAccount	varchar(20)
COLineKey	int
CustomProductRowVersion	rowversion
CustomProductKey	int
ShippedQuantity	float

SAS_CustomProductComponent

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
OperationSequenceNumber	smallint
ComponentItemNumber	varchar(30)
ComponentItemNumberUM	varchar(4)
ComponentType	char
RequiredQuantity	float
QuantityType	char
ComponentUnitCostPrice	float
StandardRolledMaterialCost	float
StandardRolledLaborCost	float
StandardRolledFixedOverheadCost	float
StandardRolledVariableOverheadCost	float
SARolledMaterialCost	float
SARolledLaborCost	float
SARolledFixedOverheadCost	float
SARolledVariableOverheadCost	float
CustomProductKey	integer
CustomProductComponentRowVersion	rowversion
CustomProductComponentKey	integer
IssuedQuantity	float

SAS_Customer

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint

Name	Data Type
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
CustomerID	varchar(13)
CustomerStatus	char
CustomerName	varchar(60)
CustomerState	varchar(10)
CustomerZip	varchar(12)
CustomerCountry	varchar(15)
SalesMasterAccount	varchar(20)
CommissionCode	varchar(3)
CustomerClass1	char
CustomerClass2	char
CustomerClass3	char
CustomerClass4	char
CustomerClass5	char
CustomerClass6	char
CustomerClass7	varchar(6)
CustomerClass8	varchar(6)
BillToCustomerID	varchar(13)
BillToName	varchar(60)
BillToState	varchar(10)
BillToZip	varchar(12)
BillToCountry	varchar(15)
TradeClassName	varchar(15)
DistributionZone	varchar(10)
DistributionRegion	varchar(10)
SalesRegion	varchar(10)
ParentCustomer	varchar(13)
CustomerKey	int
CustomerRowVersion	rowversion

SAS_FiscalYear

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
FiscalYear	smallint
Period1EndDate	varchar(6)
Period2EndDate	varchar(6)
Period3EndDate	varchar(6)
Period4EndDate	varchar(6)
Period5EndDate	varchar(6)
Period6EndDate	varchar(6)
Period7EndDate	varchar(6)
Period8EndDate	varchar(6)
Period9EndDate	varchar(6)
Period10EndDate	varchar(6)
Period11EndDate	varchar(6)
Period12EndDate	varchar(6)
Period13EndDate	varchar(6)
FiscalYearRowVersion	rowversion

SAS_GLAccountGroup

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
GLAccountGroup	varchar(10)

Name	Data Type
GLAccountType	char
GLAccountGroupDescription	varchar(70)
GLAccountGroupKey	int
GLAccountGroupRowVersion	rowversion

SAS_InventoryAdjustment

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
DocumentNumber	varchar(10)
ItemNumber	varchar(30)
Stockroom	varchar(4)
Bin	varchar(12)
InventoryCategory	char
LotNumber	varchar(20)
ActionCode	char
AdjustmentQuantity	float
ItemUM	varchar(2)
ChangingBalanceReasonCode	char
InventoryOffsetMasterAccountNumber	varchar(20)
Remark	varchar(59)
StandardRolledMaterialCost	float
StandardRolledLaborCost	float
StandardRolledFixedOverheadCost	float
StandardRolledVariableOverheadCost	float
SARolledMaterialCost	float
SARolledLaborCost	float
SARolledFixedOverheadCost	float
SARolledVariableOverheadCost	float
InventoryAdjustmentRowVersion	rowversion

SAS_Item

Name	Data Type
UserID	varchar(4)

Name	Data Type
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
ItemNumber	varchar(30)
ItemDescription	varchar(70)
ItemStatus	char
ItemClass1	char
ItemClass2	char
ItemClass3	char
ItemClass4	char
ItemClass5	char
ItemClass6	char
ItemClass7	varchar(6)
ItemClass8	varchar(6)
GroupTechnologyCode	varchar(15)
ItemReference1	varchar(2)
ItemReference2	varchar(2)
ItemReference3	varchar(3)
ItemReference4	varchar(3)
FamilyItemNumber	varchar(30)
FamilySubgroup	varchar(6)
StandardRolledMaterialCost	float
StandardRolledLaborCost	float
StandardRolledFixedOverheadCost	float
StandardRolledVariableOverheadCost	float
SARolledMaterialCost	float
SARolledLaborCost	float
SARolledFixedOverheadCost	float
SARolledVariableOverheadCost	float
InventoryMasterAccount	varchar(20)
SalesMasterAccount	varchar(20)
CostOfGoodsSoldMasterAccount	varchar(20)

Name	Data Type
ProductLine	varchar(15)
ItemKey	int
ItemRowVersion	rowversion
ItemReference5	varchar(30)

SAS_ItemCost

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
ItemNumber	varchar(30)
CostType	char
RolledMaterialCost	float
RolledLaborCost	float
RolledFixedOverheadCost	float
RolledVariableOverheadCost	float
InventoryMasterAccount	varchar(20)
SalesMasterAccount	varchar(20)
CostOfGoodsSoldMasterAccount	varchar(20)
ProductLine	varchar(15)
ItemKey	int
ItemCostRowVersion	rowversion

SAS_ProductLine

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
ProductLine	varchar(15)
ProductLineDescription	varchar(50)
ProductLineStatus	char
ProductLineKey	int
ProductLineRowVersion	rowversion

SAS_ShipmentCOLine

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
IssueType	char
CONumber	varchar(30)
COLineNumber	smallint
COLineStatus	char
ShipmentDate	datetime
ShipmentNumber	int
ShippedQuantity	float
ItemNumber	varchar(30)
StandardMaterialCost	float
StandardLaborCost	float
StandardFixedOverheadCost	float

Name	Data Type
StandardVariableOverheadCost	float
SARolledMaterialCost	float
SARolledLaborCost	float
SARolledFixedOverheadCost	float
SARolledVariableOverheadCost	float
ShipmentCOLineKey	int
ShipmentCOLineRowVersion	rowversion
StandardOutsideCost	float
CostOfGoodsSoldMaterialAccount	varchar(20)
CostOfGoodsSoldLaborAccount	varchar(20)
CostOfGoodsSoldFixedOverheadAccount	varchar(20)
CostOfGoodsSoldVariableOverheadAccount	varchar(20)
CostOfGoodsSoldOutsideAccount	varchar(20)
CostOfGoodsSoldMasterAccount	varchar(20)

SAS_ShipToDeliveryLocation

Name	Data Type
UserID	varchar(4)
TransactionDateTime	datetime
IsProcessed	tinyint
ProcessedDateTime	datetime
AddChangeDelete	char
TransactionFunctionCode	varchar(4)
ShipToDeliveryLocationID	varchar(13)
ShipToDeliveryLocationName	varchar(60)
ShipToDeliveryLocationState	varchar(10)
ShipToDeliveryLocationZip	varchar(12)
ShipToDeliveryLocationCountry	varchar(15)
RegionID	varchar(10)
CustomerID	varchar(13)
ShipToDeliveryLocationKey	int
ShipToDeliveryLocationRowVersion	rowversion