Siebel Incentive Compensation Management Administration Guide

Version 7.8.2, Rev. A

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1 What's New in This Release

What's New in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2, Rev. A

Table 1 lists changes described in this version of the documentation to support Release 7.8.2 of the software.

Table 1. New Product Features in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2, Rev. A

Topic	Description
"Services" on page 17	The graphic describing service processing entity flow has been modified to show the relation of transaction headers and transaction lines to base credits.
"Batch Processing Examples" on page 64	The graphic describing event selection for sales crediting has been modified to more clearly show how different batch processing methods handle various event types.
"About Service Processes" on page 157	The appendix that describes service processes has been moved from *Siebel Incentive Compensation Management Configuration Guide* to a topic of the "Running Services and Service Batches" chapter in this guide.
"About the Service Timer Property" on page 163	Descriptive information about the Service Timer property has been added to the guide.
"About Service Batches" on page 165	The topic that describes a service batch has been moved from *Siebel Incentive Compensation Management Configuration Guide* to this guide.
"Running Service Batches" on page 165	The topics that describe running a service batch from within Oracle's Siebel Incentive Compensation Management (ICM) product UI and from a command line have been moved from *Siebel Incentive Compensation Management Configuration Guide* to this guide.
"Running a Service Batch XML File from the Command Prompt" on page 167	A procedure for running a service batch XML file from a command line has been added to this guide.
Chapter 18, "Managing Operating Unit Exports and Imports"	The chapter describing operating unit exports and imports has been moved from *Siebel Incentive Compensation Management Configuration Guide* to this guide.
"About Exports, Imports, and Time Zones" on page 170	Information cautioning against exporting and importing data across time zones and changing a server's time zone has been added to the guide.

Table 1. New Product Features in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2, Rev. A

Topic	Description
"Running the Retroactive Service Batch" on page 211	Cautionary information has been added about modifying properties files appropriately when they are copied from one environment to another.
Chapter 24, "Accessing Participant Results"	The topic that describes the Participant Snapshot has been moved from *Siebel Incentive Compensation Management Configuration Guide* to its own chapter in this guide.
"Exporting Operating Unit Data" on page 238	The directory locations of the export set file and the export list properties file have been updated.
"Creating a Scenario and a Scenario Calendar" on page 239	Procedures for creating scenarios have been rewritten to improve accuracy.
Appendix A, "Versioning Reference"	This new appendix describes how ICM creates versions of versioned entities.

What's New in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2

Table 2 lists changes described in this version of the documentation to support Release 7.8.2 of the software.

Table 2. New Product Features in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2

Topic	Description
Chapter 2, "Overview of Siebel Incentive Compensation Management"	Updated to include the processes for setting up an incentive plan, running an incentive plan, and the ongoing tasks for administering Oracle's Siebel ICM. Information was also added about the Siebel IVM services model.
"Roadmap for Setting Up an Incentive Plan" on page 20	New topic. Summarizes the overall process of setting up an incentive plan.
"Roadmap for Running an Incentive Plan" on page 21	New topic. Summarizes the process of running an incentive plan.
"Ongoing Operations for Administering Siebel ICM" on page 21	New topic. Lists the operations required for ongoing administration of Siebel ICM.
"Logging In and Out of ICM" on page 23	Updated to include information about logging out of Siebel ICM.
"About the ICM User Interface" on page 23	New topic. Contains information that was previously described in the Navigation topic, plus new information.

Table 2. New Product Features in Siebel Incentive Compensation Management Administration Guide, Version 7.8.2

Topic	Description
"Icons in ICM" on page 25	New topic. Describes the function of icons in the Siebel ICM user interface.
"Changing Your Access and Display Options" on page 26	New topic. Describes procedures to modify some options for how ICM allows access and presents information.
"Creating, Finding, and Changing Records" on page 28	New topic. Describes procedures for working with records.
"Versioned and Non-Versioned Entities" on page 18	New topic. Describes the difference between versioned and non-versioned entities in Siebel ICM, and lists the entities that belong to these categories.
Chapter 7, "Setting Up Distribution Rules and Credit Rules"	The chapter was updated to reflect changes in terminology. *Credit rule* was replaced by *distribution rule*, and *credit rule set* was replaced by *credit rule*.
Chapter 8, "Setting Up Payment Groups"	New chapter. Describes how to set up payment groups in Siebel ICM.
"Defining an Advanced Java Component" on page 101	The capabilities of advanced components have been expanded, allowing you to define advanced Java components.
"Examples of Date Math Components" on page 109	Updated to change the example for the daysBetweenDates function.
Chapter 10, "Building Summary Formulas"	New chapter. Describes how to build summary formulas.
Chapter 11, "Building Payment Formulas"	New chapter. Describes how to build payment formulas.
Chapter 17, "Running Services and Service Batches"	Updated to reflect the changes in the names of services, the general order in which services run, and how to configure the order in which services run.
"Reviewing Service History" on page 165	New topic. Describes how to review the history of a service.
"Viewing Retroactive Processing Results" on page 214	New topic. Describes how you can see the results of retroactive revisions using the Participant Ledger view, the Summarized Earning History view and the Retroactive Summary View.
"Process History Rules" on page 215	Updated to extend the table with information about summarized earnings and trial payments.

Additional Changes

Much of the content of this book was restructured in accordance with Siebel style.

What's New in Siebel Incentive Compensation Management Administration Guide, Version ICM 7.8

Table 3 lists changes described in this version of the documentation to support Release 7.8 of the software.

Table 3. New Product Features in Siebel Incentive Compensation Management Administration Guide, Version ICM 7.8

Topic	Description
"Application Link Bar" on page 24	ICM's application-level menu system has been reorganized.
"Viewing Transactions with the Transaction Navigator" on page 71	The Transaction Navigator presents an Explorer-style hierarchical view of transactions.
"Viewing a Plan with the Plan Navigator" on page 148	The Plan Navigator presents an Explorer-style hierarchical view of plans.
"Process of Building a Calculation Formula" on page 84	You can define Cost Center, Incentive Type, and Payment Group dynamically within calculation formulas.
"Defining the Formula Components" on page 94	You can now rerank any type of formula components. (Formerly, you could only rerank math components.)
"Defining an Advanced JavaScript Component" on page 102	The capabilities of advanced components have been expanded, allowing you to define JavaScript components.
"Building Blocks of Calculation Components" on page 106	Reference topics about specific formula operators and functions have been added to the guide.
"Date Math Components" on page 108	A reference topic about date math components has been added to the guide.
"Adding a Transaction Line" on page 176	You can copy all the participants from one transaction line to another transaction line.
Chapter 21, "Calculating Earnings and Payments"	"Payouts" has been changed to "earnings," and payments are tracked separately from earnings.
Chapter 22, "Performing Retroactive Processing"	ICM now has the capability to perform retroactive processing—that is, to process adjustments to transactions that occurred in closed periods.
Chapter 25, "Setting Up Reports"	New Reports functionality has been added.
Chapter 26, "Accessing Dashboard Content"	New Dashboards functionality has been added.

2 Overview of Siebel Incentive Compensation Management

This chapter provides an overview of Oracle's Siebel Incentive Compensation Management (ICM) product and includes the following topics:

About Siebel ICM

Siebel ICM allows incentive-plan administrators to design and administer complex and unique incentive plans. Siebel ICM can administer any type of incentive plan in which earnings are variable and based on some quantifiable measure of performance. A single instance of Siebel ICM can process multiple plans of all types.

Common uses of Siebel ICM for employees and partners include sales commissions, quarterly and annual bonus plans, management by objective (MBO) plans, and executive incentive plans. Siebel ICM can also administer compensation plans for partners or customers, such as channel rewards incentive plans, customer rewards and loyalty programs, and supplier incentive plans.

ICM integrates plan administration with plan reporting. This allows not only accurate, timely payment of participants, but also gives participants visibility into the effects of their individual performance on the company's objectives.

End users do not need any software other than the Microsoft Internet Explorer Web browser. All of Siebel ICM's components reside on a company's Web servers and database servers, and end users access these components through their Web browsers.

This book helps you create and process your company's incentive plans and is therefore aimed at the following types of administrative users:

- Compensation analysts, who mainly maintain data and run services every period, typically each month.
- Business analysts, who are typically compensation specialists with technical expertise and who can set up plans.
- System administrators, who perform typical technical IT roles, including the use of JavaScript and report writing in Actuate.

The administrative roles can overlap; for example, the roles of the compensation analyst and business analysts, and, less frequently, the roles of the business analyst and system administrator. Organizational structures can also vary between companies. For example, some companies have a person or team that specializes in designing compensation plans that are then implemented by business analysts.

This book assumes that ICM has been installed and configured on your company's server systems. A companion book, *Siebel Incentive Compensation Management Configuration Guide*, covers many of the configuration and customization functions of Siebel ICM. That book is for system administrators or plan designers who configure Siebel ICM to fit their company's business practices. Most users do not need to read the configuration guide.

Components of Siebel Incentive Compensation Management

The basic types of components in Siebel ICM are master data, rules, formulas, and services. These and other components can be versioned or non-versioned.

Master Data

A large part of Siebel ICM is data such as participant statistics, performance data, account information, invoices, calendars, commission rates and rate groups, units and organizations, product data, organization and product hierarchies, and so on. Many types of data are required for all compensation plans like calendars, enterprise units, and participants. Some data, such as customers or rate groups, is required only for specific types of plans. In all cases, the master data is generally referenced by one or more processing services. You must set up this data before processing any compensation plans.

Rules

Rules determine participant eligibility. Plan rules, for example, determine which participants can qualify for earnings according to that plan, and which formulas are used to calculate those earnings. Distribution rules determine whether a participant can receive credit for a transaction and ultimately receive payments on that transaction.

You construct a rule by stringing together a series of conditions. Each condition compares a particular type of data (for example an employee's job code with a preset value, such as "Sales Rep"). Any number of conditions can be part of a rule, but to qualify for that rule, all conditions must be matched. You must set up these rules before processing any compensation plans.

Formulas

Calculation formulas calculate earning results for individual credits earned by participants. Summarization formulas add these results into a single amount to be paid to each participant. Each formula uses a series of components that pulls data from various parts of the system and performs individual steps of the formula. These components can be algebraic expressions, conditional tests, matrices, step calculations, or threshold calculations. You must set up these components before processing any compensation plans.

Services

Services are the actions that you initiate to perform specific processing tasks or to exchange information between Siebel ICM and external systems:

- **Import services.** These services import entities, for example, transaction, organization, and product entities, from external XML files and store the data in the appropriate database tables.
- **Processing services.** These services:
  - Allocate credits to participants based on credit rules
  - Measure performance against goals and summarize the data before calculating earnings
  - Calculate earnings for each plan based on eligibility rules and calculation formulas, and summarize the results
  - Calculate payment based on earnings results
  - Update the Analytics database from the main database
- **Export services.** These services export results to external systems and payment data to payroll systems.

Services are generally ready to run after the other components are set up.

Figure 1 shows the service process model of Siebel ICM.

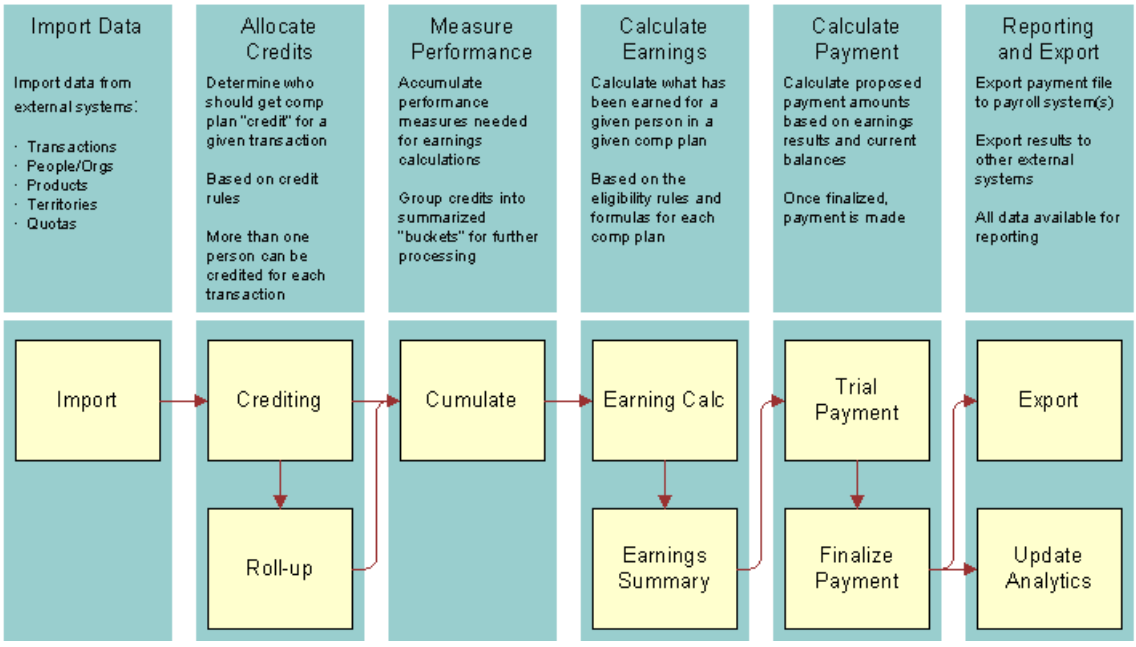

Figure 1. Service Processing Model

Figure 2 illustrates how the services relate to the entities within Siebel ICM.

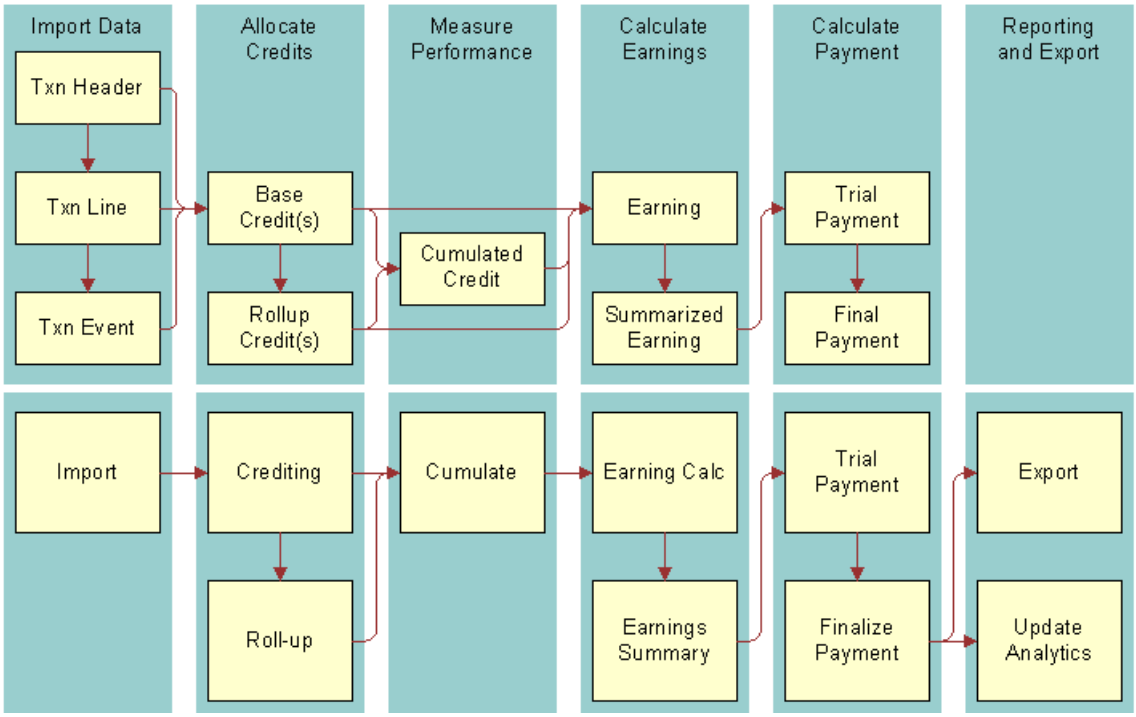

Figure 2. Service Processing Model: Entity Flow

For more information about services, see Chapter 17, "Running Services and Service Batches".

Versioned and Non-Versioned Entities

In Siebel ICM, entities are either *versioned* or *non-versioned.* Versioned entities are programmatic items for which ICM creates a new version and stores the previous version in the database when a change is made. Non-versioned entities are programmatic items for which ICM does not store versions.

For information about how ICM creates versions of an entity, see Appendix A, "Versioning Reference."

Versioned Entities Behavior

ICM stores all the versions of a versioned entity. This means that different versions of the same entity can exist in different periods. You can see all versions of a record in the database, but the user interface only shows the latest version of the record for the given period. If you view a record in a closed period, you see the last active version of the record in that period.

When you edit a record for a versioned entity, a new version of the record is created. The older versions are still kept in the database, but are not visible in the user interface.

ICM allows certain versioned data to be deactivated, rather than deleted. These kinds of versioned data are highly-referenced and therefore too fundamental to be deleted. Deactivation of a versioned record consists of marking the record with an end effective period, and no longer displaying that record in subsequent periods. This allows ICM to provide an audit trail. Plan configuration data, for example, is almost never deleted from ICM. This is because maintaining an audit history is critical for financial applications, particularly in meeting legal requirements.

It is not possible to deactivate all versioned entities. Versioned entities that can be deactivated are:

- Attachments
- Channel partner certifications
- Channel partner contacts
- Credit rules
- Customer contacts
- Customer locations
- Eligibility rules
- Formula components
- Formula variables
- Hierarchy level sets
- Matrix calculation variations[1]
- Measure cumulations
- Migration Sets
- Plans
- Product measures
- Product rates
- Profile attributes from profiles
- Roles from users
- Sales transaction line reports
- Sales transaction reports
- Scenarios
- Service batches
- Step calculation variations[1]
- Territory assignments
- Territory qualifiers
- Threshold calculation variations[1]
- Users

1. *Not* the default calculations themselves

Non-Versioned Entities Behavior

ICM does not store effectiveness information for non-versioned entities. If non-versioned information is created, it is available in all periods. If it is edited, edits to the entities affect all periods. If ICM allows a non-versioned entity to be deleted, the entity is not actually deleted, but is marked cancelled and is not shown in the user interface.

ICM allows certain non-versioned data to be deactivated. This refers to the process of marking a record with a deactivation date, and no longer displaying that record after that date in any period. These kinds of non-versioned data are highly-referenced and therefore too fundamental to be deleted.

Non-versioned entities are:

- Dashboard definitions
- Dashboard page definitions
- Dashboards
- Profile attributes
- Report attributes
- Report categories
- Report configurations
- Report executables
- Report list members
- Report lists

Generated Data and Versioned Data

ICM generates data from its processing services. Generated entities are:

Credits
Cumulated Credits
Cumulated Goals
Earnings
Payments
Rollup Credits
Rollup Goals
Summarized Earnings
Trial Payments

ICM allows generated data to be deleted. This is handled automatically when a service is rerun for a period, or it can be initiated by a user with the Purge Period Data Service. Generated data cannot be deleted after a period is closed.

NOTE: Most plan configuration data is versioned data. After services are run over the course of several periods, however, most data in the system is generated data.

Roadmap for Setting Up an Incentive Plan

To set up an incentive plan, perform the processes and tasks in the following chapters.

1. Define the measures. See Chapter 4, “Defining Measures.”
2. Define the performance data. See Chapter 5, “Defining Performance Data.”
3. Enter the transactions. See Chapter 6, “Processing Transactions.”
4. Enter the credit rules. See Chapter 7, “Setting Up Distribution Rules and Credit Rules.”
5. Set up the required payment groups. See Chapter 8, “Setting Up Payment Groups.”
6. Enter the formulas:
   a. Calculation formulas. See Chapter 9, “Building Calculation Formulas.”
   b. Summary formulas. See Chapter 10, “Building Summary Formulas.”
   c. Payment formulas. See Chapter 11, “Building Payment Formulas.”
7. Enter the calculations:
   a. Matrix calculations. See Chapter 12, “Defining Matrix Calculations.”
   b. Step calculations. See Chapter 13, “Defining Step Calculations.”
   c. Threshold calculations. See Chapter 14, “Defining Threshold Calculations.”
8. Enter the rounding rules. See Chapter 15, “Setting Up Rounding Rules.”
9. Assemble a plan. See Chapter 16, “Setting Up Plans.”

Roadmap for Running an Incentive Plan

To run an incentive plan, perform the processes and tasks in the following chapters.

1. Run the processing services. See Chapter 17, “Running Services and Service Batches.”
2. Import and export operating units. See Chapter 18, “Managing Operating Unit Exports and Imports.”
3. Adjust the transactions. See Chapter 19, “Adjusting Transactions.”
4. Adjust the credits. See Chapter 20, “Adjusting Credits.”
5. Calculate the earnings and payments. See Chapter 21, “Calculating Earnings and Payments.”

Ongoing Operations for Administering Siebel ICM

To do ongoing ICM administration, perform the processes and tasks in the following chapters.

- Perform retroactive processing. See Chapter 22, “Performing Retroactive Processing.”
- Monitor process history. See Chapter 23, “Viewing Process History.”
- Monitor participant information and results. See Chapter 24, “Accessing Participant Results.”
- Publish reports. See Chapter 25, “Setting Up Reports.”
- View dashboard content. See Chapter 26, “Accessing Dashboard Content.”
- Perform modeling. See Chapter 27, “Performing Modeling.”

3 Getting Started with Siebel Incentive Compensation Management

This chapter introduces you to Siebel ICM and provides instructions for performing some basic procedures. This chapter includes the following topics:

Logging In and Out of ICM

Use the following procedures to log in to ICM and to log out from ICM.

To log in to Siebel ICM

1. Open your Web browser and navigate to the URL for your company's ICM implementation, which your system administrator can supply.

   This Web address is unique for each installation. A typical Web address might look like this:

   `http://bigcompany:8080/Siebel/mainIndex.do`

2. On the Login screen, select the link for your preferred display language, if necessary.
3. Enter your User Name and Password.

   User names and passwords are assigned by your system administrator.

4. Click Login.

To log out from Siebel ICM

1. From any screen in the application, click the Logout link in the upper right of the screen.

   The system redisplays the Login screen.

2. Close the Web browser window.

About the ICM User Interface

The following topics provide information about elements of ICM's user interface:

System Dashboard

After you log on, ICM displays the System Dashboard as the initial screen of the application. The center of the screen shows links to key objects in the application, as follows:

- **Transactions Audit & Adjust.** Displays the Transactions search screen.
- **Plan Creation.** Displays the first screen of the plan setup process.
- **Processing Services.** Displays the Processing Services screen, providing access to all available processing services.
- **Credits Audit & Adjust.** Displays the Credits search screen.
- **Plan Maintenance.** Displays the Plans search screen.
- **Participant Snapshot.** Displays the Participants search screen.
- **Siebel logo.** Displays version, build, and copyright information about your ICM instance. It also displays general information about Oracle's Siebel applications. Appears on all screens in the application.

Application Link Bar

At the top of the screen is the application link bar, which allows you to navigate to specific system and navigation functions, as follows:

- **Siebel logo.** Returns you to the System Dashboard's main page, the starting point to access all menus, user information, and accounts.
- **Your user name.** Allows you to change your account options. For more information, see "Changing Your Account Information" on page 27.
- **Your Operating Unit**. If you have access to more than one operating unit, allows you to change the operating unit you are logged in to.
- **Help.** Accesses ICM's online help system.
- **Logout.** Logs you out of the application and redisplays the login screen.

Application-Level Menus

Below the application link bar are the application-level menus, which allow you to navigate to specific setup and processing functions, as follows:

- **Configure**. Includes options for setting up base data that affects other parts of the system, such as profile attributes, profiles, users, roles, and currencies.
- **Reference Data**. Includes options for setting up company-specific data used to create a custom environment for your organization, such as jobs, salary grades, and products.
- **Organization**. Includes options for setting up organizations and territories, which you can use to create hierarchies. It also includes options for setting up participants, employees, channel partners, and customers.
- **Transactions**. Includes options for creating, importing, and adjusting transactions.
- **Sales Crediting**. Includes options for generating, distributing, viewing, and adjusting credit records. It also includes options for setting up prerequisites for generating credit records.
- **Plan & Payment**. Includes options for setting up the elements of incentive plans, such as plan rules, calculation formulas, and formula components, along with options for assembling these elements into plans. It also provides access to services associated with plan calculation, and then displays the calculated results after the services have finished running.
- **Master Control.** Includes options for accessing processing, import, and export services. It also includes options for various functions including reporting, modeling, and workflow.

Working Period Bar

The system displays the working period and today's date near the top of the screen, below the application-level menus. The *working period* is the calendar period in which you are currently working. This can be the current processing period, a prior period that has already been processed, or a future period. When you leave the system and log in again, the system defaults to the period you last worked in as its working period. For information about how to change the working period, see "Changing Your Working Period" on page 27.

Icons in ICM

Throughout the ICM user interface, icons allow you to access various functions. Some of these icons are shown and defined in Table 4.

Table 4. ICM Icons

Icon	Name	Comments
	Add	Allows you to add a line item or attribute to the current record.
	Cancel	Cancels the current item, but does not remove it from the system.
	Change Period	Displays the Change Working Period pop-up window, where you can switch to a different working period.

Table 4. ICM Icons

Icon	Name	Comments
	Copy	Adds a new record that is a copy of the current record.
	Delete	Deletes the current record or the selected line item.
	Edit	Displays the details of the current record in editable form.
	History	Displays a history of changes to the current record.
	Open Hierarchy	Displays the current record's hierarchy and identifies its place in that hierarchy.
	Required	Identifies a field you must complete before moving on from the current screen.
	Search	Allows you to find and select information that already exists in the system.
	Select a Date	Allows you to select a calendar date in a date field.
	Snapshot	Displays all the information associated with the current record in one place.
	View	Displays the details of the current record in read-only form.
	Where is this used?	Displays a list of items in the system with which the current record is associated.

Changing Your Access and Display Options

The following topics describe procedures to modify some options for how ICM allows access and presents information:

- "Changing Your Account Information" on page 27
- "Changing Your Working Period" on page 27

Changing Your Account Information

You can change some settings that personalize your ICM access, including your password and locale setting. The *locale* is the language or region setting that determines which language ICM uses to generate the labels and text for your application screens. The locale also determines the conventions for sorting, date formats, time formats, currency units, measurement units, calendars, numbers, and other culturally-specific items.

Use this procedure to change your account information.

To change your account information

1. In the application link bar, click your user name link.
2. In the My Account console, complete one or both of the following procedures:
   - "To change your password" on page 27
   - "To change your locale" on page 27

To change your password

1. Click the Reset Password link.
2. In the Old Password field, enter your current password.
3. In the New Password and Confirm New Password fields, enter the password you want to change to.
4. Click Reset and Logout.

   The application requires the new password when you subsequently log in.

To change your locale

1. Click the Change Locale link.

   The Locale form displays your default locale.
2. In the Locale field, select a new locale.
3. Click Change.

   The application uses the new locale when you subsequently log in.

Changing Your Working Period

The Working Period defines many important activities such as which period data will be imported. You might need to switch your working period for one of the following reasons:

- To review existing records from prior periods

  At the end of every processing period (Period Close service), ICM stores a read-only version of every record in the database for that period. These records can be modified in later periods. When you switch to an earlier working period, you see the records as they were in that period, and not necessarily as they appear in the current period.

- To enter transactions or credits for a prior period

  If you have transactions or credits that apply to an earlier period, you can enter them by switching back to that period.

- To enter other data records in a prior period

  Whenever a data record is created, its Start Period is the current working period. If you find a record that should have been created in a prior period but was not, you can switch back to that period and create the record.

- To enter a record for future use

  When you enter data in a future period, the system ignores that new data until the future Start Period specified in the record.

Follow this procedure to change your working period.

To change your working period

1. In the application link bar, click the Siebel logo.

   The initial screen of the System Dashboard appears.

2. Do one of the following:
   - Click the Working Period link.
   - Click the Change Period icon.
3. In the Change Working Period pop-up window, do one of the following:
   - To select a specific period, select a calendar year and a period number in the Working Period fields, and then click Change.
   - To select the most recent closed period, click the Last Closed Period link. (This link appears only if you have closed a period.)
   - To select the oldest open period, click the First Open Period link.

Creating, Finding, and Changing Records

The following topics include instructions for performing some basic records management tasks:

- “Adding a Record” on page 29
- “Searching for Records” on page 30
- “Copying a Record” on page 30

Adding a Record

Many types of records, such as employees, transactions, and products, are usually imported into Siebel ICM from external software systems. However, you can also create new records within ICM.

To add a record

1. Choose the menu option for the kind of records you want to add.
2. In the upper-right corner of the search screen, click the New link, such as New Employee or New Formula.
3. In the Basic Information form, complete the fields as needed.
   - The Basic Information form can have data fields that have been customized according to what your company or department needs. Generally, if fields appear here, fill them in because the system refers to these fields in rules and calculation formulas.
   - Every kind of record contains one or more required fields, which are identified by a Required symbol. You must complete these fields before the system allows you to proceed with the next step.

     NOTE: This principle also applies to records imported into the system. If an imported record is missing data in a required data field, the system rejects that record and marks an error in the error log for that import process.
4. If you make a mistake and want to leave this record without saving it, click Cancel.
5. If the record has multiple screens, a Next button appears at the bottom of the screen. Click Next to access the next screen and continue adding information to the record.
6. If you are working on a subsequent screen and want to return to the previous screen to add more data or to make a correction, click Back.
7. After you have completed all screens, click Save.

   This completes your record and saves it to the database. The system displays a summary screen for the new record. On this summary screen, you can add or change information on the record's forms by clicking the Edit icons. Depending on the record, you may also be able to append line items or properties of specific types by clicking the Add icons.

Searching for Records

When you choose most menu options, the first screen you see is a search screen. The search screen helps you find records for reviewing or editing based on criteria that you specify.

To search for records

1 Choose the menu option for the kind of records you want to find.

The system displays a search screen with criteria fields at the top and a Found list at the bottom.

2 Enter the following values in the criteria fields to narrow your search:

- If a Search icon appears next to a field, click it to search for a specific value to select for that field, in addition to manually entering text.
- Partial text entered in a search field acts as a "starts with" search. For example, entering `st` in the Employees search screen's Last Name field returns all employees whose last name begins with st, including Stanley, Stewart, and Stollman.
- A percent sign (%) followed by partial text entered in a search field acts as a "contains" search. For example, entering `%rr` in the Employees search screen's Last Name field returns all employees whose last name contains rr, including Harris, Morris, and Burr.

3 After entering all parameters, click Search to run your search.

The results of your search appear in the Found list.

If the system returns more results than it can display at one time, links to the next and previous screens with results appear at the bottom of the Found list. Click these links to navigate forward or backward through the list.

4 If your search returns too many results, you can refine your search criteria further and click Search again.

For example, to find an organization based on its organization-level code, navigate to the Organizations search screen, select the appropriate level in the Level Code field, and click Search. This retrieves all organization records with that level code.

Copying a Record

You can copy some types of records, primarily plans and component items used to build plans. Copying records allows you to create new records without re-entering data that already exists in the system.

To copy a record

1 Find the records you want to copy. See "Searching for Records" on page 30.

2 After the search has retrieved the records you want, click a record's Copy icon.

The system opens a Copy window for the selected record.

3 Change the copied record's field values, as needed. Some fields are described in following table.

Field	Comments
Code	Type a new code for the copied record. Record codes are limited to 30 characters. If you do not type a new code, the system uses the same code as the original record with _copy appended to the end.
Description	Type a description for the copied record.

4 Click Save.

The system makes a copy of the selected record with the changes you specified in the Copy window.

5 If you want to change the copied record's other field values, open it for editing. See "Editing a Record" on page 31.

Editing a Record

You can edit most records. The following are some general guidelines about editing records:

- You can change the value of most record's ID or Code field. These are unique identifiers that differentiate one record from another. However, if a record has an incorrect code, it is recommended that you first create a new record with the correct code, and then deactivate the old record with the incorrect code. For information on deactivating records, see "Deactivating a Record" on page 33.
- If you modify records after running processing functions (but before the processing period has ended), remember to run the processing functions again to recalculate earnings based on your changes.

  CAUTION: If you do not run the processing functions again after modifying records, you might get incorrect earnings or unpredictable results.

To edit a record

1 Find the records you want to edit. See "Searching for Records" on page 30.

2 After the search has retrieved the records you want, click a record's View icon to open its View screen.

This screen displays the record's information organized into one or more forms.

3 Find the form with the information you want to change, and click that form's Edit icon to open it for editing.

4 Modify the current record's data by changing its field values, as needed.

5 After modifying data, click Save to save your changes to that form and return to the record's View screen.

6 If you want to modify additional information that appears on other forms, repeat Step 3 through Step 5 for each form.

NOTE: For some sub-entities, such as Transaction Lines, you might need to drill down another level before being able to edit information. In general, keep clicking the View icon to drill down to the level required to modify information.

Attaching a Document to a Record

You can attach external electronic files to some types of records, including plans and component items used to build plans. Attachments provide supporting documentation for these records. Attachments are links to a Web site or server where the external file is stored and accessed by authorized users. You can attach multiple files to each record.

To attach a document to a record

1 Find the record to which you want to add an attachment. See "Searching for Records" on page 30.

2 After the search has retrieved the record you want, click the record's View icon to open its View screen.

3 Click the record's Edit icon to open the record for editing.

4 Click the Add Attachment link.

5 Complete the fields. Some fields are described in the following table.

Field	Comments
Attachment Label	Type the display name of the attachment.
Attachment URL	Type the URL or path to the file. The file is not stored in ICM. Each user must have security access to the location where the file is stored.
Display on Dashboard	Select to display the attachment on the Participant Dashboard. To see this attachment, users must have access to the Participant Dashboard.

6 Click Add to add the attachment link to the record.

Deactivating a Record

You can *deactivate* some records that are versioned entities, such as plan components. A deactivated record remains in the database and the latest version is visible to users. However, the system does not use that record when processing calculations. For more information about versioned entities, see "Versioned and Non-Versioned Entities" on page 18.

NOTE: It is recommended that you deactivate *all* obsolete records *before* you run processing services. If some of these services have run and you later deactivate certain records, you must run the services again.

To deactivate a record

1. Find the records you want to deactivate. See "Searching for Records" on page 30.
2. Open a record for editing. See "Editing a Record" on page 31.
3. In the Version Expiration Period field, select a year and a calendar period within that year after which the record is no longer valid.

   The Version Expiration Period field is not visible during record creation, but is displayed when you open the record for editing. Entering a year and period in this field tells the system when to stop referring to the record.

   For example, if a calculation formula has a Version Expiration Period set and the current date is after the end of that period, the system stops using that formula during the calculation process.
4. Save the record.

Deleting a Record

You can delete some records. Deleting a record does not always remove it from the database, or from all periods in the user interface. When you delete a record, the result depends on whether the record corresponds to a versioned entity or a non-versioned entity. For more information about this behavior, see "Versioned and Non-Versioned Entities" on page 18.

To delete a record

1. Find the records you want to delete. See "Searching for Records" on page 30.
2. After the search has retrieved the records you want, click a record's Delete icon.
3. In the confirmation pop-up window, click OK.

   The Found list reappears without the record you deleted.

Identifying Where a Record Is Used

You can identify where in Siebel ICM certain records are used. For example, you can identify where formula components (matrix, step, and threshold calculations) and formulas are used in your incentive plans. When you update an incentive plan, this capability can show in advance what effect a single change will make to the configuration.

The Where Used functionality provides both high-level and detailed information about formulas and formula components on a single screen. This feature allows you to view high-level information (such as the formula code and name) and detailed information about which plans use that particular formula. Additionally, ICM displays variations of a formula component on this same screen. Related variations are components that have the same code, but apply to different participants, jobs, or organizations.

To identify where a record is used

1. Identify the records whose usage you want to find. See “Searching for Records” on page 30.
2. Click the Where is this used? icon to the left of the record name.

   Lists of where the record is used appear. For example, the Formulas list displays links to the formulas that use this calculation as a component. The Related Variations list displays links to calculations that have the same code but that apply to different participants, jobs, or organizations.
3. Click the links to see, for example, the associated formulas or components.

4 Defining Measures

Compensation administrators create and work with measures. This chapter describes measures in Siebel ICM and includes the following topics:

About Measures

Siebel ICM uses *measures* to track performance for participants and organizations. Each measure has associated credit and goal records. *Credit* records track the performance results for participants and organizations and are assigned individual transaction amounts. Credits are cumulated into a total and compared against a *goal*, which represents the performance objectives.

In Siebel ICM, different measures are separated according to how they are used by plans. For example, a Sales measure might be referenced by a sales commission plan, while a Service Rating measure might be referenced by a plan for technical support personnel. In another example, a commission plan can use separate measures for each type of sale made, such as New System Sales, Replacement Part Sales, and so on.

Profiles and Measures

Every measure has one credit profile and one goal profile associated with it. These profiles determine the data fields that appear for goal or credit records that are associated with this measure. If a particular goal record is associated with the Sales measure, the goal profile associated with the Sales measure determines the data field set for that goal record.

Any number of measures can share the same profiles. Profiles and their associated profile attributes are set up by a compensation administrator or system administrator as part of the initial implementation of Siebel ICM.

Cumulations

Siebel ICM can keep track of cumulated performance data for one or more periods for each measure. Cumulated data is used in incentive plans to determine earning amounts. Some examples are as follows:

- Many sales commission plans determine commission rates for each sale based on each sales representative's total sales performance throughout the month, quarter, or year.
- Bonus plans are frequently based on overall performance of individuals or departments throughout the year or for each quarter.

- Most plans that use targets (monthly, annual, or otherwise) accumulate credits to determine whether or not a participant's total performance over a month or year meets the targets that have been set.

Every measure can have one or more cumulation settings associated with it and can have separate cumulation settings for goals and credits. These cumulation settings are referenced by the Cumulate service. During this process, the system examines the measure associated with each goal and credit record to determine how (if at all) to generate cumulated records. Cumulation considers only base credits and base goals for participants, and base credits, base goals, rollup credits, and rollup goals for organizations and territories.

To set up a measure for cumulation, you first select a cumulating frequency or decide how many periods worth of data must be accumulated. For example, you might need to keep cumulative totals for each month, in which case you must accumulate data monthly. Alternatively, you might need to keep cumulative totals for the last three periods, and then you must accumulate data quarterly. The standard cumulating frequencies are as follows:

- Two weeks
- Week
- Half month
- Month
- Quarter
- Half year
- Year

Next, you can decide how the data should be cumulated within the set of periods defined in the previous step. For example, if you are using a monthly calendar and are cumulating quarterly, you could cumulate all data for all months in each quarter, or only cumulate data for past periods within the quarter. The standard data groups are as follows:

- **All.** All data for all periods within the cumulating frequency.
- **To Date.** All data for all periods up to and including the current period, within the chosen cumulating frequency, are cumulated.
- **Rolling.** All data from the current period plus the appropriate past number of periods are cumulated. The number of periods depends on the cumulating frequency chosen.
- **Open Bal.** Same as To Date, but excludes the current period's data.

Table 5, Table 6, Table 7, and Table 8 show the data that is accumulated according to each of the four data groups when using a standard 12-period (monthly) calendar. Each table contains:

- A Period column, which shows each period of the 12-month calendar.
- Columns that show, for each of the relevant cumulating frequencies, which periods' data is cumulated in each period.

If N/A is shown in a column, that combination of frequency and data does not work for cumulations.

NOTE: In Table 7, only the first year of the calendar is shown. Rolling cumulation data for the first year of a calendar is different than it is for subsequent years.

Table 5. Data Cumulated for One 12-Period Calendar Year: All Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	1	1-3	1-6	1-12
2	2	1-3	1-6	1-12
3	3	1-3	1-6	1-12
4	4	4-6	1-6	1-12
5	5	4-6	1-6	1-12
6	6	4-6	1-6	1-12
7	7	7-9	7-12	1-12
8	8	7-9	7-12	1-12
9	9	7-9	7-12	1-12
10	10	10-12	7-12	1-12
11	11	10-12	7-12	1-12
12	12	10-12	7-12	1-12

Table 6. Data Cumulated for One 12-Period Calendar: To Date Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	1	1	1	1
2	2	1-2	1-2	1-2
3	3	1-3	1-3	1-3
4	4	4	1-4	1-4
5	5	4-5	1-5	1-5
6	6	4-6	1-6	1-6
7	7	7	7	1-7
8	8	7-8	7-8	1-8
9	9	7-9	7-9	1-9
10	10	10	7-10	1-10

Table 6. Data Cumulated for One 12-Period Calendar: To Date Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
11	11	10-11	7-11	1-11
12	12	10-12	7-12	1-12

Table 7. Data Cumulated for One 12-Period Calendar Year: Rolling Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	N/A	1	1	N/A
2	N/A	1-2	1-2	N/A
3	N/A	1-3	1-3	N/A
4	N/A	2-4	1-4	N/A
5	N/A	3-5	1-5	N/A
6	N/A	4-6	1-6	N/A
7	N/A	5-7	2-7	N/A
8	N/A	6-8	3-8	N/A
9	N/A	7-9	4-9	N/A
10	N/A	8-10	5-10	N/A
11	N/A	9-11	6-11	N/A
12	N/A	10-12	7-12	N/A

Table 8. Data Cumulated for One 12-Period Calendar Year: Open Bal Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	N/A	N/A	N/A	N/A
2	N/A	1	1	1
3	N/A	1-2	1-2	1-2
4	N/A	N/A	1-3	1-3
5	N/A	4	1-4	1-4
6	N/A	4-5	1-5	1-5
7	N/A	N/A	N/A	1-6

Table 8. Data Cumulated for One 12-Period Calendar Year: Open Bal Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
8	N/A	7	7	1-7
9	N/A	7-8	7-8	1-8
10	N/A	N/A	7-9	1-9
11	N/A	10	7-10	1-10
12	N/A	10-11	7-11	1-11

Custom Cumulations

You can set up customized cumulations for each measure. A custom cumulation lets you set a period range, starting and ending on any period within your calendar, as the cumulating frequency. You can then use all of the standard data groups with this cumulating frequency for cumulations. Custom cumulations are defined individually for each measure and are not shared between different measures.

Table 9, Table 10, Table 11, and Table 12 show the data that is cumulated according to each of the four data groups when using a custom 24-period (bimonthly) calendar.

NOTE: Because the calendar is set up for bimonthly segments, and the cumulating frequency for the cumulations is set to month, each period that is being cumulated comprises two segments.

EXAMPLE. Period 1 and Period 2 make up two segments of a monthly cumulating frequency.

Table 9. Data Cumulated for Two 24-Period Calendar Years: All Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	1-2	1-6	1-12	1-24
2	1-2	1-6	1-12	1-24
3	3-4	1-6	1-12	1-24
4	3-4	1-6	1-12	1-24
5	5-6	1-6	1-12	1-24
6	5-6	1-6	1-12	1-24
7	7-8	7-12	1-12	1-24
8	7-8	7-12	1-12	1-24
9	9-10	7-12	1-12	1-24
10	9-10	7-12	1-12	1-24
11	11-12	7-12	1-12	1-24
12	11-12	7-12	1-12	1-24
13	13-14	13-18	13-24	1-24
14	13-14	13-18	13-24	1-24
15	15-16	13-18	13-24	1-24
16	15-16	13-18	13-24	1-24
17	17-18	13-18	13-24	1-24
18	17-18	13-18	13-24	1-24
19	19-20	19-24	13-24	1-24
20	19-20	19-24	13-24	1-24
21	21-22	19-24	13-24	1-24
22	21-22	19-24	13-24	1-24
23	23-24	19-24	13-24	1-24
24	23-24	19-24	13-24	1-24
25	25-26	25-30	25-36	25-48
26	25-26	25-30	25-36	25-48
27	27-28	25-30	25-36	25-48
28	27-28	25-30	25-36	25-48

Table 9. Data Cumulated for Two 24-Period Calendar Years: All Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
29	29-30	25-30	25-36	25-48
30	29-30	25-30	25-36	25-48
31	31-32	31-36	25-36	25-48
32	31-32	31-36	25-36	25-48
33	33-34	31-36	25-36	25-48
34	33-34	31-36	25-36	25-48
35	35-36	31-36	25-36	25-48
36	35-36	31-36	25-36	25-48
37	37-38	37-42	37-48	25-48
38	37-38	37-42	37-48	25-48
39	39-40	37-42	37-48	25-48
40	39-40	37-42	37-48	25-48
41	41-42	37-42	37-48	25-48
42	41-42	37-42	37-48	25-48
43	43-44	43-48	37-48	25-48
44	43-44	43-48	37-48	25-48
45	45-46	43-48	37-48	25-48
46	45-46	43-48	37-48	25-48
47	47-48	43-48	37-48	25-48
48	47-48	43-48	37-48	25-48

Table 10. Data Cumulated for Two 24-Period Calendar Years: To Date Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	1	1	1-12	1
2	1-2	1-2	1-12	1-2
3	3	1-3	1-12	1-3
4	3-4	1-4	1-12	1-4
5	5	1-5	1-12	1-5
6	5-6	1-6	1-12	1-6
7	7	7	1-12	1-7
8	7-8	7-8	1-12	1-8
9	9	7-9	1-12	1-9
10	9-10	7-10	1-12	1-10
11	11	7-11	1-12	1-11
12	11-12	7-12	1-12	1-12
13	13	13	13-24	1-13
14	13-14	13-14	13-24	1-14
15	15	13-15	13-24	1-15
16	15-16	13-16	13-24	1-16
17	17	13-17	13-24	1-17
18	17-18	13-18	13-24	1-18
19	19	19	13-24	1-19
20	19-20	19-20	13-24	1-20
21	21	19-21	13-24	1-21
22	21-22	19-22	13-24	1-22
23	23	19-23	13-24	1-23
24	23-24	19-24	13-24	1-24
25	25	25	25-36	25
26	25-26	25-26	25-36	25-26
27	27	25-27	25-36	25-27
28	27-28	25-28	25-36	25-28
29	29	25-29	25-36	25-29

Table 10. Data Cumulated for Two 24-Period Calendar Years: To Date Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
30	29-30	25-30	25-36	25-30
31	31	31	25-36	25-31
32	31-32	31-32	25-36	25-32
33	33	31-33	25-36	25-33
34	33-34	31-34	25-36	25-34
35	35	31-35	25-36	25-35
36	35-36	31-36	25-36	25-36
37	37	37-	37-48	25-37
38	37-38	37-38	37-48	25-38
39	39	37-39	37-48	25-39
40	39-40	37-40	37-48	25-40
41	41	37-41	37-48	25-41
42	41-42	37-42	37-48	25-42
43	43	43	37-48	25-43
44	43-44	43-44	37-48	25-44
45	45	43-45	37-48	25-45
46	45-46	43-46	37-48	25-46
47	47	43-47	37-48	25-47
48	47-48	43-48	37-48	25-48

Table 11. Data Cumulated for Two 24-Period Calendar Years: Rolling Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	1	1	1	1
2	1-2	1-2	1-2	1-2
3	2-3	1-3	1-3	1-3
4	3-4	1-4	1-4	1-4
5	4-5	1-5	1-5	1-5
6	5-6	1-6	1-6	1-6
7	6-7	2-7	1-7	1-7
8	7-8	3-8	1-8	1-8
9	8-9	4-9	1-9	1-9
10	9-10	5-10	1-10	1-10
11	10-11	6-11	1-11	1-11
12	11-12	7-12	1-12	1-12
13	12-13	8-13	2-13	1-13
14	13-14	9-14	3-14	1-14
15	14-15	10-15	4-15	1-15
16	15-16	11-16	5-16	1-16
17	16-17	12-17	6-17	1-17
18	17-18	13-18	7-18	1-18
19	18-19	14-19	8-19	1-19
20	19-20	15-20	9-20	1-20
21	20-21	16-21	10-21	1-21
22	21-22	17-22	11-22	1-22
23	22-23	18-23	12-23	1-23
24	23-24	19-24	13-24	1-24
25	24-25	20-25	14-25	2-25
26	25-26	21-26	15-26	3-26
27	26-27	22-27	16-27	4-27
28	27-28	23-28	17-28	5-28
29	28-29	24-29	18-29	6-29

Table 11. Data Cumulated for Two 24-Period Calendar Years: Rolling Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
30	29-30	25-30	19-30	7-30
31	30-31	26-31	20-31	8-31
32	31-32	27-32	21-32	9-32
33	32-33	28-33	22-33	10-33
34	33-34	29-34	23-34	11-34
35	34-35	30-35	24-35	12-35
36	35-36	31-36	25-36	13-36
37	36-37	32-33	26-37	14-37
38	37-38	33-34	27-38	15-38
39	38-39	34-35	28-39	16-39
40	39-40	35-36	29-40	17-40
41	40-41	36-37	30-41	18-41
42	41-42	37-38	31-42	19-42
43	42-43	38-39	32-43	20-43
44	43-44	39-40	33-44	21-44
45	44-45	40-41	34-45	22-45
46	45-46	41-42	35-46	23-46
47	46-47	42-43	36-47	24-47
48	47-48	43-44	37-48	25-48

Table 12. Data Cumulated for Two 24-Period Calendar Years: Open Bal Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
1	N/A	N/A	N/A	N/A
2	1	1	1	1
3	N/A	1-2	1-2	1-2
4	3	1-3	1-3	1-3
5	N/A	1-4	1-4	1-4
6	5	1-5	1-5	1-5
7	N/A	N/A	1-6	1-6

Table 12. Data Cumulated for Two 24-Period Calendar Years: Open Bal Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
8	7	7	1-7	1-7
9	N/A	7-8	1-8	1-8
10	9	7-9	1-9	1-9
11	N/A	7-10	1-10	1-10
12	11	7-11	1-11	1-11
13	N/A	N/A	N/A	1-12
14	13	13	13	1-13
15	N/A	13-14	13-14	1-14
16	15	13-15	13-15	1-15
17	N/A	13-16	13-16	1-16
18	17	13-17	13-17	1-17
19	N/A	N/A	13-18	1-18
20	19	19	13-19	1-19
21	N/A	19-20	13-20	1-20
22	21	19-21	13-21	1-21
23	N/A	19-22	13-22	1-22
24	23	19-23	13-23	1-23
25	N/A	N/A	N/A	N/A
26	25	25	25	25
27	N/A	25-26	25-26	25-26
28	27	25-27	25-27	25-27
29	N/A	25-28	25-28	25-28
30	29	25-29	25-29	25-29
31	N/A	N/A	25-30	25-30
32	31	31	25-31	25-31
33	N/A	31-32	25-32	25-32
34	33	31-33	25-33	25-33
35	N/A	31-34	25-34	25-34
36	35	31-35	25-35	25-35
37	N/A	N/A	N/A	25-36

Table 12. Data Cumulated for Two 24-Period Calendar Years: Open Bal Data Group

Period	Monthly Data	Quarterly Data	Half Year Data	Year Data
38	37	37	37	25-37
39	N/A	37-38	37-38	25-38
40	39	37-39	37-39	25-39
41	N/A	37-40	37-40	25-40
42	41	37-41	37-41	25-41
43	N/A	N/A	37-42	25-42
44	43	43	37-43	25-43
45	N/A	43-44	37-44	25-44
46	45	43-45	37-45	25-45
47	N/A	43-46	37-46	25-46
48	47	43-47	37-47	25-47

Rollups

Measures roll data up through the organization hierarchy or through a territory hierarchy. Performance data rollups are performed as part of the Rollup service and are processed before cumulations are run. The rollup service creates rollup credits and goals for organizations and territories but not for participants. For more information about definitions, see Chapter 5, "Defining Performance Data."

To define a rollup for a measure, you must specify the organization or territory rollup level you want for credit and goal data. That level is determined by the level sets associated with the organization or territory hierarchy. (For more information, see *Siebel Incentive Compensation Management Configuration Guide*.) When the Rollup service is run, the system takes performance data from the lowest-level organizations or territories in the hierarchy and rolls that data up to the organizations or territories at the next highest level. Data for these organizations and territories is then rolled up to the next highest level, and so on, up to the highest level specified for the measure. Credits and goal records *must* be associated with an organization or a territory—not a participant—to be eligible for rollup.

Rollup Examples

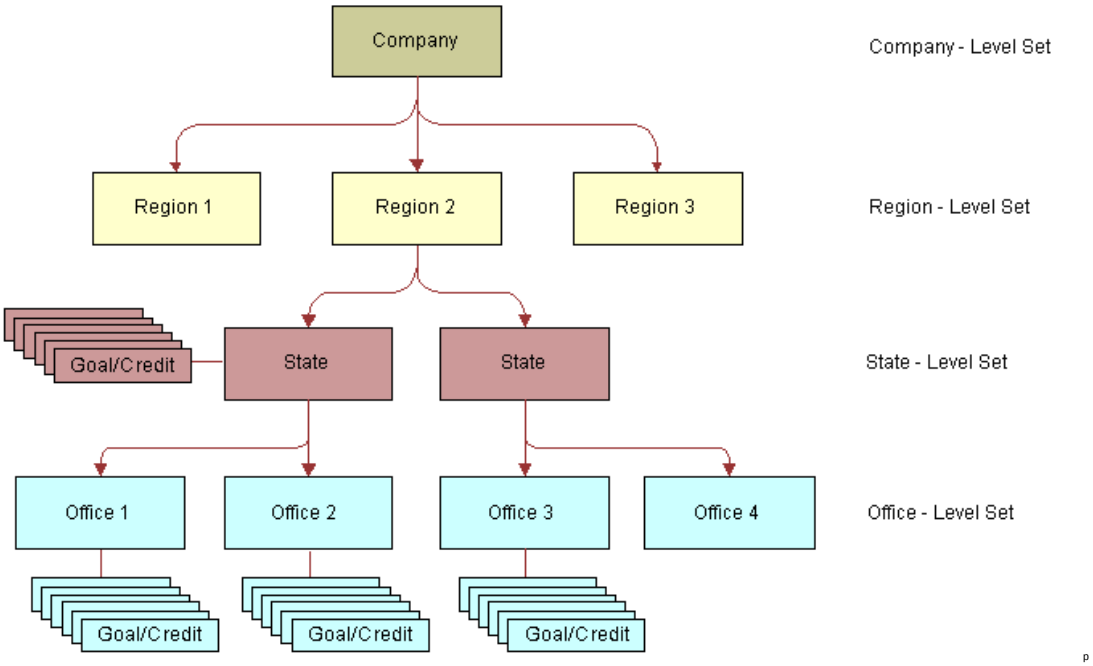

Figure 3. Rollup Example

EXAMPLE 1. Each participant in Region 2, as shown in Figure 3,receives credit for all the sales made in all offices and all states as follows:

- A credit distribution is created for each participant in each office.
- A credit distribution is created for each organization that the participant reports to.
- The measure associated with these credit distributions is set to roll credits to the organizations at level set Region.
- When the Rollup service is run, the credits for all organizations at level Office are rolled up to the parent organization at level State. All credits for all organizations at level State, including the newly rolled up credits, are rolled up to the parent organization at level Region.

EXAMPLE 2. The company goal is the total of all organization goals in the hierarchy. The company credit is the total of all organization credits in the hierarchy. These amounts are compared to each other to determine the Total Company Attainment as follows:

- A credit distribution is created for each participant.
- A credit distribution is created for each organization that the participant reports to.
- The measure associated with these credit distributions is set to roll credits and goals to the organization at level set Company.
- When the Rollup service is run, the following happens:

- All credits and goals for all organizations at level Office are rolled up to the parent organization at level State.
- All credits and goals for all organizations at level State, including the newly rolled up credits and goals, are rolled up to the parent organization at level Region.
- All credits and goals for all organizations at level Region, including the newly rolled up credits and goals, are rolled up to the parent organization at level Company.

EXAMPLE 3. The manager of the Company organization receives credit for all sales sold in the Region 1 and Region 3 organizations as follows:

- A credit distribution is created for each participant in Region 1 and Region 3.
- A credit distribution is created for each organization that the participant reports to.
- The measure associated with these credit distributions is set to roll up credits to the Organization at level set Company.

  NOTE: A different measure is required for transaction lines processed in Region 2 because these credits do not roll up to the Company organization.

- When the Rollup service is run, the credits for organizations Region 1 and Region 3 at level Region are rolled up to the parent organization at level Company.

Process of Defining a Measure

To define a measure, perform the following tasks:

1. Add a measure record. See “Adding a Measure” on page 49.
2. Add cumulation settings to the measure. See “Adding a Cumulation Setting” on page 50.
3. Set credits to roll up. See “Setting Credits to Roll Up” on page 51.

Adding a Measure

Use the following procedure to add a measure.

This task is a step in “Process of Defining a Measure” on page 49.

To add a measure

1. Navigate to the Sales Crediting > Measures view.
2. Click the New Measure link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the measure.
Credit Profile	Select a credit profile to be associated with this measure.
Goal Profile	Select a goal profile to be associated with this measure.
Reversal Measure Code	Click the Search button to retrieve a code. This code is used when the reversing credit for a canceled transaction event should be stored in a measure different from the one the initial credit is stored in. The reversal measure must have the same credit profile as the initial measure. If a reversal measure is not defined, reversing credits use the same measure as the original credit.
Reversible	Select to generate reversing credits for a canceled transaction event.

4 Click Save.

Adding a Cumulation Setting

For each measure you can add a standard cumulation setting or a custom cumulation setting.

Standard cumulation settings have fixed cumulation frequencies such as 2 weeks, Half-month, Half-Year, Month and so on, while custom cumulation settings allow you to define your own cumulation frequencies. For more information, see “Cumulations” on page 35.

Use the following procedure to add a cumulation setting.

This task is a step in “Process of Defining a Measure” on page 49.

To add a standard cumulation setting

1 Navigate to the Sales Crediting > Measures > View Measure page.

2 In the Cumulations section, click the Add Standard Cumulation icon.

3 In the Standard Cumulation form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Cumulating Frequency	Select the required cumulating frequency. See “Cumulations” on page 35 for more information.

Field	Comments
Relevant Period Data	Select the required data group. See "Cumulations" on page 35 for more information.
Apply To	Click the check box to apply the cumulation to either Credits, or Goals, or to both. **NOTE:** You must select at least one of the Credits and Goals check boxes.

4 Click Save.

To add a custom cumulation setting

1 Navigate to the Sales Crediting > Measures > View Measure page.

2 In the Cumulations section, click the Add Custom Cumulation icon.

3 In the Custom Cumulation form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Frequency Code	Enter a unique identifying code for the custom cumulating frequency.
Cumulating Frequency	Type a name for the cumulating frequency.
Relevant Period Data	Select the required data group. See "Cumulations" on page 35 for more information.
From Period and To Period	Enter the periods that define the start and end periods of the custom cumulating frequency.
Apply To	Click the check box to apply the cumulation to either Credits, or Goals, or to both. **NOTE:** You must select at least one of the Credits and Goals check boxes.

4 Click Save.

Setting Credits to Roll Up

When you set credits to roll up, goals and credits do not have to be rolled up to the same level.

Use the following procedure to set credits to roll up.

This task is a step in "Process of Defining a Measure" on page 49.

To set credits to roll up

1. Navigate to the Sales Crediting > Measures > View Measure page.
2. In the Rollups section of the measure, click the Edit icon.
3. Select the highest level for credits to roll up to in the Organization Level for Credits drop-down list.
4. Repeat Step 3 to roll up goals through the organization hierarchy.
5. Select the highest level for credits to roll up to in the Territory Level for Credits drop-down list.
6. Repeat Step 5 to roll up goals through the territory hierarchy.
7. Click Save.

Creating Cumulating Frequencies

You can create custom cumulating frequencies at the same time that you set up measures, or you can set them up separately. When you set them up separately from measures, they become available as a cumulating frequency for *standard cumulations* for any measure. Typically, you do this when the calendar uses customized segments and segment types and your incentive plans require cumulating data across these customized calendar segments.

Custom cumulating frequencies cumulate data across:

- Specific calendar segment types. Cumulations are made for every such segment in a calendar year.
- A specific set of periods. The cumulation is made only for the specified period range and is not applied to any other part of the calendar year.

To create a cumulating frequency without creating a measure

1. Navigate to the Configure > Cumulating Frequencies view.
2. Click the New Cumulating Frequency link.
3. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the cumulating frequency.
Calendar Segment Type	Select a calendar segment type, or leave this field blank if the cumulating frequency is set up for specific period range.
From Period and To Period	Enter the periods that define the start and end of a range of periods. Leave these fields blank if the cumulating frequency is set up for calendar segments.

4 Click Save.

5 Defining Performance Data

Performance data comprises goals and credits and is essential to calculate earnings in Siebel ICM. Credit data is required for nearly all calculation formulas, and goal data is required if a comparison of credits to goals is necessary for calculating earnings.

This chapter includes the following topics:

About Goals

Goals represent targets that participants must achieve, in part or in full, to receive incentive earnings. Goals are not required for all compensation plans.

A plan pays participants based solely on their actual performance (credits) and not on whether or not they have met a goal. For plans that pay participants based on how closely they reach or exceed their targets, goal data is critical.

Goal Types

There are three different types of goals that you can use in formulas to compute how closely participants or organizations have met their pre-established targets:

- **Base Goal.** A base goal is a single goal, assigned to a single participant, organization, or territory for a particular period. Each base goal can only have one participant, one measure, and one amount assigned to it for each period. The amount of time covered by a single goal is determined by the calendar segment assigned to a period. (For more information, see the chapter about calendars in *Siebel Incentive Compensation Management Configuration Guide*.) You can manually enter or import base goals into the system.
- **Cumulated Goal.** A cumulated goal is the aggregation of base goals over a specified calendar segment. The aggregation of the fields on the goal profile is determined when the profile attributes are created, and the calendar segment is specified when the cumulation setting is set on the measure. Cumulated goals are unique records in the system created by the Cumulation service.

- **Rollup Goal.** A rollup goal is the aggregation of organization or territory base goals rolled up along either the organization or territory hierarchy. The aggregation of the fields on the goal profile is determined when the profile attributes are created, and the organizations or territories included in the rollup are determined when the rollup settings are set on the measure. Rollup goals are unique records in the system created by the Rollup service.

  For information on how to set up measures for cumulation and rollup purposes, see Chapter 4, "Defining Measures."

  For information about profile attributes, see the chapter about profile attributes in *Siebel Incentive Compensation Management Configuration Guide*.

How goals are used in a compensation plan are determined by the calculation formulas and formula components. Some typical examples are as follows:

- Comparing credits to goals to see if the goal is met or exceeded. If the goal is exceeded, the formula executes one calculation. If the goal is not met, the formula executes another calculation or returns a fixed value, such as zero.
- Calculating the ratio of total credits (for the period, to date, and so on) to a quarterly or annual goal value. The result of this ratio is passed into a matrix or step calculation to determine another value, such as a commission rate or earning percentage, that other components can use to determine the final earning amount.

You can set up goals for participants, organizations, and territories as follows:

- Participant goals represent targets that individual employees or other participants must achieve. They are used when calculating earnings based on an individual's performance, such as commission earnings.
- Organization and territory goals represent targets that a particular branch or division must achieve. They are used when calculating earnings to participants based on the overall performance of all participants within an organization or territory, such as quarterly regional bonuses.

You can enter goals for participants, organizations, and territories directly into Siebel ICM or import them from another system. If they are imported, you can review them by selecting Goals from the Sales Crediting menu.

About Credits

Credits represent the records of performance achieved by a participant or organization. Credit records are essential for all compensation plans, regardless of their type. Calculation formulas determine the way credit records are used.

Credits are generated through the Sales Crediting service. This process runs transaction data through credit distribution rules to determine credit distributions, and generates credit records for participants and organizations based on the credit distribution rule's settings. You can also set up credits manually or import them into the system.

Plans that base credits on transaction data, such as a sales commission plan, use distribution rules to generate credit records. Plans that are not based on transaction data, such as an annual bonus plan, have credits imported or entered manually.

NOTE: You can edit credits that are entered manually or that were imported directly into the system, but you cannot edit credits generated through the Sales Crediting service.

Credit Types

There are three different types of credit that you can use in any combination to compute a participant's earning:

- **Base credit.** A base credit is a single credit that is assigned to a single participant, organization, or territory. Each base credit can only have one participant, one measure, and one amount assigned to it, although each transaction line can become multiple credits. Base credits are created by the Sales Crediting service, but you can also manually enter or import them into the system.
- **Cumulated credit.** A cumulated credit is the aggregation of base credits over a specified calendar segment. The aggregation of the fields on the credit profile is determined when the profile attributes are created. The calendar segment is specified when the cumulation setting is set on the measure. Cumulated credits are unique records in the system created by the Cumulate service.
- **Rollup credit.** A rollup credit is the aggregation of organization or territory base credits rolled up along either the organization or territory hierarchy. The aggregation of the fields on the credit profile is determined when the profile attributes are created, and the organizations or territories included in the rollup are determined when the rollup settings are set on the measure. Rollup credits are unique records in the system created by the Rollup service.

  For information on how to set up measures for cumulation and rollup purposes, see Chapter 4, "Defining Measures."

  For more information about profile attributes, see the chapter about profile attributes in *Siebel Incentive Compensation Management Configuration Guide*.

Process of Defining Performance Data

To define performance data, perform the following tasks:

- Create base goals as required. See "Creating a Base Goal" on page 57.
- Create any base credits that you require to enter manually. See "Creating a Base Credit" on page 58.

Creating a Base Goal

Goals are specific to each working period. Therefore, when you add base goals, first select the working period from the Working Period link at the top left of the screen.

This task is a step in "Process of Defining Performance Data" on page 57.

To add a base goal

1 Navigate to the Sales Crediting > Goals view.

2 Click the New Base Goal link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Recipient ID	Enter the specific participant's or organization's code.
Measure Code	Enter the code for the measure to be associated with this goal record. This code determines which data fields appear on the next screen, and what data is associated with the goal record.

4 Click Next.

The data fields that appear on this screen are customized to meet your company's needs and depend on which measure code you selected in the Measure Code field in Step 3.

5 Complete the necessary fields, and then click Save.

Viewing Goals

You can view all the goals associated with a participant, organization, or territory for the entire year.

To view goals

1 Navigate to the Sales Crediting > Goals view.

2 Enter search criteria that identify the goals you want to view, and then click Search.

3 In the Goals Found list, click the View All icon.

The View Goal screen appears.

Creating a Base Credit

Although the Sales Crediting service creates base credits, you can also manually enter or import them into the system.

This task is a step in "Process of Defining Performance Data" on page 57.

To add a base credit manually

1 Navigate to the Sales Crediting > Credits view.

2 Click the New Base Credit link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Earned Date	Enter the date the credit was actually earned. The earned date does not necessarily correspond to the assigned Creation Date for the credit record. Effective period of a credit is always the year and period in which the credit was created, not when it was earned.
Measure Code	Enter the code for the measure to be associated with this credit record. This code determines which data fields appear on the next screen and what data is associated with the credit record.
Recipient ID	Enter the participant's or organization's code.

4 Click Next.

The fields that appear on this screen depend on the measure code you selected in Step 3 and are customized to fit your company's specific incentive plans.

5 Complete the necessary fields, and then click Save.

6 Processing Transactions

Compensation administrators and managers create, view, and adjust transactions. This chapter describes transactions in Siebel ICM and includes the following topics:

About Transactions

The following topics define and describe transactions:

Transactions Defined

A *transaction* represents any kind of action, such as a sale or a contract signing, that contributes to a participant's performance. There can be many different types of transactions; for instance, revenue, cash, customer satisfaction, and so on. Transactions usually correspond to invoices from order entry or sales tracking systems, but they can be used in any context. For example, a transaction can indicate the signing of a legal contract, such as a lease agreement or a partnership contract. In this context, the transaction represents what contract is signed, when it is finalized, which participants are responsible for drafting and finalizing the contract, and other details of the agreement.

Incentive plans that use distribution rules require transactions. During the crediting process, the system feeds transaction data through the distribution rules, matches transactions to distribution rule conditions, and assigns credits. For every transaction that matches a particular rule, the system uses the distribution rule's settings to determine how much credit participants and organizations receive for that transaction.

How Transactions Are Created

Implementations that use transactions import transaction data from an external source, such as order entry systems, sales force automation (SFA), enterprise resource planning (ERP) systems, and so on. You can import transaction data into Siebel ICM to add new transactions to the database or to update existing transactions with current data.

You can enter transactions directly into the system, although it is not recommended that you do this regularly. If your system imports transactions from an external source and some transaction records are missing from the file, it is better to reimport the transactions from a corrected or updated file than to enter the missing transactions directly. This keeps the audit trail from one system to another intact and prevents future problems in tracking down the source of errors.

However, for some types of transactions there might be no external system from which you can import transaction data. In this case, you can enter transaction data directly into Siebel ICM. It is far more likely, however, for credits to be created or imported directly into the system, rather than for you to enter transactions and set up distribution rules to process them.

Headers and Detail Lines

For each transaction in the system there are two sets of data—header information and line information. Every transaction has one header and one or more lines, following the model of a paper invoice that represents a sale of multiple items (lines) to a single customer.

Header data includes anything that applies to all lines within the transaction, such as the following:

- The transaction ID code
- The transaction type
- Currency information
- The account or customer
- Sold to and Shipped to locations
- The channel through which the transaction was made

Line data includes anything that applies to a particular detail of a transaction, such as the following:

- The type of transaction line (original, adjustment, cancellation, and so on)
- The entry date of the line
- The participant or participants responsible for the transaction line
- Product or service sold
- Sales amounts (price, profit margin, margin percentage, and so on)
- Transaction events (when the item was sold, when it was shipped, and so on)

These examples of transaction data do not reflect how transactions are used in your specific implementation of Siebel ICM. The system is designed to accommodate any type of transaction and any type of data required for those transactions. Therefore, the data your company tracks on each transaction record can vary widely from these examples.

When transactions are passed through distribution rules during the crediting process, the distribution rules match transaction events against the rule conditions and create distributions for each transaction event (not for each transaction). However, the rule conditions can reference data found either in the transaction header, line, or event itself to determine whether a line qualifies for that rule.

If a line profile is associated with a transaction line type, the system uses the line date as the effective date to determine which version of the transaction line type and which line profile to use. Otherwise, the system uses the line date as the effective date to determine which version of the transaction type and which line profile to use.

Transaction Events

Every transaction line has one or more events associated with it. An event marks when something significant happens for a transaction, such as when the original order was placed, when the ordered item is shipped, or when the customer pays the full amount billed.

Events determine when participants receive credits from their transactions. In many incentive plans, credits are earned only when one or more events on a transaction have occurred. In these types of plans, only partial credit is earned at each event, so all required events must occur before a participant receives full credit for the transaction line.

Credit rules handle event processing for transaction lines. A transaction line can have credits generated on it if it contains one or more open events. An open event is an event for which credits have not already been generated. Closed events are events on a line for which credits have been generated. Closed events cannot generate further credits. Transaction lines themselves are never considered closed, even if they only contain closed events, because a user can add another event to the transaction line at any time. This event always starts in an open state and can have credits generated for it.

Transaction Events Processing

Transaction line events are processed systematically to make sure that all transaction lines are accounted for in the current working period as well as in all other working periods. A transaction from a previous working period can have an open event that is eligible for crediting in the current working period or even a future period. The Sales Crediting service can be run as a full batch or an incremental batch, as described in the following topics. The way in which the system determines event eligibility is different for each type of crediting batch run.

When the Sales Crediting service is run, the system reviews the following criteria for each transaction event:

- The calendar, to determine whether the service is being run in absolute period number one.
- The event date, to verify that it is on or before the current working period's end date. Future events will not be processed.
- The calendar period, to determine whether this period is open and whether previous periods are open.

Full Batch Processing

The full batch process considers eligible events differently, depending on whether previous working periods are open or closed, as follows:

- **Open.** Full batch processing considers transaction line events whose dates fall between the current working period's start and end dates. Additionally, if the event was previously processed during this period, it processes this line and creates new credits as defined in the credit distributions.
- **Closed.** Full batch processing considers all open events in all working periods. Additionally, if the event has been previously processed in this or any other period, it reprocesses this line and creates new credits as defined in the credit distributions.

This process applies to new, canceled, and adjusted events that meet the date range criteria.

Incremental Batch Processing

The incremental batch process considers eligible events differently, depending on whether previous working periods are open or closed, as follows:

- **Open.** Incremental batch processing considers only those transaction line events that do not have credits generated against them, and whose dates fall between the current working period's start and end dates. Events with generated credits are not reprocessed during incremental batch processing.
- **Closed.** Incremental batch processing considers all open events in all working periods that do not have credits generated against them. Events with generated credits are not reprocessed during incremental batch processing.

This process applies to new, canceled, and adjusted events that meet the date range criteria and do not have any credits generated against them.

Batch Processing Examples

The examples in this topic illustrate the ways the system can process transaction events.

- **Crediting in the First Open Period.** In this example, the Working Period is the first open period (that is, Period n).

  If you run full batch processing, the system processes events with event dates that are after the start of the calendar and before the end of the current period.

  If you run incremental batch processing, the system processes events with event dates that are after the start of the calendar and before the end of the current period, and that have not been processed by the Sales Crediting service before.

- **Crediting After the First Open Period.** In this example, the Working Period is a period after the first open Period (that is, Period n + 1 or later). For instance, if April 2006 is the first open Period, this example describes how the Sales Crediting service behaves when you run it in May 2006.

  If you run full batch processing, the system processes events with event dates that fall within the current period.

  If you run incremental batch processing, the system processes events with event dates that fall within the current period and that have not been processed by the Sales Crediting service before.

In all these cases, the system excludes from processing those events that have been cancelled, adjusted, or processed already in a closed period.

Figure 4 illustrates these concepts.

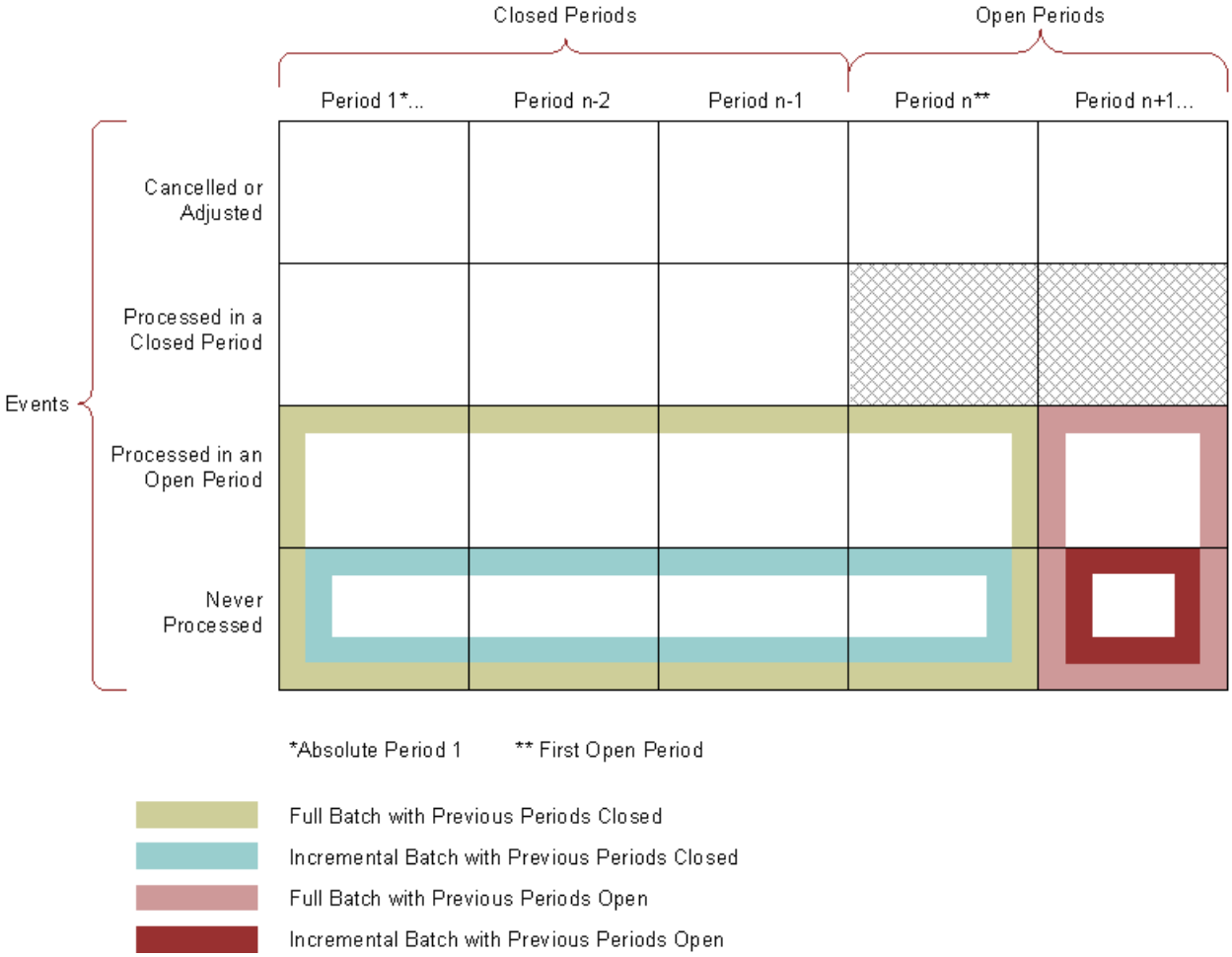

Figure 4. Sales Crediting Event Selection

Searching for Transactions

Most Siebel ICM implementations have large numbers of transactions in the database for each working period. To find a specific transaction or set of transactions, the search criteria fields listed in Table 13 have been provided to limit the number of records returned in any given search.

Table 13. Transaction Search Criteria

Field	Comments
Transaction Number	Enter a complete transaction number or the starting characters of a number. For example, entering 12 returns all transactions whose transaction numbers start with the sequence of characters 12.
Customer ID	Click the Search icon to identify a specific customer from the existing database records.
Transaction Type	Select the transaction type associated with the transaction or transaction set you want to retrieve.
Participant ID	Click the Search icon to identify an individual participant.
Search Header Reps/ Search Line Reps	Select this to direct the search of the specific Participant ID to either the header or the lines of the transactions.
Include Canceled Headers	Select this to include canceled transactions in the search result set.
Transaction Date	Enter the beginning date of a date range for which you want transactions returned.
...To	Enter the end date of a date range for which you want transactions returned.

You can use each of these search criteria individually to return search result sets; however, combining search criteria significantly reduces the number of transactions returned in the search result set.

Process of Setting Up Transactions Manually

You can manually add a transaction header. For more information about adjusting transaction header and line data, see Chapter 19, "Adjusting Transactions."

After you have added a transaction record, you can add header participants to the transaction. Participants listed on a transaction header are referenced by distribution rules to determine which participants should receive distributions from the transaction. For more information about distribution rules, see Chapter 7, "Setting Up Distribution Rules and Credit Rules."

To set up transactions manually, perform the following tasks.

1 Add a transaction header. See "Adding a Transaction Header" on page 67.

2 Add header participants to the transactions. See "Adding a Header Participant to a Transaction" on page 68.

3 Add the transaction lines. "Adding a Transaction Line" on page 68.

   a Add line participants to each transaction line. See "Adding a Line Participant to the Transaction Line" on page 69.

   b Add line events to each transaction line. See "Adding Line Events to the Transaction Line" on page 70.

Adding a Transaction Header

Use the following procedure to add a transaction header.

This task is a step in "Process of Setting Up Transactions Manually" on page 66.

To add a transaction header

1 Navigate to the Transactions > Transactions view.

2 Click the New Transaction link.

3 In the Header Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Transaction Number	Type a unique identifying code for the transaction.
Transaction Type	Select a transaction type. The selection of the transaction type, and thus the header and line profiles, determines which specific custom data fields appear in Step 4 for the header, as well as the fields for individual lines in "Adding a Transaction Line" on page 68.
Transaction Date	Select the date the transaction is entered into the system, although this date can also reflect when the transaction was originally entered in a separate system.
Currency Code	Select a currency if the transaction was conducted in a currency other than the functional currency for the current operating unit.
Currency Conversion	Click this check box if Siebel ICM is to automatically convert transaction currency amounts to the functional currency. **NOTE:** The currency conversion settings must be set to use the transaction currency conversion settings. For more information, see the chapter on currencies and currency conversions in *Siebel Incentive Compensation Management Configuration Guide*.
Currency Conversion Factor	Type a conversion factor for currency conversion.

4 In the Header Details form, complete the necessary fields.

The labels and related data for each of these fields are customized according to the needs of your company.

5 Click Save.

Adding a Header Participant to a Transaction

Use the following procedure to add a header participant to a transaction.

This task is a step in "Process of Setting Up Transactions Manually" on page 66.

To add a header participant to a transaction

1 Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the Header Participants section, click the Add Header Participants icon.

5 In the Participant form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Rank	Enter the participant's numerical rank. **NOTE:** This rank is referenced by distribution rules to determine which participant gets credit according to distribution settings. Ranks must be whole numbers larger than 0.
Type	Select the type of participant, for example employee, channel partner, or customer.
Split % (Percent Sign)	Displays the participant's share in the transaction. **NOTE:** The system calculates the appropriate percentage of the sale for each participant based on the percentage entered in this field. For more information, see Chapter 7, "Setting Up Distribution Rules and Credit Rules."

6 Click Save.

Adding a Transaction Line

To set up transaction lines, first you must add a transaction line record. After the transaction line record has been added, you can add line participants and line events.

Use the following procedure to add a transaction line to a transaction.

This task is a step in "Process of Setting Up Transactions Manually" on page 66.

To add a transaction line

1. Navigate to the Transactions > Transactions view.
2. Enter search criteria to identify the transaction you want to adjust, and then click Search.
3. In the Transactions Found list, find the transaction, and then click the View icon to open it.
4. In the Lines section, click the Add Line icon.
5. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Line Number	Enter the line within the transaction. There can be many transaction headers with lines that use the same numbering system.
Line Date	Enter the date the transaction line is entered into the system. The line date does not have to match the date of the transaction header.
Product Code	Enter the product code. The products or service sold in a transaction can be referenced by distribution rules to not only determine distribution rule eligibility but to determine which measure gets credited by the rule when generating credit distributions.
Measure Code	Enter the measure code. The measure can be referenced by distribution rules to determine which measure gets credited by the rule when generating credit distributions from this line.

6. In the Line Value form, complete the necessary fields.

   NOTE: The labels and related data for each of these fields are customized according to your company's specifications.

7. Click Save.

Adding a Line Participant to the Transaction Line

Use the following procedure to add a line participant to a transaction line.

This task is a step in "Process of Setting Up Transactions Manually" on page 66.

To add a line participant to the transaction line

1. Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify the transaction, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.

NOTE: Participants listed on a transaction line are often referenced by distribution rules to determine which participants should receive credit distributions from the transaction.

For more information about distribution rules, see Chapter 7, "Setting Up Distribution Rules and Credit Rules."

5 In the Line Participants section, click the Add Participants icon.

6 Complete the necessary fields. Some fields are described in the following table.

Field	Comments
Rank	Enter the participant's numerical rank. **NOTE:** This rank is referenced by distribution rules to determine which participant gets credit according to distribution settings. Ranks must be whole numbers larger than 0.
Split % (Percent Sign)	Displays the participant's share in the transaction. **NOTE:** The system calculates the appropriate percentage of the sale for each participant based on the percentage entered in this field. For more information, see Chapter 7, "Setting Up Distribution Rules and Credit Rules."

7 Click Save.

Adding Line Events to the Transaction Line

Use the following procedure to add line events to a transaction line.

This task is a step in "Process of Setting Up Transactions Manually" on page 66.

To add line events to the transaction line

1 Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify the transaction, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.

5 In the Events section, click the Add Events icon.

6 In the Events form, complete the necessary fields.

7 Click Save and Add Another if you want to continue adding line events.

8 Repeat Step 7 for each additional line.

9 Click Save when you have added all necessary events.

Viewing Transactions with the Transaction Navigator

The Transaction Navigator presents an Explorer-style hierarchical view that allows you to display the structure and browse through the details of a selected transaction.

To view a transaction with the Transaction Navigator

1 Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify a list of transactions, and then click Search.

For more information about searching for transactions, see “Searching for Transactions” on page 66.

3 In the Transactions Found list, identify the transaction you want to see and click its Transaction Navigator icon.

4 In the Transaction Navigator, drill down into the hierarchy of parent nodes and leaf nodes to see the selected transaction’s structure and details.

5 Click the parent node and leaf node hyperlinks to see details of the transaction record’s individual components.

7 Setting Up Distribution Rules and Credit Rules

This chapter describes distribution rules and credit rules, which determine how participants and organizations receive credit for transactions.

This chapter includes the following topics:

About Distribution Rules and Credit Rules

A *distribution rule* is a set of conditions that selects transaction line events and generates credit records for participants and organizations based on the transaction line event data. The part of the distribution rule that determines how participants and organizations receive credit for transactions is called a *distribution*. The distribution references a recipient template to determine who receives the credit and how transaction record data is transferred to credit records. These credit records are later passed on to the calculation formulas to determine earning amounts for each participant.

Distribution rules are grouped into *credit rules*. Each credit rule performs a particular type of crediting function. For example, one credit rule might generate credit records based on the customer for each transaction record, while another rule might generate additional credit records based on the territory in which a transaction took place.

Within each credit rule, a transaction can qualify for only one distribution rule—whichever rule it qualifies for first. However, a transaction can qualify for a distribution rule in each existing credit rule, and have credits generated according to each distribution rule. Thus, if you want multiple sets of credit records for a single transaction, you set up multiple credit rules and multiple distribution rules within those credit rules.

Distribution Rule Processing

When the Sales Crediting service is run, the system generates credit records as follows:

1 The system opens the first credit rule, according to the credit rule codes.

NOTE: It does not matter in what order the system processes credit rules.

2 Each transaction's type is checked against the valid transaction types for the credit rule (according to the header and line profiles of each rule). If the transaction matches one of the valid types, it is passed to the next step; otherwise, it is not passed into the credit rule.

3 Each transaction line's event is checked against the event eligibility conditions of the credit rule for that transaction type. If the transaction has open events that match the event eligibility conditions of the credit rule, the transaction line is passed into the credit rule. If all events on the transaction are closed, or if there are open events on the transaction line that are not valid according to the event eligibility conditions, the line is not passed into the credit rule.

4 Transaction lines with events that qualified for the credit rule are passed on to the first distribution rule within the credit rule as follows:

- The first available transaction line is tested against the conditions of the distribution rule. If the transaction line fails to match any one condition, it does not qualify for that distribution rule. These transactions are set aside to be passed on to the next distribution rule as described in Step 7.
- If the transaction line does qualify for the distribution rule, the system generates credit records according to the distributions set up for that rule. This way, credit records are generated for each open event on the transaction line. This transaction line is then set aside and not passed on to any more distribution rules within the credit rule. The system then gets the next available transaction line.

5 When all transaction lines are tested against the distribution rule's conditions and appropriate distributions are made, the system goes to the next distribution rule in the credit rule and returns to Step 4. Transaction lines that did not qualify for the previous distribution rule are then tested against the new distribution rule according to Step 4.

6 Step 4 through Step 5 continues until either all transaction lines have been credited or until no more distribution rules are left in the credit rule. Either condition signals the end of the credit rule.

7 The system goes on to the next credit rule, repeats Step 2 through Step 6 for that rule, and continues until all credit rules are processed.

Process of Setting Up a Credit Rule

To set up a credit rule, perform the following tasks:

1 Plan your general crediting scheme. See "Planning Distribution Rules" on page 75.

2 Create a new credit rule and select the transaction header and header profiles to be associated with the credit rule. See "Creating a Credit Rule" on page 75.

3 Define the event eligibility conditions for the credit rule. See "Defining the Event Eligibility Conditions" on page 76.

4 Add the distribution rules to the credit rule. See "Adding a Distribution Rule to a Credit Rule" on page 78.

   a Add conditions for each of the distribution rules. See "Adding a Condition to a Distribution Rule" on page 78.

b Add the distributions for each of the distribution rules. See “Adding a Credit Recipient to a Distribution Rule” on page 79.

5 (Optional) Add one or more attachments as supporting documentation for the credit rule. See “Attaching a Document to a Record” on page 32.

Planning Distribution Rules

Before setting up distribution rules, plan your general crediting scheme to help speed up implementations and avoid errors. Follow these guidelines when planning distribution rules:

- Do not use multiple credit rules for all compensation plans. Many plans can perform transaction crediting with one credit rule, which speeds up the crediting process compared with using multiple credit rules.
- Only use multiple credit rules if a plan allows more than one set of credits to be generated for each transaction record. For example, if an employee can earn two separate credits for a sale—one based on the product sold, and the other on the account sold to—set up two separate credit rules.
- Restrict distribution rule codes to numbers, so that the system always processes rules in numeric order. This can help if another user needs to add or remove distribution rules from a credit rule and needs to know in what order distribution rules are being processed. Always leave enough space between rule numbers to allow additional rules to be inserted later. One suggested way to number rules is by tens (0010, 0020, and so on) or by fifties (0050, 0100, and so on).
- When using multiple credit rules, set up the first distribution rule in each credit rule to be a “filtering” rule—that is, with criteria that automatically generate zero credits for transaction lines that cannot qualify for any of the other rules within that credit rule. For example, in a program with rules that generate credits based on one specific product, the first rule would be “Search for transaction lines that do *not* contain that product.” Using filtering rules like this speeds up the crediting process.

Creating a Credit Rule

When you create a credit rule, you select transaction header and transaction line profiles for that credit rule. These profiles have two main effects:

- The profiles act as a filter during the crediting process. Every transaction record must have a transaction type defined for it; this type is then associated with a header profile and a line profile. Only transactions with a transaction type that matches the header and line profiles for a credit rule can be passed on to the distribution rules within that credit rule.

  Because the choice of transaction header and line profile determines which transaction types can qualify for the credit rule, they also define the list of transaction types that you can set up for event eligibility conditions.
- The profiles tell the distribution rule which data fields to expect when it examines each transaction and matches it against the rule’s conditions. This is also important when setting up distributions for the distribution rule, because the profiles tell the system which transaction data fields are available to be transferred to credit records.

Use the following procedure to create a credit rule.

This task is a step in "Process of Setting Up a Credit Rule" on page 74.

To create a credit rule

1 Navigate to the Sales Crediting > Credit Rules view.

2 Click New Credit Rule.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the credit rule.
Description	Type a description or comment about the credit rule.

4 In the Transaction Types form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Transaction Header Profile	Select the transaction header profile to be associated with this credit rule.
Transaction Line Profile	Select the transaction line profile to be associated with this credit rule.

5 Click Save.

Defining the Event Eligibility Conditions

You must define event eligibility conditions for each transaction type that can qualify for a credit rule (according to the profiles chosen). Event eligibility conditions perform two main purposes in credit rules:

- Like the header and line profiles, event eligibility conditions filter out transaction lines during the crediting process. When the system examines a transaction, it looks for its transaction type and matches it against the transaction type list of the credit rule. The system then looks for events on the transaction line for which credits have not yet been generated. If the system finds such an event, it looks for that same event in the event list and, if it finds the event there, passes the transaction into the rules to determine which rule it qualifies for.

- For each event on a transaction type's event list, an earned credit percentage is defined along with an Earn When event. This allows credits to be earned in increments, based on certain transaction events occurring.

  For example, a sales representative might earn 50% credit when a transaction is entered into the system, an additional 30% when the product is shipped, and the final 20% when the customer pays for the item. The Earn When event setting determines when the participant can actually receive earnings on credits already earned. For example, the employee might earn 50% credit when an order is placed, but does not actually receive earnings on that credit until the item has been shipped.

Participants can earn credits only once for each transaction event. When credits have been generated for a particular transaction event, no further credits are generated on that transaction unless another event occurs and the transaction can again qualify for one or more credit rules.

NOTE: If two or more events have occurred for a transaction and credits have not been generated for any of those events, the credit rule generates multiple credit records for that one transaction, one credit record for each event. Event eligibility conditions are set up for each transaction type, so if multiple transaction types qualify for the credit rule, you can set up separate event eligibility conditions and credit earning rules for each transaction type.

This task is a step in "Process of Setting Up a Credit Rule" on page 74.

To define event eligibility conditions

1. Navigate to the Sales Crediting > Credit Rules > View Credit Rule view.
2. In the Event Filters section, select a transaction type.
3. Click Add Transaction Type.
4. In the Transaction Type Event Filters form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Event	Select the first event that is eligible for crediting from the Event list.
Earned Credit	Type a percentage value. This percentage can be any value. The sum of all earned credit percentages does *not* have to be 100%.
Earn When Event	Select the event that must occur before earnings on the earned credit are made. The pay event must either be the same as the eligibility event or should always follow that event.

5. Click Add Event.
6. Repeat Step 4 and Step 5 for each eligibility event for this transaction type.
7. Click Close Window to add the event eligibility conditions for the chosen transaction type.
8. Repeat Step 2 through Step 7 for each transaction type.

Adding a Distribution Rule to a Credit Rule

After you create a credit rule, you must add the distribution rules. For each distribution rule you must do the following:

1. Add the distribution rule to the credit rule. See "To add a distribution rule to a credit rule."
2. Add the conditions to the distribution rule. See "Adding a Condition to a Distribution Rule" on page 78.
3. Add the distributions to the distribution rule. See "Adding a Credit Recipient to a Distribution Rule" on page 79.

Use the following procedure to add a distribution rule to a credit rule.

This task is a step in "Process of Setting Up a Credit Rule" on page 74.

To add a distribution rule to a credit rule

1. Navigate to the Sales Crediting > Credit Rules > View Credit Rule view.
2. Click Add Distribution Rule.
3. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the distribution rule.
Description	Type a description or comment about the distribution rule.

4. Click Next to display the View Distribution Rule screen.

Adding a Condition to a Distribution Rule

Use the following procedure to add a condition to a distribution rule.

This task is a step in "Process of Setting Up a Credit Rule" on page 74.

To add a condition to a distribution rule

1. Navigate to the Sales Crediting > Credit Rules > View Credit Rule > View Distribution Rule view.
2. In the Conditions section, select a standard or custom condition template from the drop-down list, and then click the Add Condition button.

   A screen for the chosen template appears.

3 Enter data or select values in the fields and drop-down lists that appear, as appropriate for the template.

With many customized templates, you might have to select multiple values or operators to complete the condition.

NOTE: Remember that for a transaction line to qualify for a distribution rule, the transaction must be able to meet all of the conditions specified for the rule. If it fails to match any one condition, it does not qualify for the rule.

4 Click Add to complete the condition.

5 Repeat Step 2 through Step 4 for each condition that applies to the distribution rule.

Adding a Credit Recipient to a Distribution Rule

Use the following procedure to add a credit recipient to a distribution rule.

This task is a step in "Process of Setting Up a Credit Rule" on page 74.

To add a credit recipient to a distribution rule

1 Navigate to the Sales Crediting > Credit Rules > View Credit Rule > View Distribution Rule view.

2 Click Add Credit Recipient.

3 In the Recipient Measure form, select one of the following measure selection methods to be associated with credits generated by this distribution:

- **Specific Measure.** Enter a specific measure in the Measure Code field. This automatically associates the chosen measure's credit profile with this distribution.
- **Transaction's Measure.** Select a credit profile in the Credit Profile drop-down list.
- **Product's Measure.** Select a specific product measure type in the Product Measure Type field, and then select a credit profile in the Credit Profile drop-down list.

NOTE: The choice of measure or credit profile determines which credit record data fields are available in Step 9. These are the credit record fields to which transaction header and line data are copied during the Sales Crediting process when the system generates distributions.

4 Click Next.

5 In the Distribute To drop-down list, select a standard or custom recipient template.

6 Enter data or select values in the fields and drop-down lists that appear, as appropriate for the template.

With many templates, you might have to select multiple values or operators to complete the condition.

7 In the Event field, select an event for this distribution to specify when earnings can be made on credits that are generated by this distribution setting.

The available events correspond to transaction events.

CAUTION: This setting overrides the Earn When setting of the credit rule. If you do not want to override the credit rule's setting, select Do Not Override in this field.

8 Click Next.

The Crediting Attribute Assignments form lists all of the credit data fields that are generated for credit records, according to the measure or credit profile specified in Step 3. You use the form to associate a transaction data field or another specific variable with each of the credit data fields.

9 In the Crediting Attribute Assignments form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Attribute Category	Select an attribute category. These categories display a targeted list of fields in the Attributes drop-down list. The list of available fields identifies where the data is taken from when populating the associated field on the credit record.
Attributes	Select one transaction data field. This data is written to the credit record under the given credit attribute type.
%	Enter the percentage of the transaction attribute that is written to the credit record. By default, this value is 100%. Entering a smaller or larger value decreases or increases the transaction attribute by that percentage before writing the value to the credit record, as follows: ■ Select the Use Earned Event % check box if this value is to be modified by the earned credit percentages set up for events (according to the credit rule). This multiplier is applied in addition to the percentage entered. Thus, if the event percentage for the credit rule is 50%, and the percentage entered in Step 9 is also 50%, the value written to the credit record is 25% of the original transaction value. ■ Select the Use Participant's Split % check box if this value on the credit is to be modified by the sales rep split percentage entered on the participant record of the transaction header or transaction line. This multiplier is applied in addition to the multiplier entered in the % field. Thus, if the sales rep split percentage for the credit rule is 50%, and the percentage entered in the % field is also 50%, the value written to the credit record is 25% of the original transaction value.

10 Click Next to complete the distribution.

8 Setting Up Payment Groups

Compensation administrators can set up payment groups to categorize earnings. This chapter contains the following topics:

About Payment Groups

Your company might want to categorize earnings so that certain earnings (such as sales commissions and bonuses) are not balances against certain other earnings (such as base salary). For this purpose, ICM provides *payment groups*, which are categories you can attach to earnings and their associated payments.

You can use payment groups across one or more earnings or payments. The primary use of a payment group is for payroll and reporting. For example, payment groups allow you to make sure a negative earning balance in one type of earnings does not affect the total of another type of earnings. Also, payment groups allow ICM to distinguish sets of earnings or payments that are taxed differently.

Setting Up a Payment Group

Before you can process earnings and payments, you must have payment groups already set up.

To set up a payment group

1. Navigate to the Plan & Payment > Payment Groups view.
2. Click the New Payment Group link.
3. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the payment group.
Represents Money	Select this check box to indicate that this payment group does currency conversions.

4. Click Save.

9 Building Calculation Formulas

Compensation administrators and managers construct calculation formulas as building blocks for plans. This chapter describes calculation formulas and includes the following topics:

About Formulas

A *formula* is a set of calculation steps that, when processed in order, determine earning results. Formulas use performance data and any data that can be referenced through smart attributes. Formulas consist of variables and components. There are three types of formulas—calculation formulas, payment formulas, and summary formulas.

A *variable* is a piece of data that must be passed into the formula to determine earnings. Variables can be credit amounts, goals, results of other formulas, participant attributes, product attributes, and so on.

A *component* is one specific calculation step within a formula. A formula processes data through each of its components. These components can be arithmetic calculations, matrices, step calculations, if-then-else conditions, and so on. The result of one component can be fed into a later component, or it can be the end result of that formula.

Components are added to a formula after variables have been defined. The components must appear in the formula in the order in which they are executed, because the results of one component might be referenced by subsequent components.

You must define some components, such as matrices, step calculations, and threshold calculations before setting up the formulas that use those components. For instructions on setting up these components, see Chapter 12, "Defining Matrix Calculations," Chapter 13, "Defining Step Calculations," and Chapter 14, "Defining Threshold Calculations." This chapter shows how to add these components to a calculation formula.

About Calculation Formulas

A *calculation formula* is a formula that calculates earning results during the Earning Calculation stage of service execution. A calculation formula uses performance data with other data from the system and returns earnings for each credit record, or a cumulated credit record for each participant.

Calculation formulas are referenced by plans. Each plan contains a list of formulas to be calculated for each qualifying participant's credit records when the Earning Calculation service is run. You can use a calculation formula across all plans within an operating unit.

Process of Building a Calculation Formula

To build a calculation formula, perform the following tasks:

1. Create a calculation formula record. See "Creating a Calculation Formula Record" on page 85.
2. Add attributes to the calculation formula. See "Adding Attributes to a Formula" on page 89.
3. Add variables to the calculation formula. See "Adding a Variable to a Formula" on page 91.
4. Define calculation components by doing one or more of the following tasks, as needed for the formula, in any order:
   - Define math components for the calculation formula. See "Defining a Math Component" on page 95.
   - Define if-then-else conditions for the calculation formula. See "Defining an If-Then-Else Condition" on page 96.
   - Define matrix calculations for the calculation formula. See "Defining a Matrix Calculation" on page 99.
   - Define step calculations for the calculation formula. See "Defining a Step Calculation" on page 99.
   - Define threshold calculations for the calculation formula. See "Defining a Threshold Calculation" on page 100.
   - Define advanced Java components for the calculation formula. See "Defining an Advanced Java Component" on page 101.
   - Define advanced JavaScript components for the calculation formula. See "Defining an Advanced JavaScript Component" on page 102.
   - Define break and continue components for the calculation formula. See "Defining a Break or Continue Component" on page 104.
   - Define WebService components for the calculation formula. See "Defining a WebService Component" on page 105.

Creating a Calculation Formula Record

This procedure describes how to add a calculation formula record.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To create a calculation formula record

1. Navigate to the Plan & Payment > Formulas view.
2. Click the New Formula link.
3. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the formula.
Formula Type	Select Calculation Formula.
Description	Type a long text description or comment about the formula.

4 In the Calculation Options form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Measure Code	Select the identifying code of the measure to be used in this formula. The chosen measure determines which goal or credit records for each participant can be passed into the formula. You can select only one measure for each formula. **NOTE:** Certain formula variables can override this measure code. For example, you can specify a formula variable that references a cumulated credit or goal from another measure.
Cost Center Selection Method	Select one of the following options to determine the cost center for the result of the formula, in this case an earning: ■ **None.** Do not associate a cost center with this calculation formula. ■ **Specific Cost Center.** Associate a specific cost center with this calculation formula. Specify the cost center in the Cost Center Code field. ■ **Use Result of Formula Variable.** Supply a Cost Center from the result of a formula variable to this calculation formula. Specify the formula variable in the Cost Center Variable Code field. The system determines the Cost Center dynamically each time the Calculation Formula is run. For example, the Cost Center could depend on credit data.
Cost Center Code	If you select Specific Cost Center in the Cost Center Selection Method field, enter the unique identifying code for the cost center you want this calculation formula to use.
Cost Center Variable Code	If you select Use Result of Formula Variable in the Cost Center Selection Method field, select the code for the formula variable you want this calculation formula to use.

Field	Comments
Incentive Type Selection Method	Select one of the following options to determine the incentive type of the result of the formula, in this case an earning: ■ **Specific Incentive Type.** Associate a specific incentive type with this calculation formula. Select the incentive type in the Incentive Type Code field. ■ **Use Result of Formula Variable.** Supply an Incentive Type from the result of a formula variable to this calculation formula. Select the incentive type variable in the Incentive Type Variable Code field. The system determines the Incentive Type dynamically each time the Calculation Formula is run. For example, the Incentive Type could depend on credit data.
Incentive Type	If you select Specific Incentive Type in the Incentive Type Selection Method field, in this field, select the type of incentive earning this formula calculates.
Incentive Type Variable Code	If you select Use Result of Formula Variable in the Incentive Type Selection Method field, select the code for the incentive type you want this calculation formula to use.
Calculate When	Select when this formula is calculated as follows: ■ **Always.** Indicates that the formula is calculated every calendar period. ■ **Calculate at Beginning of Calendar Segment.** Indicates that the formula is calculated at the beginning of the calendar segment selected. ■ **Calculate at End of Calendar Segment.** Indicates that the formula is calculated at the end of the calendar segment selected.
Calendar Segment Type	Select the calendar segment type associated with the calculation period selected in the previous field. The calendar segment type must be a valid segment in your OU calendar.
Credit Selection Method	Select which credits should be processed as follows: ■ **Select Credits in Period.** Credits from the current working period are processed. ■ **Select Credits in Calendar Segment.** Credits from all periods in the calendar segment are processed. The calendar segment is determined by the current working period and the specified Calculate When and Calendar Segment Type settings.

Field	Comments
Create “Zero Result” Record	In some instances, a credit record can be passed into a formula but the formula result is zero for that credit. Select this check box if you want the system to generate a calculation result record of 0 for such credits. Clear this check box if you do not want to keep these results.
Execute Calculation if No Credits	Some participants might not have any credits for the measure specified for the formula. Select this check box if you want the formula to execute for these participants and generate a 0 calculation result record. Clear this check box if you do not want the formula to run for participants with no qualifying credits.
Intermediate Result - Do not use in Earning Summarization	Select or clear this check box to respectively omit or include the results of this calculation formula in earning summarization.

5 In the Earn When Options form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Earn When	Select when calculation results from this formula are summarized and credited to participants. For descriptions of field value options, see “Earn When Field Values” on page 89.
Payment Group Selection Method	Select one of the following options to determine the payment group for the result of the formula, in this case an earning: ■ **Specific Payment Group.** Associate a specific payment group with this calculation formula. Select the payment group in the Payment Group Code field. ■ **Use Result of Formula Variable.** Supply an Payment Group from the result of a formula variable to this calculation formula. Select the payment group variable in the Payment Group Variable Code field. The system determines the payment group dynamically each time the Calculation Formula is run. For example, the payment group could depend on credit data.
Payment Group	If you select Specific Payment Group in the Payment Group Selection Method field, in this field, select the type of incentive earning that this formula calculates.
Payment Group Variable Code	If you select Use Result of Formula Variable in the Payment Group Selection Method field, select the code for the payment group that you want this calculation formula to use.

6 Click Save.

Earn When Field Values

This topic describes the following field value options available in a calculation formula's Earn When field:

- **Automatic.** Earnings are automatically generated when calculation results are generated.
- **Automatic - do not override.** Earnings are generated based on the Earn When setting in either the distribution rule or the credit rule, whichever was last encountered by the system.

  Example. The credit rule specifies generating the earning when a specific event occurs and the distribution specifies Automatic - Do Not Override. In this case, the system generates the earning based on the credit rule setting. If, however, both the credit rule and the distribution Earn When settings are specified, the system uses the distribution setting.

  CAUTION: This option works only if you selected Non-aggregated as the formula's Calculation Frequency. See "Adding Attributes to a Formula" on page 89.
- **In period specified.** Earnings are credited in the period specified in the Earning Period field.
- **After specified number of periods from calculated period.** Earnings are credited a certain number of periods after the calculated result has been generated. Specify this period interval in the Number of Periods field.
- **At end of calendar segment specified.** Earnings are held until the end of a specific segment type. For example, monthly calculations can be held until the end of a quarter or the end of the year. Select the segment type in the Calendar Segments field.
- **In sales transaction event period.** Earnings are held until a specific event occurs on the transaction that led to this calculation result. Select the event type in the Earn When Events field.

  In many situations, you need to mix standard calendars and custom calendars in the same calendar year or across calendar years. If the number of periods in a calendar year changes from one year to the next, formula Earn When options are affected.

  Example. This example shows the calculation of a semiannual bonus. FY2005 has 12 segments in the calendar matching a standard monthly calendar. A bonus program is in effect to be paid in periods 6 and 12 (June 2005 and December 2005). FY2006 has been updated to reflect 24 segments in the calendar beginning January 2006 and ending December 2006. The formulas designed to calculate the semiannual bonuses must be adjusted to reflect the new Earn When periods. Unadjusted formulas will pay this bonus in March 2006 and June 2006 (periods 6 and 12 in the new calendar).

  CAUTION: This option works only if you selected Non-aggregated as the formula's Calculation Frequency. See "Adding Attributes to a Formula" on page 89.

Adding Attributes to a Formula

As part of the formula creation process, you must define one or more data attributes to be referenced by the formula's components. This procedure shows how to add attributes to a formula record.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To add attributes to a formula

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the formula to which you want to add attributes and click its View icon.
3. In the Attributes section, click the Edit icon.
4. Select the appropriate option for each attribute. Attributes are described in the following table.

Attribute	Comments
Calculation Frequency	Select one of the following options: ■ **Non-aggregated Formula.** Runs the calculation formula once for each credit record with the formula's measure. Use this option to keep a running total of credits during plan calculation, to maintain a continuous audit trail from transactions to credit records to calculation results, or to make sure that the Earn When setting for each credit is maintained and carried through to the calculation results. ■ **Aggregated Formula.** Sums each participant's credit records for the chosen measure, and passes the summed result into the calculation formula once to generate a single earning result. Use this option if maintaining a traceable trail from credits to calculation results is not necessary and you want to speed up processing time. **NOTE:** This option ignores the Earn When settings for individual credits. It calculates earnings on all credits according to the calculation formula's Earn When setting.

Attribute	Comments
Get Goals	Select one of the following options: ■ **Individual Goals.** Retrieves the goals from each participant's performance records. ■ **Goals from Organization at Level**. Retrieves the goals from an organization that the participant reports to either directly or through a hierarchy of organizations. The level chosen in the drop-down list helps determine which organization's goals are retrieved. ■ **Goals from Organization (Employee Only).** Retrieves the goals from the organization that the employee directly reports to. You use this option with employee participants only. ■ **No Goals**. Goals are not used in this formula.
Get Credits	Select one of the following options: ■ **Individual Credits.** Retrieves credits from each participant's performance records. ■ **Credits from Organization at Level**. Retrieves the credits from an organization that the participant reports to either directly or through a hierarchy of organizations. The level selected in the drop-down list helps determine which organization's credits are retrieved. ■ **Credits from Organization (Employee Only).** Retrieves the credits from the organization that the employee directly reports to. You use this option with employee participants only. ■ **No Credits**. Credits are not used in this formula.

5 Click Save.

Adding a Variable to a Formula

As part of the formula creation process, you must define one or more data variables to be referenced by the formula's components. This procedure shows how to add variables to a formula record. For information about how to use specific types of variables in calculation formulas, see "About Calculation Formula Variables" on page 93.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To add a variable to a formula

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the formula to which you want to add a variable and click its View icon.

3 In the Variables section, click the Add Variable icon.

4 In the Variable form, complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Alias	Type a label that helps identify a variable when referencing it in formula components. It is recommended that you use aliases that are descriptive and unique. For more information about formula components, see "Defining the Formula Components" on page 94.
Category	Select a data category for this variable. For descriptions of the categories, see "About Calculation Formula Variables" on page 93. According to the category you select, do the following: ■ **Constant.** Select the constant's data type in the Constant field and enter the constant's value in the Value field. ■ **Credit.** Select the data field name in the Credit field. ■ **Cumulated Credit.** Select the measure in the Measure field, the data field name in the Cumulated Credit field, and a cumulating frequency and a data group to denote which cumulated records to use in the formula in the Cumulation Interval | Relevant Period Data field. ■ **Cumulated Goal.** Select the measure in the Measure field, the data field name in the Cumulated Goal field, and a cumulating frequency and a data group to denote which cumulated records to use in the formula in the Cumulation Interval | Relevant Period Data field. ■ **Formula Result.** Select the appropriate formula in the Formula Result field. ■ **Goal**. Select the measure in the Measure field and the data field name in the Goal field. ■ **Any other category.** Select the appropriate Smart Attribute.

Field	Comments
Save to Formula Result Record	Select this check box to store values for this variable in the Calculation Results table. Saving values in this way allows administrators to view reports on every variable value that went into calculating a result. Clear this check box if you do not want to store values for this variable. The system gets the appropriate value for the variable during calculation, calculates the result, discards the value, and goes on to the next calculation. **TIP:** Storing many formula results can cause your database to grow rapidly. As a general rule, if the result value is not required for reporting or auditing, then do not save it.
Keep Running Total for This Variable	Select this check box to keep a running total for this variable as records are processed. For example, this allows you to use the individual sales amount of each transaction in a formula, and to use the sum total of all sales amounts up to that transaction for the current period. This option is mostly used only in conjunction with Threshold Calculations.

5 Click Add.

About Calculation Formula Variables

This topic describes the following types of variables you can use in a formula, along with guidelines for defining them during formula creation:

- **Constant.** This is a constant value that you can refer to multiple times across components. Each constant has a data type that defines how the system treats the constant (number, currency, date, Boolean value, or text string) and the value itself.

  For example, suppose you need to refer to the tax rate for your state within the formula, and that rate is 7.25%, or 0.0725. Instead of entering this number manually each time you need it, you can set up a constant data variable that keeps the value of 0.0725.

- **Formula Result.** Some formulas might need to refer to the calculated result of a previous calculation that used a different calculation formula. Each calculation formula has a result variable that can be accessed by another calculation formula. A formula result variable calls one of the plan's calculation formula names, and searches for that formula's result during plan calculation.

  NOTE: The formula result called by a Formula Result variable is an aggregate of the formula results for all currently processed credits, regardless of whether an Aggregated or Non-aggregated formula was used.

- **Goal.** Determines whether a participant has met his or her objectives for the current period or for a particular segment of the calendar year. A goal can also determine how closely a participant has met objectives, or by how much those objectives were exceeded. How a formula uses goals and goal data fields largely depends on what the formula is designed to accomplish and how goal profiles and measures have been set up in your incentive plan. Goals can be retrieved from individuals and from organizations.
- **Credit.** Determines how much participants obtain in earnings. How a formula uses credit data fields depends on how credit profiles and measures have been set up for your incentive plans. Credits can be retrieved from individuals and from organizations.
- **Cumulated Goal** or **Cumulated Credit.** Optionally used in the same formulas as individual and organizational credits and goals. Cumulated performance data variables are added separately from noncumulated performance data variables, so some goals and cumulated goals (or credits and cumulated credits) refer to the same Variable Name. For this reason, it is highly recommended that you assign a *unique* alias to each cumulated goal and cumulated credit variable, and to each noncumulated goal and noncumulated credit variable.

  When defining a cumulated goal or cumulated credit data variable, you must select a cumulating frequency and a data group in the Cumulation Interval | Relevant Period Data field. This specifies which cumulation records are to be used, because you can have multiple types of cumulations for a single goal or credit. These options are available based on the cumulation settings for the measure used in this formula.
- **Smart attributes.** Other data variable categories are generally customized as *smart attributes*, according to the needs of your company's incentive plans. Smart attributes refer to other data records in the Siebel ICM database beyond performance records. Typically, smart attributes refer to data found on participant records, because this data often determines the end result of incentive calculations. However, smart attributes can refer to any other type of data, including product or customer records.

  Many smart attributes are provided with the ICM software. However, a system administrator can create custom smart attributes, usually during initial implementation.

Defining the Formula Components

As part of the process of building a formula, you must define the set of components for the formula. Component types are described in this topic, along with instructions for setting up each one for use in the formula. You must define some components, such as matrices, step calculations, and threshold calculations before you set them up for use in the formula.

In Siebel ICM, you can define the following types of components:

- **Math components.** Provides operators, functions, and date math components in calculations.
- **If-Then-Else components.** Tests a specified condition and execute a particular calculation if that condition is true; otherwise, they execute a different calculation if the condition is false.
- **Matrix calculations.** Looks up a row and column in a table to find the result value where that row and column intersect. Matrix calculations are used with specific data. For more information, see Chapter 12, "Defining Matrix Calculations."

- **Step calculations.** Interpolates a result value based on the input value, add multiple result values for the same input value, and perform additional calculations on the result value or values. For more information, see Chapter 13, "Defining Step Calculations."
- **Threshold calculations.** Determines, mainly in sales commission plans, commission rates for individual transactions based on the employee's cumulative sales for the period or calendar segment. For more information, see Chapter 14, "Defining Threshold Calculations."
- **Advanced Java components.** Adds flexibility in processing to calculations. However, Java components should not be used unless recommended by Siebel.
- **Advanced JavaScript components.** Gets data from specified sources, perform calculations or conditional tests on that data, and execute specific actions based on the calculated results.
- **Break and Continue components.** Adds break points to control the execution of formulas.
- **WebService components.** Invokes Web services to allow access to information and functionality external to Siebel ICM.

After you have added several components, their order in the Components list identifies the order in which the formula processes them. You can change the order in which the formula executes components by clicking their up arrow and down arrow buttons in the Move column.

The following topics describe how to define the various types of components:

- "Defining a Math Component" on page 95
- "Defining an If-Then-Else Condition" on page 96
- "Defining a Matrix Calculation" on page 99
- "Defining a Step Calculation" on page 99
- "Defining a Threshold Calculation" on page 100
- "Defining an Advanced Java Component" on page 101
- "Defining an Advanced JavaScript Component" on page 102
- "Defining a Break or Continue Component" on page 104
- "Defining a WebService Component" on page 105

Defining a Math Component

Use the following procedure to define math components.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a math component

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select Math and click the Add Component icon.

4 Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type the name or other code to identify the calculated result of this component throughout the rest of the formula. Giving the component's result an alias allows you to feed the result into components that run later.
Rounding Rule Code	Select a code to be applied only to the result of this component. This does not affect the rounding rule selected for the formula. **NOTE:** To avoid rounding errors, it is recommended that you place a rounding rule on the formula's last component only.
Description	Type a description of the component.
Calculation	Create the calculation. You can click the arrow next to a variable name in the Variables box on the left to add that variable to the calculation. Use the mathematical operators to add, subtract, multiply, or divide variable components. You can also type the formula directly into the field. ICM provides built-in support for elements of calculations such as standard sets of operators, functions, and date math components. These are listed in "Building Blocks of Calculation Components" on page 106.

5 Click Add.

Defining an If-Then-Else Condition

Use the following procedure to define an if-then-else condition.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define an if-then-else condition

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the appropriate formula and click its View icon.

3 From the Components drop-down list, select If/Then/Else and click the Add Component icon.

4 Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type the name or other code to identify the calculated result of this component throughout the rest of the formula. Giving the component's result an alias allows you to feed the result into future components.
Condition	Enter the If condition for the component. This condition must evaluate to True to execute the Then statement, or False to execute the Else statement. You can click the arrow next to a variable name in the Variables box on the left to add that variable to the Condition field. Use the conditional test operators (less than, equal to, and so on) to specify the comparison. Variables can be compared to other variables or they can be compared to constant values. For examples, see "Examples of If-Then-Else Conditions" on page 98. ICM provides built-in support for elements of calculations such as standard sets of operators, functions, and date math components. These are listed in "Building Blocks of Calculation Components" on page 106.

Field	Comments
Then	Enter the Then condition for the component. From the drop-down list, select a calculation component to execute when the If statement is true, and then click the Add link. Select any component type other than a conditional test. Choosing a component type and clicking Add displays the page in which you can set up that component, such as a matrix calculation or an arithmetic calculation. **NOTE:** When setting up a component in this way, you cannot assign an alias to the component. The result automatically takes the alias of the If-Then-Else component. Click the Add button for the component to add this Then component and redisplay the If-Then-Else component page.
Else	Enter the Else condition for the component. Adding a component in the Else field is optional. If you want the conditional test to evaluate to zero when the If condition fails, do not add components in this field. From the drop-down list, select a calculation component to execute when the If statement is false, and then click the Add link. Select any component type other than a conditional test. Choosing a component type and clicking Add displays the page in which you can set up that component, such as a matrix calculation or an arithmetic calculation. **NOTE:** When setting up a component in this way, you cannot assign an alias to the component. The result automatically takes the alias of the If-Then-Else component. Click the Add button for the component to add this Else component and redisplay the If-Then-Else component page.

5 Click Add.

Examples of If-Then-Else Conditions

This topic shows examples of some If conditions:

- **If Quota_Goal >= Period_Attainment.** This condition compares two variables. If Quota_Goal is greater than or equal to the Period_Attainment, then the formula executes whatever is in the *Then* statement. Otherwise, it goes to the *Else* statement.
- **If (Sales_Amount > 50,000) || (Sales_Credit > 20,000).** This condition first examines the Sales_Amount variable to see if it is greater than 50,000. If so, the formula moves on to the *Then* statement. If not, the system checks the Sales_Credit variable to see if that amount is larger than 20,000. If so, the formula goes to the *Then* statement. Otherwise, having failed both conditions, the formula goes on to the *Else* statement.

Defining a Matrix Calculation

Use the following procedure to define a matrix calculation.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a matrix calculation

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select Matrix Calculation and click the Add Component icon.
4. Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type an identifying name for the resulting value of this matrix component. This allows other components of the formula to refer to the matrix result for further calculation.
Matrix Calculation Code	Select a matrix calculation that you want to add as a component. After choosing a matrix, you can click the View link to see the matrix and verify that it is the one you want to add.
Rounding Rule Code	Select a code. This code applies only to the result of this component.
Row Input Value	Select a data variable defined for the formula or a component result alias for a previously added component. This defines the data source for the matrix rows.
Column Input Value	Select a data variable defined for the formula or a component result alias for a previously added component. This defines the data source for the matrix columns. If the matrix was defined to use zero columns, leave this field blank.

5. Click Add.

Defining a Step Calculation

Use the following procedure to define a step calculation.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a step calculation

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the appropriate formula and click its View icon.

3 From the Components drop-down list, select Step Calculation and click the Add Component icon.

4 Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Step Calculation Code	Select a step calculation to add as a component. To verify that you have selected the correct step calculation, click its View link.
Result Alias	Type an identifying name for the resulting value of this step calculation component. This allows other components of the formula to refer to the step calculation result for further calculation.
Rounding Rule Code	Select a code. This code applies only to the result of this component.
Input Value	Select a data variable defined for the formula or a component result alias for a previously added component. This defines the data source for the step calculation's primary input value.
Secondary Value	Select a data variable defined for the formula or a component result alias for a previously added component. This field is displayed if the step calculation was defined to treat input values as percentages. The primary input value is divided by the secondary input value, then converted to a percentage value, to determine the actual input value for the step calculation.

5 Click Add.

Defining a Threshold Calculation

Use the following procedure to define a threshold calculation.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a threshold calculation

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the appropriate formula and click its View icon.

3 From the Components drop-down list, select Threshold Calculation and click the Add Component icon.

4 Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Threshold Calculation Code	Select the threshold calculation that you want to add as a component. To verify that you have selected the correct threshold calculation, click its View button.
Result Alias	Type an identifying name for the resulting value of this threshold calculation component. This allows other formula components to refer to the threshold calculation result for further calculation.
Rounding Rule Code	Select a code. This code applies only to the result of this component.
Prior Periods Cumulated Attainment	Select a cumulated credit data variable. The system interprets this as the cumulated attainment for all periods prior to the current processing period.
Current Credit Attainment	Select a credit data variable or an alias for another formula component. The system interprets this as the source for the current credit being processed through the threshold calculation.
Period-to-Date Attainment (Running Total)	Select a credit data variable or an alias for another formula component. The system interprets this as the cumulated attainment credit for all credits up to the current credit being processed.
Cumulate Goal Amount through Current Period	Select a goal data variable or cumulated goal variable. If the threshold treats input values as a percentage of goal values, the system first calculates the ratio of the Period-to-Date Attainment data to the Cumulate Goal Amount through Current Period data. This value is passed into the threshold for calculation.

5 Click Add.

Defining an Advanced Java Component

Use the following procedure to define an advanced Java component.

CAUTION: Do *not* use advanced Java components unless it is recommended by Oracle Professional Services. Use Java components only if an advanced JavaScript component is found to be performing poorly, cannot be improved through JavaScript, and still requires a considerable amount of service execution time.

The use of Java components is not recommended because the classes themselves must be compiled outside of Siebel ICM and provided in the classpath. This means that they are not versioned within Siebel ICM. It is therefore the responsibility of the implementer to create new class names with each version of a Java component, and to update the Java component with the new class name accordingly. Failure to do so can prevent the correct recalculation of previous periods by retroactive processing.

If you do use Java components, the following items can slow the execution of the component:

- Calling SQL statements
- Writing results back to credits

For an example of how advanced components can be used, see "Advanced Component Modularity and Non-Numeric Results" on page 103.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define an advanced Java component

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select Advanced Java Component and click the Add Component icon.
4. Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type an identifying name for the resulting value of this advanced component. This allows other components of the formula to refer to the advanced component result for further calculation.
Rounding Rule Code	Select one of None, SRR2, or NoRounding. The rule applies only to the result of this component.
Description	Type a text description or comment regarding this component.
Java Class Name	Type the fully-qualified Java class name to be run. The class must implement com.motiva.ce.formula.component.JavaComponent.

5. Click Add.

Defining an Advanced JavaScript Component

Use the following procedure to define an advanced JavaScript component.

For an example of how advanced components can be used, see "Advanced Component Modularity and Non-Numeric Results" on page 103.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define an advanced JavaScript component

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select Advanced Component and click the Add Component icon.
4. Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type an identifying name for the resulting value of this advanced component. This allows other components of the formula to refer to the advanced component result for further calculation.
Rounding Rule Code	Select a code. This code applies only to the result of this component.
Description	Type a text description or comment regarding this component.
Advanced JavaScript Calculation	Select a JavaScript code for the advanced calculation.

5. Click Add.

Advanced Component Modularity and Non-Numeric Results

ICM formula components can return non-numeric results as well as numeric results. Formula components can return any Java object including, but not limited to, Double, String, Date, Boolean, ProductImpl, and Reading. Also, you can split complex advanced components into simpler, reusable modules. This allows you to design flexibly for maintenance, debugging, and reuse of advanced components.

For example, suppose you need to write an advanced component to perform functions in the following order:

1. Find the line type by using the credit.event.line relationship.
2. Return the previous line type.

   In this case, the Initial line type returns nothing, the Trailer1 line type returns Initial, the Trailer2 line type returns Trailer1, the Trailer3 line type returns Trailer2, and so on.
3. Fetch the line for the previous line type.
4. Return the value of a reading on that line.

You can divide this advanced component into four modules. Each module displays its result separately. When you run the calculation, ICM displays the results shown in Table 14.

Table 14. Persisted Component Results

Result Alias	Functional Result	Details
currentLineType	Trailer2	Advanced Calculation: return the LineType
previousLineType	Trailer1	Advanced Calculation: a switch statement. Return the "previous" line type.
previousLine	Line | line1	Advanced Calculation: return the previous line
previousLineReading	214.0	Advanced Calculation: return a Line Attribute Value from the previous line

Defining a Break or Continue Component

ICM provides built-in advanced components that you can use as follows:

- **Break.** Allows you to place a break point in the execution of a formula. A break component stops formula execution, generates no result, and continues to the next formula.

  You might want to stop processing a formula for performance reasons.

- **Continue.** This is a special case of the break component, designed for non-aggregated formulas. Continue allows you to place a break point in the execution of a formula for the one credit currently processing. A continue component stops formula execution, generates no result, and continues to the next credit.

  You might want to stop processing a formula for performance reasons.

  If the formula runs once for all credits, continue behaves the same as break.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a break or continue component

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select either Break or Continue.
4. Click the Add Component icon.

   The break or continue component appears at the end of the Components list.

Defining a WebService Component

Use the following procedure to define a WebService component.

This task is a step in "Process of Building a Calculation Formula" on page 84.

To define a WebService component

1. Navigate to Plan & Payment > Formulas.
2. In the Formulas Found list, find the appropriate formula and click its View icon.
3. From the Components drop-down list, select WebService and click the Add Component icon.
4. Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Result Alias	Type an identifying name for the resulting value of this WebServices component. This allows other components of the formula to refer to the WebService component result for further calculation.
Rounding Rule Code	Select a code. This code applies only to the result of this component.
Description	Type a text description or comment regarding this component.
WSDL URL	Enter the URL for the Web Services Definition Language (WSDL) document. **NOTE:** You can get this URL from Web sites like BindingPoint.com.

5. After you enter a WSDL URL, click Get Operations.

   ICM displays a list of available operations obtained from the WSDL URL.
6. Complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Operation	Type the operation you want this WebService to perform.
Parameters	Type the parameters to be passed to the WebService. Separate each parameter by a space.
Requested Result	Type the result you want from the WebService.

7. Click Test WebService to test the setup of this WebService component.
8. Click Add.

Building Blocks of Calculation Components

Siebel ICM's Formula Component functionality supports standard sets of operators, functions, and date math components. They can be used in the following types of formula calculation components:

- Math components
- The If portions of If-Then-Else conditions

  Example. If (X >= 200) Then [Matrix] Else [Math Component]
- Step calculations

  Example. In the Additional Calculation section, (RS1+IV) *1.1

The following topics list and describe these building blocks of calculation components:

- "Formula Operators" on page 106
- "Formula Functions" on page 107
- "Date Math Components" on page 108

Formula Operators

You can use formula operators in Math components and If-Then-Else components. Table 15 lists the formula operators supported by Siebel ICM.

Table 15. Formula Operators

Name	Symbol in Formula	Description of Symbol	Operates on Numbers, Currency, and Dates[1]	Operates on Strings
Addition	+	Plus sign	Yes	Yes
Boolean And	&&	Double Ampersands	Yes	No
Boolean Not	!	Exclamation point	Yes	No
Boolean Or	||	Two vertical bar	Yes	No
Division	/	Slash mark	Yes	No
Equal	==	Double equal signs	Yes	Yes
Greater Than	>	Greater than sign	Yes	No
Less or Equal	<=	Less than and equal sign	Yes	No
Less Than	<	Less than sign	Yes	No

Table 15. Formula Operators

Name	Symbol in Formula	Description of Symbol	Operates on Numbers, Currency, and Dates[1]	Operates on Strings
Modulus	%	Percentage symbol	Yes	No
More or Equal	>=	Greater than and equal sign	Yes	No
Multiplication	*	Asterisk	Yes	No
Not Equal	!=	Exclamation point and equal sign	Yes	Yes
Power	^	Caret	Yes	No
Subtraction	-	Minus sign	Yes	No
Unary Minus	-x	Minus sign and lowercase x	Yes	No
Unary Plus	+x	Plus sign and lowercase x	Yes	No

1. Siebel ICM treats numbers, currency, and dates as Double types. A Double is a 64-bit numeric value, with decimal point. The system stores a Date as a Double, though the UI displays it as a human-readable date. This allows the math operators to operate on a Date.

Formula Functions

Table 16 lists the formula functions supported by Siebel ICM.

Table 16. Formula Functions

Name	Symbol in Formula	No. of Arguments	Operates on Numbers, Currency, and Dates[1]
Absolute Value or Magnitude	abs()	1	Yes
Angle	angle()	1	Yes
Arc Cosine	acos()	1	Yes
Arc Sine	asin()	1	Yes
Arc Tangent	atan()	1	Yes
Cosine	cos()	1	Yes
Hyperbolic Cosine	cosh()	1	Yes
Hyperbolic Sine	sinh()	1	Yes

Table 16. Formula Functions

Name	Symbol in Formula	No. of Arguments	Operates on Numbers, Currency, and Dates[1]
Hyperbolic Tangent	tanh()	1	Yes
Inverse Hyperbolic Cosine	acosh()	1	Yes
Inverse Hyperbolic Sine	asinh()	1	Yes
Inverse Hyperbolic Tangent	atanh()	1	Yes
Logarithm Base 10	log()	1	Yes
Modulus	mod()	2. Syntax: `mod(5,2)`	Yes
Natural Logarithm	ln()	1	Yes
Random Number (between 0 and 1)	rand()	0	No
Sine	sin()	1	Yes
Square Root	sqrt()	1	Yes
Sum	sum()	1 or more. Syntax: `sum(value1, value2, ...)` Arguments are a comma-separated list that can be passed in.	Yes
Tangent	tan()	1	Yes

1. Siebel ICM treats numbers, currency, and dates as Double types. A Double is a 64-bit numeric value, with decimal point. The system stores a Date as a Double, though the UI displays it as a human-readable date. This allows the math functions that take a Double as input to take a Date as input.

Date Math Components

Table 17 lists the date math components supported by Siebel ICM.

Table 17. Date Math Components

Name	Syntax	Comments
DATEVALUE	DATEVALUE(date_text)	Takes a date in text format as input. Returns the date's serial number.
TODAY	TODAY()	Returns the current date in date format.

Table 17. Date Math Components

Name	Syntax	Comments
NOW	NOW()	Returns the current date and time in date and time format.
daysBetweenDates	daysBetweenDates(date, date)	Takes two dates as input. Returns the absolute number of days between them. See "Examples of Date Math Components" on page 109.
dateStringTo Milliseconds	dateStringTo Milliseconds(string)	Converts a date string, for example, in the format MM/DD/YYYY to a millisecond value. You should avoid storing dates as String types and instead use the Date type. To convert any Date to milliseconds, use a Math Component containing just the Result Alias. See "Examples of Date Math Components" on page 109.
stringContains	stringContains(string1, string2)	Takes two user-defined strings as input. It compares the strings and returns values as follows: If String2 is contained in String1, then it returns 1 (true). If not, it returns 0 (false). See "Examples of Date Math Components" on page 109.

Examples of Date Math Components

This topic shows some examples of how to use date math components:

- **Example of dateStringToMilliseconds.** dateStringToMilliseconds (for example "03/05/2003") returns a double containing the millisecond value of that date.

  This component handles the date format mm/dd/yyyy only. To convert a Date to milliseconds for any locale, use a Math Component containing only the Result Alias.

- **Example of daysBetweenDates.** Suppose your plan states that all employees must be in their current position for 30 days before they receive commission earnings for any sales in their territory. You can use the daysBetweenDates function to compare an employee's job start date to the event date on the transaction. If the result is greater than or equal to 30, the participant receives payment for that transaction line. The following is an example of how to use the function:

  a. Create a Smart Attribute for EarningCalculationService in the Transaction category that contains the script text:

     ```
     return SYS_CREDIT.getTransactionEvent().getEventDate();
     ```

  b. Create a formula variable called EventDate that uses the Transaction Smart Attribute you created in the previous step.

  c. Create a formula variable called JobStartDate that uses the supplied Employee Smart Attribute called Job Start Date.

  d. Create a Math component that contains the script:

     ```
     daysBetweenDates(JobStartDate, EventDate)
     ```

- **Example of stringContains.** stringContains(v_LOCATION_CODE, "01CA")

  In this case, assume that v_LOCATION_CODE="A234-01CA". This function returns 1.

Ongoing Tasks for Formulas

After you define a formula, you can perform various operations with it. These include the following tasks:

- Attaching one or more supporting documents to a formula. See "Attaching a Document to a Record" on page 32.
- Copying a formula so you can modify it to create a new formula. See "Copying a Record" on page 30.
- Identifying where formula components and formulas are used in your incentive plans. See "Identifying Where a Record Is Used" on page 34.

10 Building Summary Formulas

This chapter describes summary formulas and their use in plans, and includes the following topics:

About Summary Formulas

A *summary formula* is a formula that specifies how to combine calculation formula results to generate final earnings to participants.

For a general discussion of formulas, see "About Formulas" on page 83.

Process of Building a Summary Formula

To create a summary formula, perform the following tasks:

Creating a Summary Formula Record

This procedure describes how to create a summary formula record.

This task is a step in "Process of Building a Summary Formula" on page 111.

To create a summary formula record

1. Navigate to Plan & Payment > Formulas.
2. Click the New Formula link.
3. In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the formula.

Field	Comments
Formula Type	Select Summary Formula.
Description	Type a long text description or comment about the formula.

4 Click Save.

Adding a Variable to a Summary Formula

This procedure describes how to add variables to a summary formula record.

This task is a step in "Process of Building a Summary Formula" on page 111.

To add a variable to a summary formula

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the summary formula to which you want to add a variable and click its View icon.

3 At the top of the Variables list, click the Add Variable link.

4 In the Variable form, complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Alias	Type a label that helps identify a variable when referencing it in formula components. Use aliases that are descriptive and unique. For more information about formula components, see "Building Blocks of Calculation Components" on page 106.
Category	Select a data category for this variable. Some fields on this form change dynamically according to the category you select. For descriptions of the categories, see "About Summary Formula Variables" on page 114. According to the category you select, do the following: ■ **Constant.** Select the constant's data type in the Constant field and enter the constant's value in the Value field. ■ **Released Earnings Summed by Calculation Formula.** In the Released Earnings Summed by Calculation Formula field, select the calculation formula for the released earnings. ■ **Released Earnings Summed by Incentive Type.** In the Released Earnings Summed by Incentive Type field, select the incentive type for the released earnings. ■ **Released Earnings Summed by Payment Group.** In the Released Earnings Summed by Payment Group field, select the payment group for the released earnings. ■ **Released Earnings Totaled.** ■ **Any other category.** Select the appropriate Smart Attribute.
Save to Formula Result Record	Select this check box to store values for this variable in the Calculation Results table. Saving values in this way allows you to view reports on every variable value that went into calculating a result. Clear this check box if you do not want to store values for this variable. The system gets the appropriate value for the variable during calculation, calculates the result, discards the value, and goes on to the next calculation.
Keep Running Total for This Variable	Select this check box to keep a running total for this variable as records are processed. For example, this allows you to use the individual sales amount of each transaction in a formula, as well as to use the sum total of all sales amounts up to that transaction for the current period. This option is usually used only in conjunction with Threshold Calculations.

5 Click Add.

About Summary Formula Variables

This topic describes the types of variables you can use in a summary formula, along with guidelines for defining them during summary formula creation.

You can use the variables in a summary formula to reproduce the default summarization algorithm in a summary formula, and to do any other modifications that might be needed. The Released Earnings Summed by Payment Group variable does all the logic for the default summarization, and the other variables provide additional information that could be factored in. The default summarization computation is as follows:

```
For each (Payment Group)
{
   Summarized Earning = Sum(Released Earnings for Payment Group)
}
```

- **Constant.** A constant value that you can refer to multiple times across components. Each constant has a data type that defines how the system treats the constant (number, currency, date, Boolean value, or text string) and the value itself.

  For example, suppose you need to refer to the tax rate for your state within the formula, and that rate is 7.25%, or 0.0725. Instead of entering this number manually each time you need it, you can set up a constant data variable that keeps the value of 0.0725.

- **Released Earnings Summed by Calculation Formula.** The released earnings summed using a calculation formula that is used in the Earning Summarization service.

- **Released Earnings Summed by Incentive Type.** The released earnings summed by an incentive type that is used in the Earning Summarization service. Incentive types are user-defined and might include commission, bonus, and so on.

- **Released Earnings Summed by Payment Group.** The released earnings summed by payment group.

- **Released Earnings Totaled.** The total for the participant, and the total of all the released earnings created through the Earning Calculation service. The earnings calculation is performed for each eligible participant and the totals are maintained for each individual participant.

- **Smart attributes.** Other data variable categories are generally customized as smart attributes, according to the needs of your company's incentive plans. Smart attributes refer to other data records in the Siebel ICM database beyond performance records. Typically, smart attributes refer to data found on participant records, because this data often determines the end result of incentive calculations. However, smart attributes can refer to any other type of data, including product or customer records.

  Specifically, smart attributes that are available to summary formula as variables are the ones that are defined for the Earning Calculation service and that have the Available for Earning Summarization / Does Not Require Credit Data flag set to TRUE.

  The ICM software comes with many smart attributes. However, a system administrator can create custom smart attributes, usually during initial implementation.

Adding a Component to a Summary Formula

This procedure describes how to add components to a summary formula record.

This task is a step in "Process of Building a Summary Formula" on page 111.

To add a component to a summary formula

- You add components to a summary formula the same way you add components to a calculation formula. For instructions, see "Defining the Formula Components" on page 94.

11 Building Payment Formulas

This chapter describes payment formulas and their use in plans, and includes the following topics:

About Payment Formulas

A *payment formula* is a formula that generates trial payments. The system runs payment formulas when running the Trial Payment Calculation service. In your Payment Plan, for each payment group, you decide whether you want to use a Payment formula that you have created, or whether you want to use the default Trial Payment Calculation option.

For a general discussion of formulas, see "About Formulas" on page 83. For information about trial payments and how they are generated, see Chapter 21, "Calculating Earnings and Payments." For information about the Trial Payment Calculation service, see "About Services" on page 149.

Process of Building a Payment Formula

To create a payment formula, perform the following tasks:

Creating a Payment Formula Record

This procedure describes how to create a payment formula record.

This task is a step in "Process of Building a Payment Formula" on page 117.

To create a payment formula record

1. Navigate to Plan & Payment > Formulas.
2. Click the New Formula link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the formula.
Formula Type	Select Payment Formula.
Description	Type a long text description or comment about the formula.

4 Click Save.

Adding a Variable to a Payment Formula

This procedure describes how to add variables to a payment formula record.

This task is a step in "Process of Building a Payment Formula" on page 117.

To add a variable to a payment formula

1 Navigate to Plan & Payment > Formulas.

2 In the Formulas Found list, find the payment formula to which you want to add a variable and click its View icon.

3 At the top of the Variables list, click the Add Variable link.

4 In the Variable form, complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Alias	Type a label that helps identify a variable when referencing it in formula components. Use aliases that are descriptive and unique. For more information about formula components, see "Building Blocks of Calculation Components" on page 106.
Category	Select a data category for this variable. Some fields on this form change dynamically according to the category you select. For descriptions of the categories, see "About Payment Formula Variables" on page 120. According to the category you select, do the following: ■ **Constant.** Select the constant's data type in the Constant field and enter the constant's value in the Value field. ■ **Released Earnings Summed by Calculation Formula.** In the Released Earnings Summed by Calculation Formula field, select the calculation formula that adds up the released earnings. ■ **Released Earnings Summed by Incentive Type.** In the Released Earnings Summed by Incentive Type field, select the incentive type for the released earnings. ■ **Released Earnings Summed by Payment Group.** In the Released Earnings Summed by Payment Group field, select the payment group for the released earnings. ■ **Released Earnings Totaled.** ■ **Summarized Earning Adjustments Summed by Payment Group.** In the Summarized Earning Adjustments Summed by Payment Group field, select the payment group for the summarized earning adjustments. ■ **Payments Summed by Payment Group.** In the Payments Summed by Payment Group field, select the payment group for the payments. ■ **Beginning Balance by Payment Group.** In the Beginning Balance by Payment Group field, select the payment group for the beginning balance. ■ **Summarized Earnings by Payment Group.** In the Summarized Earnings by Payment Group field, select the payment group that summarizes the earnings. ■ **Any other category.** Select the appropriate Smart Attribute.

Field	Comments
Save to Formula Result Record	Select this check box to store values for this variable in the Calculation Results table. Saving values in this way allows administrators to view reports on every variable value that went into calculating a result. Clear this check box if you do not want to store values for this variable. The system gets the appropriate value for the variable during calculation, calculates the result, discards the value, and goes on to the next calculation.
Keep Running Total for This Variable	Select this check box to keep a running total for this variable as records are processed. For example, this allows you to use the individual sales amount of each transaction in a formula, as well as to use the sum total of all sales amounts up to that transaction for the current period. This option is mostly used only in conjunction with Threshold Calculations.

5 Click Add.

About Payment Formula Variables

This topic describes the types of variables you can use in a payment formula, along with guidelines for defining them during payment formula creation. You can use the variables in a payment formula to reproduce the default Trial Payment Formula and modify that formula. The default trial payment computation is as follows:

```
For each (Payment Group)
{
   Trial Payment =  Period Beginning Balance for Payment Group
      + Summarized Earning for Payment Group
      + Sum(Summarized Earning Adjustments for Payment Group)
      – Sum(Payments for Payment Group)
}
```

- **Constant.** A constant value that you can refer to multiple times throughout components. Each constant has a data type that defines how the system treats the constant (number, currency, date, Boolean value, or text string) and the value itself.

  As an example of using a constant value, suppose you need to refer to the tax rate for your state within the formula, and that rate is 7.25%, or 0.0725. Instead of entering this number manually each time you need it, you can set up a constant data variable that keeps the value of 0.0725.

- **Released Earnings Summed by Calculation Formula.** The sum of released earnings for this participant and period for the calculation period provided.

  NOTE: Released earnings are earnings that are not held, and are therefore available to the Earning Summarization process. For more information about holding and releasing earnings, see “Holding and Releasing Earnings” on page 195.

- **Released Earnings Summed by Incentive Type.** The sum of released earnings for the current participant and period for incentive type provided. Incentive types are user-defined and might include commission, bonus, and so on.
- **Released Earnings Summed by Payment Group.** The sum of released earnings for the current participant and period for the payment group provided.

  Released Earnings Totaled. The total of all released earnings for the current participant and period, and the total of all the released earnings created through the Earning Calculation service. The earnings calculation is performed for each eligible participant and the totals are maintained for each individual participant.
- **Summarized Earning Adjustments Summed by Payment Group.** The sum of earnings adjustments for this participant and the payment group provided. The payment formula factors these adjustments in when the Trial Payment Calculation service is run.
- **Payments Summed by Payment Group.** The sum of payments for the current participant and period for the payment group provided.
- **Beginning Balance by Payment Group.** The beginning balance for the period for the participant by payment group.
- **Summarized Earnings by Payment Group.** The summarized earnings for the participant.
- **Smart attributes.** Other data variable categories are generally customized as smart attributes, according to the needs of your company's incentive plans. Smart attributes refer to other data records in the Siebel ICM database beyond performance records. Typically, smart attributes refer to data found on participant records, because this data often determines the end result of incentive calculations. However, smart attributes can refer to any other type of data, including product or customer records.

  The ICM software comes with many smart attributes. However, a system administrator can create custom smart attributes, usually during initial implementation.

Adding a Component to a Payment Formula

This procedure describes how to add components to a payment formula record.

This task is a step in "Process of Building a Payment Formula" on page 117.

To add a component to a payment formula

- You add components to a payment formula the same way you add components to a calculation formula. For instructions, see "Defining the Formula Components" on page 94.

12 Defining Matrix Calculations

Compensation administrators set up matrix calculations as part of creating formulas. This chapter describes matrix calculations in Siebel ICM and includes the following topics:

About Matrix Calculations

A *matrix calculation* is a way to obtain values to be used in calculation formulas. A matrix consists of rows and columns, similar to a spreadsheet table. At the intersection of each row and column is a cell that contains a result value. When a matrix calculation is called from a formula component, the system feeds the matrix a row input value and a column input value (for matrices with only one column, no column input value is needed), and then looks up the value in the appropriate cell. This value is treated as the matrix calculation result.

Row and Column Types

Siebel ICM permits several different types of rows and columns to be used in creating a matrix. The row or column type determines how row and column headers can be set up. The type also tells Siebel ICM what type of data it should expect to pass into a row or column. For example, if rows are set up to hold Text Only, then any data passed into the matrix rows must be text strings, not currency or dates. If columns are set up as Numbers Only, then the data passed into the matrix columns must be in numeric format, not currency or text.

For both rows and columns, the valid types are as follows:

- **Text Only**. Each row or column header can contain a single value that can be any alphanumeric text. The system treats these values as strings, not as numbers.
- **Text Ranges.** Each header contains two alphanumeric text values to define the beginning and ending points of a range of text values.
- **Text with Wildcards**. This is the same as Text Only but each value can contain wildcard characters (* or ?) to substitute for regular characters.
- **Numbers Only**. Each row or column header can contain a single value that can be any number. The system treats these values as numbers, not as text or currency.
- **Number Ranges**. Each header contains two numeric values to define the beginning and ending points of a range of number values.
- **Date Ranges.** Each header contains two date values to define the beginning and ending points of a range of date values.
- **Date Only**. Each row or column header can contain a single value that can only be a date. The system treats these values as dates, not as text or currency.

When a row or column is set up to hold a range, the two values entered in each header define the start and end points of each range. When a data value is passed into the matrix from the formula, the system examines each header range to find the appropriate row or column.

Ranges are typically used when the matrix must look up numeric amounts that can be of any size. This allows a row or column to cover a range of numeric values, instead of requiring one for each possible value. Single value headers are typically used when there is a small, specific set of values that can be passed into a matrix, such as product codes or job codes.

When ranges are used and the values are not always whole numbers, a rounding rule must be placed on the matrix input to make sure that each data value qualifies for a row or column.

Each row covers a range whose end point is .999. To avoid values coming into the matrix and falling between rows (for example 39.9991), a rounding rule is placed on the row. This rounding rule rounds each input number to three digits after the decimal.

Three-Dimensional Matrix Calculations

A matrix calculation can apply to every participant or participants with a specific job code within a specific organization, or they can be set up for individual participants. Each matrix calculation must have the same identity code and name for it to apply to a different participant, job, or organization. Such matrix calculations are called *three-dimensional* because the Apply To choice acts as a third axis, in addition to the matrix's rows and columns.

You can refer to the matrix by its code within a calculation formula, but have a different matrix calculation for each participant. When running a calculation formula for a participant, the system determines which specific matrix calculation is to be used according to the following logic:

- If the matrix calculation has been set up for the specific participant, it uses that matrix.
- If the specific participant matrix is not found, the system looks for a matrix specific to the participant's job code.
- If that matrix cannot be found, the system looks for a matrix specific to the organization that the employee or participant reports to.
- If no other matrix has been found, the system uses the default matrix with the specified code.

Process of Defining a Matrix Calculation

To define a matrix calculation, perform the following tasks:

1. "Setting Up a Matrix Calculation" on page 124
2. "Adding a Row or Column to the Matrix" on page 126

Setting Up a Matrix Calculation

Use the following procedure to set up a matrix calculation.

This task is a step in "Process of Defining a Matrix Calculation" on page 124.

To set up a matrix calculation

1 Navigate to the Plan & Payment > Matrix Calculations view.

2 Click the New Matrix Calculation link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Select a code. The matrix calculation code does *not* uniquely identify the matrix calculation within Siebel ICM. The code must be combined with the values in the Apply To Type and Apply To Code fields to create a uniquely identifiable matrix.
Type	Select either Rows and Columns or Rows Only. If you select Rows Only, your matrix will contain multiple rows but only one column of result values. For this type of matrix, skip to Step 4.
Apply To Type	Select one of the following options: ■ **Default.** This matrix is the default matrix that is used in a calculation formula if no other matrix with the same code can be found for the participant, job code, or organization. ■ **Organization.** This matrix applies only to participants within a specific organization, and overrides the default matrix with the same code. Specify the organization code in the Apply To Code field. ■ **Job.** This matrix applies only to participants (employees) with a specific job code and overrides the default and organization matrices with the same code. Specify the job code in the Apply To Code field. ■ **Employee.** The matrix applies to one specific employee, and overrides other matrices with the same code. Specify the employee's code in the Apply To Code field.

4 In the Rows section of the Matrix Attributes form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Rows Label	Type the data that each row header holds. The Row Label is only a label and does not actually connect the rows to that type of data.
Rows Needed	Type the total number of rows needed for the matrix.

Field	Comments
Row Type	Select the type of data the matrix should expect for the rows.
Rounding Rule Code	Select the way values that are passed into the matrix must be rounded before being referenced in rows.

5 In the Columns section of the Matrix Attributes form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Columns Label	Type the data that each column header holds. The Columns Label is only a label and does not actually connect the columns to that type of data.
Columns Needed	Type the total number of columns needed for the matrix.
Columns Type	Select the type of data the matrix should expect for the columns.
Rounding Rule	Select the way values that are passed into the matrix must be rounded before being referenced in columns.

6 Click Save.

Adding a Row or Column to the Matrix

Use the following procedure to add an additional row or column to the matrix.

This task is a step in "Process of Defining a Matrix Calculation" on page 124.

To add a row or column to the matrix

1 Navigate to the Plan & Payment > Matrix Calculations view.

2 Find the matrix calculation to which you want to add another row or column and click its View icon.

3 In the Matrix section, click the Edit icon.

4 Select the radio button on the row or column header depending on whether you want to add a row or column.

5 From the Matrix drop-down list in the top-right corner, select one of the following as appropriate, and then click Submit:

- Add Row Above
- Add Row Below
- Add Column Left
- Add Column Right

6 To delete a row or column, do the following:

- Click the radio button on the row or column header depending on whether you want to delete the row or the column.
- Select either Delete Current Row or Delete Current Column in the Matrix drop-down list in the top-right corner.

7 Click Submit to view edits, and then click Save.

13 Defining Step Calculations

Compensation administrators set up step calculations as part of creating formulas. This chapter describes step calculations in Siebel ICM and includes the following topics:

About Step Calculations

Step calculations are similar to matrix calculations in that the system compares an input amount to ranges on a table and finds the appropriate resulting value. Step calculations are much more powerful than matrix calculations, however, because they can be used to:

- Interpolate the resulting value from a range of values.
- Assign multiple resulting values to the same range of input values, and add those results.
- Perform additional calculations on resulting values.

If interpolation is used, the system calculates the resulting value based on the input amount and the given range of resulting values. For example, suppose the first range of input values is 0-100 and the associated result range is 0-10. If the input number is 20, the resulting value is 2; if the input is 75, the resulting value is 7.5.

By entering the same range of input values in multiple rows, you can perform multiple calculations on amounts in the given range and then add those results together. Using the same example, suppose the second range of input values is also 0-100, but the second range of results is 0-20. A simple calculation would be to add these two results together to achieve a final result. Thus, if the input number is 20, the first range returns 2 and the second range returns 4, so the final result is 6.

For each row of input values, you can specify additional calculations to be performed on the first result. Following the previous example, for the first row of values you could take the resulting value and divide it by 100, then multiply that number by the total sales amount achieved. The resulting number, in this example, would be the total commission the salesperson receives on the sale.

Three-Dimensional Step Calculations

You can set up a step calculation to apply to every participant, to participants with a specific job code, within a specific organization, or to an individual participant. Each step calculation must have the same identity code and name for it to apply to a different participant, job, or organization. These step calculations are called *three-dimensional* because the Apply To choice acts as a third axis, in addition to the step calculation's rows and column.

This system allows you to refer to the step calculation by its code within a calculation formula, yet have a different step calculation for each participant. When running a calculation formula for a participant, the system determines which specific step calculation is to be used according to the following logic:

- If the step calculation has been set up for the specific participant, it uses that step calculation.
- If the specific participant step calculation is not found, the system looks for a step calculation specific to the participant's job code.
- If that step calculation cannot be found, the system looks for a step calculation specific to the organization that the employee or participant reports to.
- If no other step calculation has been found, the system uses the default step calculation with the specified code.

Process of Defining a Step Calculation

To define a step calculation, perform the following tasks:

1. "Setting Up a Step Calculation" on page 130
2. "Setting Up the Step Calculation Options" on page 131
3. "Creating the First Step Row" on page 132

Setting Up a Step Calculation

Use the following procedure to set up a step calculation.

This task is a step in "Process of Defining a Step Calculation" on page 130.

To set up a step calculation

1. Navigate to the Plan & Payment > Step Calculations view.
2. Click the New Step Calculation link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Select a code. The step calculation code does *not* uniquely identify the step calculation within Siebel ICM. The code must be combined with the values in the Apply To Type and Apply To Code fields to create a uniquely identifiable step calculation.
Apply To Type	Select one of the following options: ■ **Default.** This step calculation is the default that is used in a calculation formula if no other step calculation with the same code can be found for the participant, job code, or organization. ■ **Organization.** This step calculation applies only to participants within a specific organization, and overrides the default step calculation with the same code. Select the organization code in the Apply To Code field. ■ **Job.** This step calculation applies only to participants with a specific job code and overrides the default and organization step calculations with the same code. Select the job code in the Apply To Code field. ■ **Employee.** The step calculation applies to one specific employee, and overrides other step calculations with the same code. Select the employee's code in the Apply To Code field.

4 Click Save.

Setting Up the Step Calculation Options

Use the following procedure to set up the options for a step calculation.

This task is a step in "Process of Defining a Step Calculation" on page 130.

To set up the step calculation options

1 Navigate to the Plan & Payment > Step Calculations view.

2 Find the step calculation to which you want to set up options and click its View icon.

3 In the Options section, click the Edit icon.

4 In the Input Value Defined as section, indicate whether the primary input value is a pure number or a percentage by selecting one of the following check boxes:

- **Percentage.** Select Percentage if you intend to use both a primary and secondary value when you use this step calculation in a formula. When two values are referenced, the system automatically divides the primary value by the secondary value and multiplies the result by 100, so the result is automatically a percentage value. You can also select this option if you are using only a primary value that is a percentage.
- **Number.** Select Number if you are using only a primary value that is a number and not a percentage.

NOTE: The choice you make here does *not* affect how the system treats the input value. It is primarily a label for the user's convenience.

5 In the Treat Output Value as section, indicate whether the primary output value is treated as a pure number or as a percentage. If it is treated as a percentage, the system automatically converts the result value (such as 50) to a percentage (50%, or 0.5).

NOTE: Unlike the Input Value fields, the choice in this field *does* affect how the system ultimately treats the output value.

6 In the Rounding Rule Code drop-down list, select the rounding rule.

This rounding rule is applied to all incoming values for this step calculation.

7 Under Result Options, select one of the following:

- **First Matching Step.** The result value is determined by the first step that the input value matches. Any other step rows that would match the input value are not considered.
- **Last Matching Step.** The result value is determined by the last step that the input value matches. Any other step rows that would match the input value are not considered.
- **Sum of all Matching Steps.** The result value is determined by adding together the result values of all steps that the input value matches.

8 Click Next.

Creating the First Step Row

Use the following procedure to create the first step row for a step calculation.

This task is a step in "Process of Defining a Step Calculation" on page 130.

To create the first step row

1 Navigate to the Plan & Payment > Step Calculations view.

2 Find the step calculation to which you want to add the row and click its View icon.

3 Click the Add Accelerator Step icon.

4 In the Result 1 form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Input Range	The starting and ending values of the first step row for input values in the First Endpoint and Second Endpoint fields. **NOTE:** Step rows are ordered from lowest range to highest range, regardless of the order in which they are added.
Output Range	The starting and ending values of output values for the first step row in the First Endpoint and Second Endpoint fields. **NOTE:** If the step calculation is not being used to interpolate the output value from a given range, click the Do not Interpolate option and only enter a First Endpoint value.

5 In the Additional Calculations - Result 2 form, do the following:

a In the Calculation field, enter an arithmetic calculation that is used to determine the final result for this step.

b Use the values in the Key section to properly reference primary input values, output values, secondary input values, and arithmetic operations. Click the arrow button for the appropriate value or function to add it to the calculation.

c If you do not need to perform additional calculations on the output range value, leave this field blank, or enter RS1 in this field to indicate that the value obtained from the output range is the final result for this step.

d Click Add to add the step.

6 Repeat Step 3 through Step 5 for each additional step row.

7 Click Save.

14 Defining Threshold Calculations

Compensation administrators set up threshold calculations as part of creating formulas. This chapter describes threshold calculations in Siebel ICM and contains the following topics:

About Threshold Calculations

Threshold calculations are used for sales plans in which an employee's total performance is cumulated throughout a specified time period (such as a year, half-year, or quarter). As performance reaches certain levels, or plateaus, the employee receives larger earnings on each new transaction. A transaction that crosses a threshold generates an earning in two parts. The part that falls below the threshold gets the lower rate, while the part that goes above the threshold gets the higher rate.

You define the input to the threshold calculation when you add it to a calculation formula as a component. (For more information, see "Defining a Threshold Calculation" on page 100.) The result of a threshold calculation is the current credit attainment multiplied by the earning percentage calculated by the threshold.

To use threshold calculations effectively, a calculation formula must be set to run once for each credit, rather than once for all credits. Threshold calculations only apply to "run for each credit" formulas, because each credit yields a different result depending on whether it falls below, on, or above the threshold. Therefore, the formula must consider each credit individually.

In addition, the measures associated with the cumulated actual attainment credits must be set to cumulate by open balance. This means that a measure must have a cumulation already defined for any frequency group, and also for the "Open Balance" data group.

Threshold Calculation Examples

Different companies can use thresholds in different ways. This topic includes two examples of how a company can use the thresholds described in Table 18.

Table 18. Example of Thresholds

Threshold	Starting Value	Ending Value	Earning %
1	0	500	1%
2	500	1000	3%
3	1000	2000	5%
4	2000	5000	7%

In the first example, the commission is calculated incrementally and in the second example, the commission is a percentage of the sales revenue.

Incremental Example

As an example, in the first period of a cumulation cycle, a salesperson makes four sales of $100 each. The total of these transactions is $400, and does not cross the $500 threshold. Thus, each transaction receives a 1% commission.

In the second period, the salesperson makes nine sales of $100 each. The first $100 transaction receives an earning of 1%, and brings the running total to $500. The next $100 transaction puts him over the $500 threshold. That transaction receives a 3% earning, as do the four transactions that follow. The last three transactions put him over the $1000 threshold, so each one receives a 5% earning. Now the running total of sales is $1300.

In the third period, the salesperson makes six sales of $100 each, then a sale for $200. Each of the first six sales gets a 5% commission. This brings the running total to $1900. The next transaction for $200 puts him over the $2000 threshold, but it straddles that threshold. Thus, the system credits the first $100 of the transaction at 5%, and the second $100 at 7%.

Table 19 shows the commission applicable for three different transactions.

Table 19. Threshold Calculation Using Incremental Example

Transaction	Sales Revenue	Commission
Txn 1	$800	500 * 1% + 300 * 3% = $14
Txn 2	$1500	500 * 1% + 500 * 3% + 500 * 5% = $45
Txn 3	$3000	500 * 1% + 500 * 3% + 1000 * 5% + 1000 * 7% = 140

Straight Percentage Example

In this case, commission is a percentage of the sales revenue. Table 20 shows the commissions calculated for the threshold percentages given in Table 18. Compare the results with those in Table 19.

Table 20. Threshold Calculation Using Straight Percentage Example

Transaction	Sales Revenue	Commission
Txn 1	$800	800 * 3% = $24
Txn 2	$1500	1500 * 5% = $75
Txn 3	$3000	3000 * 7% = $210

Three-Dimensional Thresholds

A threshold can apply to every participant in an organization, to participants with a specific job code within an organization, or to one participant. You can have multiple threshold calculations with the same identity code and name, each of which applies to a different participant, job, or organization. Such threshold calculations are called *three-dimensional* because the choice of what to apply them to acts as a third axis, in addition to the threshold calculation's rows and columns.

This allows a calculation formula to refer to multiple threshold calculations with the same code, allowing you to have, for example, a different threshold calculation for each participant. When running a calculation formula for a participant, the system determines which threshold to use according to the following logic:

- The system looks for a threshold for that participant.
- If the system finds a threshold for that participant, the system uses that threshold.
- If the participant threshold cannot be found, the system looks for a threshold for the participant's job code.
- If the job code threshold cannot be found, the system looks for a threshold for the organization the participant reports to.
- If the organization threshold cannot be found, the system uses the default threshold with the specified code.

Process of Defining a Threshold Calculation

To define a threshold calculation, perform the following tasks:

1. "Creating a Threshold Calculation" on page 137
2. "Adding Options to a Threshold Calculation" on page 138
3. "Adding Rows to a Threshold Calculation" on page 139

Creating a Threshold Calculation

Use the following procedure to create a threshold calculation.

This task is a step in "Process of Defining a Threshold Calculation" on page 137.

To create a threshold calculation

1. Navigate to the Plan & Payment > Threshold Calculations view.
2. Click the New Threshold Calculation link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type an identifying code for the threshold calculation.
Apply to Type	Select one of the following options: ■ **Default.** The default to use in a calculation formula if no other threshold with the same code can be found for the participant, job code, or organization. ■ **Organization.** Applies to all participants within a specific organization. Overrides the default threshold with the same code. Specify the organization code in the Apply to Code field. ■ **Job.** Applies only to participants with a specific job code. Overrides the default and organization thresholds with the same code. Specify the job code in the Apply to Code field. ■ **Employee.** Applies to one specific employee. Overrides all other thresholds with the same code. Specify the employee code in the Apply to Code field.

4 Click Save.

Adding Options to a Threshold Calculation

Use the following procedure to add options to a threshold calculation.

This task is a step in "Process of Defining a Threshold Calculation" on page 137.

To add options to a threshold calculation

1 Navigate to the Plan & Payment > Threshold Calculations view.

2 Find the threshold calculation to which you want to add options and click its View icon.

3 In the Options section, click the Edit icon.

4 In the Treat Input Amount as section, indicate how the system should calculate the primary input value by selecting one of the following:

- **Percent of Goal.** Calculates the ratio between the credit input value and the goal input value, converts this to a percentage, and uses that percentage as the input value.
- **Number.** Uses the credit input value from the formula as the input value.

5 In the Rounding Rule Code field, select a rounding rule.

This rounding rule applies to all incoming values for this threshold calculation.

6 Click Save.

Adding Rows to a Threshold Calculation

Each row in a threshold calculation represents a threshold. Use the following procedure to add threshold rows to a threshold calculation.

This task is a step in "Process of Defining a Threshold Calculation" on page 137.

To add rows to a threshold calculation

1. Navigate to the Plan & Payment > Threshold Calculations view.
2. Find the threshold calculation to which you want to add rows and click its View icon.
3. Click the Add Accelerator Step link.
4. In the Input Range form, in the First Endpoint and Second Endpoint fields, enter the starting and ending values of the first row.
5. In the Percentage field, enter the resulting earning percentage output value for the row.

   The system treats threshold output values as percentages, so a field entry of 5 is treated as 5%, or 0.05.
6. Click Save.
7. Repeat Step 3 through Step 6 for each row of the threshold calculation.

   NOTE: The Second Endpoint value of one row must be the First Endpoint value of the following row.

15 Setting Up Rounding Rules

This chapter describes how to set up rounding rules in Siebel ICM. It contains the following topics:

About Rounding Rules

In Siebel ICM, rounding rules are used to round calculated values up or down, to a specified number of decimal places. They are referenced by calculation and summary formulas and formula components. Rounding rules are required for calculating summarized earning values to avoid making earnings that include fractions of dollars or fractions of cents. You can also use them in a calculation formula component and in formulas themselves to round results according to an incentive plan's rules.

Most of the rounding rules necessary for your company's incentive plans are usually set up during initial implementation, but you can create new rules as needed.

Setting Up a Rounding Rule

Use the following procedure to set up rounding rules.

To set up a rounding rule

1. Navigate to the Plan & Payment > Rounding Rules view.
2. Click the New Rounding Rule link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the rounding rule. **NOTE:** The code should indicate what the rounding rule accomplishes so that users can select the correct rule within formulas and components.
Type	Select from the following options: ■ **Round Down.** Digits past the defined number of decimals are truncated. ■ **Round Up.** The first digit past the defined number of decimals is rounded up, if it is greater than or equal to the rounding digit. ■ **Round Floor.** A positive number is rounded up and a negative number is rounded down using the round up and round down rules. ■ **Round Ceiling.** A positive number is rounded down and a negative number rounded up using the round up and round down rules. ■ **Do Not Round.** No rounding occurs and the number of decimals set is ignored.
Description	Type a description to completely describe the rule's function.
Round to Decimal	Select the number of decimal places to which values are rounded. For example, selecting 2 rounds values to two decimal places. Selecting 0 rounds values to the nearest whole number and drops all digits that follow the decimal.
Rounding Digit	Select the number that determines whether values are rounded up or down. The standard rounding digit is usually 5, meaning values are rounded up if the last digit of a value is 5 or larger, and rounded down if that last digit is 4 or lower. You can select any digit (1-9) as the rounding digit.

4 Click Save.

16 Setting Up Plans

Compensation administrators set up and run plans. This chapter describes plans in Siebel ICM and includes the following topics:

About Plans

A *plan* in Siebel ICM corresponds to the individual compensation plans run by a company or department. Most companies that use incentive-based compensation plans administer separate plans for different types of employees, employees in different divisions, channel partners, and so on. You can create any number of plans within each operating unit in Siebel ICM.

How the System Uses Plans

Each plan consists of the following main components:

- Plan eligibility conditions
- Calculation formulas
- Summarization options
- Payment plan options

When the Earning Calculation service is run, the system uses the *plan eligibility conditions* to determine which participants qualify for the plan. Each condition tests a particular aspect about a participant, such as participant type or job code, against a given value using a specific condition operator. Some examples of conditions are as follows:

- Many employee compensation plans are based on employee job functions, so these types of plans test each employee's assigned job code to see if it matches the job code value specified for the plan. In this case, the condition might be Job Code = SalesRep.
- For some plans, it is important to exclude certain types of participants. For example, a plan can include all sales representatives *except* for employees who belong to the manager's salary grade. In this case, the condition might be Job Code = SalesRep, Salary Grade <> Manager.

To qualify for a plan, a participant must meet all of the plan eligibility conditions. If a participant does not match any condition, that participant does not qualify at all.

For every participant who qualifies for the plan according to the conditions, the system computes each *calculation formula* listed for that plan. Calculation formulas are set up separately from plans and you can reuse them in multiple plans. The plan's calculation formula list tells the system which formulas are used to calculate earnings for the plan's participants. Formulas are executed in the order displayed in the list for the plan, so when choosing formulas, be careful to add them in the correct calculation order. The order is especially important if the results of one calculation formula are referenced in a formula later in the list.

When all formulas have been calculated for each participant, the plan refers to the *summarization options* to determine how calculation formula results are to be combined into a single earning amount for each participant. Calculation results can be added together, which is the most common method of summarization, or the results can be passed into a *summarization formula*, which allows for more complex handling of calculation results. Summarization options also specify whether or not earning results are to be prorated (based on how long a participant has been active in the system), and what currency to use in making earnings (for multiple currency systems).

The plan payment options specify, for each payment group, whether you use a payment formula, or the default trial payment calculation.

About Qualifying for Multiple Plans

You can specify that a plan consists of one or more of the following plan service types:

- **Calculation plan.** Calculates formula results. This type adds only calculation formulas to the plan and generates earnings only.
- **Summary plan.** Summarizes individual calculation results into final earning amounts. This type adds only summary formulas to the plan and generates summarized earnings only
- **Payment plan.** Generates trial payments.

Because of the way plans are set up, participants can qualify for more than one plan within an operating unit. A participant *cannot* qualify for multiple plans across operating units because participants are not shared across operating units.

If your company allows participants to qualify for two or more plans, they must be set up as calculation plans. If separate calculation plans and summary plans are created, participants can qualify for multiple calculation plans, and the results from these plans are summarized in a single summary plan.

NOTE: Each participant can only qualify for one summary plan and one payment plan. If you do *not* want participants to qualify for multiple plans, carefully test your plans to make sure that each participant qualifies for only one plan and that no crossover between plans is possible.

Process of Setting Up a Plan

To set up a plan, perform the following tasks:

1. Create a new plan. See "Creating a Plan" on page 145.
2. Add the plan eligibility conditions for the plan. See "Adding Plan Eligibility Conditions" on page 146.
3. Add the calculation formulas for the plan. See "Adding Calculation Formulas" on page 146.

4 (Optional) Edit the plan options, if necessary.

- For a summary plan, edit the Earning Summarization options.
- For a payment plan, edit the Trial Payment Calculation options.

See "Editing a Record" on page 31.

5 (Optional) Add one or more attachments as supporting documentation for the plan. See "Attaching a Document to a Record" on page 32.

Creating a Plan

Use the following procedure to create a plan.

This task is a step in "Process of Setting Up a Plan" on page 144.

To create a plan

1 Navigate to the Plan & Payment > Plans view.

2 Click the New Plan link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Plan Service Type	Comments
Code	Type a unique identifying code for the plan.
Calculation Plan	Select this box if the plan you are creating calculates formula results. Participants can be eligible for more than one calculation plan. If you select this option, you must either add conditions to the plan to control eligibility, or add calculation formulas to the plan.
Summary Plan	Select this check box if the plan you are creating summarizes individual calculation results into final earning amounts. Participants are eligible for only one summary plan. If you select this option, you must either add conditions to the plan to control eligibility, or change the summarization options for a payment group to specify a formula that calculates the summarized earning. Every participant who receives an earning must belong to a summary plan.

Plan Service Type	Comments
Payment Plan	Select this check box if you need to generate trial payments. If you select this option, you must either add conditions to the plan to control eligibility, or change the trial payment calculation options for a payment group to specify a formula that calculates the trial payment. A Payment Plan takes the following inputs: ■ Plan eligibility conditions ■ Per payment group ■ Zero- or one-payment formula ■ Whether to generate a zero-result trial payment record ■ Whether to generate a negative-result trial payment during processing of the Trial Payment Calculation service ■ Whether to generate a zero-result payment record during processing of the Finalize Payment service
Description	Type a text description or comment about the plan.

4 Click Save.

Adding Plan Eligibility Conditions

Use the following procedure to add plan eligibility conditions to a plan.

This task is a step in "Process of Setting Up a Plan" on page 144.

To add plan eligibility conditions

1 On the View Plan page, in the Condition drop-down list, select a condition template and click the Add Condition icon.

2 Complete the fields that appear, as appropriate for the template.

With some customized templates, you might have to select multiple values or operators.

3 Click Add to complete the eligibility condition.

Adding Calculation Formulas

Use the following procedure to add calculation formulas to a plan.

This task is a step in "Process of Setting Up a Plan" on page 144.

To add calculation formulas

1 On the View Plan page, in the text field above the Formulas list, enter the identifying code for a formula you want to associate with this plan.

You must create formulas before they can be added to a plan. For more information, see Chapter 9, "Building Calculation Formulas."

2 Click the Add Formula icon.

3 To change the order of execution, click the up arrow and down arrow buttons in the Move column.

CAUTION: The order of formulas in the list indicates the order in which the system executes their calculation when you run the plan. You must take formula order into consideration when designing and revising formulas.

Running Plans with Quick Plan Services

The Quick Plan Services feature allows you to selectively run any or all of the Earning Calculation services for a particular plan, participant type, or participant. These services include Plan Eligibility, Earning Calculation, Earning Summarization, Trial Payment Calculation, and Finalize Payment. Make sure that all the appropriate services are run before you process final earnings. For more information about running services, see Chapter 17, "Running Services and Service Batches."

You can use Quick Plan Services during the system design phase, the plan update phase, or a standard processing period when adjustments have been made to transactions, plans, or participants.

NOTE: This feature is not a "test." When you run the services for a plan or a participant, the system replaces existing earning results with the new earnings generated by the services.

To run plans with Quick Plan Services

1 Navigate to the Plan & Payment > Quick Plan Services view.

2 In the Quick Plan Services form, complete the necessary fields. Some fields are listed in the following table.

Field	Comments
Service Type	Select the service you want to run. For descriptions of these services, see Chapter 17, "Running Services and Service Batches."
Plan Code	Select the following code that corresponds to the plan you want to run the selected services on: ■ **Select All.** All plans in the system. ■ **Specific plan.** An individual plan you select.

Field	Comments
Participant Type	Select the following participant type for which you want to run the selected service: ■ **Select All.** Runs the selected service for all participant types in the system. ■ **Employee.** Runs the selected service for all employees who participate in a plan. ■ **Channel Partner.** Runs the selected service for all channel partners who participate in a plan. ■ **Customer.** Runs the selected service for all customers who participate in a plan.
Participant Code	Code that corresponds to the participant that you want to run the selected service on.
Log Level	Select a logging level.

3 Click Launch Service.

4 To view the progress of the services as they run, click the Refresh icon at the top right of the Monitors list.

Viewing a Plan with the Plan Navigator

The Plan Navigator presents a Microsoft Internet Explorer-style hierarchical view that allows you to see all parts of a plan. You can use the Plan Navigator during initial plan configuration to make sure the correct entities, such as eligibility rules and formulas, are associated with the plan. You can also use the Plan Navigator during plan calculation to help diagnose why a calculated result or earning calculation is incorrect. In this scenario, it provides single-click access to each formula, measure, and variable used to create the calculated result or earning record.

To view a plan with the Plan Navigator

1 Navigate to the Plan & Payment > Plans view.

2 In the Plans Found list, find the plan you want to see and click the Plan Navigator icon.

3 In the Plan Navigator section, drill down into the hierarchy of parent nodes and leaf nodes to see the selected plan's structure and details.

4 Select the parent node and leaf node links to see the plan record's individual component details.

17 Running Services and Service Batches

This chapter describes how to run the services and service batches in Siebel ICM that import and export entities and run, for example, crediting and calculation formulas. This chapter includes the following topics:

About Services

The following topics provide a general explanation of services, define the types of services, and describe specific services:

Services

Service is a general term for any of ICM's processing functions, including data import, data export, crediting, plan calculation, and period closing. In Siebel ICM, you use *Import services* and *Export services* to import and export entities and *Processing services* to run crediting and calculation formulas, and perform roll up, cumulation and other processing.

NOTE: You can import most aspects of an application, but you must manually configure some of them. For example, you cannot import Calendar entities using Import services.

You start services through ICM's user interface. The application allows you to review services that are in progress or that have already been run.

You can view error logs and *service logs* for each service in each period. A service log is the log that records the actions performed by one service. The amount of information written to the log is controlled by the logging level that you set when you run the service.

Import and Export Services

This topic describes Siebel ICM's Import and Export services. You can run these services in any order. However, there are dependencies between entities in the system that dictate the order in which data can be imported without errors.

Table 21 lists the entities in their recommended order of importing for the first time that you import data into an operating unit. The Imported By Service column shows the service that imports the entity. Some of the entities have their own Import service, while others can only be imported by the Operating Unit Import Service, Operating Unit Import (Setup Entities Only) service, or Operating Unit Import (Plan Entities Only) service.

For entities that do not have their own import service, you can configure which entities are imported, and in which order, by configuring the appropriate properties files as follows:

- operatingUnitImportList.properties for Operating Unit Import
- setupEntityImportList.properties for Operating Unit Import (Setup Entities Only)
- planEntityImportList.properties for Operating Unit Import (PlanEntities Only)

In the properties files, you can control which parts of a migration set are imported by commenting and uncommenting lines in these files. For example, the following line allows employees to be imported:

```
entity.29=com.motiva.ce.employee.EmployeeVersionImpl
```

However, if you comment out the line by adding a # character to the start of the line, employees are not imported.

```
#entity.29=com.motiva.ce.employee.EmployeeVersionImpl
```

In the properties files, the numbers on each line indicate the order in which the data is imported. In the following example, employees are imported before products:

```
entity.29=com.motiva.ce.employee.EmployeeVersionImpl

entity.30=com.motiva.ce.product.ProductVersionImpl
```

The order of appearance in the file does not matter, in the following example, employees are still imported before products:

```
entity.30=com.motiva.ce.product.ProductVersionImpl

entity.29=com.motiva.ce.employee.EmployeeVersionImpl
```

The order of importing shown in Table 21 is only a rough guideline. This is because:

- Some entities (for example Profile Attribute) have no dependencies on other entities. Such entities can be imported in any order.
- Some entities can depend on other entities but the relationship is optional. For example, organizations can reference locations, but the relationship is optional.

- Some entities can depend on other entities, but those entities can already exist in the system. For example, products depend on hierarchy levels, but all the hierarchy levels referenced in the import XML file might already exist in the operating unit. In this case, you could just import the products).

More information about dependencies between entities is given in the individual service descriptions in "The Import Services" on page 153.

Table 21. Siebel ICM Entities and Import Services

Entity	Imported by Own Service	Imported by default through:		
		Operating Unit Import	Operating Unit Import (Setup Entities Only)	Operating Unit Import (Plan Entities Only
Report Attribute	n/a	Y	Y	
Profile Attribute	n/a	Y	Y	
Profile	n/a	Y	Y	
Hierarchy	n/a	Y	Y	
Smart Attribute	n/a	Y	Y	
Cumulating Frequency	n/a	Y	Y	
Extended Attribute	n/a	Y	Y	
Condition Template	n/a	Y	Y	
Measure	n/a	Y	Y	
Recipient Template	n/a	Y	Y	
Plan Type	n/a	Y	Y	
Incentive Type	n/a	Y	Y	
Transaction Type	n/a	Y	Y	
Transaction Line Type	n/a	Y	Y	
Transaction Event Type	n/a	Y	Y	
Cost Center	Cost Center Import	Y	Y	
Channel Segment	n/a	Y	Y	
Rate Group	n/a	Y	Y	
Job	Job	Y	Y	
Rounding Rule	n/a	Y	Y	

Table 21. Siebel ICM Entities and Import Services

Entity	Imported by Own Service	Imported by default through:		
		Operating Unit Import	Operating Unit Import (Setup Entities Only)	Operating Unit Import (Plan Entities Only
Payroll System	n/a	Y	Y	
Location	Location Import	Y	Y	
Salary Grade	Salary Grade Import	Y	Y	
Payment Group	n/a	Y	Y	
Role	n/a	Y	Y	
Organization	Organization Import	Y		
Employee	Employee Import	Y		
Product	Product Import	Y		
Customer	Customer Import	Y		
Channel Partner	Channel Partner Import	Y		
Territory	Territory Import	Y		
Goal	Goal	Y		
Credit Rule and Distribution Rule	Credit Rule Import	Y		Y
Step Calculation	Step Calculation Import	Y		Y
Matrix Calculation	Matrix Calculation Import	Y		Y
Threshold Calculation	Threshold Calculation Import	Y		Y
Formula	Formula Import	Y		Y
Plan	Plan Import	Y		Y
User	n/a	Y		Y
Dashboard	n/a	Y		
Symbol	n/a	Y		

Table 21. Siebel ICM Entities and Import Services

Entity	Imported by Own Service	Imported by default through:		
		Operating Unit Import	Operating Unit Import (Setup Entities Only)	Operating Unit Import (Plan Entities Only
Sales Transaction	Sales Transaction Import			
Credit	Credit Import			
Payment	Payment Import			

The Import Services

The following list describes the import services:

- **Cost Center Import.** Imports the cost centers that can be associated with organizations and employees.
- **Job Import**. Imports all job codes associated with the employee participants.
- **Location Import.** Imports the locations that can be associated with the customers and with other entities like employees.
- **Salary Grade Import.** Imports all salary grades associated with the employee participants
- **Organization Import**. Imports organization data for the current period and also updates the organization hierarchy. This service requires that hierarchy levels and hierarchy level sets exist in the system before importing. Therefore, if the organization data contains new hierarchy levels or level sets, hierarchy entities must be imported before Organization Import.
- **Employee Import**. Imports new employee records and updates existing records, based on data in an external import file. The association of job codes to employees requires that the job codes exist in the system. Therefore, if new job codes are referenced within the import file, those jobs must be added to the system using the Job Import service, or the user interface, before the Employee Import service is run. Similarly, if cost centers, organizations, and territories are referenced within the import file, they must already exist in the system.

  To associate an employee with a supervisor, the supervisor record must exist in the database. It is recommended that you create separate import files for each group of participants—that is, employees, supervisors, managers, and executives—and import them from the top of the hierarchy down—that is, executives first, then managers, and so on.
- **Product Import**. Imports new products and updates existing product records and also updates the product hierarchy. This service requires that hierarchy levels and hierarchy level sets exist in the system before importing. Therefore, if the product data contains new hierarchy levels or level sets, hierarchy entities must be imported before Product Import.
- **Customer Import**. Imports new customer records and updates existing records, based on data in an external import file.

- **Channel Partner Import**. Imports new channel partner records and updates existing records, based on data in an external import file.
- **Territory Import.** Imports an XML migration set of territories into the current OU and also updates the territory hierarchy. This service requires that hierarchy levels and hierarchy level sets exist in the system before importing. Therefore, if the territory data contains new hierarchy levels or level sets, hierarchies must be imported before Territory Import.

  NOTE: When importing a territory that already exists, this service overwrites the old territory information with the new territory information. The system does not allow you to create a new territory that already exists.
- **Goal Import**. Imports goal record data from an external file. Skip this service if your plans do not require goal data for calculating earning results. This service requires that measures and profiles exist in the system before importing. Therefore, if the goal data contains new measures or profiles, measure or profile entities must be imported before Goal Import.
- **Credit Rule Import**. Imports required credit rules, associated distribution rules, and distributions for each distribution rule.
- **Credit Import**. Imports credit record data from an external file. This service is necessary only if you are not using distribution rules to generate credits from transactions. If you are using transactions and distribution rules, skip this service. This service requires that measures and profiles exist in the system before importing. Therefore, if the credit data contains new measures or profiles, measure or profile entities must be imported before Goal Import.
- **Step Calculation Import.** Imports the required step calculations that are referenced in formulas used to calculate earnings.
- **Matrix Calculation Import.** Imports the required matrix calculations that are referenced in formulas used to calculate earnings.
- **Threshold Calculation Import.** Imports the required threshold calculations that are referenced in formulas used to calculate earnings.
- **Formula Import**. Imports all required formula components and variables. The association of a component requires that the component exist in the system, so you must run this import service after the Step, Matrix, and Threshold Import services.
- **Plan Import**. Imports plans that are used to calculate earning amounts for participants. The association of formulas to plans requires that the formulas exist in the system, so you must run this import service after the Formula Import service.
- **Sales Transaction Import**. Imports sales transactions into the system. It is necessary only if you are going to use distribution rules to generate credits based on transactions. If you are importing credits directly into the system, skip this service
- **Currency Conversion Rate Import**. Imports new currency conversion rates for the current period if your company uses multiple currencies.
- **Operating Unit Import.** Imports an XML migration set of setup and plan entities into the current operating unit (OU). The list of entities is determined by the operatingUnitImportList.properties file in your ICM program files.

- **Operating Unit Import (Setup Entities Only).** Imports an XML migration set of setup entities into the current OU. The list of entities is determined by the setupEntityImportList.properties file in your ICM program files.
- **Operating Unit Import (Plan Entities Only).** Imports an XML migration set of plan entities into the current OU. The list of entities is determined by the planEntityImportList.properties file in your ICM program files.
- **Payment Import.** Imports the payment.xml of your choice into the current OU.

For information about the internal process that occurs when these services run, see "Import Services Process" on page 157. For more information about importing migration sets of entities into the operating unit, see Chapter 18, "Managing Operating Unit Exports and Imports"

The Export Services

The following list describes the export services, which you can run in any order:

- **Operating Unit Export.** Exports an XML migration set of setup and plan entities from the current OU. The list of entities is determined by the operatingUnitExportList.properties file in your ICM program files.
- **Sales Transaction Export.** Exports sales transaction records to an external file.
- **Payment Export.** Exports payment search results to a file.
- **Goal Export.** Exports goal search results to a file.

The Payment Export, Goal Export, and Sales Transaction Export services are only available to run from their respective search results screens, which limits the amount of data that gets exported.

Processing Services

This topic describes Siebel ICM's Processing services. Generally you run these Processing services, in the following order, after you run the appropriate Import services, as described in "Import and Export Services" on page 150.

1. **Sales Crediting**. Processes transactions through distribution rules to generate credit records for participants, organizations, and territories. If you do not use distribution rules to generate credit records, skip this service.

   For information about the internal process that occurs when this service runs, see "Sales Crediting Service Process" on page 158.

2. **Rollup**. Rolls up credit data and goal data from lower organization or territory levels to higher levels, according to the rollup settings defined for each measure. If no rollups have been specified for any measures, skip this service.

   For information about the internal process that occurs when this service runs, see "Rollup Service Process" on page 158.

3 **Cumulate**. Cumulates all credit data and goal data according to the cumulation settings specified for each measure. If cumulation settings have not been specified for any measures, skip this service.

For information about the internal process that occurs when this service runs, see "Cumulate Service Process" on page 159.

4 **Plan Eligibility**. Matches participants to plans according to plan eligibility rules.

For information about the internal process that occurs when this service runs, see "Plan Eligibility Service Process" on page 160.

5 **Earning Calculation**. Generates earnings. You can run this service for one plan or for all plans. You can also run it for one participant or for all participants.

For information about the internal process that occurs when this service runs, see "Earning Calculation Service Process" on page 160.

6 **Earning Summarization**. Generates a summarized earning for each payment group that is the sum of the earnings in that payment group. You can run this service for one plan or for all plans. You can also run it for one participant or for all participants.

For information about the internal process that occurs when this service runs, see "Earning Summarization Service Process" on page 160.

7 **Trial Payment Calculation**. Takes summarized earnings, period beginning balances, and payments made in the period as input and calculates the payment amount necessary to arrive at a balance of 0 for each payment group.

NOTE: The Trial Payment Calculation service can run only when previous periods are closed.

8 **Finalize Payment Service**. Takes trial payments as input, links each trial payment to an actual payment, and creates a separate payment record.

CAUTION: Do not run this service until you are ready to close your books for the financial period. After you run this service, Siebel ICM does not allow you to rerun any other services in the regular way. In this case, you would need to run services for the working period in retroactive mode after running the Finalize Payment Service in the regular way for that period.

9 **Period Close**. Closes out the period by updating each participant's balance records, deleting temporary data tables, and archiving the period's data for future reference. Run this service only after all prior processes have successfully run, and payment results have been verified and approved.

NOTE: All periods must be closed in sequential order.

10 **Update Analytics**. Transfers data from the main transactional database to the analytics database. This transfer allows the analytics functions to access data for the current period without referring directly to the main database.

11 **Siebel CRM Extract.** Logs on to Oracle's Siebel Customer Relationship Management (CRM) product family application, extracts records according to a search specification, and generates one or more XML files from those records.

12 **Purge Period Data.** Purges the period-specific data for a specified period, including credits, rollup credits, cumulated credits, plan eligibility data, earnings, summarized earnings, and trial payments.

NOTE: The Purge Period Data service does not purge the data in the analytics database, if it is run after the Update Analytics service.

If you skip a service, the following message is displayed when you run the next service:

```
Warning! The service you chose to launch requires other services to be launched first.
Continue to launch this service?
```

About Service Processes

The following topics describe the internal processes of some services:

Import Services Process

The import process works as follows:

1 The system verifies that the selected file is in the specified location and is an XML document. If the file cannot be found or it is not a valid XML file, the system returns an error and the process stops.

2 The system opens the first record in the XML record set. It then verifies each data line in the record to make sure that all required data fields contain data, and that no field contains invalid data.

3 If the verification passes, the system writes each data line in the record to the corresponding data field in the target ICM database table.

4 If a record contains invalid data, or is missing data, the system sends the record to an error log, which also records the reason for the import failure. The record is not written to the database.

5 The system repeats Step 2 through Step 4 for each record in the XML record set.

6 If at any time the number of errors exceeds the limit specified for this service, the system stops the process and notifies the user of the problem.

Sales Crediting Service Process

The process runs as follows:

1. Opens the first credit rule, according to the credit rule codes.

   NOTE: It does not matter in what order the system processes credit rules.

2. Checks each transaction's type against the valid transaction types for the credit rule.
   - If the transaction matches a valid type, it passes to the next step.
   - If it does not match a valid type, it does not pass into the credit rule.
3. Checks each transaction line's events against the event eligibility conditions of the credit rule for that transaction type.
   - If the transaction line contains one or more open events that match the event conditions of the credit rule, then the transaction line passes into the credit rule.
   - If all events on the transaction line are closed, or if none of the open events on the transaction line are valid according to the event eligibility criteria, then the line does not pass into the credit rule.
4. Passes transaction lines with events that qualified for the credit rule to the first rule, according to the distribution rule codes.
5. Tests the first available transaction line against the conditions of the distribution rule.
   - If the transaction line fails to match any condition, it does not qualify for that rule and is set aside to be passed on to the next rule later.
   - If the transaction line does qualify for the distribution rule, the system generates a credit record for each open event on the transaction line, according to the distributions for that rule. This transaction line is not passed on to any more rules in the credit rule.
6. Retrieves the next transaction line and repeats Step 5 for that line. This continues until all transaction lines have been tested against the rule's conditions and distributions have been made as appropriate.
7. Retrieves the next distribution rule in the set and repeats Step 5. The transaction lines tested include the ones that did not qualify for the previous rule.
8. Repeats Step 5 through Step 7 until all transaction lines have been credited, or until no more rules are left in the set. Either condition signals the end of the credit rule.
9. Retrieves the next credit rule and repeats Step 2 through Step 8. This continues until all credit rules have been processed.

Rollup Service Process

The process runs as follows:

1. The system goes to the bottom level of the organization/territory hierarchy, finds organizations/territories for which credits have been generated in the current period, and selects the first organization/territory in alphanumeric order.

- If the selected organization/territory has credit records that require rollups (according to the credit's measure's specifications), then the process continues with Step 2.
- If no credit records that require rollups exist for this organization/territory, the system skips to the next organization/territory and goes to Step 5.

2 For the first qualifying credit record, the system examines the associated measure's rollup specifications to find the top-most level of the rollup and the organization/region directly above the current organization/territory.

   If the current organization/region level is the top-most level of the rollup, then the system does not process rollups any further for this credit record and moves on to the next available record.

3 The system copies the credit record to the organization/region directly above the current organization/territory, according to the hierarchy.

4 Step 2 and Step 3 are repeated for every record to be rolled up. In each case the associated measure may have a different rollup specification, and the system checks the structure in each case to find the top-most level of the rollup.

5 After all required credits for the organization/territory have been rolled up, the system moves on to the next organization/territory at this level of the hierarchy, and repeats Step 2 through Step 4.

6 After all organizations/territory at this level have had credits rolled up, the system goes on to the next level in the hierarchy and repeats Step 2 through Step 5.

7 The process ends when the system has processed all required rollups for the period.

   NOTE: As the process continues, credit records that were rolled up to the current organization/region from a lower level are rolled up to the organization/region at the next higher level, except when the current organization/region is at the top-most level of the rollup.

Cumulate Service Process

The process runs as follows:

1 The service examines each credit's measure and processes the credit only if the measure has cumulation instructions.

2 The system finds each profile attribute on the credit record and processes cumulations for each one separately.

3 For the first profile attribute, the system finds that field's aggregate operator.

   If the field has no operator, then no cumulations are processed for that field and the system goes on to the next profile attribute.

4 According to the cumulating frequency and data group of the measure, and the mathematical function specified by the aggregate operator, the system calculates the cumulated value for the current profile attribute for the current period.

5 The system repeats Step 3 and Step 4 for each profile attribute on the credit record.

6 The system repeats Step 1 through Step 5 for each credit record in the current period.

Plan Eligibility Service Process

Plans are processed in alphanumeric order. The process runs as follows for each plan:

1. The Plan Eligibility Service finds all participants that match the Participant Type chosen for each plan and assigns them to that plan.
2. Each participant is matched against the plan's rules.
   - If the participant does not meet all of the plan's conditions, the system skips that participant and moves on to the next one.
   - If the participant does meet all of the plan's conditions, the system proceeds with calculation when the Earning Calculation Service is run.

Earning Calculation Service Process

Plans are processed in alphanumeric order. The process runs as follows for each plan:

1. The Earning Calculation Service gets the first calculation formula listed for the plan. For this formula, the system loads all necessary data variables, including the participant's performance records, participant records, product records, and so on. This data is then processed through the formula's components to generate an earning. After this result has been recorded, the system repeats this process for each calculation formula listed for the plan.
2. Step 2 and Step 1 repeat for each participant that matches the plan rules.
3. After all qualifying participants have been processed through the plan, the service goes to the next plan and repeats Step 2 and Step 1 for each participant.

Earning Summarization Service Process

The process runs as follows for each payment group in each plan:

- If no summary formula exists for a payment group in the plan, the system uses default summarization, which adds all the earnings together for each participant in that period and payment group.
- If a summary formula exists for a payment group in the plan, the system processes the earnings through this formula to generate the summarized result for each participant in that payment group.

Process of Running and Reviewing a Service

To run and review a service, perform the following tasks:

1. Run the service with the required level of logging. See "Running a Service" on page 161.

2 Review the service status to check whether it ran successfully and to identify any errors. See "Reviewing Service Status" on page 163.

3 Correct errors in the service as necessary. See "Correcting Errors in Services" on page 164.

4 View details of executions of a service over time. See "Reviewing Service History" on page 165.

Running a Service

When you run a service, you set a log level to determine the amount of information on processing and errors that is displayed in the service log.

You can also use the Abort option to specify the error tolerance for the service. This determines how many errors the system can report before the process automatically stops. You can set the service to stop after a certain number of errors of a specific type, after a certain number of fatal errors, or both.

In general, you should allow for a fairly high error tolerance for any type of error other than fatal errors. If you set the tolerance too low, you might end up interrupting the process too frequently for minor problems and delay your processing tasks. However, if you set error tolerance too high or you do not specify any Abort parameters, you might end up allowing a process to run too long or until completion before you discover the problems. If this happens, rerun the process after fixing the errors and delay your period processing once again.

For fatal errors, you might want to set the error tolerance fairly low. A few fatal errors can indicate relatively isolated problems with specific records, but frequent fatal errors usually indicates serious problems with internal records or with external data files.

TIP: If you have several services to run in sequence, it is recommended that you use the Service Batch interface. For more information, see "Running Service Batches" on page 165.

Use the following procedure to run a service.

This task is a step in "Process of Running and Reviewing a Service" on page 160.

To run a service

1 Select Master Control, and do one of the following:

- To run an import or export service, select Import & Export Services.
- To run a crediting or calculation service, select Processing Services.

2 From the list of services, click the link for the service you want to run.

3 In the Launch Service form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Log Level	Select a logging level. The log level determines the amount of information on processing and errors that is displayed in the service log. The hierarchy of settings from the least amount of information to the greatest amount of information is as follows: ■ **Default.** Provides error messages when errors occur, and processing times (if enabled) when no errors are present. This is the default setting for all services. ■ **Fatal.** Provides severe error messages, and processing times (if enabled). **NOTE:** If you select this logging level, error messages belonging to the other categories are not generated. ■ **Error.** Provides all error messages, and processing times (if enabled). Use this setting when reporting issues to Siebel Technical Support. ■ **Warn.** Provides all error messages, warning messages, and processing times (if enabled). ■ **Info.** Provides all error messages, warning messages, information messages, and processing times (if enabled). ■ **Debug.** Provides information from all other settings as well as step-by-step processing information. This logging level produces a lot of log information and should only be used for short periods of time. Use this setting only if directed by Siebel Technical Support. For information about the display of processing times in the service log, see "About the Service Timer Property" on page 163.

4 To specify a specific type of error tolerance, do the following:

a Select the Abort check box.

b Enter a number or a percentage in the After field.

You can enter a pure number, such as 150, or a percentage value. If you enter a percentage value, select the % symbol. This tells the system what percentage of the total records being processed can have errors before the system stops the process.

c From the Error(s) of Type drop-down list, select the type of error you want to trap.

5 To specify a fatal type of error tolerance, do the following:

a Select the Abort check box.

b Enter a number or a percentage in the After field.

You can enter a pure number, such as 150, or a percentage value. If you enter a percentage value, select the % symbol. This tells the system what percentage of the total records being processed can have fatal errors before the system stops the process.

6 Click Launch Service.

7 If you chose one of the import services, enter the name and location of the import file.

8 To review a service while it is processing, click the View Processing Status button.

About the Service Timer Property

The *service timer* is a service property that can be set to display processing times in the service log. This property resides in ICM's service.properties file, and its full name is service.timer.enable. Valid values are true and false.

ICM logs the start and end times of running some events; for example, a sales transaction item or a stored procedure. If the service timer property is set to true, ICM calculates the number of events executed, total execution times, and average execution times. ICM then displays those calculations in the service log. You can use this information to observe the performance of the system. If the service timer property is set to false, the start and end times will not be displayed in the service log.

By default, logs do not display processing times, because gathering this data can adversely affect system performance.

For more information about the service.properties file, see *Siebel Incentive Compensation Management Installation Guide for UNIX* or *Siebel Incentive Compensation Management Installation Guide for Microsoft Windows*.

Reviewing Service Status

You can review the Service Status screen to determine whether a service ran successfully, and to see the error and service logs to investigate any processing errors that were produced. From the error logs you can retry individual items for import services and most processing services.

The Status column in the Service Status screen shows you whether or not a service completed successfully, the number of successful service items, and the number of errors. If the service completes successfully, the error count is 0 and there is only a link to the service log in the Logs column. If the service does not complete successfully, the appropriate error count is shown, and there are links to the service log and the error log in the Logs column. You can click on the error log link to examine the errors in the log file.

In rare situations, however, an error can occur in processing but not be reported as an error in the Service Status screen. This situation can occur in the following circumstances:

- An error was not reported as an error
- An error existed, but the automatic retry mechanism retried the service item without error

Because of this potential situation, it is recommended that you always examine the service log, even if there is no error log.

In the logs, you can identify fatal errors by searching for the word *fatal*. Fatal errors are usually not recoverable and usually cause the service to stop abruptly. When you set the logging level to FATAL, remember that errors belonging to other categories (such as DEBUG, WARN, and ERROR) do not appear in the logs.

In the logs, the error message usually indicates which phase of processing received the error. The stack trace indicates the sequence of method calls that led to the error. This tells you which package, class, and method to examine. If you select the DEBUG logging level for a service, the stack trace is supplemented with line numbers, which you can use to search the source code and pinpoint the error. For information about correcting errors, see "Correcting Errors in Services" on page 164.

NOTE: Certain import services allow you to edit an XML record corresponding to a failed service item, but this is not recommended in a production environment. Instead, it is recommended that you fix the errors in the application.

This task is a step in "Process of Running and Reviewing a Service" on page 160.

To review a service

1. Select Master Control, and then select the option for the type of service you want to review.
2. In the Service Status list, find the service you want to review.
3. In the Logs column, click the link for one of the following:
   - **Error Log.** Displays error logs for the service.
   - **Service Log.** Displays the service logs, which detail how records were processed in this service and whether the service ran successfully.
4. To print a log, right-click it and select Print.
5. Close the log window to return to the Services list.

To retry error log items

1. In the Error Log, do one of the following:
   - To retry individual error entries, select the check box in the left-most column,
   - To retry all the error entries on the current page (*not* all the errors for the service run), select the Retry All check box at the top or bottom of the table.
2. Click Retry Checked.

   The system retries the selected error entries.

Correcting Errors in Services

The preferred method for correcting errors in services is to fix the source of the problem and then run the service again. It is not recommended that you directly modify service results or import records.

For example, suppose the Employee Import service runs into dozens or hundreds of errors during the import process. Instead of trying to correct these problems manually (through an XML editor), correct the problems in the system that generated the import file (whatever HR or other personnel system is the source of employee records). With import files, this involves filling in missing data or correcting erroneous data. After you have done this, regenerate the import file and then rerun the Employee Import service within Siebel ICM.

In another example, suppose that you have just run the Sales Crediting service and that the process generated several errors. You could examine each credit record that generated an error and correct those problems manually. The best method, however, is to modify the source of the problems—in this case, the transactions that generated the faulty credits. After these problems are fixed, rerun the Sales Crediting service again.

This task is a step in "Process of Running and Reviewing a Service" on page 160.

Reviewing Service History

You can view details of the previous executions of a service. The history information displays for each execution, the user, period, start time, and status, allowing you to see the logs that were generated.

To review service history

1. Navigate to Master Control > Import & Export Service, or Master Control > Processing Services, depending on the service history you want to review.
2. Click the History icon for the required service.
3. (Optional) Click the Service Log link to see the service log.
4. (Optional) Click the Error Log link to see the service log.

About Service Batches

A *service batch* is an ordered list of services that can be launched and monitored as a single entity. Administrators use service batches to launch multiple services at one time instead of manually launching the services one at a time. A service batch is contained in a *service batch file*, an XML file that runs a group of services in a specific order. For information about setting up service batches and service batch files, see the chapter on services and service batches in *Siebel Incentive Compensation Management Configuration Guide*.

To launch a service batch, you can use the Service Batch Framework in ICM's user interface, or one of ICM's command line functions.

Running Service Batches

Service batches automate the launching of multiple services in sequence. The following topics describe the ways to run a service batch:

Running a Service Batch with the Service Batch Framework

Use this procedure to run the service batch with the Service Batch Framework, which operates through ICM's user interface.

To run a service batch with the Service Batch Framework

1. Navigate to Master Control > Service Batches.
2. Identify the batch you want to run and click its View icon.

   If the batch can be run (that is, if its Batch Status is Ready), the Service Batch screen displays a Start Service Batch link and icon above its list of services.
3. Click the Start Service Batch link.

   ICM launches the batch and its Batch Status changes to Running. The services list displays the Status of each service in the batch. As the services run, their Status values change one by one.

   NOTE: If a service reports No Items To Process and the service batch is configured not to halt when the system encounters this condition, then the service's Status remains Never Launched.
4. In the Processing Services form, select a screen refresh rate by clicking one of the Refresh Rate links.
5. If you want to stop the processing of the service batch, click the Halt Service Batch link.
6. If you want to resume the processing of a service batch that was halted either manually or automatically by a service error, do the following:

   a. In the Resume Service Batch from field, select the service for which you want to restart processing.

   b. Click the Resume Service Batch icon.

   When the service batch has finished running, the system redisplays the Service Batch screen with the Batch Status changed to Ready.
7. After the batch has finished running, in the Processing Services list, do one or more of the following:

   - To see the results the services have produced, click the links in the Results column.
   - To see the logs generated during services processing, click the links in the Logs column.

     For information about finding and interpreting error messages in the log files, see "Reviewing Service Status" on page 163.

Running a Service Batch with the Service Launcher

Use this procedure to run the service batch with the Service Launcher, which runs a service batch properties file from the command prompt.

To run a service batch with the Service Launcher

1. Open a command prompt and navigate to the main level of your ICM deployment directory.
2. At the command prompt, run the following ant target command:

   ```
   ant service-launcher -Dservicelauncher.filename=[fileName] -
   Dservicelauncher.dir=[absolutePathToDirectory]
   ```

   For [fileName], substitute the name of the service launcher properties file, such as `servicelaunch.properties`. If the properties file is named `servicelauncher.properties`, this parameter is not required.

   For [absolutePathToDirectory], substitute the path and directory where the service launcher properties file is located. If you do not specify the service launcher properties file's directory, it defaults to the following:

   ```
   //<STAGING>/deploy/servicelauncher
   ```

   If the service launcher properties file's directory is <STAGING>/deploy/servicelauncher, this parameter is not required.

For more information about the service launcher properties file, see the topic on setting up a service launcher properties file in *Siebel Incentive Compensation Management Configuration Guide*. For more information about ant targets, see the target commands appendix of *Siebel Incentive Compensation Management Installation Guide for UNIX* or *Siebel Incentive Compensation Management Installation Guide for Microsoft Windows*.

Running a Service Batch XML File from the Command Prompt

Use this procedure to run a service batch by running the service batch XML file directly from the command prompt.

To run a service batch XML file from the command prompt

1. Open a command prompt and navigate to the main level of your ICM deployment directory.
2. At the command prompt, run the following ant target command:

   ```
   ant remote-service-test-launcher -Doption=start -Dfilename=[DirectoryPath/FileName]
   ```

   For [DirectoryPath/FileName], substitute the path, directory, and filename of the service batch XML file. If you do not specify the service batch XML file's directory, it defaults to the following:

```
//<STAGING>/test/servicetest/config
```

<STAGING> represents the user-defined temporary location where configuration of ICM occurs before deployment.

NOTE: Valid Doption settings include start, pause, resume, and stop.

For more information about the service batch XML file, see the topic on creating a service batch file in *Siebel Incentive Compensation Management Configuration Guide*. For more information about ant targets, see the target commands appendix of *Siebel Incentive Compensation Management Installation Guide for UNIX* or *Siebel Incentive Compensation Management Installation Guide for Microsoft Windows*.

Checking Calendar Year Status

Over time, it is important to check the status of each working period in the calendar year, because compensation analysts or administrators might be working in several different periods at the same time.

To check calendar year status

- Navigate to Master Control > Calendar Year.

18 Managing Operating Unit Exports and Imports

This chapter describes exporting and importing Operating Unit data sets. It includes the following topics:

About Operating Unit Exports and Imports

ICM allows you to move data between a development or test environment and a production environment by exporting an Operating Unit data set from the originating environment and then importing it into the target environment. You can use this feature in a test environment or in modeling, to manage the promotion of new plans. You can also use this feature to assist you in troubleshooting with Siebel Technical Support.

The Operating Unit export process creates a *migration set*, which is a ZIP file that contains XML files for the following objects:

Channel partners
Channel segments
Condition Templates (excluding system-owned)
Cost centers
Credit rules
Cumulating frequencies
Employee participants
Extended attributes
Formulas
Incentive types
Job codes
Locations
Matrix calculations
Measures
Organization hierarchies
Organizations
Payroll systems
Plan types
Plans
Product hierarchies
Products
Profile attributes
Profiles
Rate groups
Recipient Templates (excluding system-owned)
Rounding rules
Salary grades
Smart Attributes (excluding system-owned)
Step calculations
Templates
Threshold calculations
Transaction event types
Transaction line types
Transaction types

The migration set also contains a *manifest file*, which is an XML file that stores information about the migration set including Operating Unit, period, when the set was exported, and a comment if one was entered at export time.

The Operating Unit Export service uses the operatingUnitExportList.properties file, and the Operating Unit Import service uses the operatingUnitImportList.properties file. The Operating Unit Import (Setup Entities Only) service uses the setupEntityImportList.properties file. The Operating Unit Import (Plan Entities Only) service uses the planEntityImportList.properties file. You can edit these files to reorder entities, or you can comment them out to prevent them from being exported or imported.

The Operating Unit Import (Setup Entities Only) service and the Operating Unit Import (Plan Entities Only) service add flexibility when you import an Operating Unit. They exclude organization data such as employees, organizations, channel partners, and customers because such data sets can be quite large and can require the use of individual import services. Typically, you run the services in the following order:

1. Operating Unit Import (Setup Entities Only)
2. Individual imports for organizational data (employees, organizations, channel partners, and customers)
3. Operating Unit Import (Plan Entities Only)

This process is automated when you create a service batch from a migration set. See "Creating a Service Batch to Import a Migration Set" on page 173.

About Exports, Imports, and Time Zones

ICM does *not* support exporting and importing data records across time zones. You must export and import ICM data records on machines in the same time zone. Exporting and importing data records across time zones may corrupt those records by changing their header and line dates.

Also, do *not* change the time zone of a server after populating it with data. That action changes the period boundaries used by the system, and old data will be inaccurate compared to the new period boundaries. The system will create new data with the new period boundaries. Existing data, however, will appear to have moved between periods, because the period boundary will now detect different versions of the entities.

If you accidentally change the time zone of a server, it is recommended that you restore its data from a backup that was made prior to the accidental change.

Process of Exporting and Importing Migration Sets

The process of exporting, processing, and importing migration sets is as follows.

1. "Exporting Operating Units" on page 171
2. "Downloading Migration Sets" on page 171
3. "Accessing Exported Migration Set Files" on page 172

4 "Uploading Migration Sets" on page 172

5 Importing migration sets by one of the following methods:

   a For smaller data volumes, "Importing Migration Sets" on page 173

   b For larger data volumes, "Creating a Service Batch to Import a Migration Set" on page 173

Exporting Operating Units

Exporting an Operating Unit creates a migration set within ICM that contains the current Operating Unit data. To export a migration set, use this procedure.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To export an operating unit to a migration set

1 Navigate to Master Control > Import & Export Services.

2 In the Export Services list, find Operating Unit Export and click its link.

3 On the Launch Service form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Log Level	Log level for recording errors. For information about log levels, see the topic on setting the services logging level in *Siebel Incentive Compensation Management Configuration Guide*.
Comment	Comment about this export.

4 Click Launch Service.

5 Click the Refresh icon in the Services form to verify that the service has completed successfully.

Downloading Migration Sets

Downloading a migration set transfers the migration set from ICM to a network directory location. To download a migration set, use this procedure.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To download a migration set

1 Navigate to Master Control > Migration Sets.

2 Identify the migration set you want to download and click its Download icon.

3 Click Save.

4 (Optional) In the Save As dialog box's File Name field, rename the file.

5 In the Save As dialog box, select the location where you want to save the ZIP file, and click Save.

Accessing Exported Migration Set Files

After the ZIP file has been saved to a designated location, you can review the files, or edit them.

NOTE: It is not recommended that you edit the XML files directly.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To access exported migration set files

1 Make sure that Winzip is installed on your machine.

2 Double-click the ZIP file you downloaded.

3 Double-click on one of the files in the Winzip archive.

The XML for that file displays.

4 Close the XML file.

CAUTION: Do *not* remove any XML files from the ZIP file. These files must all be in the ZIP file when you import them back into the system. If a file is removed, and if other data depends on it, the import may fail.

Uploading Migration Sets

After you have moved the ZIP file to another machine or made the necessary edits to its XML files, you can upload the migration set into ICM preparatory to importing the files.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To upload a migration set

1 Click Master Control on the Main Navigation bar, then select Migration Sets.

2 Click the Browse button next to the Migration Set to Import field.

3 Navigate to the migration set ZIP file.

4 Click Open, then click Import Migration Set.

If you upload the files to the machine from which they were downloaded, the system overwrites the original migration set with the newly uploaded one. If you upload the migration set to a different machine, the uploaded migration set appears on a new line in the Migration Sets list.

Importing Migration Sets

Use this procedure if all of the migration set's XML files are 1MB or smaller.

After you have uploaded the migration set into the appropriate ICM instance, you must import its files to access the Operating Unit data. Use this procedure to import an Operating Unit migration set one entity at a time.

NOTE: The working period you are in when you import the operating unit becomes the first effective working period for that data.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To import a migration set

1. Navigate to Master Control > Migration Sets.
2. In the Migration Sets list, find the migration set you want to import and click its Load icon.
3. On the Launch Service form, complete the necessary fields.

   Some fields are described in the table that follows.

Field	Comments
Log Level	Log level for recording errors. For information about log levels, see the topic on setting the services logging level in *Siebel Incentive Compensation Management Configuration Guide*.
Comment	Comment about this export.

4. Click Launch Service.
5. In the Services form, click the Refresh icon to verify that the import has completed successfully.

Creating a Service Batch to Import a Migration Set

Use this procedure if any one of the migration set's XML files is larger than 1 MB.

After you have uploaded the migration set into the appropriate ICM instance, you must import its files to access the Operating Unit data. Use this procedure to automatically create a service batch to import the entities quickly.

NOTE: The working period you are in when you import the operating unit becomes the first effective working period for that data.

This task is a step in "Process of Exporting and Importing Migration Sets" on page 170.

To create a service batch for a migration set

1 Navigate to Master Control > Migration Sets.

2 In the Migration Sets list, locate the migration set you want to import and click its Create Service Batch icon.

ICM creates a service batch with import services for all the XML entities in the migration set.

3 In the Service Batch form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Batch code for this retroactive service batch.
Launch As User	Launch the services as this user.
Launch As User Password	Launch the services as this user password.
Halt On Service Error	Select to stop the processing of the service batch if a service encounters an error.
Period Range	Range of periods for which the services in the batch are processed.

4 Click Save.

5 Click the Start Service Batch link.

The system runs each service, and imports the XML entities.

19 Adjusting Transactions

This chapter describes the ways in which you can adjust transactions in Siebel ICM. This chapter includes the following topics:

About Adjusting Transactions

At any time during a processing period, you can make adjustments to transaction data. In general, you should not directly modify original transaction header and line data that has been imported into the system. Doing so destroys the audit trail between external accounting, invoicing systems, and Siebel ICM. Changes to original transaction data are usually handled through the import processes, so no direct modifications should be necessary.

Most adjustments are made by adjusting, returning, or canceling transaction lines.

You can make adjustments to transactions that occurred in closed periods. For more information, see Chapter 22, "Performing Retroactive Processing."

Process of Adjusting Transactions

To adjust a transaction, perform one or more of the following tasks, as needed:

Adjusting a Transaction Header

You can adjust a transaction's header to correct erroneous information and modify the header participants. Do not modify the original header data directly, because this destroys the original data and makes it difficult to reconcile with the transaction records in other systems.

You can only adjust transaction header data if the transaction header has not been canceled. The previous version of the transaction is not stored in the Siebel ICM system. You cannot adjust the transaction date and the transaction type.

This task is a step in "Process of Adjusting Transactions" on page 175.

To adjust a transaction header

1. Navigate to the Transactions > Transactions view.
2. Enter search criteria to identify the transaction you want to adjust, and then click Search.
3. In the Transactions Found list, find the transaction, and then click the View icon to open it.
4. In the View page, click the Adjust Header icon.
5. Modify data fields as necessary for the header, and then click Next.

   The only data fields you cannot modify are the transaction number and the transaction type.
6. To modify header participant data, do the following:
   - Click the Adjust icon for the desired participant.
   - Edit the participant's Split percentage value if required.

     You cannot modify the participant ID, participant type, or participant rank through the Edit page, but you can delete participants from the transaction as described in Step 7.
   - Click Save.
7. To delete a header participant, click the appropriate Delete icon, and then click Delete to confirm the change.
8. Click Finish.

Adding a Transaction Line

You can add new transaction lines to a transaction at any time. Normally, the transaction import service adds new lines automatically when they are available, but you can also add them manually. You can only add lines to transactions that have not been canceled.

The new transaction lines are credited and processed within the current period, or within future periods if the line's events do not match distribution rule event eligibility criteria in the current period.

This task is a step in "Process of Adjusting Transactions" on page 175.

To add a transaction line

1 Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, click the Add Line icon.

5 Complete the necessary fields. Some fields are described in the following table.

Field	Comments
Line Number	Type the number to identify the line.
Line Type	If line types have been defined, select the appropriate type.
Line Date	Select a date, which is typically the date the transaction line is entered into the system.
Product Code	Type an identifier for the product sold.
Measure Code	Enter the measure for a credit rule. A distribution rule can base the measure for the created credit on the transaction measure. For more information, see "Adding a Credit Recipient to a Distribution Rule" on page 79.

6 Click Next.

Participants who are listed in the header are assumed to be the relevant participants for each line in the transaction, unless participants are specified for those lines.

7 To add line participants, in the Line Details section, enter the appropriate data for each field.

The labels and related data for each of these fields are customized according to your company's needs.

8 Click Finish.

To add or copy a participant to the transaction line

1 Navigate to the Transactions > Transactions view.

2 Select a transaction and click its View icon.

3 Click the Add Line icon and complete the necessary fields, and then click Save.

4 To add a participant to the transaction line, do the following:

a Click the Add Line Participant icon.

b In the Rank field, assign a numerical rank to the participant.

This rank is referenced by many distribution rules to determine which participant gets credit according to distribution settings. Ranks must be larger than 0.

c In the Type field, enter the appropriate type of participant (employee, channel partner, or customer).

d In the Participant ID field, enter or search for the specific participant's code.

e (Optional) Enter a Split percentage.

This percentage reflects the participant's "share" in the transaction. It is not used in distribution rules or calculation formulas unless those rules and formulas explicitly reference it.

5 To copy all the participants from another transaction line to this transaction line, in the Copy all participants from line field, select another transaction line from which you will copy the participants.

6 Click Save.

Adjusting a Transaction Line

An adjustment line modifies the data or values on an original transaction line. Adjustment entries can modify any field on a line that has been set up as adjustable, and they can change the participants associated with the line. You cannot adjust transaction line dates.

When an adjustment is made, the system first copies the data from the original line to the new adjustment line. The system then cancels the original line and its events and opens the new line. (For more information about canceling line events, see "Canceling a Line Event" on page 182.) Fields that cannot be adjusted do not open for editing, but fields that can be changed appear as text fields or drop-down lists.

The new adjustment line is credited and processed in the current period, or in a future period if its events do not meet the event eligibility criteria of any credit rules in the current period. Credits generated for the original line in the current period are deleted. Credits for the original line from prior periods are reversed, and the earning adjustments resulting from the reversed credits are made within the current processing period.

This task is a step in "Process of Adjusting Transactions" on page 175.

To adjust a transaction line

1 Navigate to the Transactions > Transactions view.

2 Enter search criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.

5 Click the Adjust Line icon.

6 Complete the necessary fields. You can make necessary adjustments in the transaction line's data fields. In addition to changing numeric data field values, you can change the values in other fields as appropriate.

Some of the fields are described in the following table.

Field	Comments
Adjustment Date	Enter a date. The line number of the adjustment line is the same as the original line that it modifies. The adjustment line is marked on View pages as an adjustment to the original.
Adjustment Comments	Type a description or reason for the adjustment.

7 Click Next.

To modify line participant data

1 Click the Edit icon for the desired participant.

2 (Optional) Change the participant's Split percentage values.

You cannot change the participant rank, participant ID, or participant type.

3 Click Save.

4 To delete a line participant, click the appropriate Delete icon, and then click Delete to confirm the change.

5 Click Save.

Returning a Transaction Line

A return line is a special type of adjustment that indicates that the product sold on the original line is being returned either before or after payment on the product has been made. Transaction lines can be returned only if they have not previously been canceled or returned. They can only be used to change certain data values on the original line, but they cannot be used to change any of the original line's participants.

When a return is made, the system first copies the data from the original line to the new return line. It then cancels the original line and its events and opens the new line. (For more information about canceling line events, see "Canceling a Line Event" on page 182.) Usually, fields that can be returned already have negating entries made, based on the original values of the originating line. By default, the system assumes that all items sold on a line are being returned. You can alter these fields manually to indicate fewer returned items.

The new return line is credited and processed in the current period, or in a future period if its events do not meet the event eligibility criteria of any credit rules in the current period. Credits generated for the original line in the current period are deleted. Credits for the original line from prior periods are reversed, and the earning adjustments resulting from the reversed credits are made within the current processing period.

This task is a step in "Process of Adjusting Transactions" on page 175.

To return a transaction line

1. Navigate to the Transactions > Transactions view.
2. Enter search criteria to identify the transaction you want to adjust, and then click Search.
3. In the Transactions Found list, find the transaction, and then click the View icon to open it.
4. In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.
5. Click the Return Line icon, and then complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Adjustment Date	Enter a date. The line number of the return line is the same as the original line that it modifies. The return line is marked on View pages as an adjustment to the original.
Adjustment Comments	Type a description or reason for the return.

6. Make necessary adjustments in the transaction line's data fields.

   Data fields that have been set up as returnable already have reversing entries made for them. You can change these values, or modify other data fields that did not receive automatic entries.

7. Click Save.

Canceling a Transaction Line

A cancellation line is also a special type of adjustment. It indicates that the original transaction is being considered to have never actually occurred, or that a transaction is being canceled before it can be processed. Creating a cancellation line automatically makes appropriate adjustment entries to cancel the original line.

A transaction line can only be canceled if the line has not previously been adjusted, returned, or canceled.

When a line is canceled, the system automatically cancels all line events that were created for that line. Consequently, the system must cancel or reverse credits that were generated for those events. See "To cancel a line event" on page 183 for specific details on this process.

This task is a step in "Process of Adjusting Transactions" on page 175.

To cancel a transaction line

1. Navigate to the Transactions > Transactions view.
2. Enter criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, under Transaction Lines, click the View icon for the transaction line.

5 Click the Cancel Line icon, and then complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Adjustment Date	Enter a date. The line number of the return line is the same as the original line that it modifies. The return line is marked on View pages as an adjustment to the original.
Adjustment Comments	Type a description or reason for the cancellation.

6 Click the Cancel Line icon.

Click Do Not Cancel if you want to undo the cancellation process.

Canceling a Transaction

You can also cancel entire transactions. Canceling a transaction automatically enters cancel lines for every line in the transaction. Consequently, the system cancels every line event for every line of the transaction, which might require the system to delete existing credit records or automatically create reversing credit entries. (For more information about canceling line events, see "To cancel a line event" on page 183.)

Lines within the transaction might have already been adjusted, returned, or canceled. This does not prevent you from canceling the entire transaction, because each adjustment or return line is also canceled in the process.

This task is a step in "Process of Adjusting Transactions" on page 175.

To cancel a transaction

1 Navigate to the Transactions > Transactions view.

2 Enter the search criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, click the Cancel Transaction icon, and then complete the necessary fields. Some of the fields are described in the following table.

Field	Comments
Adjustment Date	Enter a date. The line number of the return line is the same as the original line that it modifies. The return line is marked on View pages as an adjustment to the original.
Adjustment Comments	Type a description or reason for the cancellation.

5 Click the Cancel Transaction icon.

Click Do Not Cancel if you want to undo the cancellation process.

Adding a Line Event

Often, you might need to add new events to existing transaction lines. You can only add events to a line if:

- The line has not been canceled or returned.
- The new event has not already been added to the line.

Credits for the new line event are generated in the current period or in future periods if the event does not meet the event eligibility criteria of any credit rules. New events cannot be credited and processed as if they were entered in a prior period.

This task is a step in "Process of Adjusting Transactions" on page 175.

To add a line event

1 Navigate to the Transactions > Transactions view.

2 Enter the search criteria to identify the transaction you want to adjust, and then click Search.

3 In the Transactions Found list, find the transaction, and then click the View icon to open it.

4 In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.

5 Click the Add Event icon, and then select the event to be added in the Event Type drop-down list.

6 Enter the Event Date.

7 Click Save and Add Another to save the new event and add more events.

8 Click Save and Finish.

Canceling a Line Event

You can cancel a line event. If a line event is canceled before credits have been generated for that event, the cancellation has no other impact on the system. If the system has already generated credits for that event, and the credits were generated in the current (open) period, the system deletes those credits. Other services that were run after the Sales Crediting service must be rerun to correctly calculate earnings.

You can also cancel line events for events that were credited in a prior (or closed) period. If this happens, the system creates a reversing credit to cancel the original credit. The reversing credit applies to the current period, so that the resulting earning adjustment also applies to the current period.

This task is a step in "Process of Adjusting Transactions" on page 175.

To cancel a line event

1. Navigate to the Transactions > Audit & Adjust view.
2. Enter the search criteria to identify the transaction you want to adjust, and then click Search.
3. In the Transactions Found list, find the transaction, and then click the View icon to open it.
4. In the View page for the transaction header, under Transaction Lines, click the View icon for the desired transaction line.
5. In the View page for the line, for the appropriate event, click the Cancel Event icon.
6. Enter the Adjustment Date and enter a reason for the cancellation in the Adjustment Comment field.
7. Click the Delete icon to enter the cancellation.

   When you cancel a line event, the system deletes the credits generated for that event before the Sales Crediting Service can be run. Therefore, no calculations pertaining to a canceled line event will occur.

Editing Transaction Import Files

After importing a transaction XML file, you can edit the transactions through ICM's user interface, as described in "Adjusting a Transaction Line" on page 178. This can be extremely time-consuming if you have to edit several hundred or several thousand transactions. An efficient alternative is to edit the transactions in the import XML file itself. This topic shows an example of how you can do this.

Example of Editing Participant Information

The example that follows shows how to change participant information on the transaction lines through XML edits. Two XML tags for each transaction require changes. You set the tags for the header and lines to adjust their values. Consequently, you must import the XML file again. Importing adjusts the header and the lines.

These changes assume the following:

- The original XML import file has all the correct information (including event information) *except* for the line participants, which you need to edit.
- The transaction import operates in full replace mode, so that the adjusted participant information replaces the existing participant information. This includes full replacement of an existing participant who is to be replaced by another participant.

Table 22 lists the available adjustment types.

Table 22. Import XML Adjustment Types

Tag	Adjustment Type	Comments
Header	adjust_item	Change the header as specified.
	cancel_item	Cancel the transaction.
	create_item	Add an item. Implicit in the tag—that is, the default <SalesTransItem> has the same effect as <SalesTransItem adjustType="create_item">.
	no_item_action	Change nothing in the header.
Line	add_line	Add a line. Implicit in the tag—that is, the default <SalesTransLine> has the same effect as <SalesTransLine adjustType="add_line">.
	adjust_line	Change the line as specified.
	cancel_line	Remove the line from the transaction.
	no_line_action	Change nothing in the line.
	return_line	Return the line. This adjustment type subtracts the amount specified for each returnable reading. If the reading is not defined as returnable in the profile, it remains the same.
Event	add_event	Add a new event. Implicit in the tag—that is, the default <SalesTransEvent> has the same effect as <SalesTransEvent adjustType="add_event">.
	cancel_event	Remove the event from the transaction.

You import XML-formatted records into ICM by running an import service. For information about running services, see "To run and review a service, perform the following tasks:" on page 160.

NOTE: This example shows edits to one transaction line and event. If multiple lines and events exist, the same kinds of edits are required for each.

To edit participant information

1 Find the original transaction XML file that you imported previously and open it in a text editor.

This is an example of the transaction import XML code before editing:

```
<?xml version="1.0" encoding="UTF-8"?>
<recordset>
<SalesTransItem>
  <transNumber>1111</transNumber>
  <transType>TestTransType</transType>
  <customerID>2222</customerID>
```

```
  <headerDate>2004-01-01</headerDate>
  <currencyID>USD</currencyID>
<SalesTransLine>
  <lineNumber>1</lineNumber>
  <lineDate>2004-01-01</lineDate>
  <lineType>TestLineType</lineType>
  <productID>TestProd</productID>
  <customField readingType ="Contract Total" numericValue ="50.00"/>
  <customField readingType ="Event ID" stringValue ="123456"/>
  <customField readingType ="Line Count" numericValue ="24.00"/>
  <salesRep rank ="1" salesRepID ="1234" splitPercent ="100"/>
<SalesTransEvent>
  <eventType>Ordered</eventType>
  <eventDate>2004-01-01</eventDate>
</SalesTransEvent>
</SalesTransLine>
</SalesTransItem>
</recordset>
```

2 In the import XML file, do the following:

- Change the original import XML code to reflect the desired changes to the participants (that is, the salesRep tags).
- Change the XML tags for the targeted transaction, as shown in the following table.

Tag	Changes to
<SalesTransItem>	<SalesTransItem adjustType ="adjust_item">
<SalesTransLine>	<SalesTransLine adjustType ="adjust_line">

- Remove the event lines (from the <SalesTransEvent> tag to the </SalesTransEvent> tag, inclusive) so the event will not be overwritten.

This is an example of the transaction import XML code after being edited for the first time:

```
<?xml version="1.0" encoding="UTF-8"?>
<recordset>
<SalesTransItem adjustType ="adjust_item">
  <transNumber>1111</transNumber>
  <transType>TestTransType</transType>
  <customerID>2222</customerID>
  <headerDate>2004-01-01</headerDate>
  <currencyID>USD</currencyID>
<SalesTransLine adjustType ="adjust_line">
  <lineNumber>1</lineNumber>
  <lineDate>2004-01-01</lineDate>
  <lineType>TestLineType</lineType>
  <productID>TestProd</productID>
  <customField readingType ="Contract Total" numericValue ="50.00"/>
  <customField readingType ="Event ID" stringValue ="123456"/>
  <customField readingType ="Line Count" numericValue ="24.00"/>
  <salesRep rank ="1" salesRepID ="1234" splitPercent ="50"/>
```

```
</SalesTransLine>
</SalesTransItem>
</recordset>
```

3 Save the edited XML file.

4 Import the edited XML file into ICM.

After importing, ICM displays the transaction record. The transaction shows the updated line participant, and the event remains unchanged.

20 Adjusting Credits

Compensation administrators occasionally make adjustments to credit records. This chapter describes credit adjustments in Siebel ICM and includes the following topics:

About Adjusting Credits

After the crediting process has been run, you can review the generated credits before continuing with other processes, or you can review them at any time after other processes have been run. You can search for credits by using the following criteria—participant, generation method, credit type, transaction, or date range.

Generally, you should always review credits after they have been generated or imported and before proceeding with other processing services. Reviewing credits for accuracy and consistency helps eliminate errors in subsequent processes.

You can directly adjust credit records that were created manually or that were imported directly into the system. However, you cannot directly adjust system generated credits that were generated from transaction records through the Sales Crediting service.

Process of Adjusting Credits

To adjust credits, perform the following tasks:

- Review the generated credits. See "Reviewing Credits" on page 187.
- Adjust credits as required. See "Adjusting Credits" on page 189.

Reviewing Credits

Use the following procedure to review credits.

This task is a step in "Process of Adjusting Credits" on page 187.

To review credits

1. Navigate to the Sales Crediting > Credits view.

2 Enter search criteria that identify the credits you want to review.

Some fields you can search on are described in the following table.

Field	Comments
Recipient Type	Choose from Employee, Channel Partner, Organization, Territory, Region, or Customer.
Recipient ID	Enter an individual participant's, organization's, or territory's identifying code.
Recipient Name	Type the participant's first or last name, or the organization, territory, or region name.
Measure Code	Enter the measure code to view only credits for a particular measure.
Credit Type	Select one of the following types of credit: ■ **Base.** Displays the base (noncumulated) credits for the participant, organization, territory, or region. ■ **Rollup.** Displays only the rollup credits for the organization, territory, or region. ■ **Show All.** Displays both rollup and base credits for the participant, organization, territory, or region.
Generation Method	Select the one of the following methods of generation for the credit you want to review: ■ **Show All.** Displays all credit types. ■ **Crediting or Rollup.** Displays credits created by the Sales Crediting or Rollup services. ■ **Reversal of Credit in Open Period.** Displays credits that have been reversed in an open period. ■ **Import.** Displays credits created through the credit import service. ■ **Manually Adjusted Import Credit.** Displays credits that were created through the Credit Import service and that have been manually adjusted. ■ **Adjusted Import Credit.** Displays credits created and adjusted by the Credit Import service. ■ **Manual.** Displays credits created manually through the Siebel ICM user interface. ■ **Manually Adjusted Credit.** Displays credits created and manually adjusted through the Siebel ICM user interface. ■ **Reversal of Credit in Closed Period.** Displays credits that have been reversed in a closed period.

Field	Comments
Transaction Number	Type the transaction code if you want to review credits from a specific transaction for a particular participant. **NOTE:** You cannot review rollup credits on a per transaction basis.
Period Range	Select the Effective Year and Period in both the From and To fields to review credits for a specified period of time.

3 Click Search.

The Credits Found section lists all credit records that match your search criteria.

4 To review a specific credit record, click that record's View icon.

NOTE: When viewing credits, you can see a credit's UUID at the end of its Web browser address line.

Adjusting Credits

Use the following procedures to adjust manually entered, imported, and system-generated credits.

This task is a step in "Process of Adjusting Credits" on page 187.

Adjusting Manual or Imported Credits

You can only adjust credit records that were manually entered or imported in an open period, not credit records from closed periods.

Adjusting credit records directly destroys the original record's values. If records were imported into the system, you lose a clear audit trail between the original records and the current records in the system. In this case, it is recommended that the credit records are modified in the system that generated the records originally, and that you reimport the credit records into Siebel ICM.

To adjust a credit record from an open period

1 Navigate to the Sales Crediting > Credits view.

2 Enter search criteria that identify the credits you want to review.

3 Click the View icon for the required credit record.

4 Adjust the credit record as required.

To adjust a credit record from a closed period

1 Within the current period, enter a new credit record that mirrors the original credit record but reverses (negates) all the values in the original record. (Navigate to the Sales Crediting > Credits view and click the New Credit icon.)

2 Also, in the current period, enter a new credit record to replace the original credit record.

3 Run all subsequent processing services normally.

The reversing credit record creates a negative earning adjustment, while the new credit record is processed like any other credit record. The net result is a positive or negative earning adjustment that accurately reflects the credit adjustment.

Adjusting System-Generated Credits

Although you cannot directly adjust credit records that were generated from transaction records, instead you can make adjustments to the transaction and its detail lines.

To adjust system-generated credits

1 Enter a new credit record that mirrors the generated credit record, but negates all values of the original credit record. (Navigate to the Sales Crediting > Credits view and click the New Credit icon.)

2 Create another new credit record that contains all of the original data from the original credit record, except for those values that need to be adjusted.

3 Run the normal processes from the Rollup service through the Earning Calculation service. For details, see "About Services" on page 149.

The reversing credit record cancels out the original credit record, and the participant receives earnings only on the adjusted credit record.

21 Calculating Earnings and Payments

Compensation administrators typically work with earnings and payments. This chapter explains how to process earnings and payments in Siebel ICM and includes the following topics:

About Earnings and Payments

One of the most important functions of an incentive compensation management product is to keep track of earnings and payments. An *earning* is an amount that a company owes a payee for a given period, usually in the form of cash (and possibly prizes, stock options, and so on). An earning for a period is a function of a compensation plan and its formulas and rules.

A *payment* is the amount that a company disburses in compensation (either monetary or a non-monetary equivalent) to a payee in a given period. A payment for a period is the sum of the period's beginning balance and earnings minus any other payments made for the period. Ideally, a payment is made only for the earnings that a payee has gained in a given period.

Earnings and payments are often not synchronized. For this reason, ICM shows earnings, payments, and the balance (the difference between an earning and payment) for future recovery or payment. Earnings, payments, and balances are separate entities in ICM that the system tracks separately.

ICM also separates the calculation of an earning and the calculation of a payment. That is, you can control the calculation of a period's earning and separately control when a payment is calculated and disbursed. Also, you can recalculate earnings multiple times before deciding to calculate a payment. This can occur several times during a period as you reconcile a payee's compensation and enter the necessary corrections.

As with earnings, you can recalculate and correct *trial payments* multiple times, until the actual payments are finalized.

ICM holds and releases earnings with *Earn When* rule components. These components regulate when a calculated earning becomes available to be considered for payment. Earnings can be regulated by an Earn When component that holds or releases an earning to be eligible for payment. Similarly, a *Pay When* component regulates when a trial payment becomes available for payment processing (that is, a finalized payment) and exported to the appropriate external system or report. This allows you to hold a payment until certain criteria are met—for example, until the payee submits the paperwork necessary to be eligible for payment.

Payments and Periods

A closed period signifies that no more payments can be made during that period. However, incentive compensation data from prior periods is often changed and certain results are restated. Adjustments and changes can be made to the following data in prior periods (with full audit of changes) even if the period is closed within Siebel ICM:

- Compensation plans and rules, including distribution rules
- Reference data, for example, payee information, organization hierarchy information, quotas, and so on
- Transactions

NOTE: All results data, except for finalized data, can be recalculated (or in some cases adjusted) for both open and closed periods. Finalized payments are never deleted or adjusted regardless of period status.

Reprocessing closed period data can include restating a participant's earnings. A retroactive change to compensation rules, reference data, or transactions can result in a change in a payee's earnings. ICM allows earnings to be restated for any period, open or closed. For more information about changing closed period incentive compensation data, see Chapter 22, "Performing Retroactive Processing."

For a closed period, if any difference exists between a period's earning and beginning balance total, and payment total results in an ending balance, this difference is carried forward to the next period as a beginning balance. This carryover iterates to the first open period.

ICM allows you to regulate payment frequency. This is because in ICM, paying an amount is independent from closing a period. Consequently, you can process multiple payments in a working period. For instance, the working period length could be a month, but payment frequency can be semi-monthly.

Types of Earnings

There are cases when an earning amount for a given payee is negative. Typically, this negative earning is treated in one of the following ways:

- The amount is recovered against a different positive earning amount in the same period.

  In this case, several plan components can have calculated separate earnings for a participant. For example, a payee can be entitled to a sales commission, a quarterly MBO bonus, and base salary. Also, the payee can have negative sales commissions—for example, agreements made in prior periods that have been cancelled in the current period—resulting in a negative earning. This can be balanced out by positive earnings in the payee's quarterly bonus, base salary, or both.

- The negative balance is carried forward to a future period and recovered against future earnings.

  A company might want to categorize earnings so that certain ones (such as sales commissions and bonuses) are not balanced against other earnings (such as base salary). It can be a policy or law that an employee's base salary must not be affected by a negative earning and must always be paid. Also, you can categorize different kinds of earnings in various ways for tax purposes. ICM can group earnings so that a negative earning balance in one payment group does not affect the payment of amounts from another payment group.

- A negative payment is recorded.

  A company can recover an overpayment by having the payee reimburse the company. ICM allows you to manually enter a negative payment, which the system treats as a payment adjustment.

In some cases, earnings are calculated in a certain period, but they are held (that is, deferred) for payment until a future period or event.

In some cases, a compensation professional needs to manually override an earning that results from an automatic plan calculation. For example, ICM can calculate an earning of $100, but because of a manager exception, the earning is augmented to $1000. ICM lets you manually override these kinds of earnings calculations.

Types of Payments

If a negative earning or balance is not recovered within a period, ICM carries it forward to the next period as a negative balance. From there, its recovery is the same as a negative earning.

A company can recover an overpayment by having the payee reimburse the company. ICM allows you to manually enter a negative payment, which the system treats as a payment adjustment.

Under some circumstances, a company might want to adjust a payee's payment. For example, the system might calculate that a payee's earning is $1 million and this might raise alarms within the compensation group. However, if the payroll deadline is near, some minimal payment must be made. In this case, Siebel ICM allows a calculated payment to be modified before being finalized.

Guarantees are payment minimums. If a participant's calculated payments add up to less than the guaranteed amount in a period, the system can produce the minimum payment instead of the calculated payment.

Requirements for Calculating Earnings and Payments

Before you calculate earnings and payments, you must do required tasks and decide on doing optional tasks. These tasks are listed as follows:

1. Add credits. See "About Credits" on page 56.
2. Run the following services:
   a. Sales Crediting
   b. (Optional) Rollup
   c. (Optional) Cumulation
   d. Plan Eligibility

   See Chapter 17, "Running Services and Service Batches."
3. Set up payment groups. See "Setting Up a Payment Group" on page 81.

Process of Calculating Earnings and Payments

Compensation administrators and managers use the earnings and payments features to calculate participants' earnings and produce payments.

To calculating earnings and payments, do the following tasks:

1. Calculate the earnings. See "Calculating Earnings" on page 194.
2. Hold and release earnings, as necessary. See "Holding and Releasing Earnings" on page 195.
3. Summarize the earnings by earnings group. See "Summarizing Earnings" on page 195.
4. Make adjustments to the summarized earnings. See "Adjusting Summarized Earnings" on page 196.
5. Calculate trial payments. See "Calculating Trial Payments" on page 197.
6. Make adjustments to the trial payments. See "Adjusting Trial Payments" on page 197.
7. Finalize the payments. See "Finalizing Payments" on page 198.
8. Create final payments manually, if needed. See "Creating a Payment Manually" on page 199.
9. Import payments from other systems. See "Importing Payments" on page 199.
10. Export payments to other systems. See "Exporting Payments" on page 200.
11. Close the current open period. See "Closing the Period" on page 201.
12. Look up payment information by participant. See "Viewing Payment Information by Participant" on page 201.

Calculating Earnings

Use this procedure to calculate the amount that a company owes a payee for a given period.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To calculate earnings

1. Navigate to the Plan & Payment > Earning Calculation view.
2. In the Launch Service form, complete the necessary fields and click Launch Service.

   The Processing Services page displays a list of services, with the one that is running at the top of the list.
3. If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

   When the service has finished running, its status changes to Completed Successfully.
4. To see the generated earnings records, in the Results column, click the Earnings link.

Holding and Releasing Earnings

The system automatically holds earnings until the date specified in the plan's calculation formula. At that time, the system releases the earnings. You can also manually hold or release an earning.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To manually hold or release earnings

1. Navigate to Plan & Payment > Earnings.
2. Enter search criteria that identify the earnings you want to see. Some fields you can search on are described in the following table.

Field	Comments
Payment Group	Select the payment group that is associated with the earnings.
Cost Center Code	Enter a cost center code. In the earning records, the system automatically populates this field for earnings generated for a cost center.
Available to Earning Summarization	Select Yes or No to define whether an earning result is available to the Earning Summarization service for processing. This is set in the plan's calculation formula.

3. Click Search.
4. In the Earnings Found list, find the earning record you want to access and click its View icon.
5. Do one of the following:
   - To hold a released earning, click Hold.
   - To release a held earning, click Release.

Summarizing Earnings

You can create summaries of the earnings for each payment group. Each summary represents the earnings for one participant, one payment group, and one period.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To summarize earnings

1. Navigate to the Plan & Payment > Earning Summarization view.
2. In the Launch Service form, complete the necessary fields and click Launch Service.

   The Processing Services page displays a list of services, with the one that is running at the top of the list.

3 If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

When the service has finished running, its status changes to Completed Successfully.

4 To see the generated summarized earnings records, in the Results column, click the Summarized Earnings link.

The View Summarized Earnings page appears. A field is described in the following table.

Field	Comments
Summary Formula	If your system used a custom formula instead of the default summarization to calculate summarized earnings, this field displays a link to the formula and the results of running it.

The Earnings list shows the earnings that contributed to the sum.

Adjusting Summarized Earnings

Use this procedure to view and adjust the summarized earnings generated by the Earning Summarization service.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To adjust summarized earnings

1 Navigate to the Plan & Payment > Summarized Earnings view.

2 Complete the necessary fields to specify search parameters for the earnings you want to see. Some fields are described in the following table.

Field	Comments
Payment Group Code	Select a code that corresponds to the payment group that is associated with the summarized earnings.
Summary Formula	Enter a custom formula that your system uses to calculate summarized earnings.

3 In the Summarized Earnings Found list, find the earning record you want to access and click its View icon.

4 Click Add Adjustment.

5 On the View Summarized Earnings page, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Adjustment Amount	Enter the amount of the adjustment you want to make.
Adjustment Type	Select one of the following adjustment types: ■ **Temporary**. Deletes the adjustment if you rerun the Earning Summarization service. ■ **Permanent**. Keeps the adjustment if you rerun the Earning Summarization service.

6 Click Save.

The system makes the adjustment and redisplays the View Summarized Earnings page with the adjustment you entered and its effect on the summarized earnings.

Calculating Trial Payments

After you have created and adjusted the earnings, you can calculate trial payments from those earnings.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To calculate trial payments

1 Navigate to the Plan & Payment > Trial Payment Calculation view.

2 In the Launch Service form, complete the other necessary fields and click Launch Service.

The Processing Services page displays a list of services, with the one that is running at the top of the list.

3 If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

When the service has finished running, its status changes to Completed Successfully.

4 To see the generated trial payment records, in the Results column, click the Trial Payments link.

Adjusting Trial Payments

Use this procedure to view and adjust the trial payments generated by the Trial Payment Calculation service.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To adjust trial payments

1 Navigate to the Plan & Payment > Trial Payments view.

2 In the Trial Payments form, complete the necessary fields to specify search parameters for the trial payments you want to see. One of the fields is described in the following table.

Field	Comments
Payment Group	Select a code that corresponds to the payment group that is associated with the trial payment.

3 In the Trial Payments Found list, find the trial payment record you want to access and click its View icon.

4 Click Add Adjustment.

On the View Trial Payment page, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Adjustment Amount	Enter the amount of the adjustment you want to make.
Adjustment Type	Select one of the following adjustment types: ■ **Temporary**. Deletes the adjustment if you rerun the Trial Payment Calculation service. ■ **Permanent**. Keeps the adjustment if you rerun the Trial Payment Calculation service.

TIP: If you want to hold all or part of a trial payment, enter a negative adjustment for the amount you want to hold. When you close the current period, the adjustment amount becomes part of the period end balance and is carried forward to the next period.

5 Click Save.

The system carries out the adjustment and redisplays the View Trial Payment page with the adjustment you entered and its effect on the trial payment.

Finalizing Payments

When you finalize payments, the system locks in the trial payments and adjustments. You cannot make further changes to these items. You can run this service multiple times. If you do, the payments are not removed and remain in the system.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To finalize payments

1. Navigate to the Plan & Payment > Finalize Payments view.
2. In the Launch Service form, complete the necessary fields and click Launch Service.

   The Processing Services page displays a list of services, with the one that is running at the top of the list.
3. If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

   When the service has finished running, its status changes to Completed Successfully.
4. To see the generated payment records, in the Results column, click the Payments link.

Creating a Payment Manually

You can manually create a payment for a specified participant in a particular payment group. ICM considers this to be a payment, not a trial payment.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To create a payment manually

1. Navigate to the Plan & Payment > Payments view.
2. Click the New Payment link.
3. On the Payment Information page, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Participant ID	Enter the ID code of the participant to whom this payment is to be credited.
Payment Group	Enter the payment group under which this payment is to be categorized.
Reason Code	Enter a code that corresponds to the reason the payment is made.

4. Click Save.

Importing Payments

You can import payment records in XML format from other applications. This allows ICM to maintain records of payments made by external systems. ICM considers these imported records to be payments, not trial payments.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To import payments, the only requirement is that you must have participants and payment groups set up.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To import payments

1. Navigate to the Master Control > Import & Export Services view.
2. In the Import Services list, click the Payment Import link.
3. In the Launch Service form, complete the necessary fields and click Launch Service.

   The Processing Services page displays a list of services, with the one that is running at the top of the list.
4. On the Import Data Source form, do one of the following:
   - If payment records are to be imported in XML format, select Import File.
   - If payment records are to be imported in the form of a migration set, select Import Migration Set.
5. Click Import.
6. If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

   When the service has finished running, its status changes to Completed Successfully.
7. To see the imported payment records, in the Results column, click the Imported Payments link.

Exporting Payments

After payments are finalized, you can export payment records in XML format so that other applications, such as a payroll system, can load them.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To export payments

1. Navigate to the Plan & Payment > Payments view.
2. In the Payments form, complete the fields to specify search parameters for the payments you want to export. One of the fields is described in the following table.

Field	Comments
Payment Group Code	Enter a code that corresponds to the payment group that is associated with the payments you are exporting.

3 In the Payments Found list, click the Export This Result Set link.

ICM exports the payments in the Payments Found list to an XML file, which can be imported into an external system.

4 To see the wrapper for the payments export XML file, click the Migration Set link at the bottom of the page.

Closing the Period

After finalizing payments, you can run the Close Period service. This closes the period and calculates all payment group balances for all participants for this period.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

To close the period

1 Navigate to the Plan & Payment > Close Period view.

2 In the Launch Service form, complete the necessary fields and click Launch Service.

The Processing Services page displays a list of services, with the one that is running at the top of the list.

3 If you want the system to automatically refresh the page at intervals, click one of the Refresh Rate links at the top of the page.

When the service has finished running, its status changes to Completed Successfully.

Viewing Payment Information by Participant

If a participant has a question about a payment from any period, you can display the Participant Ledger to find information you might need to answer it.

The Participant Ledger shows a consolidated view of payments for a selected participant, with links to screens that show how each payment was calculated. From the Participant Ledger, you can see the latest calculation results for a participant's beginning balance, summarized earnings, payments, and ending balance for the entire calendar year and for a specified payment group.

For information about accessing the Participant Ledger, see "Viewing Balances, Earnings, and Payments" on page 218.

This task is a step in "Process of Calculating Earnings and Payments" on page 194.

22 Performing Retroactive Processing

Compensation administrators (and in some cases, IT professionals with some compensation administration responsibilities) typically perform retroactive processing tasks. This chapter explains how to do retroactive processing in Siebel ICM and includes the following topics:

About Retroactive Processing

Retroactive processing is the ability to perform retroactive adjustments and retroactive edits—that is, to process changes to a previous, closed period in a current, open period. An example of a retroactive adjustment is processing an additional payment for a previous period. An example of a retroactive edit is changing a quota in a previous period.

Transaction Events

Most retroactive adjustments apply to transactions. Transaction adjustments occur on transaction events. A *transaction event* is a subdivision of a transaction (for example, a transaction line item). It represents the finest level of detail for a transaction. An event is the unit of work for a crediting service, and each credit is linked to an event. Retroactively editing a transaction header or transaction line results in the cancellation and recreation of all child transaction events.

Processing options for transaction events are as follows:

- **Retroactively.** This option retroactively reprocesses transaction events by cancelling credits in the past period and replacing them with new, recalculated values.
- **First Open Period.** This option does not cancel credits in the past period. Instead, in the first open period, it generates reversing credits that cancel the past period credits.

You can specify a default processing option for each transaction type, or the processing option for each transaction event at the time the adjustment is made. Additionally, you can change the retroactive processing options for individual events or batches of events.

For more information on making transaction adjustments, see Chapter 19, "Adjusting Transactions."

Retroactive Revisions

Retroactive adjustments are processed through retroactive revisions. A *retroactive revision* is a group of retroactive adjustments and all the entities that are cancelled or generated as a result of processing those adjustments. A retroactive revision allows you to combine retroactive adjustments into a logical chunk or batch, and label it.

As an example, in February 2005 (P2), you might want to restate January 2005 (P1) plan earnings by changing some transaction event pricing values and by altering some commission rates defined in the compensation plan. In this case, you would create a retroactive revision called P1_as_of_P2 to group the collective transaction and commission rate changes.

A retroactive revision has the following characteristics:

- No retroactive adjustment can be made outside of a retroactive revision.
- Normally, only one retroactive revision per open period exists. It usually contains adjustments to the period immediately before the current period.
- A retroactive revision is either open or closed. At any time, only one retroactive revision per operating unit can be open.
- The first retroactive revision is created automatically when the system detects the importing or creation of retroactive transaction events.
- To finalize a retroactive revision, you must explicitly close it. The system automatically opens the next retroactive revision at that time. This means that retroactive changes are always bound to a retroactive revision.
- After a retroactive revision is closed, it is immutable and you can do no further processing in it. The system then assigns the current working period to the retroactive revision. This allows the generation of reports that display “as of Period X.”
- You can recalculate a retroactive revision as many times as necessary to yield the desired results.
- A retroactive revision avoids “data bloat” by deleting intermediate results. In other words, if you recalculate a retroactive revision, the system deletes the previous set of results.

Retroactive Service Batches and Services

When you run a retroactive revision, ICM accomplishes this task through a service launcher. The service launcher identifies the entities to be reprocessed, finds the oldest period that has an unprocessed retroactive change, and then generates a retroactive service batch.

A *retroactive service batch* is a series of retroactive services to be run together, in a predetermined sequence, to process a retroactive revision. The system determines the retroactive services to be run based on the adjustments in the retroactive revision being processed. The retroactive service batch is run from the oldest period with unprocessed retroactive changes up to, but not including, the first open period.

Retroactive services cannot be run individually. The service launcher controls which retroactive services run, and in what order.

The retroactive services are as follows:

- **Retroactive Sales Crediting Service.** Cancels all credits in the period, reprocesses all noncancelled events originally processed in the period, and processes new retroactive events. The service creates output data in the form of credits.

  NOTE: Credit cancellations due to transaction adjustments are done at adjustment time.

- **Retroactive Rollup Service.** Cancels all rollup credits in the period and reprocesses every organization, territory, and product hierarchy.

- **Retroactive Cumulation Service.** Cancels all cumulated credits in the period and reprocesses every measure cumulation.
- **Retroactive Plan Eligibility Service.** Cancels all plan and participant membership records, and then reprocesses all participants through all plan eligibility rules.
- **Retroactive Earning Calculation Service.** Cancels all earning records in the period and reprocesses all credits through the Earning Calculation Plan logic.
- **Retroactive Earning Summarization Service.** Cancels all Summarized Earning records and reprocesses all earnings through the Earning Summarization Plan logic.
- **Retroactive Close Period Service.** Updates participants' period balances in closed periods and generates participant balance adjustment records. Recalculated participant balances are propagated from the first reprocessed period forward to the first open period. Consequently, do not perform open period processing until all retroactive changes have been reprocessed.

About Retroactive Service Batch Files

You can manually create retroactive service batches, as well as series of other types of services to run as a batch. You do this by creating an XML file of services in the proper format and order.

For more information about creating service batches, see the chapter on service batches in *Siebel Incentive Compensation Management Configuration Guide*. For information about structuring a service batch XML file, see the service batch XML file appendix in *Siebel Incentive Compensation Management Configuration Guide*.

Process of Performing Retroactive Processing

Compensation administrators (and occasionally, IT people with some compensation administrator responsibilities) perform manual retroactive processing in ICM's user interface.

To perform retroactive processing, do the following tasks:

1. Suspend open period processing. See "Suspending Open Period Processing" on page 206.
2. Make retroactive adjustments. See "Making Retroactive Adjustments" on page 206.
3. (Optional) Audit the retroactive adjustments. See "Editing Retroactive Adjustments and Edits" on page 207.
4. Generate a retroactive service batch. See "Generating a Retroactive Service Batch" on page 208.
5. (Optional) Review and edit the retroactive service batch XML file. You must perform these tasks in the following order:
   a. Export the service batch. See "Exporting a Retroactive Service Batch" on page 209.
   b. Import the edited service batch. See "Importing a Retroactive Service Batch" on page 209.
6. (Optional) Change the retroactive processing options. See "Changing the Retroactive Processing Options" on page 210.

7 Run the retroactive service batch. See "Running the Retroactive Service Batch" on page 211.

8 Verify the retroactive service batch ran successfully. See "Verifying the Retroactive Service Batch Ran Successfully" on page 211. Do one of the following:

- If there is an error, go back to Step 2.
- If there is no error, proceed to Step 9.

9 Review retroactive earnings adjustments. See "Reviewing Retroactive Adjustments" on page 212. Do one of the following:

- If you are not satisfied with the results, go back to Step 2.
- If you are satisfied with the results, proceed to Step 10.

10 Close the retroactive revision. See "Closing the Retroactive Revision" on page 213.

11 Resume open period processing. See "Resuming Open Period Processing" on page 213.

Suspending Open Period Processing

Retroactive changes can invalidate participants' opening period balance in the first open period. Therefore, before you begin processing retroactive changes, it is strongly recommended that you end open period processing—that is, stop processing earnings and payments for the current period.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

Making Retroactive Adjustments

Retroactive processing options apply to transactions only. A transaction adjustment is retroactive if *any* of its events have been processed in a closed period. You can make a retroactive transaction adjustment from any period.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

To make retroactive adjustments

1 Navigate to the Transactions > Transactions view.

2 Search for the transaction you want to adjust and click its View icon.

3 In the Header Information & Details, Header Participants, or Lines areas of the page, click the Adjust icon.

4 In the drop-down list, select the processing option Retroactively or First Open Period.

5 Complete or change the other fields as necessary to make the adjustment and click Save.

Editing Retroactive Adjustments and Edits

Optionally, you can edit the retroactive changes you made. This shows what retroactive adjustments and edits still need to be processed, and allows you to make further changes if necessary.

ICM allows you to see all transaction events affected by retroactive adjustments within this retroactive revision. You can change the retroactive processing option for any event within this retroactive revision, or set the options for all events at one time. You can also ignore events or process them selectively.

This task is an optional step in "Process of Performing Retroactive Processing" on page 205.

To edit the retroactive adjustments for one transaction

1. Navigate to the Transactions > Transactions view.
2. Search for the transaction you want to adjust, and then click its View icon.
3. Click the History icon.

To edit the retroactive adjustments in a retroactive revision

1. Navigate to the Master Control > Retroactive Revision Sets view.

   In the Retroactive Revisions list, find the retroactive revision you want to audit and click its Edit icon.

2. Do one of the following:

   - To see events affected by the retroactive adjustments, click the hyperlink in the Events field.
   - To see the retroactive edits (nontransaction retroactive changes), click the hyperlink in the Entities field. Some fields are described in the following table.

Field	Comments
Code	Displays a unique code for the retroactive revision. The system generates a unique code by concatenating the operating unit code and a sequential integer. It is recommended that you edit this code and use the convention *Px_as_of_Py*, where *Px* is the target period being revised and *Py* is the first open calendar period.
Revision Number	Displays the revision number.
Status	Displays one of the following retroactive revision statuses: ■ **Open.** Currently active. ■ **Closed.** Already processed.
Period	Displays the period in which the retroactive revision is closed.
Events	Displays a count of the number of transaction events retroactively changed during this retroactive revision. Click on the number to display the Retroactive Transaction Event Changes view.

Field	Comments
Entities	Displays a count of the number of nontransaction entities retroactively changed during this retroactive revision. Click on the number to display the Retroactive Entity Changes view.
Last Launched	Displays the date and time of the last retroactive service run. If there has been no retroactive processing for this retroactive revision, “Not Available” displays. Click the date to display the Retroactive Service Run history page.
Description	Displays a description of the retroactive revision.

Generating a Retroactive Service Batch

After you enter retroactive changes, you generate a retroactive service batch.

This task is a step in “Process of Performing Retroactive Processing” on page 205.

To generate a retroactive service batch

1 Navigate to the Master Control > Retroactive Revision Sets view.

On the Retroactive Revision Sets page, click the Generate Retroactive Service Batch link.

2 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Enter a batch code for this retroactive service batch.
Launch As User	Type a user name for running the services.
Launch As User Password	Type a password for running the services.
Force Optimized Retroactive Crediting	Select this check box to specify that the system only cancels and recalculates credits for those transaction events that have been retroactively cancelled, adjusted, or added. If you are sure that there are no other retroactive changes that can affect crediting (for example retroactively edited distributions), selecting this check box is efficient because the system does not cancel and recalculate every credit in any closed periods.

3 Click Save.

This generates the retroactive service batch. ICM displays the Generate page with a list of the services to be run, in order of execution and grouped by period, for the currently open retroactive revision. Some fields are described in the following table.

Field	Comments
Status	Displays one of the following statuses of the service: ■ **Ready.** Ready to run or not run yet. ■ **Running.** Actively running. There are hyperlinks to a page with information on the status of each service.
Retroactive Revision Set	Displays the revision set this service batch generated to process.

Exporting a Retroactive Service Batch

Optionally, you can export the retroactive service batch as an XML document. This allows you to transfer a retroactive service batch from one system to another. It also allows you to view and edit the batch directly. For this purpose, ICM comes with an XML schema definition file.

This task is an optional step in "Process of Performing Retroactive Processing" on page 205.

To export a retroactive service batch

1 Navigate to the Master Control > Service Batches view.

On the Service Batches page, find the retroactive service batch you want to export and click its View icon.

Importing a Retroactive Service Batch

You can import a retroactive service batch XML file. You can reimport an exported retroactive service batch XML file with its original name, or you can rename it first.

This task is an optional step in "Process of Performing Retroactive Processing" on page 205.

To import a retroactive service batch

1 Navigate to the Master Control > Service Batches view.

2 On the Service Batches page, click Browse.

3 In the Choose file dialog box, navigate to the directory location of the retroactive service batch XML file you want to import.

4 Select the file and click Open.

5 In the Service Batches Found list, select the file and click Add Service Batch.

Changing the Retroactive Processing Options

Optionally, you can change the retroactive processing options for individual events or for batches of events.

This task is an optional step in "Process of Performing Retroactive Processing" on page 205.

To change the retroactive processing options for batches of events

1 Navigate to the Master Control > Retroactive Revision Sets view.

2 In the Retroactive Revision Sets list, find the retroactive revision set whose processing options you want to change.

3 Click the Events link.

4 On the Retroactive Revision Sets page, click the Batch Processing Options icon.

5 In the Processing Option drop-down list, select either the Retroactively or First Open Period processing option, and then click Save.

To change the retroactive processing options for an individual event

1 Navigate to the Master Control > Retroactive Revision Sets view.

2 In the Retroactive Revision Sets list, find the retroactive revision set whose processing options you want to change.

3 Click the Events link.

4 On the Retroactive Revision Sets page, click the required transaction number.

5 For each event type, select either the Retroactively or First Open Period processing option, and then click Save.

Running the Retroactive Service Batch

After generating a retroactive service batch, you run it to process its transaction adjustments and other changes. A transaction adjustment is retroactive if *any* of its events have been processed in a closed period. Retroactive processing options apply to transactions only. The system retroactively processes changes of any kind automatically when you run the batch.

NOTE: In the course of setting up environments, properties files may be copied from one environment to another; for example, from a test environment to a production environment. In such cases, before you run a retroactive service batch, make sure to change the values in the copied properties files to reflect the environment into which they are copied, *especially* those properties that reference hardware locations. For more information about properties files, see *Siebel Incentive Compensation Management Installation Guide for UNIX* or *Siebel Incentive Compensation Management Installation Guide for Microsoft Windows*.

CAUTION: Failure to adjust properties files for the current environment may cause degraded performance and unacceptably long processing times when the Retroactive Close Period Service is running.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

To run the retroactive service batch

1. Navigate to the Master Control > Service Batches view.
2. On the Service Batches page, find the service batch you want to run and click its View icon.
3. Click the Launch Service Batch link to run the services.

Verifying the Retroactive Service Batch Ran Successfully

After running a retroactive service batch, verify that the batch completed without error. If the results are not satisfactory, you can rerun the retroactive services as many times as necessary, making further adjustments as needed.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

To verify the retroactive service batch ran successfully

1. Navigate to the Master Control > Service Batches view.
2. On the Service Batches page, find the service batch you want to run and click its View icon.
3. Locate the retroactive service batch you want to verify and click its link in the Status column.
4. In the Services lists, check for errors in the Status column and do the following.
   - If there is an error, go back to "Making Retroactive Adjustments" on page 206 and start over.
   - If there is no error, proceed to "Reviewing Retroactive Adjustments" on page 212.

Reviewing Retroactive Adjustments

After all errors in the retroactive revision have been corrected, you have the opportunity to review the earnings adjustments generated by the system and make manual corrections as needed. After doing so, you must reprocess the retroactive changes to make sure your manual adjustments do not cause any additional system errors. You can do this as many times as necessary to eliminate errors.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

To identify retroactive adjustment transactions

1. Navigate to the Transactions > Transactions view.
2. Enter search criteria for the retroactive adjustment transactions you want to review, and then click Search.
3. Identify a retroactive adjustment transaction you want to review and click its View icon.

To review the transaction header

1. On the View Transaction page, review the information in the Header Information & Details box.
2. If you want to make an adjustment, click the Adjust Header link.
3. On the Adjust Transaction Information page, complete or change the fields as needed. One of the fields is described in the following table.

Field	Comments
Adjustment Date	Enter the date the adjustment was made in the source system.

   The Header Details box shows profile attributes that are added to ICM according to your company's needs and business processes.

4. Click Save.

To review the header participants

1. On the View Transaction page, in the Header Participants box, identify a participant whose information you want to review.
2. To see details about this participant, click the hyperlink in the Participant ID column.
3. If you want to make an adjustment to this participant's split share, click its Adjust link.
4. On the Edit Participant page, change the Split field percentage number as needed.
5. Click Save.

To review the transaction lines

1. On the View Transaction page, in the Lines box, identify a transaction line you want to review.

2 To see details about this transaction line, click its View icon.

3 If you want to add a line to this transaction, click the Add Line link and complete the fields on the Transaction Line page.

The Line Details box shows profile attributes that are added to ICM according to your company's needs and business processes.

4 Click Save.

To process the review results

- After you have reviewed the transaction details, do the following:
  - If you have made adjustments to the transaction details, go back to "Making Retroactive Adjustments" on page 206 and start over.

    NOTE: You might have to perform this step several times.
  - If you have not made further adjustments, proceed to "Closing the Retroactive Revision" on page 213.

Closing the Retroactive Revision

After a retroactive revision has run without error, you close it. This locks the changes into the ICM database, freezes the current retroactive revision, and opens the next retroactive revision.

NOTE: You cannot close an open period while a retroactive revision with changes in it remains open. You have to close the retroactive revision first.

This task is a step in "Process of Performing Retroactive Processing" on page 205.

To close the retroactive revision

1 Navigate to the Master Control > Retroactive Revision Sets view.

2 Find the retroactive revision set you want to close and click its Edit icon.

3 In the Revision Details box, in the Status field, select Closed.

4 Click Save.

ICM closes this retroactive revision and opens the next retroactive revision.

Resuming Open Period Processing

After you have finished processing retroactive changes, you can proceed with open period processing—that is, resume processing earnings and payments for the current period.

Viewing Retroactive Processing Results

After you run retroactive processing, you can see the new calculation results and compare them to previous calculation results. You can see the results of retroactive processing by viewing the reports from one of the Participant Snapshot views:

- Participant Ledger
- Summarized Earning History
- Retroactive Summary

In addition, if a system-generated entity was created or cancelled during a retroactive service, its view provides hyperlinks to the corresponding retroactive revision. This applies to the following entities:

- Credit
- Rollup Credit
- Cumulated Credit
- Earning
- Balance

For more information about viewing retroactively processed participant results, see “Accessing the Participant Snapshot” on page 217.

23 Viewing Process History

This chapter describes Siebel ICM's Process History functionality and includes the following topics:

About Process History

The Process History functionality uses Siebel ICM's versioning and dating model to accurately display the state of the system at the time an entity was created, processed, or adjusted.

The Process History is invoked when you access an entity from a link within a related entity. For example, when you view a generated credit and click the link for the associated measure on the credit record, the measure's details are displayed as they existed in the period the credit was processed. However, if you display that same measure from the main navigation bar (Sales Crediting > Measures), the measure's details are displayed as they are today.

When you enter Process History mode, the Process History label appears at the top of the screen and the color scheme used by Siebel ICM changes.

Process History Rules

The process history rules are as follows:

- Process History mode is invoked when navigating from a generated entity to any of its related entities.
- You cannot make any changes to an entity when in Process History mode, you must first return to normal mode.
- Process History mode is exited when you select an entity from the main navigation bar (for example, Sales Crediting > Measures).

- The dates used by Process History for the effectiveDate and auditDate attributes of performance records are defined in Table 23.

  The effectiveDate attribute contains the begin date of the period in which this entity was created. The auditDate attribute contains the date the generated entity was created, and is used to get the version of the entity that was effective on that date.

Table 23. Process History and the effectiveDate and auditDate Attributes

Entity	effectiveDate	auditDate
Credits	Credit's period begin date	Credit's creation date
Cumulated credits	Cumulated credit's period begin date	Cumulated credit's creation date
Goals	Goal's period begin date	Goal's creation date
Cumulated goals	Cumulated goal's period begin date	Cumulated goal's creation date
Earnings	Earning's period begin date	Earning's creation date
Summarized earnings	Summarized earning's period begin date	Summarized earning's creation date
Trial Payments	Trial payment's period begin date	Trial payment's creation date

- The Working Period bar displays different information depending on whether the system is in normal mode or process history mode.

  An example for normal mode is:

  ```
  Working Period:  FY2005, Period 9
  ```

  An example for Process History mode is:

  ```
  Working Period: FY2005, Period 9 as the system was on : September 15, 2005 1:15 PM
  ```

  Normal mode means that you are viewing the latest timeline; process history mode means that you are viewing the timeline at a point in time.

24 Accessing Participant Results

This chapter describes how to access and monitor ICM's output information for participants. This chapter contains the following topics:

About the Participant Snapshot

You can use ICM to isolate the supporting records for each participant, identify the plans for which the participant is eligible, and monitor the earnings received by the participant. ICM shows a wide range of information about a participant, employee, customer, or channel partner on the *Participant Snapshot* screen. This screen provides a single interface to monitor details about each participant, including the participant record, transactions, credits, goals, earnings, and associated plans.

Accessing the Participant Snapshot

The Participant Snapshot screen provides access to multiple screens that display various types of information about participants. You access these screens by opening the participant snapshot and then selecting a link.

Opening the Participant Snapshot

To access the Participant Snapshot, follow this procedure.

To open the participant snapshot

1. Navigate to the Organization > Participant Snapshot screen.
2. In the Participants form, complete the fields to specify search parameters for the participant whose information you want to look up, and then click Search.
3. On the Participants Found list, locate the participant whose information you want to access and click its Snapshot icon.

   Two windows open up. The right window displays the participant record. The left window displays a list of links to other details about the participant.

4 Select a screen by clicking the appropriate link in the list window.

To access some of the available information, see the table that follows.

To view a participant's...	Go to
Beginning and ending balances, summarized earnings, and payments	"Viewing Balances, Earnings, and Payments" on page 218.
Earnings across payment groups and calendar periods	"Viewing Summarized Earning History" on page 219.
Retroactive processing activity	"Viewing the Retroactive Processing Summary" on page 219.

Viewing Balances, Earnings, and Payments

If a participant has a question about a payment from any period, you can display the Participant Ledger to find information you might need to answer it.

The Participant Ledger shows a consolidated view of payments for a selected participant, with links to screens that show how each payment was calculated. From the Participant Ledger, you can see the latest calculation results for a participant's beginning balance, summarized earnings, payments, and ending balance for the entire calendar year and for a specified payment group.

NOTE: You can also use this procedure to view retroactively processed balances, earnings, and payments. For more information about retroactive processing, see Chapter 22, "Performing Retroactive Processing."

To view balances, earnings, and payments

1 Follow the steps of "Opening the Participant Snapshot" on page 217.

2 In the links list window, click Participant Ledger.

3 In the Payment Groups fields, select the required Payment Group, select Functional Currency or Participant Currency, and then click Filter.

Below the Payment Groups fields, ICM displays a form for each payment group that meets the filter criteria. Each form contains a list of periods for that payment group. A clock icon to the left of a Period entry indicates that retroactive processing occurred for that period.

4 Find the payment group and period that includes the payment you want to see.

5 Do one of the following:

- (Optional) Click the clock icon for a period to display its Summarized Earning History screen.

  This screen displays a detailed history of retroactively calculated values for the selected Participant, Payment Group, and Period combination.

- Click the Payments hyperlink for a period to display its Total Payments screen.

  This screen shows all payments for this participant for one payment group and one period.

  Go to Step 6.

6 On the Total Payments screen, find the payment you wanted to look up.

7 To see earning, transaction, and credit details for a payment, do the following:

   a To see the summarized earnings on which a payment is based, click its Summarized Earnings link.

   b To see the earnings on which a summarized earning is based, click its Earnings link.

   c To see the transaction on which an earning is based, click its Transaction link.

   d To see the credits on which a transaction is based, click its Credits link.

Viewing Summarized Earning History

To view participant earnings across payment groups and calendar periods, you can display the Summarized Earning History screen. This screen displays all revision values, including the original value, calculated for a given participant, period, and payment group.

To view summarized earning history

1 Follow the steps of "Opening the Participant Snapshot" on page 217.

2 In the links list window, click Summarized Earning History.

3 In the Payment Groups fields, select the required Payment Group, Period, and Functional Currency or Participant Currency, and then click Filter.

4 In the list below the Payment Groups fields, locate the period for the earnings you want to view.

NOTE: You can view retroactively processed earnings information as well. For each retroactive revision, the recalculated fields are Beginning Balance, Summarized Earning, Ending Balance, and Retroactive Balance Adjustment. The Payment field never changes, because you cannot change the amount that a participant was paid in a past period. For more information about retroactive processing, see Chapter 22, "Performing Retroactive Processing."

Viewing the Retroactive Processing Summary

The Retroactive Summary screen provides a consolidated view of the results of retroactive processing for a single participant. This screen shows retroactive processing activity for each type of system-generated entity that can be retroactively calculated.

For more information about retroactive processing, see Chapter 22, "Performing Retroactive Processing."

To view the retroactive processing summary

1 Follow the steps of "Opening the Participant Snapshot" on page 217.

2 In the links list window, click Retroactive Summary.

3 Select the required Calendar Year and Retroactive Revision Set, and then click Search.

The Participant Retroactive Summary screen displays tables that contain the counts of credits, cumulated credits, cumulated goals, earnings, and summarized earnings that were cancelled and created in each period.

4 (Optional) Click on a count to display the records that were retroactively cancelled or created.

25 Setting Up Reports

Compensation administrators (and in some cases, system administrators with some compensation administration responsibilities) typically work with reports. They perform setup tasks to make reports available to Siebel ICM users such as managers and participants.

This chapter explains how to set up ICM Reports and includes the following topics:

About ICM Reports

This topic provides general information about ICM Reports.

Report developers create report designs in applications that are external to ICM. A *report design* is the source code for a report. The report design is contained in an Actuate e.Report Designer Professional (eRDPro) report design (.rod) file or a JasperReports source (.xml) file.

Report developers then compile the report design files into report executables. A *report executable* is a compiled report design file that users can run on demand. This can be either of the following:

- An Actuate report executable (.rox) file compiled from an Actuate eRDPro report design (.rod) file
- A JasperReports (.jasper) file compiled from a JasperReports source (.xml) file

A report executable runs on demand (that is, at run time), and the query runs currently against the ICM database.

To create report designs and report executables, developers normally use Actuate eRDPro. Actuate eRDPro is a full-client tool for developing Actuate reports. Report developers must install it. Report developers can then design, compile, and test reports with eRDPro.

Report executables and other items are stored in the Actuate iServer Encyclopedia Volume. Actuate iServer is a report server that handles report generation, scheduling, and security. The Encyclopedia Volume is a repository on the Actuate iServer that contains report items (report designs and report executables), administrative information (users, security roles, and privileges), request records, and scheduling information. Report items are stored in a folder structure in the Encyclopedia volume. For more information, see "Encyclopedia Volume Folders" on page 222.

A tool called the Actuate Management Console allows developers and administrators to access and work with the contents of the Encyclopedia Volume. Administrators use the Management Console to manage the directory structure for report documents, and to manage security for report documents on the Actuate iServer (see "Report Security and Authentication" on page 222).

Sometimes report developers also create report documents. A *report document* is a report executable that has been run (in other words, filled with data) and recorded for viewing at a later time. A report document can be created in two ways:

- By executing a report executable on the Actuate Server, using the Actuate Management Console and storing the output as a report document (.roi) file.
- By executing a report executable on a user's local machine, using eRDPro. This creates an.roi file on the local machine that can be loaded into the Encyclopedia Volume through the Actuate Management Console.

Compensation administrators set up access to report executables and report documents and create report configurations for them. A *report configuration* is a wrapper for a report executable or a report document. It contains information about how to present the report to users—for example, name, description, and parameter handling. By creating and managing report configurations, compensation administrators make their associated report executables visible as ICM reports.

To help display reports logically to users, compensation administrators use report categories. A *report category* is a way to organize report configurations into groups. A report configuration can belong to one or more report categories. For organizing reports on the user interface display, ICM offers report lists and report groups. A *report list* is a list of report configurations that presents a collection of reports to users. A *report group* is a subgrouping of reports on a report list. By default, report groups are based on report categories. Compensation administrators can customize report lists and report groups by configuring the dashboards on which they are displayed.

Encyclopedia Volume Folders

The Encyclopedia Volume contains a default directory structure for use with ICM. The following is an overview of the ICM directory structure.

```
Encyclopedia Root
   Enterprise Unit
      Operating Unit
         Report Executables
         Report Documents
            Administrator Documents
            Executive Documents
            Manager Documents
            Participant Documents
```

When an operating unit (OU) is created in ICM, the system creates an Operating Unit folder and all subfolder levels below it. The same is true for Enterprise Unit folders.

The Report Executables folder stores report executables. The Report Documents folder and subfolders store report documents. You can configure any subfolder level below the Report Documents folder. Users who have access to the Encyclopedia Volume, either through the Active Portal or through an ICM dashboard, can browse through files and subfolders in the Report Documents folders of the areas to which they have access.

Report Security and Authentication

Siebel ICM has two mechanisms for report security and authentication, as follows:

- **Dashboard security.** Compensation administrators can grant access to single reports and report lists displayed on dashboards as part of the process of setting up dashboard security. For more information, see the chapter on setting up ICM security in *Siebel Incentive Compensation Management Configuration Guide*.
- **Actuate iServer authentication.** Compensation administrators can monitor security for report documents stored on the Actuate iServer through the Management Console.

Each Siebel ICM user has a corresponding user ID that allows access to the Actuate iServer. The Actuate iServer performs external user authentication—that is, it authenticates each user against ICM. If your ICM implementation uses another third-party user authentication service (such as SiteMinder), the system routes the authentication request from the Actuate iServer to that service.

This login process occurs only once. After authentication, the ICM system stores an encrypted authentication token for that user that is submitted for all subsequent calls to the Actuate iServer. This process is automated, and no manual intervention is needed.

Process of Setting Up ICM Reports

To set up ICM reports, perform the following tasks:

1. Load report executables into ICM. See "Loading Report Executables into ICM" on page 223.
2. Assemble report configurations by performing the following procedures:
   a. Create a report configuration. See "Creating a Report Configuration" on page 224.
   b. Define how the report configuration handles parameters. See "Defining Parameter Handling for a Report Configuration" on page 225.
   c. (Optional) Copy and modify a report configuration. See "Copying and Modifying a Report Configuration" on page 226.
3. Make reports available to users by displaying them on a dashboard. You can perform these tasks in any order. See "Displaying Reports on a Dashboard" on page 226.

Loading Report Executables into ICM

Report developers build reports that run against the ICM database. These reports are built outside ICM, usually in eRDPro. Report developers write, compile, and test the reports. The end products are report executables.

You begin setting up reports by loading report executables into ICM. When you do so, the system also loads the report executables into Actuate in the background. In this way, you build a library of report executables.

This task is a step in "Process of Setting Up ICM Reports" on page 223.

To load report executables into ICM

1. Navigate to the Master Control > Report Executables view.

2 Click the New Report Executable link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Type a unique identifying code for the report configuration.
Report Executable File	Enter the path for the report executable file.
Replace existing encyclopedia file?	Select this check box if you want to replace the existing Encyclopedia Volume.

4 Click Save.

Creating a Report Configuration

A report configuration is a wrapper that is based on a report executable or a report document. You can assign one or more report configurations to each report executable or report document. You first create a new report configuration and select a report executable or document on which the report configuration is based.

This task is a step in "Process of Setting Up ICM Reports" on page 223.

To create a report configuration

1 Navigate to the Master Control > Report Configurations view.

2 Click the New Report Configuration link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Display Name	Type a name for the report configuration you are creating. Use this name when you create a dashboard to display a report configuration.
Code	Type a unique identifying code for the report configuration.
Report Type	Select the type of report file to associate with this report configuration: ■ **Report document.** Enter a report document path. ■ **Report executable.** Enter the path for the report executable. Select New Report Executable if a report executable is not already defined.

4 Click Save.

5 (Optional) On the View Report Configuration screen, add categories to which this report belongs by clicking Add Report Category.

Defining Parameter Handling for a Report Configuration

After you create the report configuration, you define its parameter handling. Parameters are built into a report when it is developed. A report executable defines zero or more parameters to be passed to the report when it is run. You must define a report configuration parameter for each report executable parameter in the report executable to which the report configuration is linked. A report configuration parameter specifies how ICM processes the report executable parameter. This can include display information such as label and description, and constraints on valid values for the parameter.

The definition of a parameter can also include the use of a parameter handler, which allows custom handling, including interaction with other ICM entities. For example, if a report takes a measure code as a parameter, you can present users with a picklist of all measure codes in their operating unit. You can specify settings such as whether parameters are filled by users, or automatically filled by the system in the background.

The list under Report Configuration Parameters is filled with parameter information defined in the report executable.

This task is a step in "Process of Setting Up ICM Reports" on page 223.

To define parameter handling for a report configuration

1 Navigate to the Master Control > Report Configurations view.

2 Find the appropriate report configuration and click its View icon.

3 In the Report Configuration Parameters list, find a parameter you want to edit and click the Edit button at the end of its row in the list.

The Report Configuration Parameter - Edit page appears for the parameter you selected.

4 Complete the necessary fields in the upper part of the page. Some fields are described in the following table.

Field	Comments
Label	Type a display name for this report parameter.
Description	Type a text description of the report parameter.
Parameter Handler	Select the parameter handler you want to use with this parameter. For descriptions of parameter handlers, see "About Report Parameter Handlers" on page 229.

The fields in the lower part of the page change dynamically based on the attributes required by the parameter handler you selected. For further information about the attributes required by specific parameter handlers, see "About Report Parameter Handlers" on page 229.

5 Complete the necessary fields in the lower part of the page. Some fields are described in the following table.

Field	Comments
Interactive	Indicates whether the parameter is read only. This check box is selected or cleared based on the parameter handler.
Visible	Indicates whether the parameter is visible in the report. This check box is selected or cleared according to whether Interactive is selected or cleared.
Display With Report Output	Always enabled.

6 When you are finished editing the report configuration's parameter handling, click Save.

7 Do one of the following:

- If you want to edit another parameter, repeat Step 3 through Step 6.
- If you are finished editing the report configuration's parameter handling, click Save.

Copying and Modifying a Report Configuration

After creating some report configurations, you can display the same report executable more than once, in different ways. In this case, you can create a new report configuration by copying and modifying an existing report configuration.

This task is an optional step in "Process of Setting Up ICM Reports" on page 223.

To copy and modify a report configuration

1 Navigate to the Master Control > Report Configurations view.

2 Enter search criteria to identify the report configuration you want to copy, and then click Search.

3 Select the report configuration you want to copy and click the Copy button at the end of its row.

4 When prompted, enter a new code for the new report configuration.

5 Click Save.

Displaying Reports on a Dashboard

System administrators and configurators set up dashboards to display reports and other items to users. A dashboard page can display a report configuration, a list of report configurations, or a report document. For information about setting up dashboards to display reports, see the chapter on dashboards in *Siebel Incentive Compensation Management Configuration Guide*.

Ongoing Tasks for ICM Reports

The following topics describe ongoing or maintenance tasks for administering ICM reports. You can perform these tasks at any time, in any order.

- Schedule batch-run reports. See "Scheduling Batch-Run Reports" on page 227.
- Import and export a reporting system. See "Importing and Exporting a Reporting System" on page 227.
- Import and export individual report entities. See "Importing and Exporting a Report Configuration" on page 228.
- Upload modified reports. See "Uploading Modified Reports" on page 229.

Scheduling Batch-Run Reports

You can schedule batch-run reports through the Actuate Management Console. For information about how to schedule batch-run reports, see the Actuate documentation.

Importing and Exporting a Reporting System

You can import and export an entire reporting system.

The purpose of importing and exporting is to move report entities from one system to another. For example, you could move entities from a test environment to a production environment or the other way around, from a development environment to another development environment, and so on.

An exported reporting system has two main parts—ICM Reports entities (in an XML file) and the Encyclopedia Volume files (in a collection of files with an index XML file indicating how to load the files into the Encyclopedia). These files are stored in a ZIP archive, which is used for importing and exporting reporting systems.

The ICM Reports entities comprise report executable definitions, report configurations, report configuration parameters, and report lists. Encyclopedia Volume files comprise report documents (including full path information from the Report Documents folder and subfolders, along with links to the report documents) and report executables.

To import a reporting system

1. Navigate to the Master Control > Reporting System Import view.
2. Click Browse and navigate to the directory location for report configuration export files.
3. Select the reporting system ZIP file you want to import.
4. Click Import.

To export a reporting system

1. Navigate to the Master Control > Reporting System Export view.
2. Click Export and save the exported reporting system ZIP file to disk when prompted.

Importing and Exporting a Report Configuration

You can import and export an individual report configuration. Exported report configurations include all associated parameters.

The purpose of importing and exporting is to move report configurations from one system to another. For example, you could move configurations from a test environment to a production environment or the other way around, from a development environment to another development environment, and so on.

The report file from the Encyclopedia Volume is included in an exported report configuration. During import, if the report file already exists in the target Encyclopedia Volume (the one under the OU in which the import occurs), the system displays a warning message. However, the ICM components are installed pointing to the existing report file.

The import and export process includes the ICM definition of the report configuration, as well as any files from the Actuate Server that are required to view that report configuration.

To import a report configuration

1. Navigate to the Master Control > Report Configurations view.
2. On the Report Configurations page, click the Import Report Configuration icon.
3. On the Import Report Configuration page, click Browse and navigate to the directory location for report configuration export files.
4. Select a report configuration export file to import.
5. If you want to import this report configuration with a different report configuration code from the one included in the export file, in the Import As Report Configuration Code field, enter the new code.
6. Click Import.

To export a report configuration

1. Navigate to the Master Control > Report Configurations view.
2. Enter search criteria to identify the report configuration you want to export, and then click Search.
3. Identify the report configuration you want to export and click its Export icon.
4. Click Save.
5. Select the path and directory location where you want to save the report configuration file, and click Save.

Uploading Modified Reports

You can upload modified reports.

To upload modified reports

1. Navigate to the Master Control > Report Executables view.
2. Find the report record that you want to modify and click its Edit icon.
3. Click Update File, and then click Browse.
4. From the common share path, select the appropriate report executable (.rox) file.
5. Click Save.

About Report Parameter Handlers

This topic lists and describes the report parameter handlers available for ICM Reports.

Types of report parameter handlers are as follows:

- **Generic.** These parameter handlers are defined by the report configuration, independently of ICM data. Some examples include a drop-down list for which you specify the list items, a text box that can be empty or filtered, and a fixed value that you specify.
- **ICM-based.** These parameter handlers can be session information-specific and use ICM data (for example, information about the current user and her OU). These parameter handlers can also display a list of values based on an ICM entity (for example, plan codes that are in the system).

The parameter handlers for ICM reports are as follows.

Constraint-Based Drop-Down List

This parameter handler displays a drop-down list of parameter value selections and prevents users from entering their own values for the parameter.

Configuring the Parameter Handler

Define a constraint for the list of values.

Constraint-Based Textbox

This parameter handler displays a text box in which to enter a value for a parameter. When a parameter is submitted, the system validates the entered value and reports errors to the user.

Configuring the Parameter Handler

Define the constraint (as used elsewhere in ICM) used to validate the value entered in the text box. Possible values are as follows:

- **no constraint**. No validation of the text box entry.
- **sample_value**. Gives descriptive information about the constraint. For example, for a range-based constraint, it shows the range, such as 1-5. For an expression-based constraint, it contains an example of a value that matches the expression, such as 555-555-5555.

Fixed Value

This parameter handler specifies a parameter value for ICM to fill and pass to a report in the background. No prompting appears in the user interface.

Configuring the Parameter Handler

Enter a constant value to be passed to the report.

For example, imagine a report used to display different information on different dashboard tab areas. In this case, you can configure a dashboard with different tabs for different plans, with the same report appearing on each tab.

Measure

This parameter handler displays a drop-down list of all measures in the current user's operating unit.

Configuring the Parameter Handler

No configuration is required.

Participant Code

This parameter handler displays a pick list of participants. The picklist allows users to select only those participants to whom they have security access.

Configuring the Parameter Handler

No configuration is required.

Period

This parameter handler displays a drop-down list of all periods in the current user's operating unit. The prompt label is Period End Date, and the list of values shows the last day of each period. The period defaults to the current working period.

Configuring the Parameter Handler

Select how you want users to see and select period information. Options include the following:

- Period End Date
- Absolute Period Number
- Period Date range (<start date> - <end date>)
- Calendar and Relative Period (presented as one drop-down list for Calendar Year and another for Relative Period number)

Plan Code

This parameter handler displays a drop-down list of all plans in the current operating unit.

Configuring the Parameter Handler

No configuration is required.

Reading Type

This parameter handler displays a drop-down list of reading types.

Configuring the Parameter Handler

Select which set of reading types is displayed. Options include the following:

- All reading types on a given profile
- All reading types included on any goal profile in the system
- All reading types included on any credit profile in the system
- All reading types included on a header profile or a line profile

For example, suppose you have a report that can display one or more readings for a credit. In this case, use this parameter handler to allow users to select the reading on which to report. This way yields better results than modifying the report to use report attributes, because those readings are already using report attributes in a different way.

Report Attribute

This parameter handler displays a drop-down list of report attribute selections.

For example, suppose you have a report that displays the value of a reading. The drop-down list allows users (usually managers) to select the reading on which they want to report. In this case, you would first associate the reading with a report attribute.

Configuring the Parameter Handler

Specify whether the list includes all report attributes, or only those associated with a particular ICM entity—for example, all those associated with Reading Types, all those associated with Transaction Event Types, and so on.

Session Information Parameter Handlers

These parameter handlers pass a specific type of user information from the session to a report in the background. Separate parameter handlers exist for the following ICM system entities:

- Enterprise Unit Code.
- Enterprise Unit Universal Unique Identifier (UUID).
- Operating Unit Code, which is the operating unit that the current user is in. This becomes the scenario operating unit code if the current user is in modeling mode.
- Operating Unit UUID.
- Participant Code, which is the participant code of the current user. This is blank if the user is a non-participant.
- Participant UUID.
- User UUID, which is the UUID of the current user.
- Period Number, which is the absolute period number of the working period.
- Period UUID.

Configuring the Parameter Handlers

No configuration is required for any of these parameter handlers.

Other Parameter Handlers

The parameter handlers display a drop-down list or picklist of valid values. Separate parameter handlers exist for the following ICM system entities:

- Organization
- Territory
- Job
- Product
- Customer
- Salary Grade
- Hierarchy Level (product, organization, or territory)
- Formula
- Incentive Type
- Earning Group

- Event Type
- Line Type
- Header Type
- Calendar Segment
- Cumulating Frequency
- Data Group

Configuring the Parameter Handlers

No configuration is required for any of these parameter handlers.

26 Accessing Dashboard Content

This chapter explains how to use dashboards and includes the following topics:

About Dashboards

In Siebel ICM, a *dashboard* is a screen tab that gives users immediate on-screen access to reports, Web pages, or other important information sources. A dashboard includes one or more *dashboard pages* that contain the content; the user accesses this page from the main tab page through hyperlinks. Which dashboards a user sees depends on the security privileges granted to that user. A system administrator can grant and alter a user's access privileges for dashboards.

The first screen that you see when you log in to Siebel ICM is a dashboard.

Process of Accessing Dashboard Content

Compensation administrators, managers, and participants use dashboards to view reports and other information they might need to do their jobs.

To access dashboard content, perform the following tasks:

1. Display the content on a dashboard. See "Displaying Dashboard Content" on page 235.
2. Run reports offered on a dashboard. See "Running a Report on a Dashboard" on page 236.
3. (Optional) Set a dashboard as the default view. See "Setting a Dashboard as the Default View" on page 236.

Displaying Dashboard Content

Depending on your role assignment and security privileges, you might not see any dashboards, one dashboard, or multiple dashboards. What a dashboard displays to you depends on your information needs and your company's policies and requirements. Content on a dashboard page can include ICM reports, Web pages, test handlers, and message displays.

This task is a step in "Process of Accessing Dashboard Content" on page 235.

To display dashboard content

1. Click the tab for the dashboard you want to see.

2 Click the link for the dashboard page that displays the content you want to see.

Running a Report on a Dashboard

Some dashboard pages can feature reports whose parameters you can enter to specify the limits of the information you want to see.

This task is a step in "Process of Accessing Dashboard Content" on page 235.

To run a report on a dashboard

1 Click the tab for the dashboard you want to see.

2 Click the link for the dashboard page that displays the report you want to run.

Setting a Dashboard as the Default View

Optionally, you can set a dashboard as the default page you see when you log on to ICM.

This task is an optional step in "Process of Accessing Dashboard Content" on page 235.

To set a dashboard as the default view

1 Click the tab for the dashboard you want to set as your ICM system's default view.

2 At the top of the dashboard page, click the Make Default link.

27 Performing Modeling

Siebel ICM modeling allows you to look at the impact of incentive plan changes on goal attainment, expenses versus budget, and individual earnings.

This chapter includes the following topics:

About Modeling

In Siebel ICM modeling, you can incorporate historical, production, and forecast data, run multiple "what if" scenarios, and simulate real-world performance. Visualization tools allow you to see an overview and drill down on specific plans, teams, or people. In addition, you can map your incentive pay investment against projected sales results. When you have achieved the optimal ratios, Siebel ICM modeling allows you to automatically migrate plan data back into the production environment.

To effectively use Siebel ICM modeling, you must have detailed business knowledge of current plans and Siebel ICM configuration, and knowledge of the goals and objectives that trigger changes to these plans.

Process of ICM Modeling

To perform ICM modeling, perform the following tasks:

1. Export an existing operating unit and its associated data for a specific working period. See "Exporting Operating Unit Data" on page 238.
2. Create a scenario, including the calendar for the scenario. See "Creating a Scenario and a Scenario Calendar" on page 239.
3. Import the operating unit data into the new scenario. See "Importing the Operating Unit Seed Data" on page 243.
4. Import the supporting base data for this operating unit such as participants, products, organizations, and transaction data. See "Importing the Supporting Base Data" on page 244.
5. Make the necessary adjustments to plans, formulas, and components. See "Adjusting the Configuration" on page 244.
6. Run the necessary services for the updated plans. See "Running Services for the Updated Plan" on page 244.
7. Edit your scenario as necessary. See "Editing the Scenario" on page 245.
8. Export your updated configuration. See "Exporting an Updated Configuration" on page 245.

9 Import the updated configuration into the appropriate working period in the production environment. See "Importing Updated Configuration Data" on page 245.

Exporting Operating Unit Data

Existing operating unit data becomes the seed data for your scenarios in modeling. Siebel ICM provides an export utility that groups all the available data from a specific operating unit, in a specific working period, into a set of individual export and import XML files. The export set is placed in the following default location:

```
<APPSERVER>\migration\migrationsets\<timestamp>
```

For <APPSERVER>, substitute the root directory of your application server installation. For example:

```
c:\jboss-3.0.3_tomcat-4.1.12\migration\migrationsets\1051108681009
```

The entities that are exported with the operating unit are determined by the listings in a properties file. Optionally, if you want to export a subset of operating unit entities, you can remove the unneeded entities from the file. For a list of operating unit entities that can be exported, see "About Operating Unit Exports and Imports" on page 169.

This task is a step in "Process of ICM Modeling" on page 237.

To limit the list of exported entities

1 Launch a command prompt and navigate to the <STAGING>/etc/migration/ directory.

<STAGING> represents the directory where the ICM files are configured before deployment.

2 In a text editor, open the operatingUnitExportList.properties file and remove the entities you do *not* want to include in the operating unit export.

3 Save and close the operatingUnitExportList.properties file.

4 Navigate to the <STAGING>/deploy directory and run the following command:

```
ant deploy-etc
```

5 Restart the application server.

To export operating unit data

1 Change the working period to the period you want to export for your operating unit.

For information about changing the working period, see "Changing Your Working Period" on page 27.

2 Navigate to the Master Control > Import & Export Services view.

3 From the Export Services list, click the Operating Unit Export link.

4 In the Launch Service form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Log Level	Select a logging level; for example, Default, Warn, Error, and so on.
Error/s of Type	Select the type of error you want to trap; for example, Any or Application Error.

5 Click Launch Service.

6 From the Import & Export Services page, click the Refresh icon to check the status of the export.

The status appears in the Export Services list, under the Status column.

For more information about logging levels and other details of launching and monitoring services, see "Process of Running and Reviewing a Service" on page 160.

Creating a Scenario and a Scenario Calendar

Before you can import the operating unit seed data into your modeling environment, you must create a *scenario* in which to put the seed data. A scenario is a separate programmatic area in which you can work and experiment without affecting the processing that occurs in the main production environment. Creating different scenarios allows you to import the same data and create multiple variations of a single plan.

Each scenario has a *calendar*, which defines the processing periods for that scenario. The calendar is composed of one or more *calendar years*, which can correspond to a standard calendar year or a fiscal year. Each calendar year contains one or more *periods*, each of which is defined by a start date and an end date, and contains all dates in between. Whenever the system refers to a specific date, it identifies the period in which that date occurs.

Every calendar year has one or more *segments*, each defined by a start period and an end period, and containing all periods in between. *Segment types* denote different kinds of segments. Any number of segment types can be associated with a calendar year.

The period in which you create your scenario is the beginning period for all modeling changes. When your scenario is created, all previous periods are closed.

For more information about the ICM calendar and its components, see the chapter on creating the calendar in *Siebel Incentive Compensation Management Configuration Guide*.

This task is a step in "Process of ICM Modeling" on page 237.

To create a scenario

1 Navigate to the Master Control > Scenarios view.

2 Click the New Modeling Scenario link.

3 In the Basic Information form, complete the necessary fields. Some fields are described in the following table.

Field	Comments
Code	Identifying code for the scenario. The code is limited to 15 characters and must be unique for each scenario. The system holds this code in the database for historical purposes even after the scenario is deleted from the user interface.
Budget	Budget amount for this scenario, to be used for reporting purposes.

4 Click Next.

You have now entered the modeling environment.

5 In the Basic Information form, enter a code for the calendar year in the Code field.

6 Select one of the following options:

- **Standard Calendar Year.** If the year follows a regular 365- or 366-day standard calendar, and all of the periods and segments in the year are regular, select this option. Continue with "Creating a Standard Calendar Year for a Scenario" on page 240.
- **Custom Calendar Year.** If the year does not follow a standard 365- or 366-day pattern or if you need to set up custom periods or segments, select this option. Continue with "Creating a Custom Calendar Year for a Scenario" on page 241.

Creating a Standard Calendar Year for a Scenario

Use the following procedure to create a standard calendar year for a scenario.

To create a standard calendar year for a scenario

1 In the Basic Information form, under Start Date, select a month, day, and year to begin the calendar.

2 Under Period Segment Type, select your calendar's period type.

This determines how many periods are contained in the calendar year.

3 Click Next.

The Periods form shows each Relative Period number, its Absolute Period identity, and the date ranges associated with each period.

NOTE: You can modify the Start Date of any period except the first, and the End Date of any period except the last. The end date of a period must be one day before the start date of the next period.

4 Click Next.

The Segments page shows the default segments that the system creates for your calendar. For regular calendars, the selected period type is considered a segment. Segments that are longer than the period segment type are automatically generated by the system.

5 Do one of the following:

- If the displayed segments are acceptable, go to Step 8.
- If custom segment types have been defined in other calendar years, and you want to add one of those segment types to this calendar year, go to Step 6.
- If you want to create a new segment type for this scenario, click New Custom Segment Type and continue with "Creating a Custom Segment for a Scenario" on page 242.

6 From the drop-down list at the top of the Calendar Segments form, select a custom segment type to add to the calendar and click Add.

The system displays a Segments page for the custom segment you selected.

7 Click Save.

The Segments page shows the default segments that the system creates for your calendar. For regular calendars, the selected period type is considered a segment. Segments that are longer than the period segment type are automatically generated by the system.

8 Click Next.

The system displays the details of the calendar year you created for the scenario.

9 Click Next.

10 In the Period Range fields, select the range of years and periods for which to enable your scenario.

11 Click Save to save this scenario with the calendar year you have created.

Creating a Custom Calendar Year for a Scenario

Use the following procedure to create a custom calendar year for a scenario.

To create a custom calendar year for a scenario

1 In the Basic Information form, do the following:

a Under Start Date, select a month, day, and year to begin the calendar.

b Under End Date, select a month, day, and year to end the calendar.

2 Under Period Segment Type, do one of the following:

- Select New Custom Segment Type to define the calendar's segments. Click Next, then continue with "Creating a Custom Segment for a Scenario" on page 242.
- If custom segment types have been defined in other calendar years, and you want to add one of those segment types to this calendar year, select it from the drop-down list. Then continue with Step 3.

3 Click Next.

The Periods form shows each Relative Period number, its Absolute Period identity, and the associated date ranges with each period. Siebel ICM automatically tries to calculate an even distribution of days among the specified number of periods.

NOTE: You can modify the Start Date of any period except the first, and the End Date of any period except the last. The end date of a period must be one day before the start date of the next period.

4 Click Next.

The Segments page shows the various segments that the system creates for your calendar. For regular calendars, the selected period type is automatically considered a segment. Segments that are longer than the period segment type are automatically generated by the system.

5 Click Next.

The system displays the calendar year you created for the scenario.

6 Click Next.

7 Select the period range that this scenario encompasses by selecting the calendar year and period in both the From and To fields.

8 Click Save to complete the scenario and calendar creation process.

Creating a Custom Segment for a Scenario

Use the following procedure to create a custom calendar segment for a scenario.

To create a custom segment for a scenario

1 Complete the fields on the Custom Segment Type Information page. Some fields are described in the table that follows.

Field	Comments
Segments Per Year	Total number of periods to appear in the calendar year.
Segment Type Code	Identifying code for this segment type.

2 Click Next.

The Periods form shows each Relative Period number, its Absolute Period identity, and the date ranges associated with each period. Siebel ICM automatically tries to calculate an even distribution of days among the specified number of periods.

NOTE: You can modify the Start Date of any period except the first, and the End Date of any period except the last. The end date of a period must be one day before the start date of the next period.

3 Click Next to complete the calendar year and continue with custom segment definition.

The Segments page shows the various segments that the system creates for your calendar. For regular calendars, the selected period type is automatically considered a segment. Segments that are longer than the period segment type are automatically generated by the system.

4 Do one of the following:

- For a standard calendar year, continue with Step 8 of "Creating a Standard Calendar Year for a Scenario" on page 240.
- For a custom calendar year, continue with Step 5 of "Creating a Custom Calendar Year for a Scenario" on page 241.

Importing the Operating Unit Seed Data

After you have created the scenario and set up the calendar, you can import the operating unit seed data. The procedure in this topic is suitable for smaller data sets. For larger data sets, use the procedure described in "Creating a Service Batch from a Migration Set" on page 243.

The entities that are imported are determined by the values in the operatingUnitImportList.properties file, which is located in the following directory:

```
<STAGING>\etc\migration\
```

This task is a step in "Process of ICM Modeling" on page 237.

To import the operating unit seed data

1 Navigate to the Master Control > Scenarios view.

2 Click the Enter Scenario icon for the scenario you want to open.

3 Navigate to the Master Control > Import & Export Services view.

4 From the Import section of the Import & Export Services list, select Operating Unit Import.

5 Click the Search button to select the operating unit you want to import into this scenario.

6 Click Launch Service.

7 In the Import section of the page, click the Refresh button to verify that the import has completed successfully.

8 Navigate to the Master Control > Scenarios view.

9 Click the Enter Scenario button for your scenario to verify that your operating unit information is available.

Creating a Service Batch from a Migration Set

As an alternative to importing operating unit seed data, you can generate a service batch that, when run, executes the individual Import services where they have been implemented. The individual import services are better equipped to handle large volumes if data.

For information about creating a service batch from a migration set, see “Creating a Service Batch to Import a Migration Set” on page 173.

Importing the Supporting Base Data

At this point your scenario is not yet complete. You must import the supporting base data such as products, organizations, territories, and participants, or enter them into the system manually. Assuming that you have used the import utilities for these objects in your production environment, you can import these objects by reusing your production import files.

Adjusting the Configuration

The objective of Siebel ICM modeling is to adjust plans, formulas, and distribution rules to meet specific or strategic organization goals. The ways you make these changes is the same as when you initially configure or update your configuration in your production environment. For detailed instructions on adjusting plans, formulas, and distribution rules, see the respective chapters about these entities.

Running Services for the Updated Plan

The service functionality for modeling is the same as for production. After you have made the necessary adjustments to your distribution rules, formulas, and plans, you must run all appropriate services for this scenario, including:

- Cumulate
- Earning Calculation
- Earning Summarization
- Imports
- Plan Eligibility
- Rollup
- Sales Crediting
- Update Analytics

For instructions on running services, see “Process of Running and Reviewing a Service” on page 160.

When these services have completed successfully, you can review your plan adjustments in the Modeling dashboard.

Reset Scenario Service

The Reset Scenario Service is an additional service available only in Siebel ICM modeling. You use this service to reset your scenario without creating a new scenario and reimporting the seed data. The Reset Scenario Service purges all calculated data created by running services, resets all service run information, and reopens all closed periods in the scenario. Additionally, it sets the working period to the initial working period in which you created the scenario. Transaction data is left intact, as well as any participant data that was imported into the scenario.

Editing the Scenario

After you review the plan adjustments, edit your scenario as required.

Exporting an Updated Configuration

After you have completed the configuration changes in the modeling environment, reviewed your plan changes in the modeling dashboard, and made any additional changes needed, you are now ready to export your updated configuration information from the modeling environment.

This task is a step in "Process of ICM Modeling" on page 237.

To export an updated configuration

1. Navigate to the Master Control > Import & Export Services view.
2. From the Export section of the Import & Export Services list, select Operating Unit Export.
3. Enter a description or comment about this export in the Comment field.
4. Click Launch Service.
5. In the Export section of the page, click the Refresh button to verify that the import has completed successfully.
6. Click Exit Scenario.

Importing Updated Configuration Data

Use the following procedure to import the updated configuration.

This task is a step in "Process of ICM Modeling" on page 237.

To import updated configuration data

1. Change the working period to the period into which you want to import the updated configuration information.
2. Navigate to the Master Control > Import & Export Services view.
3. From the Import section of the Import & Export Services list, select Operating Unit Import.
4. Click Search to select the operating unit you want to import.
5. Click Launch Service.
6. In the Import section of the page, click the Refresh button to verify that the import has completed successfully.
7. Review your revised configuration as necessary.

A Versioning Reference

This appendix describes how versioning works in ICM, and contains the following topics:

About Versioning

Oracle's Siebel ICM versioning keeps track of changes to the database across two dimensions in time: a timestamp of when the change is made (known as the activation or audit date), and the working period in which the change is made (known as the effective date).

Not every record is version controlled. Some entity types are not versioned. For a list of non-versioned entities, see "Non-Versioned Entities Behavior" on page 19. If an entity is not versioned in the ICM system, you cannot make it version controlled. All extended attributes and profile attributes, however, are automatically versioned in ICM.

Versioning Information Storage

The versioned data is stored in the VERSION table for an entity; for example, in the EMPLOYEE_VERSION table or PRODUCT_VERSION table. Each time a versioned field is changed, ICM creates a new row in the VERSION table containing the updated information. All of the time information such as activation date, deactivation date, effective date, and end effective date is stored in the effective date table, such as EMPLOYEE_EFDT or PRODUCT_EFDT.

NOTE: Another set of activation and deactivation dates appears in the VERSION tables. These dates are not used by the system, and are redundant.

Sometimes when you modify a record, the system creates two new rows in the effective date table, and sometimes only one. This is because the system makes sure that an active record exists for every version visible from the user interface. For more information, see "How ICM Modifies a Versioned Entity in a Different Period" on page 249.

How ICM Creates a Versioned Entity

The process by which ICM creates versions of a versioned entity is as follows.

NOTE: In the examples in this appendix, for the sake of simplicity and clarity, the values in the Version fields are shown as integers. In Oracle's Siebel Incentive Compensation Management (ICM) product database tables, these values appear as 10-digit alphanumeric codes composed of product_version_uuid.

1 A row is created in the entity table containing the non-versioned information. For example, for a new product in the PRODUCT table:

product_uuid	product_code	product_name	description	...
a6d3b7m7A	Sample	Sample Product	This is a sample product	...

2 A row is created in the version table containing the versioned information. For purposes of this example, this is version 1. For example, for the same product in the PRODUCT_VERSION table:

Version	product_uuid	unit_cost	unit_of_measure	...
1	a6d3b7m7A	60.0	U.S. Dollars	...

3 A row is created in the effective date table containing the key dates for that version. This row references version 1. For example, for the same product version in the PRODUCT_EFDT table:

product_efdt_uuid	Version	begin_effective_date	end_effective_date
a6d3b7743A	1	2005-01-01 00:00:00.000	NULL

activation_date	deactivation_date	operating_unit_uuid
2005-10-31 18:39:07.140	NULL	a4n4heiafA

To show the relevant information in one row, the product_efdt and operating unit UUIDs are omitted:

Version	begin_effective_ date	end_effective_ date	activation_date	deactivation_ date
1	2005-01-01 00:00:00.000	NULL	2005-10-31 18:39:07.140	NULL

Many of the columns in the PRODUCT and PRODUCT_VERSION tables have been left out for the sake of conserving space. The essential concepts are as follows:

- Non-versioned data is stored in columns in the PRODUCT table, versioned data is stored in columns in the PRODUCT_VERSION table, and time information is stored in the PRODUCT_EFDT table.
- The activation date is the timestamp of when the record was created (for example, October 31, 2005), and the begin effective date is the first day of the current working period in which the version was created (for example, January 1, 2005 for the beginning of Period 1).
- The PRODUCT_EFDT table is joined to the PRODUCT_VERSION table with product_version_uuid, and the PRODUCT_VERSION table is joined to the PRODUCT table with product_uuid.

How ICM Modifies a Versioned Entity in a Different Period

If an entity is modified in a different period from the one in which it was created, then even if the change is to a non-versioned field, a new version is created. Changes to non-versioned fields overwrite the existing fields in the base table. A new version (row) is created containing the updated version information in the version table.

In the effective date table, two new rows are created. These new rows are required to support the possibility that the data might change again in a period before the current one, in the same period, or in a later period.

Consider the example of a user changing the current working period to Period 3 and then modifying the record. In this case, the process by which ICM creates versions of the versioned entity is as follows.

1. The non-versioned entity table continues to have one row, and any new non-versioned data overwrites the old data. For example:

product_uuid	product_code	product_name	description	...
a6d3b7m7A	Sample	Sample Product	This has been changed.	...

2. The versioned entity table now has two rows, with all non-modified data copied from the first to the second. For purposes of this example, this second row is Version 2.

Version	product_uuid	unit_cost	unit_of_measure	...
1	a6d3b7m7A	60.0	U.S. Dollars	...
2	a6d3b7m7A	60.0	U.S. Dollars	...

3 The effective date table now has three rows. The first row is the original row with its deactivation date set. The second row is a copy of the original row with an end effective date but no deactivation date. This second row covers situations where a user makes another change to an earlier period. This is because every entity version that is the active version for any period; that is, that is shown in the user interface when you set your current working period correctly, must have an active row in the effective date table in case someone modifies the entity in that period.

For example, suppose a user makes a change to this record in Period 3. Then the user goes back to Period 2 and makes another change. A duplicate row 1 that is still active exists to accommodate the change.

Version	begin_effective_date	end_effective_date	activation_date	deactivation_date
1	2005-01-01 00:00:00.000	NULL	2005-10-31 18:39:07.140	2005-10-31 22:03:04.617
1	2005-01-01 00:00:00.000	2005-03-01 00:00:00.000	2005-10-31 22:03:04.617	NULL
2	2005-03-01 00:00:00.000	NULL	2005-10-31 22:03:04.617	NULL

In other words, the first row is no longer active, the second is for changes prior to Period 3, and the third is for changes during or after Period 3.

Versioned Entities and Scripting

In scripts, when you pass an audit date and an effective date to a method, it searches for a record that is both active and effective for the given timestamps. This makes sure that while a service is running, it always uses the same data. This is why the audit date is always set to SYS_SERVICE_START_TIME. If a user changes the data while the service is running, the audit date is previous to when the change was made, so the service continues to use the original data.

Versioned Entities and SQL

To retrieve a version for a specific point in time, you must search for the version that is both active and effective at that point in time. Only one such record will exist, based on the following conditions:

- The begin effective date must be less than or equal to the effective date you are looking for.
- The end effective date must be greater than the effective date you are looking for, or NULL.
- The activation date must be less than or equal to the audit date you are looking for.
- The deactivate date must be greater than the audit date you are looking for, or NULL.

For example, suppose you want to find the version from the Period 3 example in "How ICM Modifies a Versioned Entity in a Different Period" on page 249 before it was changed. The effective date was 2005-03-01, and the audit date was on or about 2005-10-31 21:00:00.000. Applying the conditions yields the following conclusions:

- The begin effective date of all three rows is less than or equal to the effective date, which applies to all the rows.
- The end effective date of the second rows is *not* greater than the effective date, so it is eliminated.
- The activation date of the third row is *not* less than or equal to the audit date, so it is eliminated.
- The deactivation date of the first row is greater than the audit date, so the correct version is Version 1.

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