SIEBEL 7
eBusiness

SIEBEL eSALES
ADMINISTRATION GUIDE

VERSION 7.5, REV. A

12-DX88XF

NOVEMBER 2002

Contents

Introduction

Chapter 1.   Siebel eSales Overview

Chapter 2.   Setup Tasks

Chapter 3. Creating and Managing Catalogs

Chapter 4.   Modifying Order Workflows

Chapter 5.   Shopping Cart

Chapter 6. Administrative Tasks

Chapter 7. Using Third-Party Payment Applications

Chapter 8. Using Purchase Order Credit Checking Applications

Chapter 9.   Using Third-Party Taxation Applications

Chapter 10. Using Third-Party Product Availability Management Applications

Chapter 11. Using Third-Party Shipment Tracking Applications

Appendix A. Shopping Service API

Index

Contents

Introduction

This guide describes how to set up and manage Siebel eSales for selling over the Web.

Although job titles and duties at your company might differ from those listed in the following table, the audience for this guide consists of employees in these categories:

Siebel Application Administrators	Persons responsible for planning, setting up, and maintaining Siebel applications
Siebel Application Developers	Persons who plan, implement, and configure Siebel applications, possibly adding new functionality
Siebel System Administrators	Persons responsible for the whole system, including installing, maintaining, and upgrading Siebel applications

How This Guide Is Organized

Siebel eSales Administration Guide describes the tasks involved in implementing and configuring Siebel eSales using the following general organization:

■ Performing setup and customization tasks necessary for using Siebel eSales

■ Creating and managing catalogs

■ Creating, customizing, and administering order management processes

■ Setting up and managing integrations to third-party software

An appendix provides detailed descriptions of the Shopping Service business service methods.

What's New in This Release

The following topics are new for this release.

■ **Microsite Management.** Application administrators can now use templates to create portal pages to which you can add text as well as links to HTML pages and documents that can reside on any file server or Web server. Portal pages are useful for displaying marketing collateral, news articles, group news, financial information, press releases, and other kinds of unstructured content.

■ **Category Display Templates.** The number of catalog category display templates has been increased to five to give more options for how information can be displayed. The new templates are called Category Only and Multiselect Checkbox.

■ **Product Availability Information.** If you integrate with an external availability-to-promise engine, consumers can check product availability information before making a purchase. The Shopping Cart displays the available dates and quantities for the selected products.

■ **Enhanced Ordering Templates.** Consumers create templates to store groups of products that they may want to buy in the future. They can now add products to existing templates from the Shopping Cart and catalog.

- **Integration Capabilities.** You can display content from other Web sites. For example, you can display stock quotes or searches from another Web site on the same page as Siebel application data.

- **Shipment Tracking.** If you integrate with an external shipment tracking system, consumers can track the shipment status of their orders through your Siebel eSales Web site.

- **Credit Check.** If you integrate with a third-party accounts receivable or credit management application, you can check the credit standing of business customers who want to pay with a purchase order.

- **Improved Purchase Order Handling.** A Web Corporate User can now place an order without having to enter a purchase order number. When this happens, the order is routed to the Web Purchasing Manager for the number to be added. Also, the ability to approve purchase orders can now be set for individual contacts. Previously, this ability could only be set for accounts.

- **Asset Management.** Consumers can register their products, and manage product maintenance and warranties, through your Siebel eSales Web site.

- **Persistent Shopping Cart.** Anonymous users (users who have added items to their Shopping Cart but who have not yet registered) will now be recognized when they return to your Siebel eSales Web site.

- **Deletion of Anonymous Shopping Carts.** Anonymous Shopping Carts can now be automatically deleted after a set time.

- **Tax Calculation for Customizable Products.** You can now automatically calculate tax on the individual components of a customizable product, allowing them to be taxed at different rates. Previously, a single tax rate was applied to the entire customizable product. This feature requires integration with Taxware applications.

- **Delegated User Responsibility.** You can now select which responsibilities are visible to Web Delegated Customer Administrators.

- **Country Codes**. More country codes have been added. If a country code that you want to use does not appear in a list of values drop-down list, you will need to activate it. For information about how to activate language codes, see *Application Administration Guide*.

Revision History

Siebel eSales Administration Guide, Version 7.5, Rev. A

November 2002 Bookshelf

Book Version: Rev A

Topic	Revision
"MoveToCart" on page 294 "Pseudo-Algorithm" on page 295	Updated with additional information for programmatically retrieving the Price List Id using either PriceListId or DefaultPriceListId.

Siebel eSales Overview 1

This chapter provides an overview of Siebel eSales and the Siebel eSales Web site.

Siebel eSales

Siebel eSales allows business-to-business and business-to-consumer selling over the Web. It offers:

- Hierarchical multimedia product catalogs

- Product search tools, including full-text search and parametric search based on product attributes

- User-specified product comparison

- Distributed catalog administration, allowing multiple-vendor catalogs

- A history bar for easier catalog navigation

- Customer profiling and personalization, using Siebel Personalization

- Customizable order management processes, using Siebel Business Process Designer

- Online Shopping Carts, quotes, and orders, which include:

  - A favorites lists of items, allowing customers to find and rebuy favorites

  - Quote templates for faster ordering

  - Order approval processes

  - Streamlined checkout processes

  - Integration with third-party taxation, credit checking, and payment processing applications

  - Integration with third-party fulfillment engines

- The following optional modules:

  - Siebel eAdvisor for Web-based needs analysis

  - Siebel eAuction for dynamic pricing and auction creation and management

  - Siebel eConfigurator for Web-based product configuration

  - Siebel ePricer for one-to-one pricing and promotions using custom price lists

The Siebel eSales Web Site

When customers log in to a Siebel eSales Web site they see a home page like that in Figure 1. The home page provides an overview of the Web site and displays the accessible catalogs, auctions (if using the optional Siebel eAuction module), and recommended products. Registered users can also access their account information.

Figure 1.   Siebel eSales Home Page

The Web site uses the templates provided with Siebel customer applications. One use of these templates is to create portal pages to which you can add text as well as links to HTML pages and documents. Portal pages are useful for displaying marketing collateral, news articles, group news, financial information, press releases, and other kinds of unstructured content.

For information on customizing Web pages, see *Siebel Tools Reference*.

Customers link to other pages by clicking tabs or hyperlinks on the home page. The following pages display more detailed information:

■ **Catalog.** The Catalog page provides access to the products and services on your company's Siebel eSales Web site.

■ **Auctions.** The Auctions page is where customers can view, create, and participate in auctions, provided your Web site uses the optional Siebel eAuction module.

For more information on auctions, see *Siebel eAuction Guide*.

■ **Shopping Cart.** The Shopping Cart stores the products and services selected by customers. Each line item in the Shopping Cart displays the reference price of the item, as well as the customer's personalized price.

■ **My Account.** The My Account page allows end users to update their user profiles, as well as view their favorites, saved quotes, saved orders, and registered products.

By registering and tracking their products, end users can receive product news or alerts, track warranty agreements, receive recommendations on scheduled services, and submit and track service requests related to their products.

Through the My Account page, end users can check their outstanding order status. They can also reorder items from their favorites list, templates, and orders.

Registered users with delegated customer administration privileges can add other users and edit user profiles. Delegated customer administrators can set the roles of other users within their accounts. The role indicates whether a registered user has both purchasing and administrative responsibilities.

All quotes and orders for a user are visible to that user on the My Account page, including those created in Siebel Sales, Siebel Call Center, and Siebel eAuction.

NOTE: If you do not want a user to be able to order a particular item from his or her favorites list or templates, you must delete the item from the appropriate price list or make it inactive. Removing the item from the catalog will not prevent the user from ordering that item.

NOTE: If your company also has a license for Siebel Orders, depending on your configuration, asset records may be created automatically. This does not prevent end users from registering products that they did not buy from your company. For more information about registered products, see *Siebel eService Administration Guide*.

■ **Parametric Search.** Parametric search allows users to take advantage of the class system by searching for products based on values of the attributes of those products. Instead of entering free-form search strings into a full-text search engine, users of parametric search can select from known attributes (for example, color, size, shape, and maximum temperature) of a particular class of products. They can then compare the products that result from their search.

■ **Contact Us.** The Contact Us page allows customers to contact your company for customer service or sales by email, mail, and fax. It also allows customers to locate the nearest branches of your company. See *Siebel eService Administration Guide* for additional information.

Setup Tasks 2

This chapter describes how to set up Siebel eSales. It includes information about customizing the user interface, controlling user access, setting up responsibilities, and setting up price lists.

Introduction

Before Siebel eSales can be used, certain setup tasks must be performed. These include:

- Installing Siebel applications

- Customizing the user interface

- Controlling user access to your Siebel eSales Web site, as well as to views, catalogs, categories, and products within the Web site

- Setting up Siebel Personalization

- Defining products, including classes and attributes

- Setting up searching

- Setting up shipping charge calculation

- Encrypting credit card data using RSA

- Customizing email notifications

Installing Siebel Applications

To install and use Siebel eSales, you must have the following:

■ **Siebel Web Engine and Related Components.** To deploy information on the Web, you must install Siebel Web Engine and the components on which it depends. These include a Web server, Siebel Gateway Server, and Siebel Server.

■ **Siebel Applications.** To perform administrative tasks such as server administration, creating catalogs, and managing Siebel Business Process Designer processes, you must install a Siebel employee application with the Siebel eSales license key provided.

For information about installing Siebel components, see the *Siebel Server Installation Guide* for the operating system you are using. For information about installing Siebel clients, see the appropriate client installation guide.

Customizing the Framed and Unframed User Interface

Some of the modifications that you might want to perform to change the look and feel of your Siebel eSales Web site are the following:

■ Modifying Web templates

■ Changing colors

■ Modifying the behavior caused by clicking a button

■ Adding or removing applets

■ Changing controls

■ Making fields in forms required

■ Deploying Siebel eSales without using frames

For information on customizing the user interface, see *Siebel Tools Reference.*

Removing the Siebel eAdvisor Applet from Siebel eSales Web Pages

As an example of a user interface customization, if you are not using Siebel eAdvisor with Siebel eSales, it is necessary to remove the Siebel eAdvisor applet from the views listed in Table 1.

Table 1. Views From Which to Remove the Siebel eAdvisor Applet

View	Project in Siebel Tools
Product Catalog View (eSales)	eCatalog
Product Catalog Category Detail View (eSales)	eCatalog
Product Catalog Category Detail View - Product Basic (eSales)	eCatalog
Home Page View (eSales)	eSales
Product Detail - Features View (eSales)	eSales - Quote

To remove the Siebel eAdvisor applet from a view

1 In Siebel Tools, lock the appropriate project.

2 Select the View object.

3 Query for the appropriate view.

4 Expand the View object, and then select View Web Template.

5 Select Base, expand the View Web Template object, and then select View Web Template Item.

The View Web Template Items list appears.

6 Delete eAdvisor GotoView Applet (eSales) from the View Web Template Items list.

7 Save the project.

8 Compile the .srf file, selecting the Locked projects radio button.

Implementing Siebel eSales Without Frames

Customer and partner applications use HTML frames for optimum compatibility when running with browser-based applications. HTML frames allow portions of the browser window to scroll independently of the rest of the window. For example, with HTML frames it is possible to place the main navigation in one frame and content in another frame. You can scroll the content while the main navigation remains in a fixed location.

Customer and partner applications can also be unframed. Siebel employee applications require frames and cannot be unframed.

Before choosing to unframe your application, consider the following limitation to using unframed applications with browser-based applications. In an unframed application, all UI elements exist in the same window. Therefore, the contents list may scroll off the page as a user scrolls down. This is a limitation of the unframed HTML environment and a factor in choosing to frame applications.

If you want to use a frameless deployment, refer to Technical Note *Implementing Siebel Standard Interactivity Applications with a Non-Framed Banner* on Siebel SupportWeb.

Creating a Multilingual Web Site

Siebel eSales Web sites can be deployed in more than one language. For information about deploying Siebel applications in a multilingual environment, see *Global Deployment Guide*.

Controlling User Access

You might want to perform some of the following tasks to control user access in your Siebel eSales Web site.

■ Using external authentication, such as LDAP

■ Creating database users for LDAP to use in database access

■ Defining visibility for the following:

■ Views (see "Setting Up Default Responsibilities and User Types" on page 30)

■ Catalogs and categories (see "Defining Access Groups" on page 32)

■ Products (see "Setting Up Price Lists" on page 33)

■ Assigning the proxy employee

■ Creating users through registration or user administration

■ Associating users with accounts

■ Allowing various levels of access:

■ Anonymous

■ Implicit login

■ Explicit login

■ Customizing access to home and login pages

■ Using single sign-on functionality

■ Allowing another system to log in

■ Adding fields to registration forms

For information on controlling user access, see *Security Guide for Siebel eBusiness Applications*.

Setting Up Default Responsibilities and User Types

Responsibilities control which views are visible to the user. Views, in turn, affect links and tabs. For example, if a user has a responsibility that does not permit access to My Company's Orders, no link will appear in the My Account view that allows access to that view. If no views within a business object are visible, the screen tab that maps to that business object will not be visible.

The responsibilities predefined for Siebel eSales are the following:

■ **Web Anonymous User.** Used to grant view visibility to anonymous users. Allows the user to access views that do not have the Requires_Explicit_Login flag set to TRUE.

■ **Web Registered User.** End user of the application in a business-to-consumer model.

■ **Web Corporate User.** End user of the application in a business-to-business model. Also acts as the base responsibility for Web Purchasing Manager and Web Delegated Customer Administrator.

Web Corporate Users are associated with an account and must be authorized by the Web Delegated Customer Administrator to access the site. A Siebel Administrator can also add new Web Corporate Users.

■ **Web Purchasing Manager.** Power user in the buying organization. Web Purchasing Managers have the ability to approve or reject orders placed by Web Corporate Users. They also have the ability to view all company quotes and orders, as well as to create, edit, and delete addresses in the corporate address book.

This responsibility only has views for access to company orders and quotes and company address book. Web Purchasing Managers must also have Web Corporate User responsibility to access Siebel eSales or Siebel eCustomer.

■ **Web Delegated Customer Administrator.** Power user in the buying organization. Web Delegated Customer Administrators have the ability to add and remove Web Corporate Users, Web Purchasing Managers, and other Web Delegated Customer Administrators within your organization.

This responsibility only has views for access to user administration. Web Delegated Customer Administrators must also have Web Corporate User responsibility to access Siebel eSales or Siebel eCustomer. For purchase order approval and corporate address book privileges, they must also be given Web Purchasing Manager responsibility.

Web Purchasing Managers and Web Delegated Customer Administrators must have at least two responsibilities to see all of the views that they need, as described above in this section. In Siebel eSales, workflow logic and other application logic can depend on the job role of the user, so where a user has more than one responsibility, a separate field called User Type must be set at the same time as the responsibilities. Workflows and other application logic use this field for decision making in place of a responsibility. The user type should be set for the highest level of view access needed for each job role, according to Table 2.

Table 2.   Responsibilities and User Type

Job Role	Responsibilities	User Type
Web Anonymous User	Web Anonymous User	None
Web Registered User	Web Registered User	Web Registered User
Web Corporate User	Web Corporate User	Web Corporate User
Web Purchasing Manager	■ Web Corporate User ■ Web Purchasing Manager	Web Purchasing Manager
Web Delegated Customer Administrator	■ Web Corporate User ■ Web Delegated Customer Administrator	Web Delegated Customer Administrator

NOTE: If you want to add a new responsibility that will be visible to Web Delegated Customer Administrators, you must set the Web Access field to Yes in the Responsibilities view of the Applications Administration screen. For more information about the Web Access feature, see *Siebel eService Administration Guide*.

For information on setting up responsibilities, see *Security Guide for Siebel eBusiness Applications*.

Defining Access Groups

Access groups are defined in the Access Groups view under Group Administration.

An access group is a collection of any combination of positions, organizations, divisions, accounts, and user lists. For example, an access group could consist of several business-to-business (B2B) customers to whom you want to grant access to a particular catalog.

The members of an access group are instances of party types other than Person. In other words, its members cannot be individual people. A user is associated with an access group by being associated with a position, organization, division, account, or user list that is a member of the access group.

Once you have defined access groups, you can associate them with catalogs and categories. Access groups determine which catalogs and categories are visible to the user. When displaying a list of products, for example, in the catalog, the user will see only those products that are in categories accessible to that user.

For information on defining access groups, see *Security Guide for Siebel eBusiness Applications*.

Setting Up Price Lists

Price lists set reference prices and promotional prices, and filter available products for a group or account.

When a customer logs in to the Siebel eSales Web site, the price list associated with the account is activated. The customer will only be able to view products that are both on the activated price list, and in catalogs and categories associated with the same access groups with which the customer is associated.

If the customer is not associated with a price list by being associated with an account, or if the account is not associated with a price list, the default price list is activated. For more information, see "Setting the Default Price List for the Siebel Application" on page 34.

For more information about price lists, see *Pricing Administration Guide*. For information on associating price lists with accounts for B2B customers, see "Associating Price Lists with Accounts" on page 148.

Setting the Default Price List for the Siebel Application

In a business-to-consumer (B2C) setting, a customer might not be associated with an account, or his account might not have a default price list. Customers browsing your Web site anonymously cannot be identified, and hence cannot be associated with an account. For these customers, it is necessary to set a default price list that determines prices and product visibility.

To set a default price list for the Siebel application, you must:

■ Find the row ID of the price list.

■ Enter that row ID into the PRICER_MASTER_PRICE_LIST_ID list of values (LOV).

NOTE: You must update the existing PRICER_MASTER_PRICE_LIST_ID seed data row. Do not make the existing row inactive and then create a new one.

Finding the Row ID of a Price List

You can find the row ID of a price list in the Pricing Administration screen.

To find the row number of a price list

1 Navigate to Pricing Administration.

2 Select a price list.

3 Click the menu button and select About Record.

The About Record dialog box appears.

4 Record the row ID (Row #) of the price list.

Setting the Default Price List

The price list row ID supplied as seed data in your Siebel application must be changed to the row ID of a price list that you have created. This is done in the List of Values view in the Application Administration screen.

NOTE: You must clear the LOV cache for the new price list to take effect.

To set the default price list

1 Navigate to Application Administration > List of Values.

   The List of Values appears.

2 Query for the type PRICER_MASTER_PRICE_LIST_ID.

3 Enter the row number of the default price list in the Display Value field.

4 Click the menu button, and then choose Clear LOV Cache.

Using Siebel Personalization

Siebel Personalization enhances your Siebel eSales Web site by showing to customers information that is specific to their profile, interests, and history. Personalized content includes greeting users by name, presenting them with content targeted to their needs and interests, showing them recommended products, and sending email messages addressed to them.

Siebel Personalization allows you to define rules to show and hide content dynamically during a user's experience with Siebel eSales.

Personalization deployment rules can depend on data such as users' personal profile information, date ranges, their company, products or services they have already purchased, or geographical information. User data can also be captured dynamically while the customer is browsing the Siebel eSales Web site.

The home page in Siebel eSales includes the salutation in the upper left corner, as shown in Figure 1 on page 19. This typically includes a personal greeting, but can be configured to provide targeted content such as product promotions, announcements, birthday greetings, and service request update notifications. The home page also contains a personalized list of recommended items.

Conditional expressions can be used to hide applets under certain conditions. The applets listed in Table 3 are hidden depending on the application, the type of user, and whether the applets have any records in them.

Table 3.   Applets That Can Be Hidden

Applet	Screen	Effect of Conditional Expression
My Company Applet (eSales)	My Account	Hides corporate purchase information from customers who are not B2B power users (that is, do not have Web Purchasing Manager or Web Delegated Customer Administrator responsibility)
Quote Empty Form Applet (eSales)	Shopping Cart	Shows Empty form when Shopping Cart is empty
Quote Form Applet - Current (eSales)	Shopping Cart	Hides Shopping Cart header form when Shopping Cart is empty

Table 3.   Applets That Can Be Hidden

Applet	Screen	Effect of Conditional Expression
Quote Item List Applet (eSales)	Shopping Cart	Hides Shopping Cart when empty
Recommended Product List Applet (eSales)	Home Page, Shopping Cart	Hides Recommended Products applet from Siebel eEvents and Siebel eTraining users

Personalization is principally managed using the Personalization Administration screen in your Siebel application. For information about administering personalization, see *Personalization Administration Guide*.

Defining Products

Products are defined in the Product Administration screen in your Siebel application. Some of the tasks involved in defining products are:

■ Setting up the class system

■ Creating dynamic attributes

■ Defining product lines

■ Creating products

■ Associating literature and images with products

■ Defining related products

■ Creating customizable products

NOTE: You can also create new products using the Catalog Administration screen. For more information, see "Associating Products with Categories" on page 59.

For information on defining products, see *Product Administration Guide*.

Full-Text Search

Siebel eSearch is the deployment of Siebel Search used for customer applications. It allows users to scan database tables and documents for pertinent information. Siebel Search uses Hummingbird SearchServer, a high-performance indexing and retrieval search engine. Siebel Search is included with every license of a Siebel application.

Siebel eSales includes a Siebel eSearch form that uses the Hummingbird SearchServer engine to scan database tables and documents in the Siebel File System. Users can perform searches from any screen.

Database records and documents in the Siebel file system that contain the criterion text are returned in the Search Results list. Search results are ranked according to relevance and sorted according to rank. Users can click on a linked field to see the detail for a record.

Implementing Siebel eSearch

Implementing Siebel eSearch includes:

■ Installing Hummingbird SearchServer

■ Setting up a directory for the search indices

■ Setting up ODBC drivers

■ Creating and indexing the search tables

For information about the installation and administration of Siebel Search, see *Siebel Search Administration Guide*.

Predefined Search Definitions for Siebel eSales

Search definitions are created in Siebel Tools. By default, Siebel eSearch in Siebel eSales searches the business components shown in Table 4. This can be extended by creating additional search indices.

Table 4. Siebel eSales Predefined Search Definitions

Business Component	Display Name	Search Fields
Catalog Category	Categories	Description, Extended Description, Id, Name
eAuction Auction Item	Auction Items	Auction Name, Description, Featured
Product	Products	Description, Id, Name, Organization Id, Vendor, Vendor Part Number

For information about creating search definitions for Siebel Search, see *Siebel Tools Reference*.

Setting Up Shipping Charge Calculation

Shipping charges are calculated for quotes as part of the checkout process. Siebel eScripts are used for the calculations and have been provided as templates. You should modify the scripts to reflect your shipping processes.

Shipping Calculation Process Workflow

The Shipping Calculation Process workflow is shown in Figure 2.
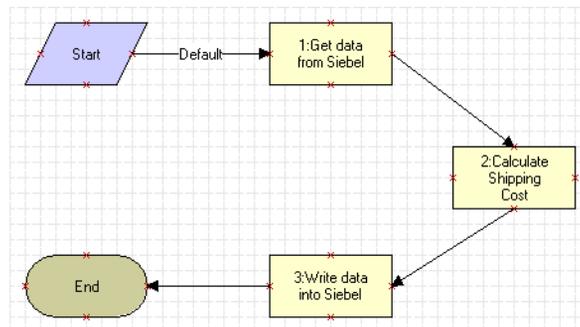
Figure 2.   Shipping Calculation Process

When the Shipping Calculation Process workflow is called by the eSales - Complete Checkout Process workflow (Figure 14 on page 103), the following events happen:

■ Siebel data is passed to the Shipping Cost Service (eScript) business service by the EAI Siebel Adapter business service, using the business service method argument SiebelMessage.

■ The Siebel eScripts in the Shipping Cost Service business service calculate the shipping charges based on the cost, the carrier, and the shipping method.

■ The results are passed to the Siebel database by the EAI Siebel Adapter business service, using the business service method argument SiebelMessage.

Business Services

Two business services are used as part of the Shipping Calculation Process workflow (Figure 2 on page 41), one of them twice:

■ EAI Siebel Adapter, in step 1: Get data from Siebel and step 3: Write data into Siebel

■ Shipping Cost Service (eScript), in step 2: Calculate Shipping Cost

The call to the Shipping Cost Service (eScript) business service sets the business service method argument values shown in Table 5.

Table 5.   Business Service Method Argument Values

Business Service Method Argument	Value
MapName	CalculateShippingCost
SiebelMessage	SiebelMessage is what is passed back and forth between the business service and the workflow. It contains the input and output information in a structured format.
Input Integration Object Name	If you want to use this business service for another business component, you must create a new input integration object and define it's value here. The value should match the equivalent value for the business service in the workflow.
Output Integration Object Name	If you want to use this business service for another business component, you must create a new output integration object and define its value here. The value should match the equivalent value for the business service in the workflow.

Integration Objects

Integration objects are used to pass static or dynamic values to business services. The architecture is modular, in that different integration objects can be created and used for the same core business service.

Shipping charge calculation uses the following integration objects:

■ **ShippingCost - Quote (Siebel Output).** Its integration components are shown in Table 6.

Table 6. ShippingCost - Quote (Siebel Output) Integration Components

Integration Component	Fields
Quote	Account Id
	Carrier Priority
	Currency Code
	Current Quote Ship To City
	Current Quote Ship To Country
	Current Quote Ship To Postal Code
	Current Quote Ship To State
	Quote Number
	Shipping Method
Quote Item	Line Total
	Part Number
	Quantity
	Sales Product Flag

■ **ShippingCost - Quote (Siebel Input).** Its integration component is Quote, with the following fields:

   ■ Freight

   ■ Quote Number

For more information on integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II* and *Siebel Tools Reference*.

Business Service Scripts

The following scripts are used in the Shipping Cost Service (eScript) business service:

- **(declarations).** Sets the following values: Lower Ranges, Upper Ranges, Base Costs, and Rates. Associates the Type of carrier, Priority of the service, and Cost of the service.

- **CalculateShippingCost.** Calculates the shipping cost based upon the information passed from the quote and the other scripts in the business service.

- **GetShippingMethodCost.** Determines the shipping method and shipping carrier costs to use.

- **GetShippingRate.** Determines the shipping rate to use.

For more information on business services, see *Siebel Tools Reference*.

Modifying Shipping Charge Calculations

Shipping charge calculations are customized in Siebel Tools by modifying the scripts that make up the Shipping Cost Service (eScript) business service.

For more information on Siebel eScripts, see *Siebel Tools Online Help*.

To modify shipping charge calculations

1 In Siebel Tools, lock the EAI Credit Card project.

2 Select the Business Service object.

3 Query for Ship*.

The Shipping Cost Service (eScript) business service appears.

4 Right-click Shipping Cost Service (eScript), and then choose Edit Server Scripts.

The server script editor appears.

5 Edit the scripts, and then close the edit window.

6 Compile the .srf file, selecting the Locked projects radio button.

Encrypting Credit Card Data Using RC2 Encryption

Credit card information is encrypted with RC2 encryption technology from RSA. The encrypted fields used in Siebel eSales are shown in Table 7.

Table 7.   Encrypted Fields in Siebel eSales

Business Component	Field	Table	Column
Personal Payment Profile	Account Number	S_PER_PAY_PRFL	PAY_ACCT_NUM
Quote	Credit Card Number	S_DOC_ORDER	CC_NUMBER
Order Entry - Orders	Credit Card Number	S_SRC_PAYMENTS	CC_NUM

CAUTION: Make sure that you back up the key file regularly. If the key file is lost, credit card data cannot be retrieved.

NOTE: If you are upgrading to Siebel 7.5, you must convert Siebel Systems' proprietary encryption for these fields to RC2 encryption. To do this you must run an encryption upgrade script after the main upgrade script but before the Unicode upgrade.

For general information about RSA encryption, see *Siebel Server Administration Guide* and *Siebel Tools Reference*.

For more information about running the upgrade script, see the *Upgrade Guide* for the operating system you are using.

Customizing Notifications

Siebel eSales sends an email notification to a user when the status of that user's order is changed to Confirmed or Shipped. Notifications of other events are also sent, for example when the orders of business-to-business customers are approved or rejected.

The tasks involved in customizing notifications for Siebel eSales are the following:

■ Setting up communications driver profiles

■ Modifying email workflows

■ Modifying email templates

For information on creating notifications, see *Siebel Communications Server Administration Guide* and *Application Administration Guide*.

Setting Up Communications Driver Profiles

Communications drivers send messages. They are accessed using communications driver profiles, which set parameters that can override those of the driver.

Communications drivers are part of the Siebel eSales application. Profiles are created in the Communications Drivers and Profiles view under the Communications Administration screen.

For information about setting up communications driver profiles, see *Siebel Communications Server Administration Guide*.

Modifying Email Workflows

Notifications in Siebel eSales are controlled by workflows. Workflows can be modified and new ones can be created.

For more information about Siebel eSales workflows for email notifications, see . For more information about defining rules to enable automatic email notification, see *Siebel Business Process Designer Administration Guide*.

Modifying Email Templates

Templates provide the content for automated messages, such as confirmations of orders being placed and shipped.

To modify an email template

1 Navigate to Communications Administration > All Templates.

The All Templates view appears.

2 Select a template, for example Order Confirmation.

3 Make modifications to the template text.

You can also copy and paste available substitutions, such as [Street Address].

4 Click the Template Items tab to add preformatted files, such as a standard header or footer.

Creating and Managing Catalogs 3

This chapter describes how to work with catalogs and categories.

Siebel Catalog

Siebel catalog provides core functions that are used by a number of applications to organize master data, for both administrative and display purposes. The data types used by some applications are shown in Table 8.

Table 8.   Applications That Use Catalog Functions

Application	Master Data Type
Siebel eSales	■ Products ■ Literature
Siebel Sales Catalog	■ Products ■ Literature
Siebel eTraining	Training courses
Siebel eEvents	Events
Siebel eAuction	Auctions
Siebel eService	■ Solutions ■ Smartscripts ■ Literature ■ Resolution Items

In Siebel eSales, catalogs allow customers to browse for products and literature of interest. If you also want your customers to be able to browse for training courses or event information, your company must also have licenses for Siebel eTraining or Siebel eEvents, respectively.

Siebel Sales Catalog, which allows employees to browse for products and literature, is available for use with the Siebel Quotes or Siebel Order modules of the Siebel Partner Relationship Management, Siebel Sales, and Siebel Call Center applications.

A catalog is a collection of items arranged in a logical hierarchy of categories. Many different kinds of content items can be grouped in catalogs in your Siebel application. Siebel catalog uses products and auction items. A schematic showing the relationships between a catalog, categories, and products is shown in Figure 3.

■ Categories can contain content items and other categories (called subcategories).

■ Each category can belong to only one catalog and one parent category.

■ Products can be associated with multiple categories.
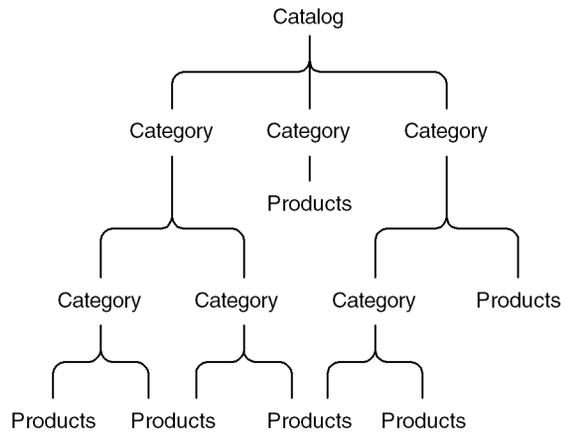
Figure 3.   Catalog Hierarchy

Catalogs are created and managed using the following steps:

■ Setting up the catalog

■ Setting up its categories

■ Building the catalog hierarchy

Setting Up Catalogs

The tasks involved in setting up catalogs are:

- "Creating Catalogs"

- "Assigning Access to Catalogs" on page 54

- "Selecting Languages for Catalog Translation" on page 55

Creating Catalogs

You create catalogs on the Catalogs page in the Catalog Administration screen.

To create a catalog

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Add a new record.

The Catalogs form appears under the More Info tab.

3 Fill in the fields listed in the following table using the form under the More Info tab.

Field	Description
Name	Required.
Description	Brief description of the catalog.
Private	Check the box if you want the catalog to be visible only to users who belong to the access groups associated with it. If the catalog is private, all of its categories will also be private.
Effective Start Date	Date when the catalog becomes visible to end users.
Effective End Date	Date when the catalog stops being visible to end users.

Field	Description
Active	Select the check box to make the catalog visible to end users.
Catalog Type	Choose Buying from the drop-down list if you want the catalog to be displayed on the Web site and in the employee application.
	Catalog Type can be used to control what is displayed by setting search specifications on applets. For example, you could create two catalog types named Customer and Partner. You could then create a view with an applet that has a search specification to display only catalogs of type Partner and a second view with an applet that has a search specification to display only catalogs of type Customer.
Allow 3rd Party Listers	No or Yes.
	This is used for catalogs that will contain auction items.
	For more information on auctions, see *Siebel eAuction Guide*.
Interactive Designer Project	Siebel Interactive Designer project with which to associate the catalog.
	This is used to place a Get Advice hyperlink next to the name of a catalog in the Product Catalog View (eSales) view. For more information about how to create a Siebel eAdvisor pageset, see *Siebel Interactive Designer Administration Guide*.
Image	Image file associated with the catalog.

4 Fill in a number in the Sequence field in the Catalogs list.

Catalogs are displayed on the Siebel eSales Web site in ascending order by their Sequence field.

5 Click Save.

Assigning Access to Catalogs

Access groups control which groups of users can see particular catalogs. Access groups are associated with catalogs under the Access Groups tab in the Catalog Administration screen.

For information on creating access groups, see *Security Guide for Siebel eBusiness Applications*.

To associate an access group with a catalog

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Select a catalog in the Catalogs list.

3 Click the Access Groups tab.

The access groups associated with the catalog appear.

4 Add a new record to the Access Groups list.

A dialog box appears.

5 Select an access group, and then click Add.

The access group appears under the Access Groups tab.

Selecting Languages for Catalog Translation

You can set up your catalogs in multiple languages. This is done under the Catalog Translations tab in the Catalog Administration screen.

For more information on creating multilingual Web sites, see *Global Deployment Guide*.

To choose a language for translation

1 Navigate to Catalog Administration.

   The Catalogs list appears.

2 Select a catalog in the Catalogs list.

3 Click the Catalog Translations tab.

4 Add a new record to the Catalog Translations list.

5 Click the Code field select button.

   The Language Name dialog box appears.

6 Select a language, and click OK.

   The language name and code appear in the Catalog Translations list.

7 In the Description field, type a description of the catalog in the new language.

Setting Up Categories

Categories group content items, such as products, literature, and auctions. The tasks involved in setting up categories are the following:

■ Creating categories

■ Associating products with categories

■ Associating auctions with categories

■ Updating the category item count (and removing it if necessary)

■ Setting display templates for categories

■ Assigning access to categories

■ Selecting languages for category translation

Creating Categories

Categories are created in the Catalog Administration screen under Categories. They are displayed on the Siebel eSales Web site in ascending order by their Sequence field.

To create a category

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Click the Name hyperlink for the catalog to which you wish to add categories.

The Categories list displays the categories belonging to that catalog.

3 Add a new record.

The Categories form appears under the More Info tab.

4 Fill in the fields listed in the following table, and then click Save.

Field	Description
Name	Required.
Display Name	Required. Name that the Siebel eSales Web site visitor sees.
Sequence	Sequence in which categories are displayed, in ascending order starting with 0.
Description	Brief description of the category.
Effective Start Date	Date when the category becomes available for use.
Effective End Date	Date when the category stops being available.
Active	Check the box to make the category available.
Private	Check the box if you do not want the category to inherit access properties from its parent category.
	If the parent category has been marked private, this category also must be private.
Usage	Type of category. Choose one from the picklist.
Display Template	Template for displaying the category on the Siebel eSales Web site. Choose one from the drop-down list.
	For more information, see "Setting Display Templates for Categories" on page 65.
Image	Image file associated with the category.

Associating Products with Categories

You add products to catalogs by associating them with categories that belong to those catalogs. This is done using the Products tab in the Categories view under the Catalog Administration screen.

NOTE: The Siebel eSales customer will only be able to view products that are both on the activated price list and in catalogs and categories associated with the same access groups with which that customer is associated. For more information, see "Setting Up Price Lists" on page 33.

For information on defining products, see *Product Administration Guide*.

To associate products with a category

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Click the Name hyperlink for a catalog.

The Categories list displays the categories belonging to that catalog.

3 Select a category with which to associate products.

4 Click the Products tab.

The products associated with the category appear.

5 Add a new record to the Products list.

A query pop-up window appears.

6 Enter query terms, and then click Go or Cancel.

The Add Internal Products dialog box appears with query results if you clicked Go, or with a list of products if you clicked Cancel.

7 Select products, and then click OK.

The products are associated with the category and appear under the Products tab.

8 You can also click New in the dialog box.

This adds a new record under the Products tab, where you can enter information about the new product.

Associating Literature with Categories

You can make literature available for consumers to view on your Web site by creating catalog categories and associating documents with them. Consumers would click the Literature Catalog link to access the catalog and documents. You can also create new applets for your Web site to display literature.

To add a document and associate it with a category

1 Navigate to the Catalog Administration Screen.

2 In the Catalogs list, select the eService Catalog catalog.

3 Click the eService Catalog hyperlink in the Name field.

4 Select a category or add a new one.

5 In the Literature list, click New.

The Literature form appears.

6 In the File Name field, click the select button and in the dialog box that appears, browse to the document.

7 Click Add.

8 Select a Literature Type and complete other optional fields.

Make sure that the Name field is unique.

For more information about working with literature, see *Siebel eService Administration Guide*.

Associating Auctions with Categories

An auction must be associated with at least one category for it to be created. Auctions can be associated with categories using Siebel eSales, Siebel Sales, or Siebel Call Center.

Within Siebel eSales, a lister can create a new auction and associate it with the appropriate category using the Create Auction wizard. In the employee applications, an administrator can navigate to the appropriate category and create an auction using the Catalog Administration views.

For information on creating auctions, see *Siebel eAuction Guide*.

Updating the Category Item Count

The category item count displayed at run time reflects the total number of items in each category. You must update it after adding new products to categories.

To update the category item count

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Click the name of a catalog.

The Categories list displays the categories belonging to that catalog.

3 Select a category.

4 Click the menu button under the Categories tab, and then choose Update Count.

The category item count is updated for that category.

Removing the Category Item Count

The category item count reflects the total number of items in the category. Certain users might not have access to all of the items in a category. If so, the count would not be accurate for those users.

If this does not meet your needs, you can use Siebel Tools to remove the display of the count from the following applets by making the count inactive:

■ Product Catalog RootSubCategory List Applet (eSales)

■ Product Catalog SubCategory List Applet (eSales)

To remove the category item count

1 In Siebel Tools, lock the eCatalog project.

2 Select the Applet object.

3 Query for the appropriate applet.

4 Select Base, expand the Applet Web Template object, and then select Applet Web Template Item.

The Applet Web Template Items list appears.

5 In the Count row, select the Inactive check box.

The Count record text turns red.

6 Save the project.

7 Compile the .srf file, selecting the Locked projects radio button.

Setting Display Templates for Categories

Display templates allow you to choose how categories and their products are displayed on the Siebel eSales Web site. They are associated with categories when the categories are created or edited.

There are five display templates. Use Table 9 to help decide when to use a particular template.

Table 9.   Category Templates

Template	Comments
Add to Cart	Use this when you want customers to move items from a list to the Shopping Cart one at a time.
Category Only	Use this for categories that have subcategories but no products.
Multiselect Checkbox	Use this when you want the customer to select items from a list and move all selected items to the Shopping Cart at one time.
Product Basic	Use this to include the name of the product, a description, and quantity.
Product Rich	Use this basic template to include just the name of the product and a description.

The following procedure assumes that the category already exists. For information on creating new display templates, see .

To set a display template for a category

1 Navigate to Catalog Administration.

   The Catalogs list appears.

2 Click the name of a catalog.

   The Categories list displays the categories belonging to that catalog.

3 Select a category.

4 In the More Info form, select a template from the Display Template drop-down list.

The selected template will be used to display the category contents in the Siebel eSales catalog.

Assigning Access to Categories

Access groups control which groups of users can see particular categories. Access groups are associated with categories under the Access Group tab.

To associate an access group with a category

1 Navigate to Catalog Administration.

The Catalogs list appears.

2 Click the name of a catalog.

The Categories list displays the categories belonging to that catalog.

3 Select a category.

4 Click the Access Groups tab.

The access groups associated with that category appear.

5 Add a new record to the Access Groups list.

A dialog box appears.

6 Select an access group, and then click Add.

The access group appears under the Access Groups tab.

For more information about creating access groups, see *Application Administration Guide*.

Selecting Languages for Category Translation

You can choose the languages for which to translate category information.

For more information on creating multilingual Web sites, see *Global Deployment Guide*.

To choose a language for translation

1 Select a category.

2 Click the Category Translations tab.

Languages for translation appear.

3 Add a new record to the Category Translations list.

4 Click the Code field select button.

The Language Name dialog box appears.

5 Select a language, and then click OK.

The language name and code appear in the Category Translations list.

6 Fill in the remaining fields in the following table, and then click Save.

Field	Description
Display Name	Name in the new language that the Siebel eSales Web site visitor sees.
Description	Brief description of the category in the new language.
Extended Description	More detailed description of the category in the new language.

Building Catalog Hierarchies

Catalog hierarchies determine the structure and navigation paths of catalogs. Hierarchies are built and modified using the buttons in the Categories list. Table 10 shows the four buttons that are used to promote, demote, move up, and move down categories.

Table 10.   Buttons For Modifying Category Hierarchies

Button	Function
	Demote one level
	Promote one level
	Move up
	Move down

To create subcategories

1 Navigate to Catalog Administration.

   The Catalogs list appears.

2 Click the name of a catalog whose hierarchy you wish to modify.

   The Categories list displays the categories belonging to that catalog.

3 Use the move up and move down buttons to place a category you wish to make a subcategory beneath the category you wish to make its parent.

4 With the child category selected, click the demote one level button.

   The subcategory appears in a tree as a node below its parent. The tree can be expanded and collapsed.

5 Arrange other categories below the parent category as necessary.

6 Select each category in turn and click the demote one level button.

The subcategories are placed in the tree below the other subcategory. The Sequence field can be used to display the subcategories in the correct order on the Categories page and on the Siebel eSales Web site.

7 Use the buttons as necessary to extend the catalog hierarchy.

Subcategories are displayed under categories on the Siebel eSales Web site in ascending order by sequence, and then in alphabetical order by display name.

Creating New Display Templates for Categories

You create and edit display templates in Siebel Tools, and then add them to the Siebel eSales application using your employee application's administration screens.

Use the following process to create a new display template:

■ Create a category detail view.

■ Add the view to the Siebel eSales Catalog screen.

■ Create drilldown objects for the view.

■ Edit its Web layout.

■ Add it to the Siebel eSales application.

NOTE: You must also add the view to the appropriate responsibilities, for example Siebel Administrator and Web Registered User.

The example shown in this section uses a display template called Product New, which uses a view called Product Catalog Category New Detail View (eSales).

For more information on creating Siebel views and applets, and on dynamic drilldown behavior, see *Siebel Tools Reference*.

Creating a Category Detail View

You create the view and add it to the Siebel eSales Catalog screen using Siebel Tools.

To create a detail view for the new display template

1 In Siebel Tools, lock the eCatalog project.

2 Select the View object.

3 Query for Product Catalog Category Detail View (eSales).

4 Copy the record, and then give the copy a new name, for example Product Catalog Category New Detail View (eSales).

5 Select the Screen object.

6 Query for eSales Catalog Screen.

7 Expand the Screen object, and then select Screen View.

8 Add Product Catalog Category New Detail View (eSales) to the Screen Views list.

Creating Drilldown Objects for the View

You create drilldown objects for the view using Siebel Tools.

To create drilldown objects for the view

1 In Siebel Tools, select the Applet object.

2 Query for Product Catalog RootSubCategory List Applet (eSales).

3 Expand the Applet object, and then select Drilldown Object.

   The Drilldown Objects list appears.

4 Copy the Product Basic record.

5 In the new record, fill in the fields shown in the following table, leaving the rest
   the same as in Product Basic.

Field	Value
Name	Product New
View	Product Catalog Category New Detail View (eSales)

6 Expand Drilldown Objects, and then select Dynamic Drilldown Destination.

   The Dynamic Drilldown Destinations list appears.

7 Copy the Product Basic record.

8 In the new record, fill in the fields shown in the following table, leaving the rest
   the same as in Product Basic.

Field	Value
Name	Product New
Field	Display Template Lang Indep Name
Value	Product New
Sequence	3

9 Repeat Step 6 through Step 8 on page 73 for the Product Basic and Product Rich drilldown objects.

10 Repeat Step 2 on page 73 through Step 9 for Product Catalog SubCategory List Applet (eSales).

Editing the Web Layout of the New Display Template

You edit the Web layout of the new display template using Siebel Tools, and then compile the project.

For more information on editing Web layouts, see *Siebel Tools Reference*.

To edit the Web layout of the new template

1 In Siebel Tools, select the View object.

2 Query for Product Catalog Category New Detail View (eSales).

3 Right-click on the view record, and then choose Edit Web Layout.

The Web layout appears.

4 Edit the layout, and then save it.

5 Compile the .srf file, selecting the Locked projects radio button.

Adding the New Display Template to the Application

To add the new display template to the application, you must do the following in the Application Administration screen:

■ Add the display template to the List of Values.

■ Add its view to the Views list.

■ Add its view to the appropriate responsibilities in the Responsibilities list.

To add the new display template and view to the application

1 Navigate to Application Administration > List of Values.

The List of Values appears.

2 Add a new record.

3 Fill in the fields in the following table.

Field	Value
Type	PROD_CTGY_DISPLAY_TEMPLATE
Display Value	Product New
Language Independent Code	Product New
Language	English-American

4 Choose Views from the Show drop-down menu.

The Views list appears.

5 Add a new record.

6 Fill in the fields in the following table.

Field	Description
View Name	Product Catalog Category New Detail View (eSales)
Description	Product Catalog Category New Detail View (eSales)
Local Access	Check the check box.

7 Choose Responsibilities from the Show drop-down menu.

8 Add Product Catalog Category New Detail View (eSales) to the appropriate responsibilities, for example Siebel Administrator.

9 Restart the Siebel Server.

Creating Unstructured Content

Portal Pages containing unstructured content can be quickly created by application administrators to provide information such as announcements and press releases, and links to documents and HTML pages.

Siebel eSales includes one preconfigured portal page template, which is called Catalog Content View - News. It is a view that contains four empty applets. You are expected to modify this template to suit your needs.

To access the Catalog Content View - News template

1 Navigate to Microsite Administration.

2 From the Show drop-down list, select Page Administration.

3 In the Page List, select Web About Us.

4 Click the Web About Us hyperlink to access the page designer.

For more information about how to create and display portal pages that include unstructured content, see *Siebel Employee Relationship Management Administration Guide*.

Setting Up Parametric Search

Users can also choose to search for products based on values of the attributes of those products. This is known as parametric search.

Parametric search allows users to take advantage of the class system. Instead of entering free-form search strings into a full-text search engine, users of parametric search can select from known attributes (for example, color, size, shape, and maximum temperature) of a particular class of products.

Users access parametric search by clicking the link next to the magnifying glass in the Links applet of the Siebel eSales home page.

This brings up the Parametric Search form. The user selects a product family. Attributes specific to the product family appear on the form below the product family. Search results appear to the right of the form.

The search can be narrowed by selecting attribute values from the drop-down menus under the attributes belonging to the selected product family.

NOTE: Parametric search returns only products that match the search criteria and have read-only attribute values. These products must also be on the active price list and be visible through access groups. For more information, see "Determining Which Products Are Returned from a Parametric Search" on page 79.

Making Classes Searchable

Product families are those classes that have been made searchable. Subordinate classes in the hierarchies of searchable classes are also searchable.

To make a class searchable

1 Navigate to Application Administration.

2 From the Show drop-down list, select Class Administration.

3 In the Classes list, select the class.

4 Place a check mark in the Searchable column.

See *Product Administration Guide* for more information on the class system.

Making Attributes Searchable

You can choose which attributes are searchable.

To make an attribute searchable

1 Navigate to Application Administration > Class Administration.

   The Classes list appears.

2 Select a class, and then click its name.

   The Classes list shows the dynamic attributes of the selected class.

3 Select an attribute that is not searchable.

4 Check the check box under Search.

   The attribute is now searchable.

Determining Which Products Are Returned from a Parametric Search

Parametric search returns only those products that match the search criteria and whose attributes are read-only. Attributes for a product are made read-only when their values are set in the Dynamic Attributes view under the Product Administration screen.

See *Product Administration Guide* for information on setting attribute values.

Initiating Parametric Search with a Product Family Selected

You might want to have the product family selected when the user accesses the Parametric Search page from the Know What You Want applet. This is done by passing class information to the Parametric Search form so that it appears with a default product family. This customization is done in Siebel Tools.

To set the parametric search product family

1 In Siebel Tools, lock the Parametric Search project.

2 Select the Applet object, and then query for Parametric Search GotoView Applet.

3 Expand the Applet object, and then select Applet User Prop.

The Applet User Properties list appears.

4 Make Class Name active and Instructions inactive.

NOTE: Instructions is normally active, in which case there will be no default class.

5 In your Siebel employee application, from the application level menu, choose View > Site Map > Application Administration > List of Values.

6 In the List of Values list, query for PARAMETRIC_SEARCH_CLASS_NAME.

7 Change the display value to the Class Name (not class Display Name) of the class you want to be the default.

8 Compile the .srf file, selecting the Locked projects radio button.

NOTE: If both user properties are enabled, Instructions takes precedence.

Removing the List Price Field from Parametric Search

You can remove the List Price field from a parametric search.

To remove the List Price field

1 In Siebel Tools, select the Business Component in the Object Explorer.

2 Query for the business component Parametric Search XA Object Attributes.

3 In the Object Explorer, select Business Component User Prop.

4 Select the Show List Price Attribute user property.

5 Change the Value from Y to N.

Modifying Order Workflows 4

This chapter describes the seed-data workflows provided by Siebel eSales. You can use these workflows as starting points for workflow customization, based on your company's business needs.

Introduction

Siebel Business Process Designer provides a graphical interface for designing and implementing business processes and user interactions. Siebel eSales uses Siebel Business Process Designer to control order management processes.

Workflows are created using the Process Designer in the Workflow Processes view of the Business Process Administration screen. To access the Process Designer, click the name of a workflow. You can also select the process and click the Process Designer tab.

For information on creating and managing workflows, see *Siebel Business Process Designer Administration Guide*.

Siebel eSales Order Workflows

The following features are among those built using Siebel Business Process Designer:

- **Rapid Checkout.** Automatically associates primary address and credit card information with the order during the checkout process. If the user does not have primary information stored within the application, the process will direct that user to submit such information.

- **Purchase Approval Process**. Applies an approval process in a business-to-business environment under the following conditions:

    - The account is approved to pay by purchase order and a purchase order is used as the payment method.

    - The amount of the order is greater than the auto-approval limit.

    - A user of type Web Corporate User placed the order.

- **Email Notifications.** Sends an email notification to a user when that user's order is accepted, awaiting approval, rejected, or shipped.

The following Siebel eSales processes use Siebel Business Process Designer:

- Quotes and Templates

    -

    -

    -

    -

    -

    -

- Checkout

    -

    -

- Notifications

  - Send Order Accepted Email (eSales)

  - Send Order Awaiting Approval Email (eSales)

  - Send Order Failed Email (eSales)

  - Send Order Rejected Email (eSales)

  - Send Order Shipped Email (eSales)

- Purchase approval

- Order modification

■ Error messages and views

■ eSales - Display Error Process on page 121

■ eSales - Login View on page 122

■ eSales - Order Confirmation View on page 123

■ eSales - Shopping Cart View on page 124

■ Auctions

eSales - Silent Authorize Order Process

The following sections describe the major workflows involved in order management in Siebel eSales.

Quotes and Templates

A quote is an offer to sell a set of items at particular prices for a defined period of time. A template is a group of items that are frequently purchased together.

The Shopping Cart can be saved as a quote or a template. Saved quotes can be edited at any time. If a quote has not expired, it can also be ordered directly.

eSales - Edit Quote Process

The workflow for editing a saved quote is shown in Figure 4.
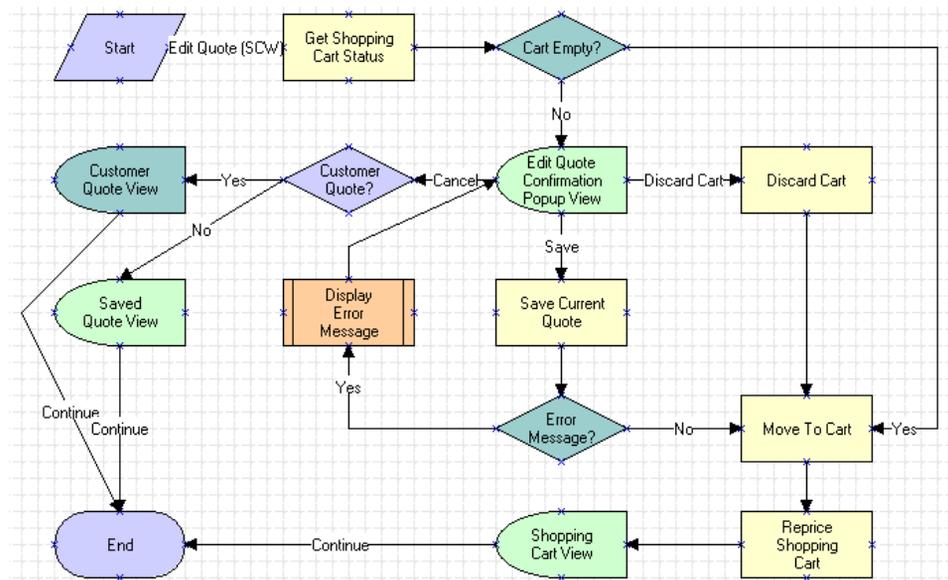
Figure 4.   eSales - Edit Quote Process

The eSales - Edit Quote Process is called when a user clicks Edit Quote in the Saved Quote Detail view. The following events happen:

■ The process determines whether the Shopping Cart is empty.

■ If it is empty, the quote is moved to the Shopping Cart.

■ If it is not empty, the Edit Quote Confirmation pop-up view appears. The user has three choices:

   ■ **Cancel.** The process determines whether the quote is for an existing customer. If it is, the Customer Quote Detail View appears and the process ends. If it is not, the Saved Quote Detail View (eSales) view appears and the process ends.

■ **Discard Cart.** The Shopping Cart is emptied and the quote to be edited is moved to the Shopping Cart.

■ **Save.** If there is an error, the eSales - Display Error Process (see Figure 28 on page 121) is called, and then the user is sent back to the Edit Quote Confirmation pop-up view. For example, this would happen if the user tried to save a quote with a name that was already being used.

If there is no error, the Shopping Cart is saved as a quote and the quote to be edited is moved to the Shopping Cart (see "eSales - Save Cart Process" on page 91).

■ The Shopping Cart is repriced and displayed.

eSales - Order Quote Process
The workflow for turning saved quotes into orders is shown in Figure 5.
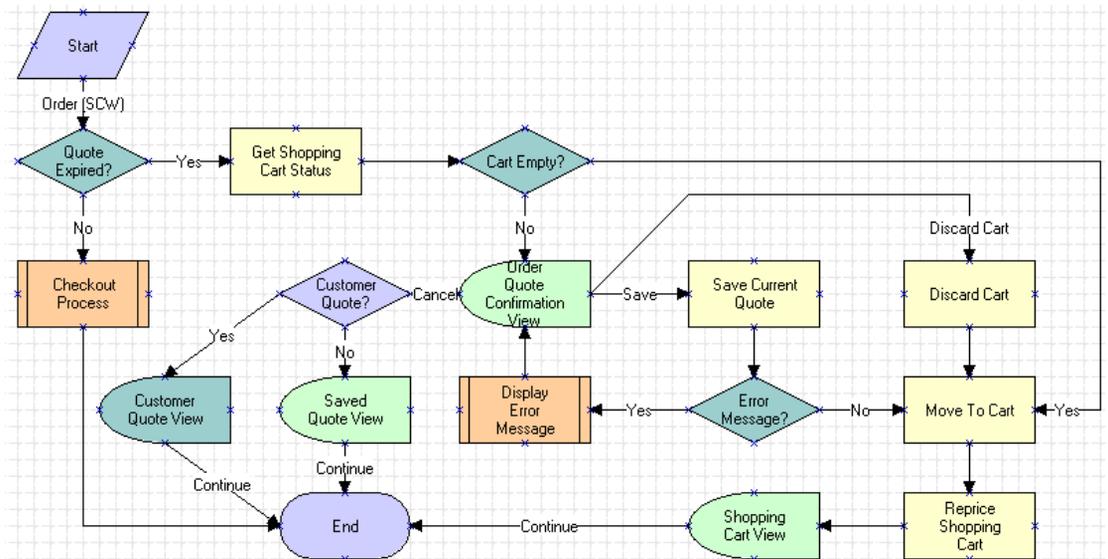
Figure 5. eSales - Order Quote Process

The eSales - Order Quote Process is called when a user chooses to order a saved quote in the Saved Quote Detail view in Siebel eSales. The following events happen:

- The process determines whether the quote has expired. If it has not expired, the eSales - Checkout Process (see Figure 10 on page 95) is called.

- If the quote has expired, the process determines whether the Shopping Cart is empty.

  - If the Shopping Cart is empty, the quote is moved into the Shopping Cart and repriced. The user is sent to the Shopping Cart view.

  - If the Shopping Cart is not empty, the user has three choices:

    ❑ **Cancel.** The process determines whether the quote is for an existing customer. If it is, the Customer Quote Detail View appears and the process ends. If it is not, the Saved Quote Detail View (eSales) view appears and the process ends.

    ❑ **Discard Cart.** The current contents of the Shopping Cart are discarded. The quote is moved into the Shopping Cart and repriced, and then the user is sent to the Shopping Cart view.

    ❑ **Save.** The current contents of the Shopping Cart are saved as a quote. If there is an error, the eSales - Display Error Process (see Figure 28 on page 121) is called, and then the user is sent back to the Order Quote Confirmation view. For example, this would happen if the user tried to save a quote with a name that was already being used.

      If there is no error, the quote is moved into the Shopping Cart and repriced, and then the user is sent to the Shopping Cart view.

eSales - Reprice Process

The workflow for repricing a quote is shown in Figure 6.

Figure 6.   eSales - Reprice Process

The items in the quote are repriced based upon the current price in the appropriate price list.

The eSales - Reprice Process is called by the eSales - Modify Order Process (see Figure 26 on page 117). Repricing a quote is its own process because the eSales - Reprice Process is based on the Catalog business object, while the eSales - Modify Order Process is based on the Order Entry (Sales) business object.

eSales - Save Cart Process

The workflow for saving a Shopping Cart is shown in Figure 7.
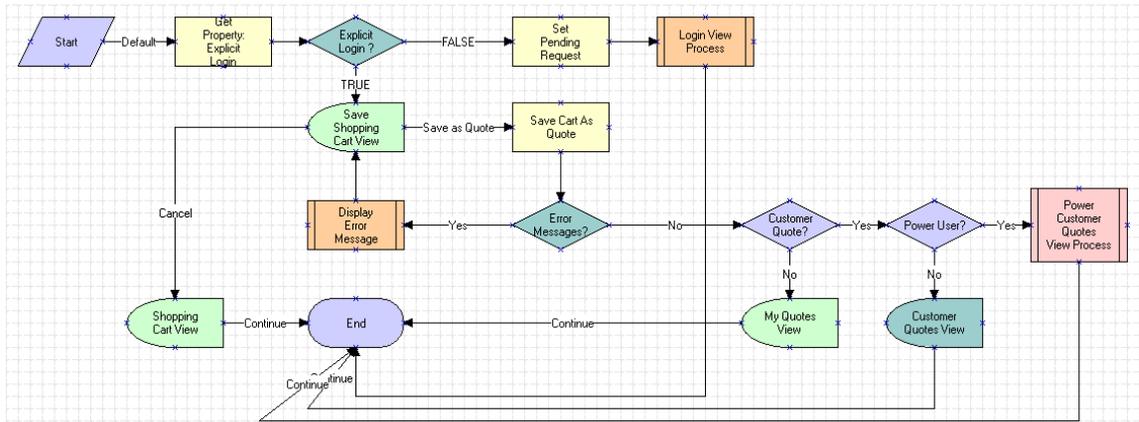
Figure 7.   eSales - Save Cart Process

The eSales - Save Cart Process is called when a user clicks Save As Quote. The following events happen:

■ The process determines whether the user has logged in explicitly.

■ If not, the user is sent to the Login view. The Pending Request flag is set so that after the user has logged in, the eSales - Save Cart Process is restarted.

■ If so, the Save Shopping Cart view appears, where the user has two choices:

■ **Cancel.** The user is returned to the Shopping Cart.

■ **Save As Quote.** The Shopping Cart is saved as a quote. The process checks for error messages.

If there is an error message, the eSales - Display Error Process (see Figure 28 on page 121) is called, and the user is sent back to the Save Shopping Cart view. This would happen, for example, if the user tried to save a quote with a name that was already being used.

If there is no error message, the process determines whether the quote is for an existing customer. If it is not, the My Quotes view appears. If it is, the process determines whether the customer is a power user.

❑ If the customer is not a power user, the Customer Quotes View appears.

❑ If the customer is a power user, the eSales - Power Customer Quotes View process is called.

A power user is a delegated customer administrator or purchasing manager.

eSales - Add To Template Process

Customers create templates to store groups of products that they may want to buy in the future. The eSales - Add To Template workflow is used to add:

■ The entire contents of the shopping cart to a template.

■ Individual products from a catalog to a template.

The workflow is shown in Figure 8.
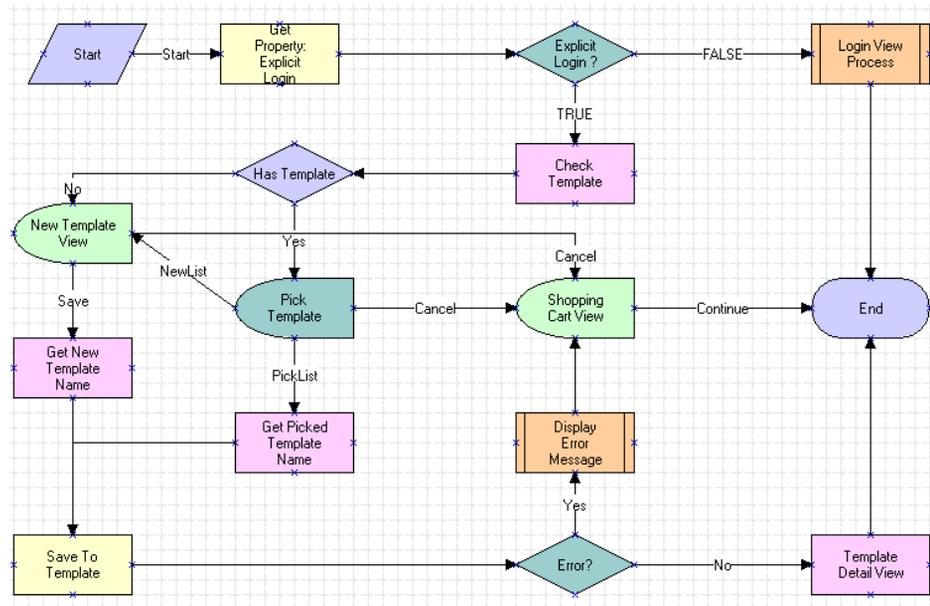
Figure 8. eSales - Add To Template Process

The eSales - Add To Template Process is called when a user clicks the Add To Template button in the shopping cart or catalog product detail view. The following events happen:

■ The process establishes whether the customer has explicitly logged in. If the customer has not logged in, the eSales - Login View process is called to allow the customer to log in. If the customer has logged in, the process checks whether the customer has one or more existing templates. If the customer:

■ Has one or more templates, the Pick Quote Template View (eSales) appears and the customer either picks a template or chooses to create a new template.

■ If the customer chooses to create a new template, or does not have a template, the New Quote Template View (eSales) appears and the customer creates a template.

■ If the workflow was launched from the Shopping Cart the line items from the Shopping Cart are added to the template. If the workflow was launched from a product catalog, the selected product is added to the template.

■ The template is saved. If there is an error, an error message appears and the Shopping Cart View is returned.

eSales - Delete Old Anonymous Quotes

The workflow for deleting old anonymous quotes is shown in Figure 9.

Figure 9.   eSales - Delete Old Anonymous Quotes

The Delete Old Anonymous Quotes process is called by a repeating server request according to the rules that you set up. For more information, see Chapter 6, "Administrative Tasks."

Checkout

The following workflows are associated with checking out in Siebel eSales.

eSales - Checkout Process

The workflow that begins the checkout procedure is shown in Figure 10.
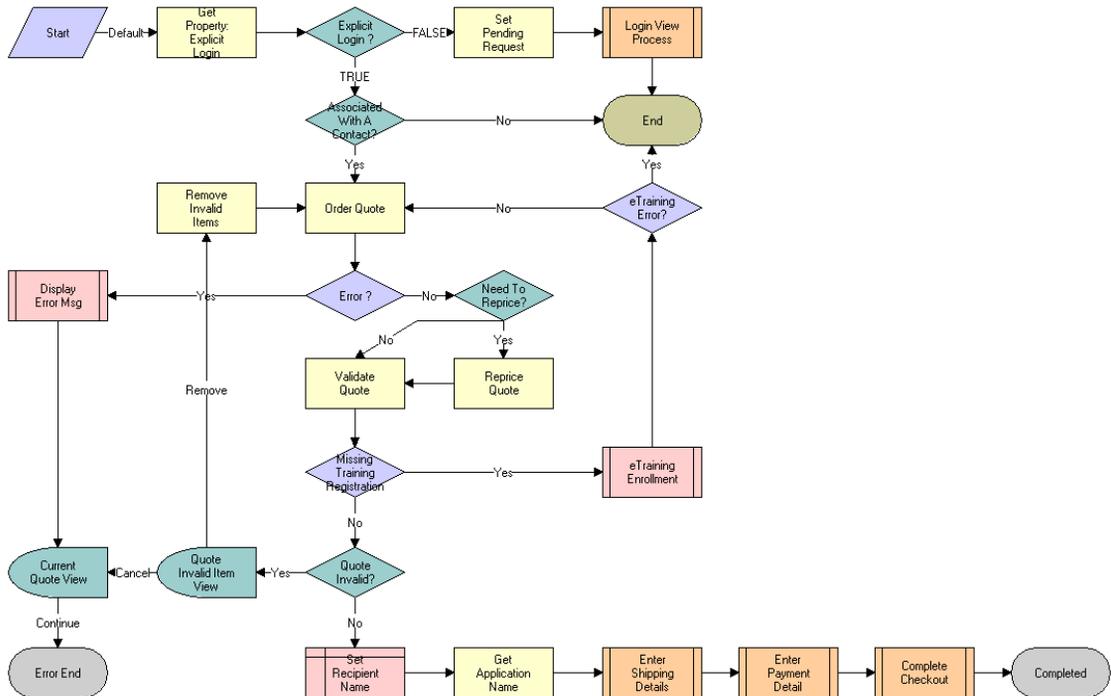
Figure 10.   eSales - Checkout Process

When a user clicks Check Out on the Shopping Cart, the eSales - Checkout Process is called. The following events happen:

■ The process determines whether the user is anonymous. Anonymous users are sent to the Login view using the eSales - Login View process (see Figure 29 on page 122). The Set Pending Request method of the Shopping Service business service is used to return users to the eSales- Checkout Process after they log in.

■ The process determines whether the Shopping Cart (quote) is associated with a contact ID. If it is not associated with a contact, the process ends.

■ The process retrieves the quote ID and, if there is no error, reprices the quote as needed. If there is an error, the Display Error Process is called (See Figure 28 on page 121) and the Current Quote view appears.

■ It determines whether the items on the quote are active products on the price list associated with the user. If not, the Quote Invalid Item view appears. The customer can choose to remove the invalid items and continue with the checkout process, in which case repricing is performed again. Alternatively, the customer can cancel, in which case the Current Quote view appears.

■ For quotes that are valid, the process updates the quote record by entering the contact name in the Recipient Name field.

■ The process gets the application name. For certain applications, address validation is skipped in the Enter Shipping Details subprocess that follows.

■ Three subprocesses are called in succession:

■ eSales - Enter Shipping Details Process (see Figure 12 on page 99)

■ eSales - Enter Payment Details Process (see Figure 13 on page 101)

■ eSales - Complete Checkout Process (see Figure 14 on page 103)

NOTE: The eTraining Enrollment subprocess is for use with Siebel eTraining. For more information see *Siebel eTraining Guide*.

Credit Check - Quotes

The workflow for performing a credit check is shown in Figure 11.
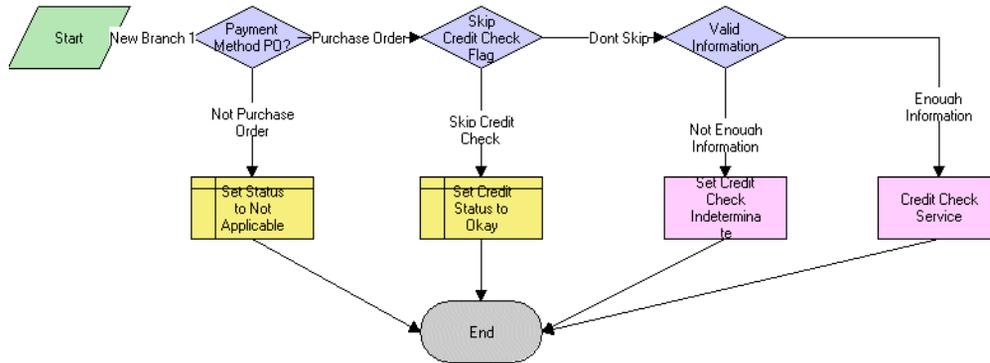
Figure 11.   Credit Check Process

The Credit Check process is called from the eSales - Authorize Order Process. The following events happen:

■ The process checks that the payment will be made with a PO. If it is not, the status of the credit check will be set to Not Applicable.

■ For orders that will be paid for using a PO, the process determines whether the Skip Credit Check check box is selected for the ordering account. If it is, the credit check is skipped. If it is not, the process determines whether the amount of the order is below the amount of the credit check threshold for the account (if one is set). If it is, the credit check is skipped. If the credit check is skipped, the Credit Status for the order is set to approved.

For more information about configuring credit checks, see Chapter 8, "Using Purchase Order Credit Checking Applications."

■ The process checks that the billing information is complete. If not, the credit check status is set to Indeterminate. If there is enough information, the credit check is performed.

To modify the Credit Check - Quotes Workflow

1 If you are using credit checking for Siebel eSales and Siebel Orders, and you want to use different logic for the two, make a copy of the Credit Check - Quotes workflow, and save it with a different name.

2 Modify the workflow.

3 Modify the eSales - Authorize Order Process so that it calls the new, modified credit check workflow.

eSales - Enter Shipping Details Process

The workflow for selecting, entering, and modifying shipping information is shown in Figure 12.
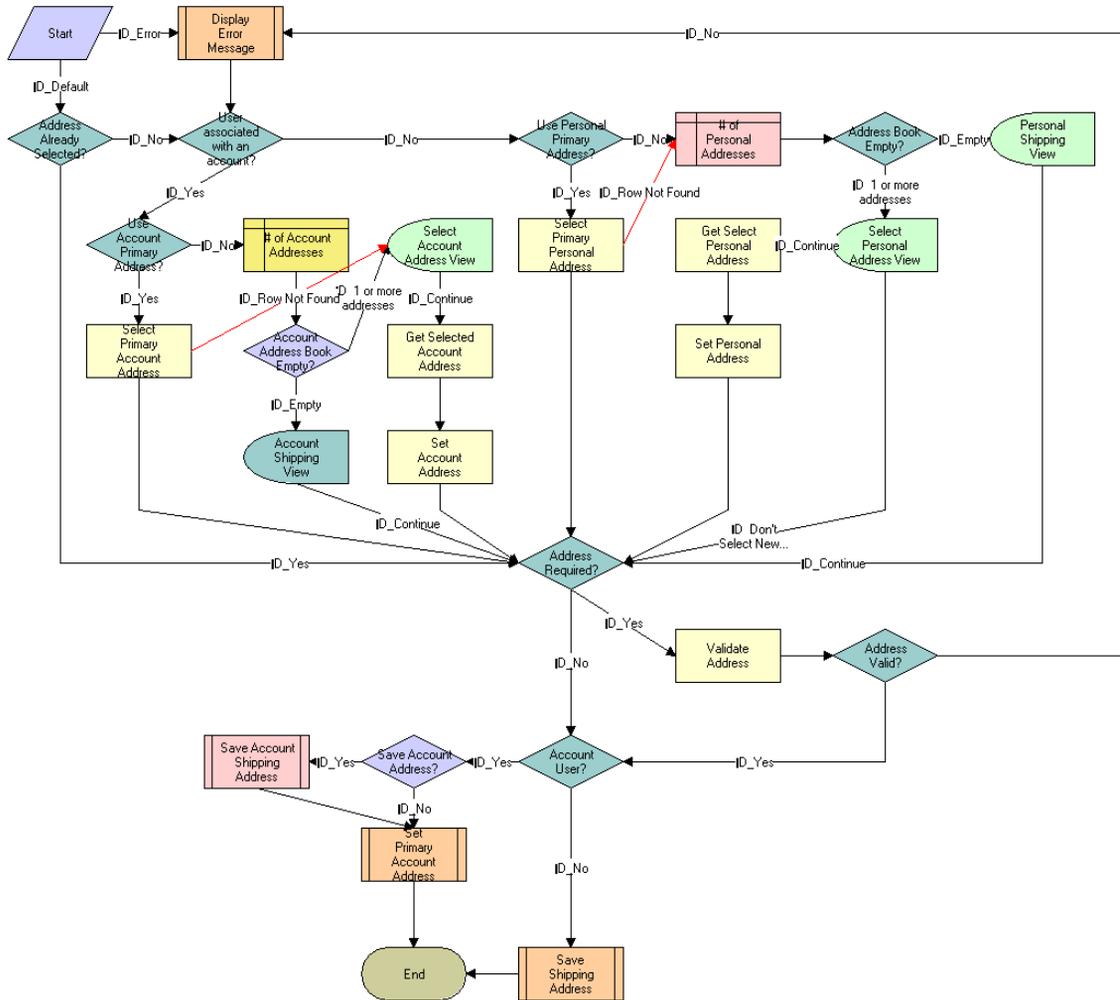
Figure 12.   eSales - Enter Shipping Details Process

When shipping information needs to be entered or validated, the eSales - Enter Shipping Details Process is called. The following events happen:

■ If there is an error in the workflow, the eSales - Display Error Process workflow (see Figure 28 on page 121) is called.

■ If there is no error, the process determines whether the user has already selected an address. If so, it skips the address selection and entering steps.

■ If necessary, the process determines whether the customer has a User Type value of Web Registered User. Web Registered User users can choose personal shipping addresses from their address books or enter new shipping addresses. Users that do not have the Web Registered User Type choose account shipping addresses. If the account has no associated address, the number of account addresses is counted. If the address book is empty, the Account Shipping View appears, allowing the customer to enter an address. If there is more than one address, the Select Account Address View appears, allowing the customer to select a shipping address.

■ The process determines whether the address needs to be validated. For certain applications, such as Siebel eEvents Management, Siebel eTraining, Siebel Marketing, and Siebel Sales, it does not need to be validated. If necessary, the address selected or entered is validated, that is, checked to see that the required fields are completed. If it is invalid, an error message appears to the user and the process starts over again.

■ For customers who are associated with accounts, the process determines whether the account address should be saved and calls the Save Account Shipping Address subprocess (see Figure 18 on page 109), followed by the eSales - Set Primary Account Address subprocess (see Figure 19 on page 109). The latter process sets a primary address the first time an account user checks out.

■ For customers who are not associated with accounts, the eSales - Save Shipping Address workflow (see Figure 17 on page 108) is called.

eSales - Enter Payment Details Process

The workflow for selecting, entering, and modifying payment information is shown in Figure 13.
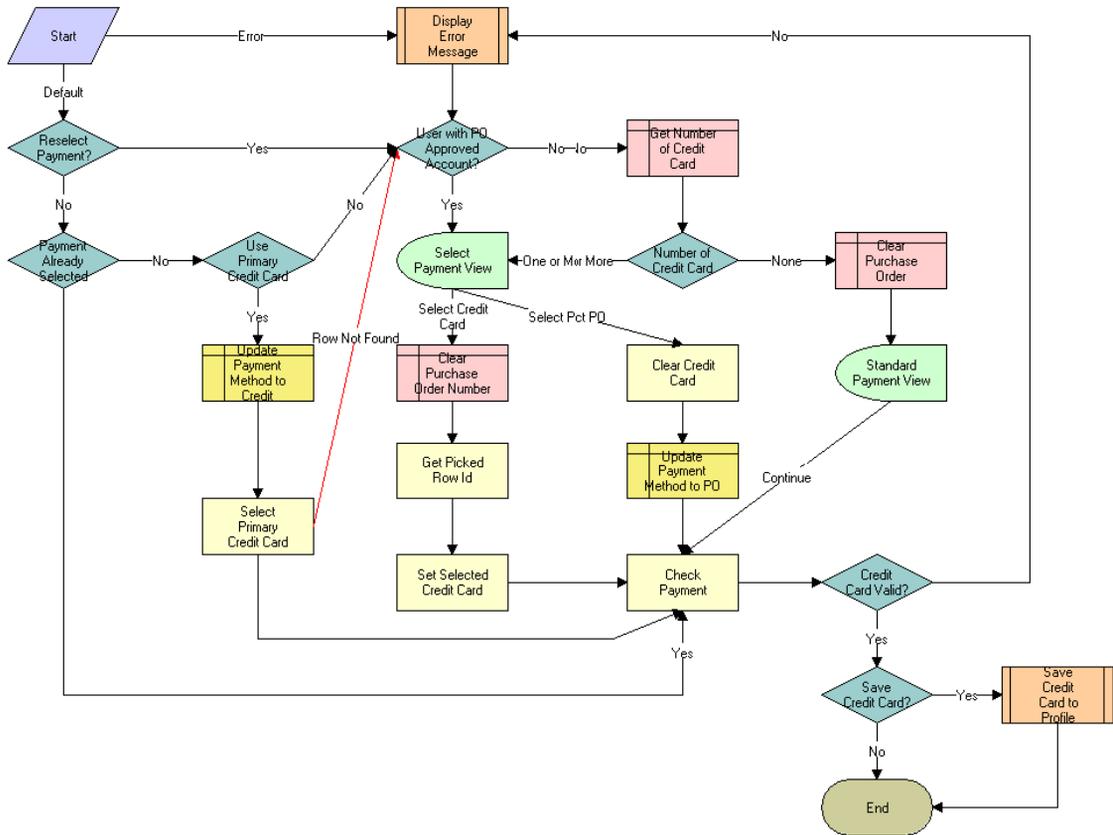
Figure 13.   eSales - Enter Payment Details Process

When payment information needs to be entered, the eSales - Enter Payment Details Process is called. The following events happen:

■ If there is an error in the workflow, the eSales - Display Error Process (see Figure 28 on page 121) workflow is called.

■ If there is no error, the process determines whether payment has already been selected (that is, it has been called from the Order Summary view) or not (that is, it has been called from the Shopping Cart).

- ■ If the process was called from the Shopping Cart, it determines whether a payment method has already been selected (for example, if the user previously began the checkout process but did not complete it).

  - ❑ If the payment method has already been selected, the process skips to the validation steps.

  - ❑ If not, the user must select or enter payment information.

- ■ If the process was called from the Order Summary view, the user must reselect or re-enter payment information.

■ If necessary, the process determines whether the customer is a B2B user associated with an account approved for using purchase orders (POs). B2B customers with PO accounts are sent directly to the Select Payment view.

For customers without PO accounts, the process determines whether they have credit card information saved in their profiles.

- ■ If no credit card information exists, payment information must be entered and validated.

- ■ If credit card information exists, the customer is sent to the Select Payment view.

- ■ In the Select Payment view, PO-approved B2B customers choose either PO or credit card. Customers who are not approved to pay by PO can pay with a credit card by selecting an existing card or entering a new one.

■ If payment is made by credit card, the credit card is validated. Validation consists of checking that the credit card number is valid (using the Mod 10 algorithm), that the expiration date is in the future, and that all required fields are completed.

If the number is not valid, an error message appears and the payment process is restarted.

■ New credit card numbers can be added to user profiles if users indicate that the numbers should be stored for future use.

eSales - Complete Checkout Process

The workflow for checkout completion is shown in Figure 14.
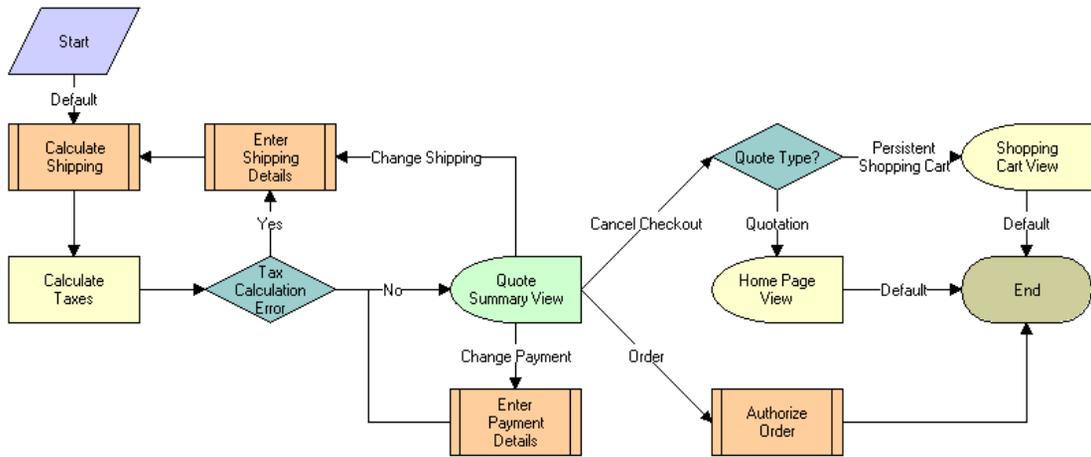
Figure 14.   eSales - Complete Checkout Process

In the eSales - Checkout Process, after shipping and payment information have been added to the order, the eSales - Complete Checkout Process is called. The following events happen:

■ Shipping charges are calculated using the Shipping Cost Service (eScript) business service.

■ Sales taxes are calculated using the Tax Calculator and Taxware Adapter Service business services. See Chapter 9, "Using Third-Party Taxation Applications," for more information about tax calculation.

If there is a tax calculation error, the customer must enter shipping address information again. This is because tax rates depend on having a valid shipping address.

If non-ASCII characters are entered in any field that is passed to Taxware, the process checks whether the field is required. If it is required, the process sets the error message to the quote header and copies it to the order. The customer sees an error message stating that the information required to calculate taxes could not be processed but that the order will be placed and they will receive an email with the total cost of the order.

The customer can then confirm the order. The process copies the error message to the order so that an administrator can query for the order with the problem.

■ The customer is sent to the Quote Summary view, where the customer can edit shipping and payment information, cancel the checkout process, or confirm the order.

■ Entering new shipping information causes shipping charges and taxes to be recalculated.

■ Choosing to cancel checks the quote type. If Quotation, the customer is sent to the home page. If Persistent Cart, the customer is sent to the Shopping Cart. For more information on quote types, see "Quote Types Used in Siebel eSales" on page 131.

■ Choosing to confirm the order calls the eSales - Authorize Order Process (see Figure 15 on page 105).

eSales - Authorize Order Process

The workflow for authorizing credit card payments and purchase orders is shown in Figure 15.
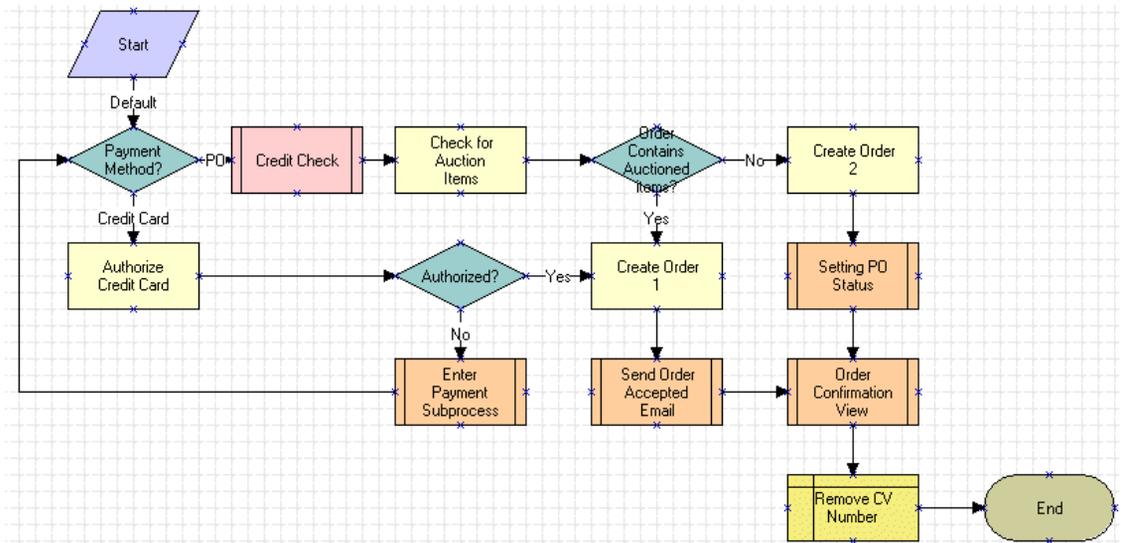
Figure 15.   eSales - Authorize Order Process

Confirming the order in the Order Summary view calls the eSales - Authorize Order Process. The following events happen:

- The process determines which payment method was selected, PO or credit card.

- If the PO method was selected, the process:

  - Performs a credit check by calling the Credit Check - Quotes process. If the credit check fails, the order is still created, but the Credit Status is set to a value such as Declined or Over Limit.

  - Checks for auction items in the order.

❑ If none, the purchase order is created using the CreateOrder method of the Shopping Service business service, the Setting PO Status workflow is called (see Figure 20 on page 110), and then the Order Confirmation view is shown using the eSales - Order Confirmation View process (see Figure 30 on page 123).

❑ If there are auction items, a PO cannot be used. This is because once an auction has been won, it cannot be rejected by a purchasing manager. The order is created, order acceptance email is sent, the Order Confirmation view is shown, and the Credit Card Verification Number is deleted.

■ If credit card, the credit card is authorized using the workflow Credit Card Transaction Service.

■ If authorization is successful, an order is created using the CreateOrder method of the Shopping Service business service. Order acceptance email is sent, the Order Confirmation view appears, and the Credit Card Verification Number is deleted.

■ If authorization fails, the eSales - Enter Payment Details Process (see Figure 13 on page 101) is called. Credit card authorization is performed again and if it is successful, the order is created.

See Chapter 7, "Using Third-Party Payment Applications," for more information on credit card authorization.

NOTE: It is not recommended that you use purchasing order approval processes with auction sites. This is because if a purchasing manager can reject an order, it compromises the validity of the bidding process.

eSales - Save Credit Card

The workflow for saving credit card information is shown in Figure 16.
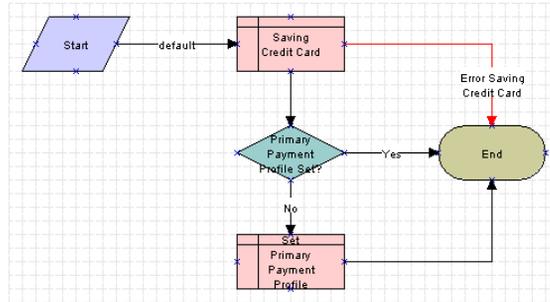
Figure 16.   eSales - Save Credit Card

When the eSales - Save Credit Card process is called by the eSales - Enter Payment Details Process (see Figure 13 on page 101), the following events happen:

- The process saves the credit card information to the Personal Payment Profile business component.

- The process determines whether the user has a primary credit card already set.

  - If so, the process ends.

  - If not, the current credit card is set as the primary.

- Any error generates an exception.

eSales - Save Shipping Address

The workflow for saving shipping address information is shown in Figure 17.
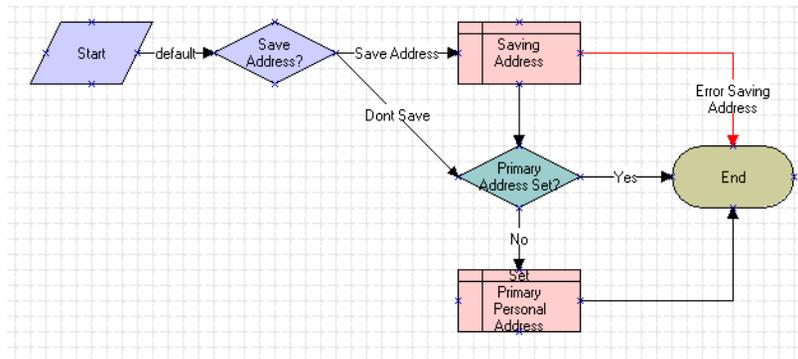
Figure 17.   eSales - Save Shipping Address

When the eSales - Save Shipping Address process is called by the eSales - Enter
Shipping Details Process (see Figure 12 on page 99), the following events happen:

■ The process determines whether the address needs to be saved. If it does, it
   saves the shipping address information to the Personal Address business
   component.

■ After saving the address, or if the address does not need to be saved, the process
   determines whether the user has a primary account address already set.

   ■ If so, the process ends.

   ■ If not, the current address is set as the primary.

■ Any error generates an exception.

eSales - Save Account Shipping Address

The workflow for saving the account shipping address is shown in Figure 18.
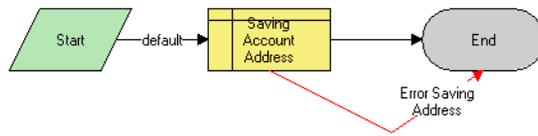
Figure 18.   eSales - Save Account Shipping Address

When the eSales - Save Account Shipping Address workflow is called by the eSales - Enter Shipping Details Process (see Figure 12 on page 99), it saves the account shipping address to the business address business component.

eSales - Set Primary Account Address

The workflow for setting the primary account address is shown in Figure 19.
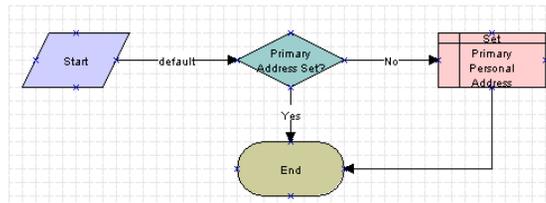
Figure 19.   eSales - Set Primary Account Address

When the eSales - Set Primary Account Address workflow is called by the eSales - Enter Shipping Details Process (see Figure 12 on page 99), it determines whether the B2B user has a primary account address.

■ If so, nothing is done.

■ If not, the current address is saved to the User Profile (eApps) business component as the primary address for that B2B user.

eSales - Setting PO Status

The workflow for setting the status of a purchase order is shown in Figure 20.
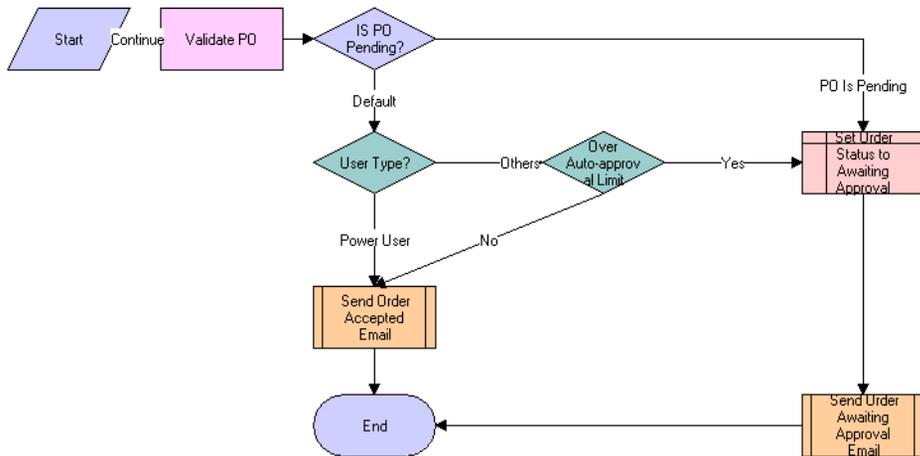
Figure 20.   eSales - Setting PO Status

When the eSales - Setting PO Status workflow is called by the eSales - Authorize Order Process (see Figure 15 on page 105), the following events happen:

■ The process determines whether the PO is pending.

 ■ If it is, the order status is set to Awaiting Approval and the Send Order Awaiting Approval Email (eSales) process is called.

 ■ If it is not, the process determines the user type.

■ If the user is a power user, the Send Order Accepted Email (eSales) process (see "Notifications" on page 112) is called.

■ If the user is of another type, the process determines whether the order amount is over the auto-approval limit.

 ■ If it is not over the auto-approval limit, the Send Order Accepted Email (eSales) process is called.

■ If it is over the limit, the order status is set to Awaiting Approval and the Send Order Awaiting Approval Email (eSales) process is called.

For more information about PO status, see Chapter 6, "Administrative Tasks."

eSales - Current User Type

The workflow for looking up the current user type from the contact record is shown in Figure 21.
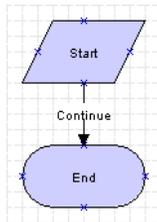
Figure 21.   eSales - Current User Type

The eSales - Current User Type workflow is called by the eSales - Approve Order Process (see Figure 23 on page 113) and the eSales - Reject Order Process (see Figure 24 on page 114).

Shipping Calculation Process

For information on the Shipping Calculation Process, see "Setting Up Shipping Charge Calculation" on page 41.

Notifications

The following workflows send email to users about the status of their orders:

- **Send Order Accepted Email (eSales).** Sent to all users who place an order successfully.

- **Send Order Awaiting Approval Email (eSales).** Sent to the purchasing manager for an account when an order with a status of Awaiting Approval needs to be reviewed.

- **Send Order Failed Email (eSales).** Sent to a user when an auction is silently closed and turned into an order, but the credit card used cannot be authorized.

- **Send Order Rejected Email (eSales).** Sent to a corporate user when the purchasing manager or delegated customer administrator has rejected that corporate user's order.

- **Send Order Shipped Email (eSales).** Sent to a user when that user's order has been shipped.

  This workflow is triggered by the Send Order Shipped Email (eSales) workflow policy action, which is triggered by the Send Order Shipped Email Policy (eSales) workflow policy when the order status is changed to Shipped.

All five processes take the form shown in Figure 22. Either email is sent or an error generates an exception.
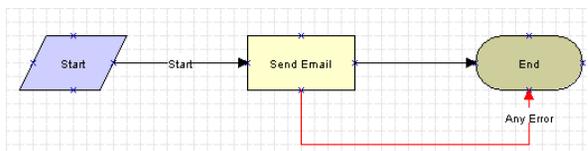
Figure 22.   Email Notification Workflow

For more information on email notifications, see "Customizing Notifications" on page 47. For information on workflow policies and workflow policy actions, see *Siebel Business Process Designer Administration Guide*.

Purchase Approval

A purchase order must be either approved or rejected by either a purchasing manager or a delegated customer administrator if the order is over the auto-approval limit.

eSales - Approve Order Process

The workflow for approving purchase orders is shown in Figure 23.
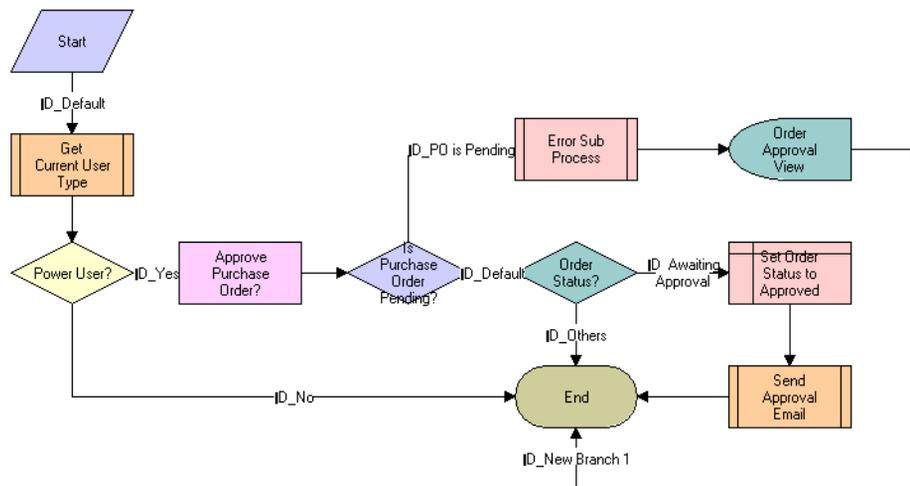
Figure 23.   eSales - Approve Order Process

The eSales - Approve Order Process is called when a delegated customer administrator or purchasing manager clicks Approve in the My Orders view. The following events happen:

■   The process calls the eSales - Current User Type workflow (see Figure 21 on page 111) to determine the user type.

■   If the customer is not a power user, the process ends.

■ If the customer is a power user, the process determines whether the PO status is Pending because no PO number was entered. If the PO status is Pending, the eSales - Display Error Process workflow is called, an error message is generated, and the customer is returned to the Order Approval view where the customer can enter the PO number.

■ If the PO status is not Pending, the process determines the order status.

■ If the order status is Awaiting Approval, the PO status is set to Approved and the Send Order Accepted Email (eSales) workflow (see "Notifications" on page 112) is called.

■ If the order status is not Awaiting Approval, the process ends.

eSales - Reject Order Process

The workflow for rejecting purchase orders is shown in Figure 24.
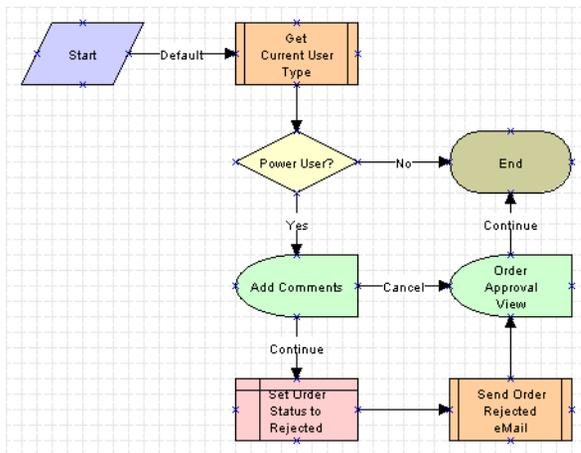
Figure 24.   eSales - Reject Order Process

The eSales - Reject Order Process is called when a delegated customer administrator or purchasing manager clicks Reject in the My Orders view. The following events happen:

■ The process calls the eSales - Current User Type workflow (see Figure 21 on page 111) to determine the user type.

■ If the user is not a power user, the process ends.

■ If the user is a power user, the Add Comments view appears, where the user can explain why the order has been rejected. The user then has two choices:

■ **Cancel.** The comments are not saved, and the Order Approval view appears. The status of the order is unchanged; it is still Awaiting Approval.

■ **Continue.** The comments are saved and the order status is set to Rejected. The Send Order Rejected Email (eSales) workflow (see "Notifications" on page 112) is called and the Order Approval view appears.

Order Modification

Orders can be canceled, modified, and reordered.

eSales - Cancel Order Process

The workflow for canceling orders is shown in Figure 25.

Figure 25.   eSales - Cancel Order Process

The eSales - Cancel Order Process is called when a customer clicks Cancel in the Order History Summary view. The following events happen:

■ The process displays the Cancel Order Confirmation view.

If the user confirms the cancellation, the order status is set to Canceled and the Order History Summary view appears.

If the user decides not to cancel the order, the user is returned to the Order History Summary view.

eSales - Modify Order Process

The workflow for modifying orders is shown in Figure 26. Modifying an order cancels the original order and creates a new shopping cart with the same items in its place. The items in the shopping cart can then be modified and a new order created to replace the original order.
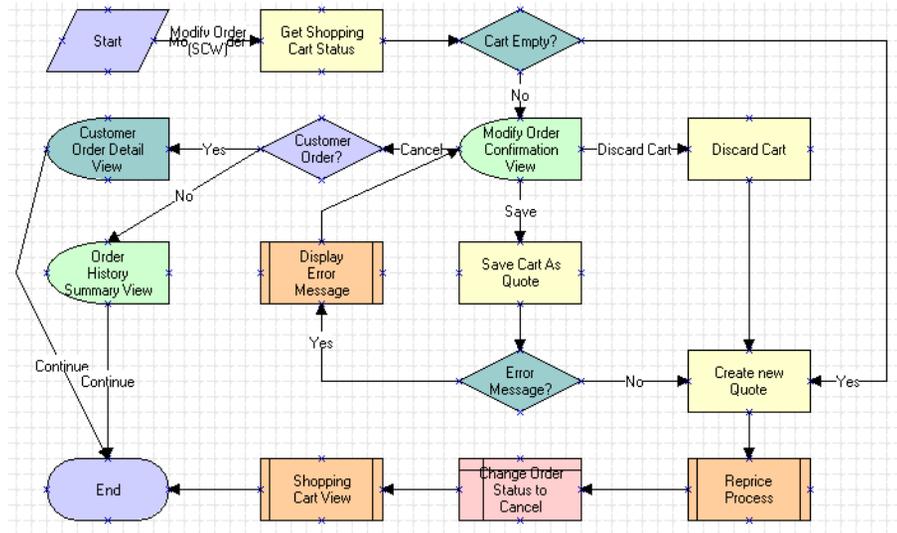
Figure 26.   eSales - Modify Order Process

The eSales - Modify Order Process is called when a customer clicks Modify in the Order History Summary view. The following events happen:

■ The process determines whether the Shopping Cart is empty.

■ If it is empty, a new quote (Shopping Cart) is created from the order, the order is canceled, and the Shopping Cart appears.

■ If it is not empty, the Modify Order Confirmation view appears, where the user has three choices:

■ **Cancel.** The process determines whether the quote is for an existing customer. If it is, the Customer Order Detail View appears and the process ends. If it is not, the Order History Summary View appears and the process ends.

■ **Discard Cart.** The Shopping Cart is emptied and a new one is created from the order. The new Shopping Cart is repriced, the old order is canceled, and then the Shopping Cart appears. The eSales - Shopping Cart View process (see Figure 31 on page 124) is used to display the Shopping Cart.

■ **Save Cart.** If there is an error, the eSales - Display Error Process (see Figure 28 on page 121) is called, and then the user is sent back to the Modify Order Confirmation view. For example, this would happen if the user tried to save a quote with a name that was already being used.

If there is no error, the Shopping Cart is saved as a quote (see "eSales - Save Cart Process" on page 91) and a new Shopping Cart is created from the order. The new Shopping Cart is repriced, the old order is canceled, and then the Shopping Cart appears. The eSales - Shopping Cart View process is used to display the Shopping Cart.

eSales - Reorder Process

The workflow for reordering is shown in Figure 27. It works similarly to modifying an order.

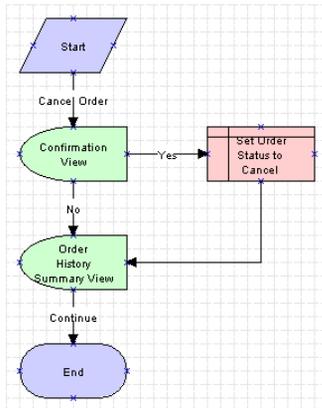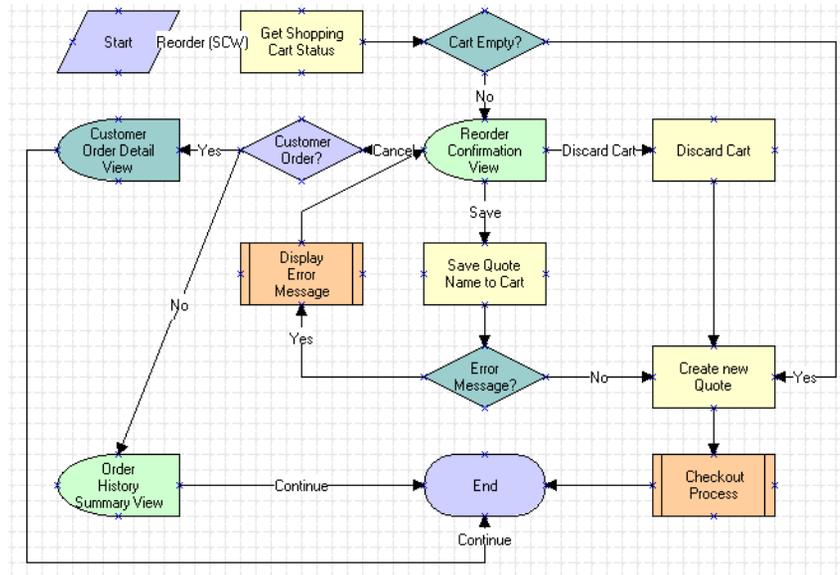**Figure 27.   eSales - Reorder Process**

The eSales - Reorder Process is called when a customer clicks Reorder in the Order History Summary view. The following events happen:

■ The process determines whether the Shopping Cart is empty.

■ If it is empty, a new quote (Shopping Cart) is created from the order and the eSales - Checkout Process (see Figure 10 on page 95) is called.

■ If it is not empty, the Reorder Confirmation view appears, where the user has three choices:

■ **Cancel.** The process determines whether the quote is for an existing customer. If it is, the Customer Order Detail View appears and the process ends. If it is not, the Order History Summary View appears and the process ends.

■ **Discard Cart.** The Shopping Cart is emptied and a new Shopping Cart is created from the order. The eSales - Checkout Process is called.

■ **Save Cart.** If there is an error, the eSales - Display Error Process (see Figure 28 on page 121) is called, and then the user is sent back to the Reorder Confirmation view. For example, this would happen if the user tried to save a quote with a name that was already being used.

If there is no error, the Shopping Cart is saved as a quote (see "eSales - Save Cart Process" on page 91) and a new Shopping Cart is created from the order. The eSales - Checkout Process is called.

Error Messages and Views

The following processes display error messages and views that do not use the same business object as the workflow that called them.

eSales - Display Error Process

The process used for displaying error messages is shown in Figure 28. It is called by the following workflows:

■ eSales - Edit Quote Process (Figure 4 on page 88)

■ eSales - Save Cart Process (Figure 7 on page 91)

■ eSales - Enter Shipping Details Process (Figure 12 on page 99)

■ eSales - Checkout Process (Figure 10 on page 95)

■ eSales - Enter Payment Details Process (Figure 13 on page 101)

■ eSales - Modify Order Process (Figure 26 on page 117)

■ eSales - Reorder Process (Figure 27 on page 119)
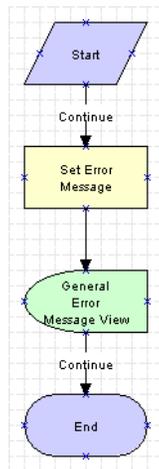
Figure 28.   eSales - Display Error Process

When the eSales - Display Error Process is called, the following events happen:

■ The process sets the error message.

■ It displays the error message in the General Error Message view.

■ It returns to the original workflow.

eSales - Login View

The process for displaying the Login view is shown in Figure 29.
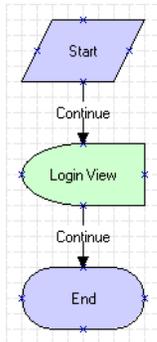
Figure 29.   eSales - Login View

This process is called by the eSales - Checkout Process (see Figure 10 on page 95) when an anonymous user tries to check out. The eSales - Login View process is necessary because the Login view is based on the Login business object, while the eSales - Checkout Process is based on the Catalog business object.

eSales - Order Confirmation View

The process for displaying the Order Confirmation view is shown in Figure 30.
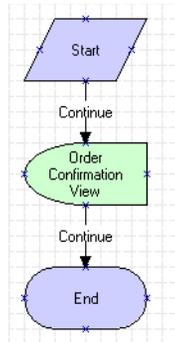
Figure 30.   eSales - Order Confirmation View

This process is called by the eSales - Authorize Order Process (see Figure 15 on page 105). The eSales - Order Confirmation View process is necessary because the Order Confirmation view is based on the Order Entry (Sales) business object, while the eSales - Authorize Order Process is based on the Catalog business object.

eSales - Shopping Cart View

The process for displaying the Shopping Cart is shown in Figure 31.
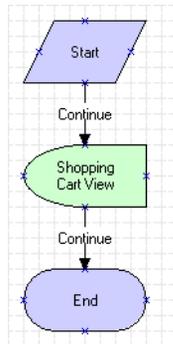
Figure 31.   eSales - Shopping Cart View

This process is called by the eSales - Modify Order Process (see Figure 26 on page 117). The eSales - Shopping Cart View process is necessary because the Shopping Cart is based on the Catalog business object, while the eSales - Modify Order Process is based on the Order Entry (Sales) business object.

Auctions

Quotes of type Auction Quote, that is, winning bids, are converted to orders automatically after a given period of time. This is done using a workflow policy such as Complete Auction Order, which converts the quote to an order after two days by triggering the Silent Authorize Order workflow policy action.

For more information on auction quotes, see "Quote Types Used in Siebel eSales" on page 131 and *Siebel eAuction Guide*. For information on workflow policies, see *Siebel Business Process Designer Administration Guide*.

The eSales - Silent Authorize Order Process, shown in Figure 32, is triggered by the Silent Authorize Order workflow policy action.
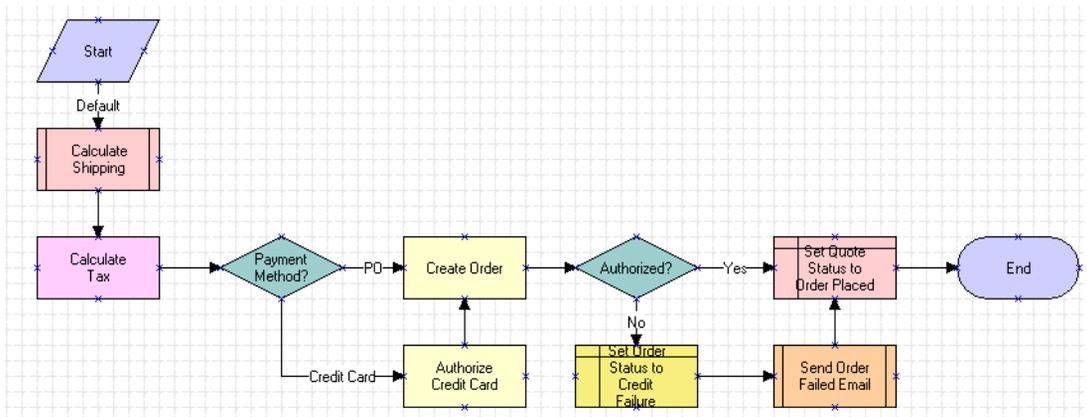
Figure 32.   eSales - Silent Authorize Order Process

When this workflow is triggered, the following events happen:

■ The Shipping Calculation Process is called. For more information, see Chapter 2, "Setup Tasks."

■ The Calculate Tax business service is called.

■ The process determines the payment method. If a credit card is used, the card is authorized.

■ An order is created.

■ If credit card authorization fails, the order status is set to Credit Failure and an email message is sent to the customer indicating the problem.

■ The quote status is set to Order Placed.

Modifying Workflows

Workflows are modified using the Process Designer in the Workflow Processes view of the Business Process Administration screen.

Among the modifications you can make are the following:

■ Adding and deleting steps.

■ Changing the branching behavior of a step.

■ Customizing user registration, checkout, and order approval.

■ Displaying error messages. For this, you can use a subprocess call to the eSales - Display Error Process (see Figure 28 on page 121).

For detailed information on modifying workflows, see *Siebel Business Process Designer Administration Guide*. For information on configuring views, see *Siebel Tools Reference*.

Shopping Cart 5

This chapter describes the Shopping Cart and introduces the Shopping Service business service.

Introduction

The Shopping Cart is used to store items selected by customers. When a Siebel eSales customer selects an item for the first time during a session by clicking Add to Cart, a quote record is created. The CurrentQuoteId user profile attribute is set to the ID of this quote.

A customer can have only one Shopping Cart in a session. If the customer changes the Shopping Cart to another quote, for example in the Edit Quote workflow, CurrentQuoteId is set to the ID of the new quote record.

Quote Types Used in Siebel eSales

New quote types have been created to support anonymous users, persistent Shopping Carts, and Siebel eAuction. The quote types used in Siebel eSales are:

■ **Anonymous Quote.** Allows anonymous users to add items to the Shopping Cart. When an anonymous user logs in or registers, the quote type of the current quote is checked and converted to Persistent Cart. This preserves the Shopping Cart after login.

Workflows can be used to delete Anonymous Quote records if they last for more than a specified period of time, such as 48 hours. This would apply if the anonymous user chose not to log in.

■ **Persistent Cart.** The persistent Shopping Cart. Each user can have only one quote record of type Persistent Cart.

The persistent Shopping Cart works as follows:

■ When a user logs in, the run-time event WebLogin triggers the action set eSales Web Login Action Set, which invokes the Shopping Service method SetShoppingCart.

■ SetShoppingCart finds the quote with type Persistent Cart associated with that user and sets CurrentQuoteId to the ID of this quote.

■ **Auction Quote.** Created when a user wins a bid. Allows users to add auction items to the Shopping Cart.

Auction items cannot be added to a quote of type Persistent Cart and Auction Quote cannot be converted to Persistent Cart, because it is necessary to convert auction quotes to orders automatically after a given period of time. This is done using a workflow policy such as that shown in Table 11, which converts the quote to an order after two days.

Table 11.   Workflow Policies

Workflow Policy	Fields	Action
Complete Auction Order	Quote Status = In Progress	Silent Authorize Order
	Quote Type = Auction Quote	

For information on workflow policies, see *Siebel Business Process Designer Administration Guide*.

■ **Quotation.** When a user clicks Confirm Order on the Order Summary page, the quote type is changed from Persistent Cart or Auction Quote to Quotation and the status is changed to Order Placed.

Shopping Service Business Service

The Shopping Cart is implemented through the Shopping Service business service. The Shopping Service business service is based on the class CSSShoppingService, a subclass of CSService. Some of its methods are invoked through the user interface. Others are invoked by workflows or applications such as Siebel eAuction, Siebel eEvents Management, and Siebel eTraining.

Customizing the Shopping Service

The Shopping Service business service is written in C++ and cannot be modified. If you wish to change any of the methods in the Shopping Service, it will be necessary to write a new business service in Siebel eScript. However, these methods are modular and can be used in new workflows that are designed when the application is customized.

The following sections provide more information on the Shopping Service and other processes used in Siebel applications to support the Shopping Cart.

For more information on writing scripts, see *Siebel Tools Online Help*.

Shopping Service Business Service Methods

The Shopping Service has many business service methods. Those used by the Shopping Cart in Siebel eSales and are described in Table 12.

For detailed descriptions of these methods, see Appendix A, "Shopping Service API."

Table 12.   Shopping Service Business Service Methods

Method	Description	Used In Workflow
AddItem	Adds an item to the Shopping Cart or Favorites.	
CreateAuctionQuote	Creates a quote that contains auction items.	
AddAuctionQuoteItem	Adds the auction item to the quote created in CreateAuctionQuote.	
CommitAuctionQuote	Commits the auction quote.	
CreateOrder	Converts a quote to an order. Also confirms training class and event registrations.	eSales - Authorize Order Process
DiscardCart	Deletes the current Shopping Cart and sets CurrentQuoteId to empty, but only when the Quote Type equals Persistent Cart.	eSales - Edit Quote Process eSales - Reorder Process
GetShoppingCartStatus	Gets the status of the current Shopping Cart, which can be one of the following: ■ `Empty`. CurrentQuoteId is empty or Quote Type equals Persistent Cart. ■ `Not Empty`. ■ `No Save`. Also returns information such as Quote Item and Item Count.	eSales - Edit Quote Process eSales - Modify Order Process eSales - Reorder Process
OrderQuote	Creates an order based on the quote.	eSales - Checkout Process eSales - Order Quote Process
Reorder	Creates a quote based on an existing order.	
RepriceQuote	Reprices quotes, for example when a customer orders a saved quote that has expired.	

Table 12.   Shopping Service Business Service Methods

Method	Description	Used In Workflow
SaveCartAsQuote	Saves the current Shopping Cart as a quote: ■ Finds the quote record whose Id equals CurrentQuoteId. ■ Saves it as a quote, that is, sets the quote status to Quotation. ■ Sets CurrentQuoteId to empty (empties the Shopping Cart).	eSales - Edit Quote Process eSales - Reorder Process eSales - Save Cart Process
SaveCartAsTemplate	Saves the current Shopping Cart as a template, but keeps the Shopping Cart. Ordering from a template copies the template items to the Shopping Cart.	eSales - Save Cart Process
SelectPrimary	Uses the contact Primary ID field to copy the primary personal address, primary personal account address, and primary payment profile from the pick field to the current quote (Shopping Cart).	
SetApplicationName	Sets the ApplicationName dynamic user profile attribute. Triggered by the application's WebLogin event. Used in run-time events to support the different Shopping Cart behavior between Siebel eSales and other Siebel applications.	

Shopping Service Business Service

Table 12.   Shopping Service Business Service Methods

Method	Description	Used In Workflow
SetPendingRequest	Allows workflows to continue after anonymous users are sent to the Login view to register.	eSales - Checkout Process eSales - Save Cart Process
SetShoppingCart	Supports the persistent Shopping Cart and allows anonymous users to add items to the Shopping Cart. Triggered by the application's WebSessionStart event. When a session begins, the method does the following: ■ If an anonymous user, does nothing. ■ If CurrentQuoteId is not empty (that is, the user already has a Shopping Cart), checks if the Shopping Cart quote type is Anonymous Quote. If Anonymous Quote, converts it to Persistent Cart and sets Contact Id to the login Id of the user. ■ If CurrentQuoteId is empty, tries to find an existing quote of type Persistent Cart (user's Shopping Cart from the previous session) and set CurrentQuoteId to that quote ID. If there is no such quote, the user did not leave a Shopping Cart (for example, saved it as a quote or checked out).	

Run-Time Events

Tracking run-time events allows Siebel applications to respond in real time to user actions. Business managers can configure the actions in response to any event.

When a run-time event occurs that is associated with one or more action sets, the personalization engine performs the specified actions. These actions modify content and user profile attributes, with the potential of triggering personalization rules.

Run-time events and action sets are created and managed in the Run-time Events Administration screen. You do not need to reconfigure or recompile business objects, because the interaction occurs between Siebel Personalization and the user interface.

Siebel eSales uses two action sets to configure Shopping Cart behavior:

- **eSales WebSessionStart Action Set.** Triggered by the WebSessionStart run-time event. This action set contains one action:

  SetApplicationName. Sets the ApplicationName dynamic user profile attribute, which supports the different behavior of the Shopping Cart among the various Siebel applications.

  The following applications use this action set:

  - Siebel Call Center

  - Siebel Partner Relationship Management

  - Siebel eCustomer

  - Siebel eEvents Management

  - Siebel eSales

  - Siebel eService

  - Siebel eTraining

  - Siebel Marketing

- **eSales WebLogin Action Set.** Triggered by the run-time event WebLogin. It contains the following actions:

- **SetPriceList.** Sets the price list for the session when a user logs in. Invokes the Pricing Manager business service method SetPriceList, which sets the price list according to the following:

  ❑ If the user belongs to an account, the price list associated with that account is used.

  ❑ If the user does not belong to an account or belongs to an account that is not associated with a price list, the price list whose row ID is in the PRICER_MASTER_PRICE_LIST_ID list of values is used. For more information, see "Setting Up Price Lists" on page 33.

- **SetShoppingCart.** Determines when a user logs in whether that user has a Shopping Cart from a previous session or from browsing as an anonymous user. Invokes the Shopping Service business service method SetShoppingCart, which checks the user profile attribute CurrentQuoteId for the following:

  ❑ If CurrentQuoteId is null, SetShoppingCart finds the quote record of type Persistent Cart, if any, and sets CurrentQuoteId to this record's ID.

  ❑ If CurrentQuoteId is not null, and the user has a quote record of type Anonymous Quote, SetShoppingCart calls the ConvertAnonymousQuote method to change the quote type to Persistent Cart.

Three applications use the eSales WebLogin Action Set:

- Siebel Partner Relationship Management

- Siebel eCustomer

- Siebel eSales

For more information on run-time events, see *Personalization Administration Guide*.

Object Manager Support

Siebel applications use object manager parameters to support different Shopping Cart requirements. The default values of object manager parameters are defined in Siebel Tools but these can be overridden by individual applications. The method of overriding the parameter values is different for the Siebel Web client and Siebel mobile client.

Viewing Default Object Manager Parameters

You can view the default object manager parameters in Siebel Tools.

To view the default object manager parameters

1 In Siebel Tools, if the Server Component Type object is not shown in the Object Explorer:

    a Select View > Options.

    b In the Development Tools Options dialog box, click the Object Explorer tab.

    c Select the Server Component Type object in the left pane and move it to the right pane.

2 In the Object Explorer, select Server Component Type.

3 Query for InfraShoppingService.

4 In the Object Explorer, expand Server Component Type and select Server Component Parameter.

The default server component parameters are displayed.

Modifying Object Manager Parameters in the Web Client

You can see or change the definitions of overrides in the Web client.

To see or change the definitions of overrides

1 Navigate to the Server Administration screen.

2 In the Show drop-down list select Components.

3 Select the appropriate component.

For example, if you want to see the eSales component, select eSales Object Manager.

4 Click the Component Parameters view tab.

5 Examine the component parameters that are listed in Siebel Tools.

Siebel Sales and Siebel Call Center use the default parameters. Siebel eSales overrides the parameters shown in Table 13.

Table 13.   Parameters for Siebel eSales

Parameter	Condition	Value
ProductDetailView	=	Product Detail - Features View (eSales)
ShoppingCartView	=	Current Quote View (eSales)
AnonymousQuote	=	TRUE
PersistentShoppingCart	=	TRUE

Siebel Partner Relationship Management overrides the parameters shown in Table 14.

Table 14.   Parameters for Siebel Partner Relationship Management

Parameter	Condition	Value
ProductDetailView	=	FALSE
ShoppingCartView	=	Current Quote View (eSales)
AnonymousQuote	=	TRUE
PersistentShoppingCart	=	TRUE

Modifying Object Manager Parameters in the Mobile Web Client

For users of the Siebel Mobile Web Client, the application configuration files, shown in Table 15, are used to change object manager parameters.

Table 15.   Application Configuration Files

Application	Configuration File
Siebel eSales	esales.cfg
Siebel Partner Relationship Management	scw.cfg
Siebel Call Center	uagent.cfg
Siebel Sales	siebel.cfg

Administrative Tasks 6

This chapter describes administrative tasks used to maintain Siebel eSales. These tasks include setting up quote expiration dates, setting up customer accounts, and modifying credit card charges.

Setting Quote Expiration Dates

Quote expiration dates are set in the List of Values view under the Application Administration screen.

NOTE: You must clear the LOV cache for the new expiration date to take effect.

To set quote expiration dates

1 Navigate to Application Administration > List of Values.

   The List of Values appears.

2 Query for the type QUOTE_EXPIRATION_PERIOD.

3 Set the Display Values field to the number of days you want quotes to be effective.

4 Click the menu button and choose Clear LOV Cache.

Managing Anonymous Shopping Carts

Customers are treated as anonymous users until they register with your Siebel eSales Web site. Registered users returning to your Web site, and who have not yet logged in, are recognized as anonymous users rather than registered users if:

■ They have deleted previously stored cookies.

■ They elected for the Web site not to remember their user IDs, in which case they lack the cookie that enables implicit login.

When an anonymous user places an item in the Shopping Cart, an anonymous quote is created and a cookie is placed on the customer's computer. The cookie identifies the quote. If the Internet connection is lost, or if the customer leaves your Web site before checking out, the cookie is used to load the customer's quote when the customer returns.

If the customer does not return to the Web site for a specified number of days, the anonymous quote is deleted.

If the customer logs in later, and before the quote is deleted, the persistent anonymous quote is converted to a persistent quote, and the cookie is cleared. The cookie is replaced by another one that will enable implicit login when the customer returns to your site.

You can set both the frequency with which anonymous quotes are deleted and the age of the quotes to be deleted. The deletions are then performed automatically by a repeating server request. By default, anonymous shopping carts 30 days or older will be deleted weekly. For information about how to set up repeating server requests, see *Siebel Business Process Designer Administration Guide.*

To set the age for anonymous quotes deletion

1 Navigate to the Business Process Administration screen.

2 Select the eSales - Delete Old Anonymous Quotes workflow.

3 Click Revise to change the Status to In Progress.

4 In the Process Properties list, edit the Default String field for the Days Old process property.

5 Make any other changes to the workflow that are necessary for your implementation.

6 Click Activate to activate the workflow.

Setting Up Customer Accounts

The tasks involved in setting up customer accounts are the following:

■ "Creating Accounts"

■ "Associating Users with Accounts" on page 148

■ "Associating Price Lists with Accounts" on page 148

■ "Allowing Accounts and Contacts to Use Purchase Orders" on page 149

■ "Setting PO Auto-Approval Limits for Accounts" on page 151

■ "Setting the Credit Auto-Approval Limit For an Account" on page 151

■ "Setting the Skip Credit Check Field For an Account" on page 151

Creating Accounts

You create accounts in the My Accounts view under the Accounts screen.

For more information on creating accounts, see *Siebel Sales User Guide*.

To create an account

1 Click the Accounts tab.

The My Accounts view appears.

2 Add a new record.

The Accounts form appears.

3 Fill in the fields, and then click Save.

Associating Users with Accounts

You associate users with accounts in the My Accounts view under the Accounts screen.

To associate a user with an account

1 Click the Accounts tab.

The My Accounts view appears.

2 Click the Contact Admin tab below the Accounts list.

You might have to scroll the tab bar to see the Contact Admin tab.

3 Add a new record.

The Add Contacts dialog box appears.

4 Query for a user or add a new user.

Clicking New adds a new record to the Contact Admin list.

For more information on contact user administration, see *Siebel Sales User Guide* and *Application Administration Guide.*

Associating Price Lists with Accounts

You associate price lists with accounts in the My Accounts view under the Accounts screen.

To associate a price list with an account

1 Click the Accounts tab.

The My Accounts view appears.

2 Select an account.

3 Click the show more button under the More Info tab.

The full Account Detail form appears.

4 Click the icon in the Price List field.

5 From the drop-down list that appears, select a price list.

6 Click OK, allowing Accounts and Contacts to Use Purchase Orders

Allowing Accounts and Contacts to Use Purchase Orders

Corporate customers can use purchase orders to buy from your Siebel eSales Web site. Web Corporate Users who want to make purchases may not have the authority to assign a purchase order number and approve the purchase for their company. Siebel eSales allows Web Corporate Users to complete the checkout process without providing a purchase order number. When this happens, the PO Status is set to Pending and the Order Status is set to Awaiting Approval. This happens even if the order amount is less than the Auto-Approval Limit set on the account. The order is then routed through the order approval process.

The Web Purchasing Manager within the buying organization can review orders that are awaiting approval through the My Company's Orders screen. The Web Purchasing Manager can then provide a purchase order number and change the Order Status to Approved.

To enable Web Corporate Users to buy with purchase orders, the PO Approved flag must be set for both:

■ The account

■ All contacts associated with the account who should be able to buy with a purchase order.

There is no inheritance from an account to its contacts.

NOTE: The Web Purchasing Manager must also be assigned a user type of Web Purchasing Manager and the Web Corporate User responsibility. For more information, see "Setting Up Default Responsibilities and User Types" on page 30.

To set the purchase order approval flag for an account

1 Click the Accounts tab.

2 Select an account.

3 Click the show more button on the Account Detail form under the More Info tab.

4 Select the PO Approved check box.

The Web Delegated Customer Administrator in the buying organization can set purchase order approval for particular users within the buying organization through the User Administration view. In the selling organization, an employee can also set the purchase order approval flag in the Account Detail - Contacts view.

To set the purchase order approval flag for a user

1 Navigate to the User Administration screen.

2 From the Show drop-down list, select Users.

3 In the All Users list, select a user.

4 In the More Info form, select the PO Approved check box.

Setting PO Auto-Approval Limits for Accounts

The PO auto-approval limit is the maximum amount that can be ordered by a corporate customer using a purchase order without approval from the purchasing manager in the purchaser's company.

You set auto-approval limits on the Account Detail form in the My Accounts view.

To set the auto-approval limit for an account

1 Navigate to the Accounts screen.

2 Select an account.

3 Click the show more button on the More Info form.

4 Type the auto-approval amount into the PO Auto-Approval Limit field.

Setting the Credit Auto-Approval Limit For an Account

The credit auto-approval limit is the maximum amount that can be ordered by a corporate customer using a purchase order without requiring an automatic credit check using the External Credit Check ASI.

For example, if you set the limit to $1000, any order greater than $1000 will automatically receive a credit check.

To set the credit auto-approval limit for an account

1 Navigate to the Accounts screen.

2 Select an account.

3 In the Credit Profile form, type the auto-approval amount into the Credit Auto Approval Limit field.

Setting the Skip Credit Check Field For an Account

The Skip Credit Check field allows you to skip automatic credit checking for a particular account. Automatic credit checking uses the External Credit Check ASI for customers paying with a purchase order.

To skip credit checks for an account

1 Navigate to the Accounts screen.

2 Select an account.

3 In the Credit Profile form, select or clear the Skip Credit Check check box.

Modifying Credit Card Charges

Credit card charges can be modified in your Siebel application by call center or sales professionals. This is done in the Order Entry - Payment View (Sales).

Cardholder information is displayed, as well as the fields listed in Table 16.

Table 16.   Field Description Table

Field	Description
Total	Order total.
Transaction Amount	Amount that is sent with the call to CyberSource.
Payment Status	This field is editable.
Authorization Code	Authorization code returned by CyberSource. This field is editable as it is used for both verbal authorizations and automatic authorizations. When an authorization code is entered manually, authorization is not reevaluated by CyberSource. The Credit Management group sets the authorization code based on conversations with the customers' bank.
Transaction Time	Set each time a transaction occurs.
Transaction Type	Any payment method, such as a refund or charge.
Transaction Message	Displays messages that are set in the Create Order on Web user properties for the Credit Card business service.
Card Verification #	The number that is printed (not embossed) on the back of a credit card and used to reduce credit-card fraud. This number is not displayed.

The modifications allowed to credit card charges are the following:

■ **Authorize.** Allocates to the merchant a specific amount of the credit available to the cardholder, typically for one week. No funds are transferred.

The merchant authorizes a credit card to make sure of the following:

■ The customer has the funds to pay for the purchase.

- These funds are reserved until the merchant is able to ship the product. Credit card companies typically state that a merchant should not settle until the product has been shipped.

- **Settle.** Includes the authorization code and requests that funds be transferred from the cardholder's account to the merchant's bank account.

    You will need to settle each order or develop a batch routine.

- **Authorize and Settle.** Makes sure that the funds are available, reserves them, and requests that they be transferred in one call. This is done when fulfilling orders immediately (for example, digital downloads).

- **Refund.** Takes place after a settlement when the merchant needs to transfer money back to the cardholder, as in the case of a return.

Authorizing Charges

Authorization is done automatically in Siebel eSales as part of the eSales - Authorize Order Process, when the customer clicks Confirm Order on the Order Summary page.

Authorization can also be done manually. The Payment form is used by your employees, such as call center agents, to authorize charges.

To authorize a credit card charge

1 Navigate to Orders > My Sales Orders.

2 Select an order.

3 Click the Payments tab.

4 On the Payment Detail - Credit Card form, click Authorize.

For more information, see *Siebel Order Management Guide*.

Settling Charges

Use the Payment form to settle charges after an order has been authorized.

To settle a credit card charge

1 Navigate to Orders > My Sales Orders.

The My Sales Orders view appears.

2 Select an order.

3 Click the Payment tab.

The Payment form appears.

4 Modify the transaction amount if necessary.

5 Click Settle.

For more information, see *Siebel Order Management Guide*.

Combining the Authorization and Settlement of Charges

Use the Payment form to authorize and settle charges.

To authorize and settle a credit card charge

1 Navigate to Orders > My Sales Orders.

2 Select an order.

3 Click the Payments tab.

4 In the Payment Lines list, add a new record and enter a transaction amount.

5 In the Payment Detail - Credit Card form, click Authorize and Settle.

Querying For Transactions With Error Messages

You can query for credit card authorizations that returned Siebel Response Messages without stopping the ordering process.

Siebel Response Messages that do not stop the ordering process are set in the Create Order on Web business service user property for the Credit Card Transaction Service business service. These messages are listed in Table 17.

Table 17.   Siebel Response Messages

Error Number	Message
1	Transaction was successful.
18	You are not authorized to perform this transaction type.
19	Error happened in adapter business service. Please contact your application administrator.
20	Error happened in CyberSource. Please contact your application administrator.
21	The connection to CyberSource has timeout. Please try the operation later.

For more information, see Chapter 7, "Using Third-Party Payment Applications."

To query for Siebel Response Messages

1 Navigate to the Orders screen.

2 From the Show drop-down list, select My Sales Orders.

3 Click the Payments view tab.

Returned Siebel Response messages are displayed in the Transaction Message column of the Payment Lines list.

Giving Refunds

Use the Payment form to refund charges.

To refund a credit card charge

1 Navigate to Orders > My Sales Orders.

The My Sales Orders view appears.

2 Select an order.

3 Click the Payment tab.

The Payment form appears.

4 Modify the transaction amount if necessary.

5 Click Refund.

Reversing Charges

Releases the amount of money reserved by an authorization. This transaction is important because authorizations reserve part of a cardholder's credit and therefore reduce the total amount of credit available.

NOTE: Reversal of charges cannot be done using the CyberSource Internet Commerce Suite. Authorizations are allowed to expire after not being settled for a specified period of time, usually one week.

Using Third-Party Payment Applications 7

This chapter describes how to set up and use CyberSource, a third-party payment application that is supported by Siebel eSales. To use the CyberSource application, you must buy a separate license from CyberSource. You can also use other third-party applications for payment integration.

CyberSource Internet Commerce Suite

Siebel eSales retrieves credit card information from CyberSource as part of the eSales - Authorize Order Process workflow (Figure 15 on page 105) when the customer clicks Confirm Order on the Order Summary page.

The CyberSource Internet Commerce Suite (ICS) is a set of third-party eCommerce applications. Siebel eSales uses the ICS to authorize credit card payments.

Siebel eSales accesses the ICS using an application programming interface (API), which is installed on the Web server. Messages are sent using CyberSource's Simple Commerce Messaging Protocol (SCMP), which is based on Secure/Multipurpose Internet Mail Extensions (S/MIME), for authentication and encryption.

These messages contain a set of fields that describe the ICS application requests and provide information about the customer, the merchant, and the order form. SCMP messages are digitally signed and armored for transmission over an HTTP connection, allowing them to pass through firewalls and proxy servers.

For more information on the ICS, see *Internet Commerce Suite Version 2 Application Programming Interface (API) Developer's Guide*, which is available from the CyberSource Support Center (http://www.cybersource.com/support).

NOTE: You will need to obtain a merchant ID from CyberSource to access the Support Center.

Installing CyberSource Software

The steps to take for installing CyberSource are the following:

■ Obtain a merchant ID.

■ Download the compressed file for the CyberSource Developer Kit (CDK) for your platform.

■ Install the CDK on the Siebel Server.

■ Set system variables for the CDK and libraries.

For the versions of CyberSource software that were tested with this version of Siebel eSales, see the system requirements and supported platforms documentation on the *Siebel Bookshelf*. We recommend that you download and use the latest version of CyberSource software from http://www.cybersource.com.

Obtaining a Merchant ID

NOTE: You must obtain a merchant ID to install CyberSource software. You can obtain a merchant ID for each division of your organization. The merchant IDs are set in the Divisions view under the Group Administration screen.

To obtain a merchant ID

1 In your Web browser, go to http://www.cybersource.com/register.

2 Fill in the required information, and then click Submit Registration.

A new merchant ID is generated, for example:

```
merchant id = esalestest

merchant id password = esalestest
```

Downloading CyberSource onto Windows

Siebel supports the use of CyberSource software on the Windows NT and Windows 2000 platforms.

To download CyberSource onto a machine running Windows

1 In your Web browser, go to http://www.cybersource.com/support.

2 Enter the merchant ID and password, which are case-sensitive.

3 Click Download APIs.

4 Click NT Perl/C.

5 Download the .zip file of the Perl/C CyberSource Developer Kit to the Siebel Server.

Installing CyberSource on Windows

NOTE: The drive on which you install CyberSource software must have a temporary directory, for example C:\temp. If the drive does not have a temporary directory, CyberSource will not function correctly.

To install CyberSource on Windows

1 Extract the .zip file to a directory called Cybersource on the same drive where the Siebel Server is installed, for example C:\Cybersource.

2 Choose Start > Programs > Command Prompt.

The Command Prompt appears.

3 Go to C:\Cybersource and type the following:

```
install <merchant ID> C:\Cybersource
```

The software is installed.

4 Choose Start > Settings > Control Panel > System.

The System Properties dialog box appears.

5 On Windows NT, click the Environment tab. On Windows 2000, click the Advanced tab, and then click Environment Variables.

The Environment Variables dialog box appears.

6 Add the variable ICSPATH and set it to C:\CyberSource.

7 Add C:\CyberSource and C:\CyberSource\lib to the system Path variable.

8 Restart the Siebel Server.

Downloading CyberSource onto UNIX

Siebel supports the use of CyberSource software on the Solaris and AIX platforms.

To download Cybersource onto a machine running UNIX

1 In your Web browser, go to http://www.cybersource.com/support.

2 Enter the merchant ID and password.

They are case-sensitive.

3 Click Download APIs.

4 Click either AIX Perl/C or Solaris Sparc Perl/C under CyberSource Developer Kits, depending on your version of UNIX.

5 Download the .tar file of the Perl/C CyberSource Developer Kit for your version of UNIX.

Installing CyberSource on UNIX

See the `readme` file for detailed installation instructions.

To install Cybersource on UNIX

1 Use the following command to extract the files from the .tar archive:

```
./tar xvf cdkperl*.tar
```

2 Run the installation program install.sh according to the instructions in the readme file.

3 Rename the library libics2.so to libics2api.so.

You can also modify the Vendor Dll user property of the CreditCard - Configuration (CyberSource) integration object in Siebel Tools.

4 Add to $LD_LIBRARY_PATH the full path to the directory that contains the library libics2api.so.

5 For the AIX platform, add to LIBPATH the full path to the directory that contains the library libics2api.so.

6 Make sure the *< user's >* directory is the current directory and add the following variable to the *< user's >* .cshrc file:

```
setenv ICSPATH "<full path to the directory containing CyberSource
keys subdirectory>"
```

Enabling Credit Card Transactions with CyberSource

To enable credit card transactions, Siebel Server object manager parameters must be set.

To enable credit card transactions with CyberSource

■ Navigate to Server Administration > Components > Component Parameters and set the following parameters for the eSales Object Manager:

```
CCAEnable = TRUE
 CCAMerchantId = merchant_id
 CCAServerHost = ics2test.ic3.com
 CCAType = CyberSourceICS2
```

CyberSource Integration with Siebel eSales

Integration of Siebel eSales with third-party payment applications involves three business services:

■ Credit Card Transaction Service (Universal Credit Card Service)

■ CyberSource Adapter Service

■ Shopping Service

Credit Card Transaction Service Business Service

The Credit Card Transaction Service business service controls the process shown in Figure 33:
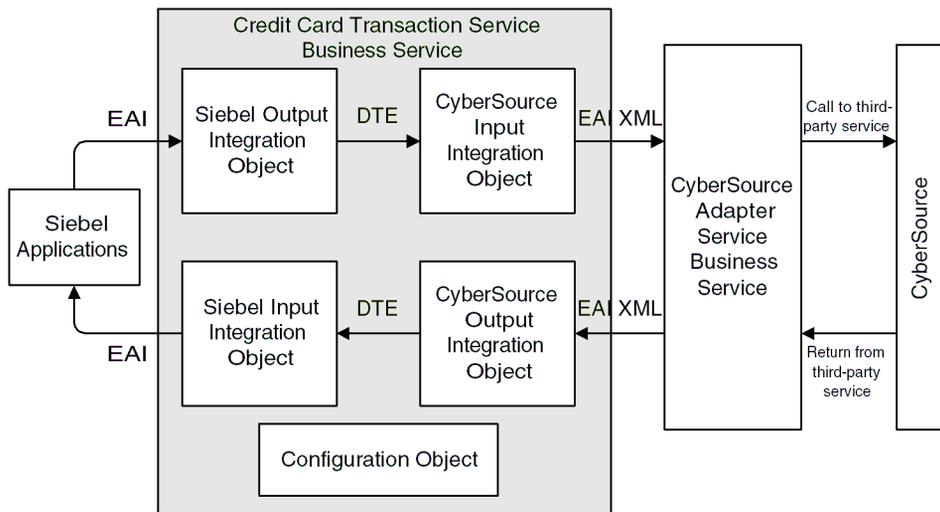
Figure 33.   Credit Card Transaction Process Flow

■ Siebel EAI passes data from a quote record and the method name to a Siebel output integration object.

■ The Siebel Data Transformation Engine maps the Siebel output integration object to a CyberSource input integration object.

■ The Siebel EAI XML Converter converts the vendor input integration object into XML, using the CC XML Converter Business Service, and passes the XML data and method name to the CyberSource Adapter Service.

■ The CyberSource Adapter Service business service processes the data, converts it into Siebel eScript, and passes it to CyberSource using the CyberSource API.

■ The CyberSource Adapter Service gets the payment information from CyberSource in Siebel eScript via the CyberSource API.

■ The CyberSource Adapter Service formats the payment information into an XML string.

■ The Siebel EAI XML Converter converts the XML into a vendor output integration object.

■ The Siebel Data Transformation Engine maps the vendor output integration object to a Siebel input integration object.

■ Siebel EAI updates the quote record with the payment information.

Business Service Methods

The Credit Card Transaction Service has business service methods for each type of credit card transaction:

■ **AuthCharge.** Used to authorize and settle charges. Makes sure that the funds are available, reserves them, and requests that they be transferred in one call. This is done when fulfilling orders immediately (for example, digital downloads).

■ **Authorization.** Called from the eSales - Authorize Order Process workflow. Allocates to the merchant a specific amount of the credit available to the cardholder, typically for one week. No funds are transferred.

The merchant authorizes a credit card to make sure of the following:

■ The customer has the funds to pay for the purchase.

■ These funds are reserved until the merchant is able to ship the product. Credit card companies typically state that a merchant should not settle until the product has been shipped.

■ **Charge.** Used to settle charges. A settlement request includes the authorization code and requests that funds be transferred from the cardholder's account to the merchant's bank account.

■ **Process.** Not used, but available to customers for calling other methods from the third-party adapter.

■ **Refund.** Takes place after a settlement when the merchant needs to transfer money back to the cardholder, as in the case of a return.

■ **Reverse.** Releases the amount of money reserved by an authorization. This transaction, not supported by CyberSource, is important because authorizations reserve part of a cardholder's credit and therefore reduce the total amount of credit available.

The arguments for these methods are:

■ Input:

■ Row Id

■ Siebel Input Integration Object

■ Siebel Output Integration Object

■ Siebel to Vendor Map Name

■ Vendor to Siebel Map Name

■ Vendor Name

■ Output:

■ Credit Card Response Code

■ Credit Card Response Message

■ **Validate.** Checks the credit card number, using the Mod 10 algorithm to make sure that it is valid, and the expiration date. This is done by Siebel during rapid checkout and after selecting and saving payment information, not by CyberSource.

The arguments for Validate are:

- Input:

  - Credit Card Number
  - Credit Card Type
  - Expiration Month
  - Expiration Year
  - Return Error Code

- Output: Error Message

Business Service User Properties

The business service user properties specify the adapter business service to call, the configuration object to use, the vendor integration objects to use, and the text of the error messages. The active business service user properties are shown in Table 18.

Table 18.   Credit Card Transaction Service User Properties

Business Service User Property	Value
Create Order on Web	1, 18, 19, 20, 21
	These response codes will not return an error. Administrators should query for orders with these message types and investigate them manually. For more information, see Chapter 6, "Administrative Tasks."
CyberSourceICS2:Adapter Business Service	CyberSource Adapter Service
CyberSourceICS2:AuthCharge Object (Vendor Input)	CreditCard - Authorization (CyberSource Input)
CyberSourceICS2:AuthCharge Object (Vendor Output)	CreditCard - AuthCharge (CyberSource Output)
CyberSourceICS2:Authorization Object (Vendor Input)	CreditCard - Authorization (CyberSource Input)
CyberSourceICS2:Authorization Object (Vendor Output)	CreditCard - Authorization (CyberSource Output)
CyberSourceICS2:Charge Object (Vendor Input)	CreditCard - Charge (CyberSource Input)

Table 18.   Credit Card Transaction Service User Properties

Business Service User Property	Value
CyberSourceICS2:Charge Object (Vendor Output)	CreditCard - Charge (CyberSource Output)
CyberSourceICS2:Configuration Object	CreditCard - Configuration (CyberSource)
CyberSourceICS2:Refund Object (Vendor Input)	CreditCard - Refund (CyberSource Input)
CyberSourceICS2:Refund Object (Vendor Output)	CreditCard - Refund (CyberSource Output)
Response Message:1	Transaction was successful.
Response Message:2	Transaction was not successful. Please call your credit card company or try another credit card.
Response Message:3	Transaction was declined. Please select another credit card.
Response Message:4	There is a problem with this credit card. Please select another credit card.
Response Message:5	Your credit card has expired. Please select another card.
Response Message:6	Please check the credit card details or select another card.
Response Message:7	Your credit card is invalid. Please check the card details or select another credit card.
Response Message:8	Transaction declined by the bank. Please select another credit card.
Response Message:9	Your credit card number does not match the card type. Please check the card details or select another credit card.
Response Message:10	The billing address you entered does not match the billing address of your credit card. Please check the card details or select another card. This response is given when CyberSource returns DAVSNO. For more information, see "Address Verification with CyberSource" on page 181.
Response Message:11	Please check to make sure you have entered complete credit card information.

Table 18.   Credit Card Transaction Service User Properties

Business Service User Property	Value
Response Message:12	There is not enough available credit on this card. Please select another credit card.
Response Message:13	There was an error in processing. Please check the credit card information and try again or select another credit card.
Response Message:14	This type of credit card is not accepted. Please select another card.
Response Message:15	There is no corresponding, unused authorization record. Please authorize for this amount prior to settling.
Response Message:16	A credit or refund is only allowed when there is a corresponding settlement transaction referenced.
Response Message:17	Transaction has been settled, so it cannot be voided.
Response Message:18	You are not authorized to perform this transaction type.
Response Message:19	Error happened in adapter business service. Please contact your application administrator.
Response Message:20	Error occurred in CyberSource. Please contact your application administrator.
Response Message:21	The connection to CyberSource has timed out. Please try the operation later.

The complete response messages, and not the codes, are shown in the Siebel eSales application.

For more information on modifying business service user properties, see *Siebel Tools Reference*.

Integration Objects

Integration objects are used to pass values, static or dynamic, to the business service. The architecture is modular, in that different integration objects can be created and used for the same core business service.

The integration objects for the Quote and Order business components and CyberSource are detailed here. Integration objects also exist for the Auction Invoice business component.

Configuration

CreditCard - Configuration (CyberSource) has the user properties shown in Table 19.

Table 19.   Credit Card - Configuration (CyberSource) User Properties

User Property	Value	Comments
VendorDll	ics2api	Do not use prefix and extension. This is necessary for compatibility with Solaris.
customer_email	nobody@nowhere.com	CyberSource enforces the format.
customer_phone	(000) 000-0000	CyberSource requires at least six digits.
ignore_avs	no	CyberSource needs "yes" or "no." This is only used for the AuthCharge transaction.
merchant_id	ICS2Test	CyberSource varchar(20), case-sensitive. Change this to your merchant ID. You can obtain a merchant ID for each division of your organization. The merchant IDs are set in the Divisions view under the Group Administration screen.
server_host	ics2test.ic3.com	
server_port	80	

Table 19.   Credit Card - Configuration (CyberSource) User Properties

User Property	Value	Comments
timeout	90	In seconds. The default is 90.
decline_avs_flags	N	Comma-separated list of AVS codes that result in an AVS decline.
		For more information, see "Address Verification with CyberSource" on page 181.

Authorization

- **CreditCard - Authorization (CyberSource Input).** Its integration component is Invoice, with the following fields:

  - Amount
  - Bill To State
  - Bill To Zipcode
  - Card Holder Name
  - Card Start Month
  - Currency Code
  - Ignore AVS
  - National Tax
  - Purchaser Code
  - Row Id
  - Ship To Zipcode
  - Tax Indicator

  - Bill To City
  - Bill To Street Address
  - Card Expiration Month
  - Card Issue Number
  - Card Start Year
  - Duty Amount
  - Ignore Bad CV
  - Phone Number
  - Purchaser VAT Reg No
  - Ship From Zipcode
  - Summary Commodity Code
  - VAT rate

  - Bill To Country
  - Bill To Street Address 2
  - Card Expiration Year
  - Card Number
  - Card Verification Value
  - Email Address
  - Merchant Id
  - Product Code
  - Quantity
  - Ship To Country
  - Tax Amount

- **CreditCard - Authorization (CyberSource Output).** Its integration component is Invoice, with the following fields:

  - AVS
  - Application Resp Flag
  - Authorization Code
  - Authorization Resp Flag

  - Application Resp Code
  - Application Resp Msg
  - Authorization Resp Code
  - Authorization Resp Msg

- Authorization Response
- Authorized Amount
- Authorized Time
- CV Result
- Request Id
- Row Id

- **CreditCard - Payments.** Its integration component is Credit Card Payments, with the following fields:

  - Authorization Code
  - Bill To City
  - Bill To Country
  - Bill To State
  - Bill To Street Address
  - Bill To Street Address 2
  - Bill To Zipcode
  - Card Holder Name
  - Card Number
  - Card Type
  - Card Verification Number
  - Credit Card Response Code
  - Credit Card Transaction Amount
  - Credit Card Transaction ID
  - Credit Card Transaction Status
  - Credit Card Transaction Time
  - Credit Status
  - Credit Status Message
  - Currency Code
  - Expiration Month
  - Expiration Year
  - Merchant Id
  - Row Id
  - Transaction Id

- **CreditCard - Quote - Authorization (Siebel Input).** Its integration component is Quote, with the following fields:

  - Credit Card Authorization Code
  - Credit Card Transaction Amount
  - Credit Card Transaction ID
  - Credit Card Transaction Status
  - Quote Number

- **CreditCard - Quote - Authorization (Siebel Output).** Its integration component is Quote, with the following fields:

  - Amount
  - Bill To City
  - Bill To Country
  - Bill To State

- Bill To Street Address
- Bill To Street Address 2
- Bill To Zipcode
- Card Expiration Month
- Card Expiration Year
- Card Holder Name
- Card Number
- Card Type
- Currency Code
- Email Address
- Home Phone
- Quote Number
- Work Phone

Settle (Charge)

- **CreditCard - Charge (CyberSource Input).** Its integration component is Invoice, with the following fields:

  - Amount
  - Auth Request Id
  - Authorization Code
  - Authorization Type
  - Currency Code
  - Duty Amount
  - Merchant Descriptor
  - Merchant Descriptor Contact
  - Merchant Id
  - National Tax
  - Product Code
  - Product Name
  - Purchaser Code
  - Purchaser VAT Reg No
  - Quantity
  - Row Id
  - Ship From Zipcode
  - Ship To Country
  - Ship To Zipcode
  - Summary Commodity Code
  - Tax Amount
  - Tax Indicator
  - VAT rate

- **CreditCard - Charge (CyberSource Output).** Its integration component is Invoice, with the following fields:

  - Application Resp Code
  - Application Resp Flag
  - Application Resp Msg
  - Charge Resp Code
  - Charge Resp Flag
  - Charge Resp Msg
  - Charge Trans Ref Number
  - Charged Amount
  - Charged Time
  - Request Id

■ Row Id

Authorize and Settle (AuthCharge)

■ **CreditCard - AuthCharge (CyberSource Output).** Its integration component is Invoice, with the following fields:

■ AVS	■ Application Resp Code
■ Application Resp Flag	■ Application Resp Msg
■ Authorization Code	■ Authorization Resp Code
■ Authorization Resp Flag	■ Authorization Resp Msg
■ Authorization Response	■ Authorized Amount
■ Authorized Time	■ CV Result
■ Charge Resp Code	■ Charge Resp Flag
■ Charge Resp Msg	■ Charged Amount
■ Charged Time	■ Request Id
■ Row Id	

■ **CreditCard - Quote - AuthCharge (Siebel Input).** Its integration component is Quote, with the following fields:

■ Credit Card Transaction Amount

■ Credit Card Transaction ID

■ Credit Card Transaction Status

■ Quote Number

This integration object is not used out of the box. CreditCard - Quote - Authorization (Siebel Input) can be used for this method.

Refund

■ **CreditCard - Refund (CyberSource Input).** Its integration component is Invoice, with the following fields:

■ Amount	■ Bill Request Id	■ Bill To City
■ Bill To Country	■ Bill To State	■ Bill To Street Address

- Bill To Zipcode
- Card Expiration Month
- Card Expiration Year
- Card Holder Name
- Card Issue Number
- Card Number
- Card Start Month
- Card Start Year
- Currency Code
- Duty Amount
- Email Address
- Merchant Descriptor
- Merchant Descriptor Contact
- Merchant Id
- National Tax
- Phone Number
- Product Code
- Purchaser Code
- Purchaser VAT Reg No
- Quantity
- Row Id
- Ship From Zipcode
- Ship To Country
- Ship To Zipcode
- Summary Commodity Code
- Tax Amount
- Tax Indicator
- VAT rate

■ **CreditCard - Refund (CyberSource Output).** Its integration component is Invoice, with the following fields:

- Application Resp Code
- Application Resp Flag
- Application Resp Msg
- Refund Amount
- Refund Auth Response
- Refund Resp Code
- Refund Resp Flag
- Refund Resp Msg
- Refund Time
- Refund Trans Ref Number
- Request Id
- Row Id

For more information on integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II* and *Siebel Tools Reference*.

Data Maps

Data maps are used to map fields in one integration object to another integration object. The data maps used in credit card transactions are specified in the call to the business service.

You can view data maps by navigating to Integration Administration > Data Map Browser.

The data maps used in credit card transactions are shown in Table 20.

Table 20.   Data Maps Used in Credit Card Transactions

Data Map	Source Integration Object	Target Integration Object
Authorization from Quote		
CreditCardAuthorization_ Quote2CyberSource	CreditCard - Quote - Authorization (Siebel Output)	CreditCard - Authorization (CyberSource Input)
CreditCardAuthorization_ CyberSource2Quote	CreditCard - Authorization (CyberSource Output)	CreditCard - Quote - Authorization (Siebel Input)
Authorization from Payments		
CreditCardAuthorization_ Payments2CyberSource	CreditCard - Payments	CreditCard - Authorization (CyberSource Input)
CreditCardAuthorization_ CyberSource2Payments	CreditCard - Authorization (CyberSource Output)	CreditCard - Payments
Charge from Payments		
CreditCardCharge_ Payments2CyberSource	CreditCard - Payments	CreditCard - Charge (CyberSource Input)
CreditCardCharge_ CyberSource2Payments	CreditCard - Charge (CyberSource Output)	CreditCard - Payments
AuthCharge from Quote		
CreditCardAuthorization_ Quote2CyberSource	CreditCard - Quote - Authorization (Siebel Output)	CreditCard - Authorization (CyberSource Input)

Table 20.   Data Maps Used in Credit Card Transactions

Data Map	Source Integration Object	Target Integration Object
CreditCardAuthCharge_ CyberSource2Quote	CreditCard - AuthCharge (CyberSource Output)	CreditCard - Quote - AuthCharge (Siebel Input)
AuthCharge from Payments		
CreditCardAuthorization_ Payments2CyberSource	CreditCard - Payments	CreditCard - Authorization (CyberSource Input)
CreditCardAuthCharge_ CyberSource2Payments	CreditCard - AuthCharge (CyberSource Output)	CreditCard - Payments
Refund from Payments		
CreditCardRefund_ Payments2CyberSource	CreditCard - Payments	CreditCard - Refund (CyberSource Input)
CreditCardRefund_ CyberSource2Payments	CreditCard - Refund (CyberSource Output)	CreditCard - Payments

For more information on modifying integration objects and data maps, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II* and *Siebel Tools Reference*.

CyberSource Adapter Service Business Service

The CyberSource Adapter Service business service does the following:

■ Receives input from the Credit Card Transaction Service business service in XML format.

■ Processes the data and uses Siebel eScript to call the CyberSource API.

■ Gets the payment information from CyberSource using the CyberSource API.

■ Passes XML data back to the Credit Card Transaction Service business service.

The CyberSource Adaptor Service consists of methods, user properties, and scripts written in Siebel eScript:

■ Methods:

- Authorization, with arguments inputXML and outputXML

- Charge, with arguments inputXML and outputXML

- Refund, with arguments inputXML and outputXML

- Start, with argument outputXML

■ Scripts:

- **(declarations).** Defines the variables used in the business service scripts.

- **CallCyberSource.** Converts the XML to a property set, and then gets values from the property set to construct the message used by CyberSource. Calls CyberSource to get the result. Uses the result to construct a property set, and then converts it to XML.

- **FillOutIntObj.** Used to construct the property set from the CyberSource result.

- **FillRequestObj.** Used to construct the CyberSource message from the property set.

- **Initialize.** Initializes the variables for the service. Variables to initialize are passed in by setting the values in the CreditCard - Configuration (CyberSource) integration object user properties.

- **LogMessage.** Writes to the log file the buffers that are passed to CyberSource and received from CyberSource, if the Debug flag is set.

- **SendCmd.** Used to call CyberSource with a different method.

- **Service_PreInvokeMethod.** Starting point where the business service is called.

- **SetResponseCode.** Used to map CyberSource error flags to Siebel response codes.

- **ThrowError.** Generates the error messages that are set up in the Credit Card Transaction Service business service user properties.

To examine the Siebel eScripts in the CyberSource Adapter Service business service, right-click the business service in Siebel Tools, and then choose Edit Server Scripts.

For more information on Siebel eScripts, see *Siebel Tools Online Help*.

Address Verification with CyberSource

Address Verification will fail when CyberSource returns DAVSNO as the reply code. When DAVSNO is returned, an authorization code will still be returned to your Siebel application. The values for the decline_avs_flags business service user property can be used to indicate which address verification results should result in DAVSNO being returned by CyberSource. From Siebel eSales, N is passed to CyberSource, indicating that when this result is received by CyberSource for the address verification check, DAVSNO will be returned to your Siebel application. To indicate that other address verification responses should result in DAVSNO being returned to your Siebel application, add the values to the decline_avs_flags business service user property. In the event that you want to authorize and settle at the same time, you can indicate that address verification results should be ignored by setting the ignore_avs business service user property to yes.

Customizing Cybersource Integration

Siebel eSales integration with CyberSource can be customized. Some examples are modifying scripts, passing more fields to CyberSource, and performing credit card processing on data in other business components.

Modifying the Scripts in the CyberSource Adapter Service

As the scripts in the CyberSource Adapter Service are written in Siebel eScript, they can be readily modified.

For more information on Siebel eScripts, see *Siebel Tools Online Help*. For more information on debugging scripts, see *Siebel Tools Reference*.

To modify scripts in the CyberSource Adapter Service business service

1 In Siebel Tools, lock the EAI CreditCard project.

2 Select the Business Service object.

3 Select the CyberSource Adapter Service, copy it, and then rename the copy as a backup.

4 Right-click CyberSource Adapter Service, and then choose Edit Server Scripts.

   The server script editor appears.

5 Edit the desired scripts, and then close the edit window.

6 Compile the .srf file, selecting the Locked projects radio button.

Passing Data from Other Fields in the Siebel Database

You can add data fields to those passed to CyberSource.

For more information on modifying integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*. For more information on modifying scripts, see *Siebel Tools Reference*.

To add a data field

1 In Siebel Tools, add the field to the appropriate Cybersource input and output integration objects.

2 Modify the (declarations) script in the CyberSource Adapter Service business service to add the field to the correct output object, for example ICS2OBJS["Authorization"].OutputFields.

3 In your Siebel application, navigate to Integration Administration > Data Map Editor.

4 Update the data map so that data from the appropriate Siebel field will be passed to the CyberSource integration object.

Passing Data from Fields Not in the Siebel Database

There are three ways to pass data from fields that do not exist in the Siebel database:

■ Add the field to the database, add it to the necessary integration object, and then update the data map.

■ Set an existing business service user property in the Credit Card Transaction Service business service, or create a new one, with a static value for all transactions. These values are read at initialization of the business service.

Any data passed dynamically using the integration objects will overwrite the value in the business service user property for that particular transaction.

■ Set a value for an integration object field by setting the value in the data map.

You cannot set a default value for an integration object user property because the Credit Card Transaction Service business service does not look for this value at initialization.

NOTE: The auth_cv_result reply field contains details of the card verification check. This data is not stored in the Siebel database but you can use it to store additional information or drive additional logic.

Calling the Credit Card Transaction Service from Other Places in Siebel eSales

A business service can be called from any of the following:

■ Button, if the applet the button is in is of the CSSBCBase class

■ Workflow

■ Script, either Siebel eScript or Siebel VB

To call the Credit Card Transaction Service business service

1 Use the GetService() method to get an instance of the business service.

2 Use Service_InvokeMethod() to invoke a method of the business service.

3 Use SetProperty() to pass values for the business service method arguments that need to be set.

See "Business Service Methods" on page 167 for the business service method arguments of the Credit Card Transaction Service.

Calling the Credit Card Transaction Service from Other Business Components

The Credit Card Transaction Service business service can be called from other business components besides Quote, Order, and Auction Invoice.

To call the Credit Card Transaction Service from another business component

1 Choose where to call the business service (button, workflow, or script).

2 In Siebel Tools, create integration objects for the business component to pass the correct data to the business service.

3 In your Siebel application, navigate to Integration Administration > Data Map Editor.

4 Create integration object maps for the business component integration objects.

Using Other Third-Party Payment Applications

Using other payment services requires modifying the CyberSource Adapter Service business service or writing a new one. Because the scripts in the CyberSource Adapter Service are in Siebel eScript, they can be readily modified.

For more information on Siebel eScripts, see *Siebel Tools Online Help*. For more information on business services and on debugging scripts, see *Siebel Tools Reference*.

NOTE: After creating the new payment business service, you must create or modify integration objects and data maps for it.

To create a new payment business service

1 In Siebel Tools, lock the EAI CreditCard project.

2 Select the Business Service object.

3 Select the CyberSource Adapter Service and copy it.

4 Rename the copy, for example New Payment Adapter.

5 Right-click New Payment Adapter, and then choose Edit Server Scripts.

   The server script editor appears.

6 Modify the desired scripts, and then close the edit window.

7 Edit the business service user properties of the Credit Card Transaction Service Business Service to call the New Payment Adapter business service.

8 Compile the .srf file, selecting the Locked projects radio button.

Using Purchase Order Credit Checking Applications 8

This chapter tells you how to set up the ability to check the credit standing of customers who want to pay with a purchase order.

About Using Purchase Order Credit Checking Applications

Before an order for products or services can be completed through your Siebel eSales Web site, your company may want to assess whether the customer has a credit rating that is good enough for you to sell to them. Different applications are used to perform credit checks depending on the method of payment.

- For customers paying with a credit card, credit checks are performed by a third-party payment application. For more information about third-party payment applications, see Chapter 7, "Using Third-Party Payment Applications."

- For business customers paying with purchase orders, credit checks on the customer account are performed by a back-office, third-party accounts receivable or credit management application. This chapter describes how to set up these applications.

Third-party accounts receivable or credit management applications use logic to make a credit determination based on your company's previous history with the customer account and other credit data.

Integration with third-party credit checking applications uses a specific, prebuilt Application Services Interface (ASI) named External Credit Check. Some configuration is required to set up this integration.

For information about how to extend these integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II.*

Credit checks are performed as part of the process of checking out after the customer clicks the Check Out button.

Two workflows directly control the process of checking the credit status of business accounts. These are:

- eSales - Authorize Order Process

- Credit Check - Quotes

For more information about the checking out process, including the details of these workflows, see Chapter 4, "Modifying Order Workflows."

NOTE: Purchase order credit checks can also be made on a quote or order from an employee application, such as Siebel Sales or Siebel Call Center. These would be initiated by call center agents, sales administrators, and sales representatives. For information about how to set up a purchase order credit checking integration from an employee application, see *Siebel Order Management Guide*.

For more information about to how to set up, use, and modify integrations based on ASIs, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Required Setup Procedures

To set up the use of third-party credit check application, you must:

■ Verify the External Credit Check ASI user properties.

■ Configure the Web Service.

■ Activate the workflows.

Verifying the External Credit Check ASI User Properties

You must verify the External Credit Check ASI user properties.

To verify the External Credit Check ASI user properties

1 In Siebel Tools, select the External Credit Check business service.

2 Select Business Service User Prop.

3 Verify that the Names and Values of the User Properties match those in the following table.

Name	Value
siebel_port_name	Default
siebel_web_service_name	External Credit Check
siebel_web_service_namespace	http://siebel.com/asi/

Configuring Web Services

Web services are used to direct the inbound and outbound messages to and from:

■ The third-party credit checking application.

■ A demonstration script that can be used to test your integration setup.

■ Middleware or integration server that will integrate with your fulfilment engine.

You must make sure that the Web services are correctly configured.

To configure the Web services

1 Navigate to the Web Services Administration screen.

2 From the Show drop-down list, select Outbound Web Services.

3 Select the row with External Credit Check in the Name field.

4 Verify that the fields in the Outbound Web Services list match those in the following table.

Namespace	Name	Status
http://siebel.com/asi/	External Credit Check	Active

5 In the Service Ports list, click New, and enter the following values in the fields of the new record.

Field	Comments
Name	Enter a name for the port.
Port Type	Enter External Credit Check.
Transport	Select from the drop-down list.
	If you want to set up testing, for example when you are customizing applets or extending the ASI, select Local Business Service.
Address	When you select a transport, the field will be populated with a template address. Edit the address based on where you are sending the data.
	If you want to set up testing, enter Credit Check ASI Test.
Binding	If a SOAP header is expected by the receiving application, select SOAP_RPC.
	If you are using Credit Check ASI Test, select Property Set.

For more information about configuring Web Services and setting up demonstration scripts, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Activating the Workflows

You must activate the following workflows:

■ eSales - Authorize Order Process

■ Credit Check - Quotes

For information about activating workflows, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II.*

Optional Setup Procedures

To set up the use of third-party credit checking systems, you may want to:

- Modify the Credit Check Service business service user properties.

- Turn off credit checking.

- Customize when credit checks are performed.

- Change the account credit auto-approval limit.

- Skip credit checks for an account.

- Restrict which employees can administer credit checking.

- Extend the ASI.

Modifying the Credit Check Service Business Service User Properties

Some of the user properties of the Credit Check Service business service are used to map integration object fields to their related business component fields. For example the BC_CREDIT_DATE user property has a value of Credit Check Status As Of Date, which is the name of a business component field on the Quotes and Payments business components. The PROP_SET_CREDIT_DATE user property has a value of Credit Status As Of, which is the name of an integration object field. Together, these values show that the data in the Credit Status As Of integration object field is moved to the Credit Check Status As Of Date business component field. You should not need to modify these values.

You will need to modify the value of the ERROR_STATUS_CODE user property if it does not match the value of the error code returned from the middleware.

To modify the error status code

1 In Siebel Tools, select Business Service in the Object Explorer.

2 Query for the Credit Check Service business service.

3 Select Business Service User Prop in the Object Explorer.

4 Change the value of the ERROR_STATUS_CODE user property to match the middleware value.

Turning Off Credit Checking

You can turn off credit checking by removing the Credit Check subprocess step from the eSales - Authorize Order Process workflow.

Customizing the Credit Check - Quotes Workflow

A credit check does not need to be performed on every order that will be paid for with a purchase order. You can customize the Credit Check - Quotes workflow to control under what circumstances credit check is performed.

For more information about this workflow, see Chapter 4, "Modifying Order Workflows."

Changing the Credit Auto-Approval Limit For Accounts

You can control when a credit check is performed by changing the credit auto-approval limit of particular accounts using:

■ Siebel Tools, in which you can set a pre-default value that will be applied to new accounts.

■ A batch eScript, to set a limit for all accounts.

■ Manual editing for individual accounts.

NOTE: Do not confuse the Credit Auto Approval Limit field with the PO Auto Approval Limit field.

Directions for the manual editing method are given in Chapter 6, "Administrative Tasks."

Skipping Credit Checks For an Account

You can skip automatic credit checking for particular accounts by changing the value of the Skip Credit Check field. You can do this by manually editing this field for individual accounts.

For more information see Chapter 6, "Administrative Tasks."

Restricting Which Employees Can Administer Credit Checking

There are two ways to restrict which employees can administer credit checking on accounts.

■ Create a read-only version and a read-write version of the Account Detail - Credit Profile view. Give employees who should administer credit checking access to the read-write view. Give employees who should not administer credit checking access to the read-only view.

■ Add a rule or logic to restrict who can update fields related to credit checking. For example, only allow an account's primary sales representative to update these fields.

Extending the Credit Check Interface Request

If you want to extend the Credit Check Interface Request, you must add fields to:

■ The following published interfaces:

■ Credit Check Interface Response

■ Credit Check Interface Request

■ The following internal objects:

■ Credit Check Interface Request - Quote

■ Credit Check Interface Request - Order

Optional Setup Procedures

This will create the necessary mapping between the credit check interface structure and the Siebel Quote and Order business components. Make sure that the Integration Component Field names of the internal and external integration objects match. Table 21 uses the Priority field as an example.

Table 21.   Naming Fields

Object Name	Name	External Name
Credit Check Interface Request	Priority	none
Credit Check Interface Request - Quotes	Priority	*< Mapping of the Priority field to the correct field on the Quotes Buscomp >*
Credit Check Interface Request - Orders	Priority	*< Mapping of the Priority field to the correct field on the Orders Buscomp >*

For information about how to extend the integration object, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II.*

Using Third-Party Taxation Applications　**9**

This chapter describes how to set up and use Taxware applications.

Introduction

Taxes are calculated on quotes as part of the eSales - Complete Checkout Process workflow. The Calculate Taxes step calls the Tax Calculator business service, which uses the Taxware Adapter Service business service to make a call to Taxware. The calculated sales tax from Taxware is copied to the quote. When the quote is turned into an order, the tax information is copied to the order.

NOTE: The preconfigured integration allows tax calculations for the many countries supported by Taxware. For the latest list of supported countries, see www.taxware.com.

Taxware Applications

Taxware International is a third-party service used to calculate the sales tax on orders. Siebel eSales is designed to work with the following Taxware modules:

- **Sales/Use.** Calculates sales and use taxes on purchases made in the United States and Canada. Sales/Use can be configured for product-specific taxation. This is done by using the Taxware Sales/Use Toolkit to map the product's part number in the Siebel application to its Tax Code in Sales/Use.

- **WORLDTAX.** Calculates sales and use taxes on purchases made outside the United States and Canada. WORLDTAX can be configured for product-specific taxation. This is done by using the Taxware WORLDTAX Toolkit to map the product's part number in the Siebel application to its Commodity/Service Code in WORLDTAX.

- **STEP.** Enables sales tax exemptions and works in conjunction with the Sales/Use module. A Siebel eSales customer is exempt from sales tax if the Siebel account with which the customer is associated has a tax certificate lodged in the STEP module. This is done by entering the Siebel account ID (row ID) in the STEP Customer ID field on the STEP certificate entry form.

- **Universal Tax Link (UTL).** Integrates external applications with the Sales/Use and WORLDTAX modules through a common gateway.

- **VERAZIP.** Used for address verification. It matches state, ZIP Code, city, and county information to make sure that an address is correct and complete, so that the Sales/Use Tax System will be able to locate the correct taxing jurisdiction.

For more information, see your Taxware documentation.

NOTE: A product's part number can be found in the Products screen of your Siebel application. The row ID of an account is found by clicking the menu button and selection About Record with the account selected in the Accounts screen.

Installing Taxware Applications on Windows

Siebel supports the use of Taxware software on the Windows NT and Windows 2000 platforms.

For more information on installing Taxware, see your Taxware documentation. For information on which versions of Taxware are supported by Siebel applications, see the system requirements and supported platforms documentation for your Siebel application.

NOTE: The drive on which Taxware applications are installed should have at least 1 GB of free disk space. Over time, the sizes of Taxware applications increase as log files and tax certificates are generated.

Installing Sales/Use on Windows

The instructions given here assume that the drive with the Taxware installation CD-ROM is E: and the drive on which Taxware is installed is C:.

To install Sales/Use

1 Create a C:\Taxware directory.

2 Run E:\32bitsys\toolInt3\install.exe.

The Welcome screen appears.

3 Click Next.

The Select Destination Directory screen appears.

4 Choose C:\Taxware\SalesUse as the installation directory, and then click Next.

The Ready to Install screen appears.

5 Click Next.

The Program Menu Folder dialog box appears.

6 Type TAXWARE Applications Sales Tax, and then click OK.

Sales/Use is installed, and the Installation Completed screen appears.

7 Click Finish to exit the installer.

8 Copy all the files from E:\32bitsys\salestax\data and E:\32bitsys\verazip\data to C:\Taxware\SalesUse\indata.

9 Change the permissions of all parameter files (Param*) in C:\Taxware\SalesUse\indata to allow read and write access.

Installing STEP on Windows

The instructions given here assume that the drive with the Taxware installation CD-ROM is E: and the drive on which Taxware is installed is C:.

To install STEP

1 Run E:\32bitsys\Stepfe32\install.exe.

The Welcome screen appears.

2 Click OK.

The Select Destination Directory screen appears.

3 Choose C:\Taxware\STEP as the installation directory, and then click OK.

The Select Group or Folder dialog box appears.

4 Type TAXWARE Applications STEP, and then click OK.

STEP is installed, and the STEP System Installation screen appears.

5 Click OK.

6 Copy all the files from E:\32bitsys\step\data to C:\Taxware\STEP\indata.

7 Change the permissions of all parameter files (Param*) in C:\Taxware\STEP\indata to allow read and write access.

Installing UTL on Windows

The instructions given here assume that the drive with the Taxware installation CD-ROM is E: and the drive on which Taxware is installed is C:.

To install UTL

1 Run E:\WorldTax\utlsetup.exe.

   The Welcome screen appears.

2 Click Next.

   The Choose Destination Location screen appears.

3 Choose C:\Taxware\UTL as the installation directory, and then click Next.

   The Backup Replaced Files screen appears.

4 Select the Yes radio button, and then click Next.

   The Select Backup Directory screen appears.

5 Choose C:\Taxware\UTL\BACKUP as the backup directory, and then click Next.

   The Start Installation screen appears.

6 Click Next.

   UTL is installed, and the Installation Complete screen appears.

7 Click Finish to exit the installer.

Installing WORLDTAX on Windows

The instructions given here assume that the drive with the Taxware installation CD-ROM is E: and the drive on which Taxware is installed is C:.

To install WORLDTAX

1 Run E:\WorldTax\install.exe.

The Welcome screen appears.

2 Click Next.

The Select Destination Directory screen appears.

3 Choose C:\Taxware\WORLDTAX as the installation directory, and then click Next.

The Backup Replaced Files screen appears.

4 Select the Yes radio button.

5 Choose C:\Taxware\WORLDTAX\BACKUP as the backup directory, and then click Next.

The Select ProgMan Group screen appears.

6 Type TAXWARE Applications WORLDTAX, and then click Next.

The Ready to Install screen appears.

7 Click Next.

WORLDTAX is installed, and the Installation Completed screen appears.

8 Click Finish to exit the installer.

Setting Up the Windows Environment

To set up the Windows environment, you must set the system Path variable.

To set the system Path variable

1 Choose Start > Settings > Control Panel > System.

The System Properties dialog box appears.

2 On Windows NT, click the Environment tab. On Windows 2000, click the Advanced tab, and then click Environment Variables.

The Environment Variables dialog box appears.

3 Add C:\Taxware\UTL to the system Path variable.

4 Restart the Siebel Server.

Setting Up Taxware Applications on Windows

After installation, certain tasks must be performed, including:

■ Setting an administrator user name and password

■ Checking environment variables

■ Loading files

■ Putting your company information into the system

For more information on setting up Taxware applications, see your Taxware documentation.

Setting Up Sales/Use on Windows

The setup is done using the Sales/Use Tax System Toolkit.

For more information on using the Sales/Use Tax System Toolkit, see your Taxware documentation.

To set up Sales/Use

1 Choose Start > Programs > Taxware > Toolkit > toolkit.exe.

The Sales/Use Tax System Toolkit launches.

2 Click Security to set up an administrator user name and password, for example, sadmin/sadmin.

3 Close the application and relaunch it.

4 Click Environment to check the environment variables for Sales/Use Tax, STEP, and VERAZIP.

5 Click Tools, and then Load Files to load the Product Taxability File, Tax Master File, Zip Master File, and County File.

6 Click Nexpro to set up your company information.

7 Within Nexpro, click Nexus to set up the tax for some states, such as California.

8 Click Save to save the company information.

9 Copy the files in C:\Taxware\SalesUse\toolkit\tlkout to
C:\Taxware\SalesUse\outdata if the output directory for the Toolkit is different
from the output directory for the Sales/Use Tax System.

Setting Up STEP on Windows

Setting up the STEP System is done in two parts. The first part of the setup is done
from the Taxware installation CD-ROM.

For more information on using the STEP System, see your Taxware documentation.

To set up STEP

1 Run E:\STEP\toolkit\step.exe.

The STEP System launches.

2 Set up user names and passwords.

3 Check the environment variables.

4 Choose Utilities > Create Company ID to create several company IDs.

Use the same Company ID as for setting up the Company Nexus.

5 Choose Utilities > Load STEP Files to load the data files.

6 Choose Utilities > Load Reason Files to load the reason files.

7 Choose Files > Return to Certificate Screen to set up several company and
customer certificates.

After you create several certificates, a transaction file called steptran is generated
in C:\Taxware\STEP\stepfrnt.

8 Copy C:\Taxware\STEP\stepfrnt\steptran to C:\Taxware\STEP\indata.

The second part of the setup is done within the STEP System on the drive in which
Taxware was installed.

To load the transaction and reason files

1 Run C:\Taxware\STEP\toolkit\stepwin.exe.

The STEP System launches.

2 Choose Load/Update > Load Transaction File to load
C:\Taxware\STEP\indata\steptran into C:\Taxware\STEP\outdata.

3 Choose Load/Update > Load Reason File to load the reason file.

Setting Up WORLDTAX on Windows

The setup is done using the WORLDTAX Toolkit.

For more information on using the WORLDTAX Toolkit, see your Taxware
documentation.

To set up WORLDTAX

1 Run C:\Taxware\WORLDTAX\toolkit\wt200.exe.

The WORLDTAX toolkit launches.

2 Set up user names and passwords.

3 Check the environment variables.

4 Choose Tools > Load Files to load the Standard Information and Standard Rate
Master File and Commodity/Service Master File.

This can take up to an hour and use 400 MB of disk space.

5 Choose Utilities > Company Information File to enter company information.

6 Choose Utilities > Commodity > Service Code Conversion to convert Siebel
product numbers to Taxware Commodity/Service codes.

Installing Taxware Applications on UNIX

Siebel supports the use of Taxware software on the Solaris and AIX platforms.

For information on installing Taxware, see your Taxware documentation. For information on which versions of Taxware are supported by Siebel applications, see the system requirements and supported platforms documentation for your Siebel application.

NOTE: The drive on which Taxware applications are installed should have at least 1 GB of free disk space. Over time, the sizes of Taxware applications increase as log files and tax certificates are generated.

To install Taxware on UNIX

1 Copy the installation tar file from Taxware to the Siebel Server, for example to siebel.tar.

2 Create a directory on the Siebel Server for installing Taxware, for example taxware.

3 Use the following command to extract the structure into the new directory just created:

```
tar xvf siebel.tar
```

4 Add the following variables to the .cshrc file:

```
setenv TAXWAREHOME = "<Taxware_directory>"

setenv TOOLKITEXE "$TAXWAREHOME/toolkit"

setenv TOOLKITOUT "$TAXWAREHOME/outdata"

setenv AVPIN "$TAXWAREHOME/indata"

setenv AVPOUT "$TAXWAREHOME/outdata"

setenv AVPTEMP "$TAXWAREHOME/temp"

setenv AVPAUDIT "$TAXWAREHOME/audit"

setenv ZIPIN "$TAXWAREHOME/indata"
```

```
setenv ZIPOUT "$TAXWAREHOME/outdata"

setenv ZIPTEMP "$TAXWAREHOME/temp"

setenv ZIPAUDIT "$TAXWAREHOME/audit"

setenv STEPIN "$TAXWAREHOME/indata"

setenv STEPOUT "$TAXWAREHOME/outdata"

setenv STEPTEMP "$TAXWAREHOME/temp"

setenv STEPAUDIT "$TAXWAREHOME/audit"

setenv WTIN "$TAXWAREHOME/indata"

setenv WTOUT "$TAXWAREHOME/outdata"

setenv WTTEMP "$TAXWAREHOME/temp"

setenv WTAUDIT "$TAXWAREHOME/audit"

setenv WTDB "$TAXWAREHOME/outdata"

setenv WTSYSTEM "$TAXWAREHOME/indata"

setenv WTOUT "$TAXWAREHOME/outdata"

setenv WTCOUNTRY "GB"

setenv WTHOME "$TAXWAREHOME"

setenv XUSERFILESEARCHPATH "$TAXWAREHOME/lang/eng/%N"

setenv ERRMSGPATH "$TAXWAREHOME/lang/eng"
```

5 Add the following to `$path`: `$TAXWAREHOME`, `$TAXWAREHOME/toolkit`, and `$TAXWAREHOME/utl`.

6 Add `$TAXWAREHOME/utl` to `LD_LIBRARY_PATH`.

7 For the AIX platform, add `$TAXWAREHOME/utl` to `LIBPATH`.

8 Save the `.cshrc` file.

9 Enter the following command:

```
source .cshrc
```

Setting Up Taxware Applications on UNIX

After installation, certain tasks must be performed, including:

■ Setting an administrator user name and password

■ Checking environment variables

■ Loading files

■ Putting your company information into the system

For more information on setting up Taxware applications, see your Taxware documentation.

Setting Up Sales/Use on UNIX

The setup is done using the Sales/Use Tax System Toolkit.

For more information on using the Sales/Use Tax System Toolkit, see your Taxware documentation.

To set up Sales/Use

1 Use XStart to run toolkit.

The Sales/Use Tax System Toolkit launches.

2 Click Security to set up an administrator user name and password, for example sadmin/sadmin.

3 Close the application and relaunch it.

4 Click Environment to check the environment variables for Sales/Use Tax, STEP, and VERAZIP.

5 Click Tools, and then Load Files to load the Product Taxability File, Tax Master File, Zip Master File, and County File.

6 Click Nexpro to set up your company information.

7 Within Nexpro, click Nexus to set up the tax for some states, such as California.

8 Click Save to save the company information.

Setting Up WORLDTAX on UNIX

The setup is done using the WORLDTAX Toolkit.

For more information on using the WORLDTAX Toolkit, see your Taxware documentation.

To set up WORLDTAX

1 Use XStart to run wttoolkit.

The WORLDTAX toolkit launches.

2 Set up user names and passwords.

3 Check the environment variables.

4 Choose Tools > Load Files to load the Standard Information and Standard Rate Master File and Commodity/Service Master File.

This can take up to an hour and use 400 MB of disk space.

5 Choose Utilities > Company Information File to enter company information.

6 Choose Utilities > Commodity > Service Code Conversion to convert Siebel product numbers to Taxware Commodity/Service codes.

Enabling Tax Calculation

To use Taxware applications with Siebel eSales, certain parameters must be set for the eSales Object Manager component of the Siebel Server.

Enabling Tax Calculation with the Sales/Use Tax System

To use the Sales/Use Tax System with Siebel eSales, you need to have company information defined in the Sales/Use Tax System Toolkit and on the Siebel Server.

To enable tax calculation with Sales/Use

1 In the Sales/Use Tax System Toolkit, define your Company ID and Company Location, for example SIEBEL and SAN MATEO.

2 In your Siebel application, navigate to Server Administration > Components > Component Parameters and set the following parameters for the eSales Object Manager:

```
SalesTaxCompanyID = Company ID
SalesTaxCompanyLoc = Company Location
SalesTaxType = Taxware
SalesTaxEnable = TRUE
```

Enabling Tax Calculation with WORLDTAX

To use the WORLDTAX System with Siebel eSales, you need to have company information defined in the WORLDTAX Toolkit and on the Siebel Server.

To enable tax calculation with WORLDTAX

1 In the WORLDTAX Toolkit, define your Company ID and Business Location, for example SIEBEL_FR and FR (France).

2 In your Siebel application, navigate to Server Administration > Components > Component Parameters and set the following parameters for the eSales Object Manager:

```
SalesTaxCompanyID = Company ID
SalesTaxCompanyLoc = Company Location
SalesTaxType = Taxware
SalesTaxEnable = TRUE
```

3 In Siebel Tools, modify the user properties of the Tax - Configuration (Taxware) integration object, shown in the following table.

Integration Object User Property	Value
SHIPFROMCOUNTRY	ISO country code of the ship-from country (for example, FR for France)
WorldTaxInstalled	Y

SHIPFROMCOUNTRY can also be passed dynamically by modifying the Tax Integration (Siebel Quote Output) integration object and the data map to the Tax Integration (Taxware Input) integration object.

Taxing Customizable Products

Tax calculation is more complicated for customizable products because not all product components may need to be taxed. By default, for tax calculation, Siebel eSales submits the price of the product that is rolled up from its components. This means that if some of the component items do not need to be taxed, the tax calculation will be inaccurate.

You have the option of calculating tax at the component level for any customizable product. For information about how to set up taxation at the component level, see *Product Administration Guide*.

Taxware Integration with Siebel eSales

Integration of Siebel eSales with third-party taxation applications involves two business services:

■ Tax Calculator

■ Taxware Adapter Service

Tax Calculator Business Service

The Tax Calculator business service controls the process shown in Figure 34:
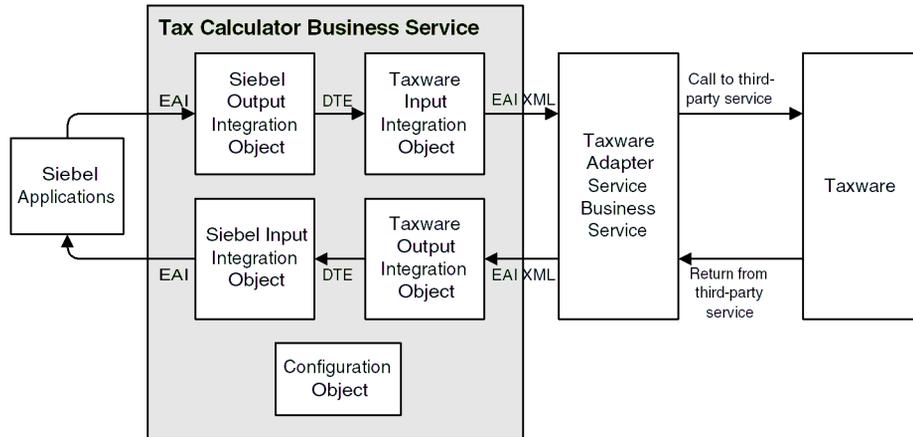
Figure 34.   Tax Calculation Process Flow

■ Siebel EAI passes data from a quote record and the method name to a Siebel output integration object.

■ The Siebel Data Transformation Engine maps the Siebel output integration object to a Taxware input integration object.

■ The Siebel EAI XML Converter converts the Taxware input integration object into XML, using the CC XML Converter Business Service, and passes the XML data and method name to the Taxware Adapter Service.

■ The Taxware Adapter Service business service processes the data and uses Siebel eScript to call the Taxware API.

■ The Taxware Adapter Service gets the calculated sales tax from Taxware using the Taxware API.

■ The Taxware Adapter Service formats the sales tax data into an XML string.

■ The Siebel EAI XML Converter converts the XML into a Taxware output integration object.

■ The Siebel Data Transformation Engine maps the Taxware output integration object to a Siebel input integration object.

■ Siebel EAI updates the quote record with the calculated sales tax.

The Tax Calculator business service has one method, CalculateTax, with the following input arguments:

■ Siebel to Vendor Map Name

■ Vendor to Siebel Map Name

The Tax Calculator business service user properties are used to set the values given in Table 22.

Table 22.   Tax Calculator Business Service User Properties

Business Service User Property	Value
Taxware:Adapter Business Service	Taxware Adapter Service
Taxware:Configuration Object	Tax - Configuration (Taxware)
Taxware:Input IntObject Name	Tax Integration (Taxware Input)
Taxware:Output IntObject Name	Tax Integration (Taxware Output)

For more information on business services, see *Siebel Tools Reference*.

Integration Objects

Integration objects are used to pass values, static or dynamic, to the business service. The architecture is modular, in that different integration objects can be created and used for the same core business service. For example, while the preconfigured integration supports the Quote business component, integration objects can be created to calculate taxes directly on the Order business component.

The Tax Calculator business service uses the following integration objects:

■ **Tax - Configuration (Taxware).** Its user properties are shown in Table 23.

Table 23.   Tax - Configuration (Taxware) User Properties

Integration Object User Property	Value	Comments
AUDFILEIND	2	Audit File Indicator: (1, 2, 3, 4) ■ 1: Audit File/Suspense File ■ 2: No Record stored on file ■ 3: Suspense File ■ 4: Audit File
EXEMPTUSEFLAG	Y	Exemption Use Flag: (Y, L, P, D, N) ■ Y: Call STEP, use default record. ■ L: Call STEP, do not use default record. ■ P: Call STEP, search by product code. ■ D: Call STEP, search by reason code and accept default customer. ■ N: Do not call STEP.
InputIntObjectName	Tax Integration (Taxware Input)	
OutputIntObjectName	Tax Integration (Taxware Output)	
SHIPFROMCOUNTRY	US	
SalesUseInstalled	Y	
VendorDll	taxcommono	Name of the shared library.
WorldTaxInstalled	N	

■ **Tax Integration (Siebel Quote).** Its integration components are shown in Table 24.

Table 24.   Tax Integration (Siebel Quote Integration Components)

Integration Component	Fields
Quote	Account Id
	Currency Code
	Current Quote Ship To City
	Current Quote Ship To Country
	Current Quote Ship To Postal Code
	Current Quote Ship To State
	EAI Error Message
	Quote Number
	Tax Amount
Quote Item	Extended Line Total
	Extended Quantity
	Line Number
	Line Total
	Part Number
	Quantity
	Row Id
	Sales Product Flag
	Sales Service Flag
	Tax Amount
	Tax Subcomponent Flag
	Taxable

■ **Tax Integration (Taxware Input).** Its integration components are shown in Table 25.

Table 25.   Tax Integration (Taxware Input) Integration Components

Integration Component	Fields That Pass Data from Siebel
Invoice	Currency Code
	Customer Id
	Document Number
	Invoice Number
	Ship To City
	Ship To Country
	Ship To Postal Code
	Ship To State
Invoice Item	Line Number
	Line Total
	Part Number
	Quantity
	Sales Product Flag
	Sales Service Flag
	Ship to City
	Ship to Country
	Ship to Postal Code
	Ship to State

See your Taxware documentation for more fields that can be passed. For information on how to pass more fields to Taxware, see "Passing Data from Other Fields in the Siebel Database" on page 226.

■ **Tax Integration (Taxware Output).** Its integration components are shown in Table 26.

Table 26.   Tax Integration (Taxware Output) Integration Components

Integration Component	Fields That Pass Data from Taxware
Invoice	City Tax Amount
	County Tax Amount
	Error Message
	Federal Tax Amount
	Invoice Number
	Secondary City Tax Amount
	Secondary County Tax Amount
	Secondary State Tax Amount
	State Tax Amount

Taxware Integration with Siebel eSales

Table 26.   Tax Integration (Taxware Output) Integration Components

Integration Component	Fields That Pass Data from Taxware		
Invoice Item	City Basis Amount	City Completion Code	City Tax Amount
	City Tax Rate	County Basis Amount	County Completion Code
	County Tax Amount	County Tax Rate	Federal Basis Amount
	Federal Completion Code	Federal Tax Amount	Federal Tax Rate
	General Completion Code	General Completion Code Desc	Line Number
	Secondary City Basis Amount	Secondary City Completion Code	Secondary City Tax Amount
	Secondary City Tax Rate	Secondary County Basis Amount	Secondary County Completion Code
	Secondary County Tax Amount	Secondary County Tax Rate	Secondary State Basis Amount
	Secondary State Completion Code	Secondary State Tax Amount	Secondary State Tax Rate
	State Basis Amount	State Completion Code	State Tax Amount
	State Tax Rate		

See your Taxware documentation for more fields that can be passed.

For more information on integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II* and *Siebel Tools Reference*.

Data Maps

Data maps are used to map fields in one integration object to another integration object. Data maps can be viewed by navigating to Integration Administration > Data Map Browser.

The data maps used in tax calculation, shown in Table 27, are specified in the call to the Tax Calculator business service.

Table 27.   Tax Calculation Data Maps

Data Map	Source Integration Object	Target Integration Object
TaxCalculation_QuoteToTaxware	Tax Integration (Siebel Quote)	Tax Integration (Taxware Input)
TaxCalculation_TaxwareToQuote	Tax Integration (Taxware Output)	Tax Integration (Siebel Quote)

For more information on modifying integration objects and data maps, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II* and *Siebel Tools Reference*.

Taxware Adapter Business Service

The Taxware Adapter Service business service:

■ Receives input from the Tax Calculator business service in XML format.

■ Passes information to Taxware:

   ■ Static information from the Tax - Configuration (Taxware) integration object

   ■ Dynamic information from the Tax Integration (Taxware Input) integration object

■ Receives information back from Taxware.

■ Passes XML data back to the Tax Calculator business service.

The Taxware Adapter Service primarily consists of methods written in C++.

Audit File

Taxware uses an Audit File to store transactional information for tax reporting purposes. The Audit File for Sales/Use is a text file that can be edited. There is a special editor for the WORLDTAX Audit File that marks transactions that have been altered.

When calculating taxes in Siebel eSales, the audit file indicator (AUDFILEIND) should be set to 2 (No Record) because the customer has not yet confirmed the order.

To write to the audit file, a separate call to Taxware should be made from the order. This requires creating Order integration objects and mappings to the Taxware integration objects.

The value for AUDFILEIND can be set by changing the value in the Tax - Configuration (Taxware) integration object user properties. For orders, a separate default value can be set in the data mapping.

Address Verification for Taxware

Completion codes are returned that indicate the status of the process running UTL if one of the following occurs:

■ The customer enters an improper city/state/zip combination.

In most cases, the completion code appears, indicating that a jurisdiction error occurred, which means something was wrong with the zip/state combination.

■ The customer enters a city/state/zip combination that maps to more than one jurisdiction.

Taxware defaults to the most likely match and applies that rate for the transaction. The system generally uses the jurisdiction with the highest population, as rates for areas with greater population are usually higher than those for areas with less population. However, the default rate used is not always the highest rate out of the possible matches.

Customizing Taxware Integration

Siebel eSales integration with Taxware can be customized. Some examples are passing more fields to Taxware, and performing tax calculations on data in other business components.

Passing Data from Other Fields in the Siebel Database

You can add data fields to those passed to Taxware. You must add the desired field to the appropriate integration objects and map the fields from your Siebel application to Taxware and from Taxware to your Siebel application.

For more information on modifying integration objects, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*. For more information on modifying scripts, see *Siebel Tools Reference*.

To add a data field

1 In Siebel Tools, add the field to the appropriate integration objects.

2 Activate the appropriate fields in Tax Integration (Taxware Input) and Tax Integration (Taxware Output) integration objects.

3 In your Siebel application, navigate to Integration Administration > Data Map Editor.

4 Update the data map so that the appropriate Siebel data will be passed to Taxware and an appropriate result will be passed back to the Siebel database.

Passing Data from Fields Not in the Siebel Database

There are three ways to pass data from fields that do not exist in the Siebel database:

■ Add the field to the database, add it to the necessary integration object, and then update the data map.

■ Set an existing business service user property in the Tax Calculator business service, or create a new one, with a static value for all transactions. These values are read at initialization of the business service.

Any data passed dynamically using the integration objects will overwrite the value in the business service user property for that particular transaction.

■ Set a value for an integration object field by setting the value in the data map.

You cannot set a default value for an integration object user property because the Tax Calculator business service does not look for this value at initialization.

Calling the Tax Calculator Business Service from Other Places in Siebel eSales

A business service can be called from any of the following:

■ Button, if the applet the button is in is of the CSSBCBase class

■ Workflow

■ Script, either Siebel eScript or Siebel VB

For information on configuring applications and calling business services, see *Siebel Tools Reference*.

To call the Tax Calculator business service

1 Use the GetService() method to get an instance of the business service.

2 Use Service_InvokeMethod() to invoke a method of the business service.

3 Use SetProperty() to pass values for the business service method arguments that need to be set.

See "Tax Calculator Business Service" on page 215 for the arguments of the CalculateTax method of the Tax Calculator Business Service.

Calling the Tax Calculator Business Service from Other Business Components

The Tax Calculator business service can be called from other business components besides Quote, for example Order. You can use the existing Tax Integration (Taxware Input) and Tax Integration (Taxware Output) integration objects for mapping.

To call the Tax Calculator business service from an order

1 Choose where to call the business service (button, workflow, or script).

2 In Siebel Tools, create integration objects for the Order business component to pass the correct data to the business service.

3 In your Siebel application, navigate to Integration Administration > Data Map Editor.

4 Create integration object maps for the Order integration objects and the Taxware integration objects.

Using Other Third-Party Taxation Applications

The default Taxware Adapter Service uses a C++ business service, but an alternative script business service is provided for your use. If you want to use other third-party taxation applications, you will need to modify the Taxware Adapter Service (eScript) business service or write a new script. The script in the Taxware Adapter Service (eScript) is in Siebel eScript and can therefore be easily rewritten.

For more information on Siebel eScripts, see *Siebel Tools Online Help*. For more information on business services and on debugging scripts, see *Siebel Tools Reference*.

NOTE: Before creating the new tax adapter business service, you must create or modify integration objects and data maps for it.

To create a new tax adapter business service

1 In Siebel Tools, lock the EAI Tax project.

2 Select the Business Service object.

3 Select the Taxware Adapter Service (eScript) and copy it.

4 Rename the copy, for example New Tax Adapter (eScript).

5 Right-click New Tax Adapter (eScript), and then choose Edit Server Scripts.

The server script editor appears.

6 Rewrite the desired scripts, such as (declarations) and CallTaxware, and then close the edit window.

7 Edit the business service user properties of the Tax Calculator business service to call the New Tax Adapter (eScript) business service. The user properties include the names of the integration objects, the name of business service, and the name of the configuration object.

8 Compile the .srf file, selecting the Locked projects radio button.

Handling Unicode Conversion Errors

For general information about Unicode support in Siebel applications, see *Global Deployment Guide*.

Taxware applications use the ASCII codepage. Fields that are passed from Siebel eSales to Taxware applications are therefore converted from Unicode UTF-16 characters to ASCII characters.

Error Prevention

If non-ASCII characters are entered into a required field, an error will be generated during the codepage conversion. The error is contained in the Error Message field of the integration object. The order will not be stopped by an error, but tax will have to be calculated manually by an employee. It is therefore important to:

■ Generate guidance messages and error messages to prevent customers from entering non-ASCII characters in a required field. A list of required fields is given in Table 28.

■ Only use lists of values that contain ASCII-compliant values.

Table 28.   Fields Required for the Taxware Integration

Taxware Field	Siebel Field	Siebel Location	Required in Sales/Use	Required in WorldTax
Company ID	Company ID	Configuration file	Yes	Yes
Ship-From Country Code	Ship From Country	Business service integration object	Yes	Yes
Destination/Ship-To Country Code	Ship To Country	Database	Yes	Yes
POO Country Code	From Taxware	Business service integration object	Yes	Yes
POA Country Code	From Taxware (Defaulted to the setting in the Taxware Toolkit.)	Business service integration object	Yes	Yes

Table 28.   Fields Required for the Taxware Integration

Taxware Field	Siebel Field	Siebel Location	Required in Sales/Use	Required in WorldTax
Line Item Amount	Line Total	Database	Yes	Yes
State Code	Ship To State	Database	Yes	No
Zip Code	Ship To Postal Code	Database	Yes	No
Document Number	Quote #	Database	No	Yes
Tax Point	Set in Adapter business service	Set in Adapter business service	No	Yes
Transaction Type	Set in Adapter business service (value of 1)	Set in Adapter business service (value of 1)	No	Yes
Seller Registration	From Taxware	Set in the Taxware Toolkit. You can pass dynamic data by configuration.	No	Yes
WT Code	Siebel Sales Product Flag (set to 01) or Siebel Service Product Flag (set to 23)	Siebel Sales Product Flag (set to 01) or Siebel Service Product Flag (set to 23)	No	Yes
Commodity Code	Part Number	Database	No	Yes
Primary Currency Code	Currency Code	Database	No	Yes

Defining Required Fields

You can define which fields that are passed to Taxware are required and whether a field is required for WorldTax, Sales/Use, or both applications.

To define which fields are required

1 In Siebel Tools, from the View menu, select Options.

2 In the Development Tools Options dialog box, select Object Explorer.

3 Move Integration Object to the right pane of the dialog box and click OK.

4 Select the integration object Tax Integration (Taxware Input).

5 Select Integration Component Field from the Object Explorer.

6 To make a field required, check the External Required column.

7 To make a field required for:

- Both WorldTax and Sales/User, leave the External DataType as String.

- WorldTax only, change the External DataType to StringWT.

- Sales/User only, change the External DataType to StringSU.

Configuring Error Messages

You can perform the following configurations related to codepage errors:

- You can configure the eSales - Complete Checkout Process workflow so that the order process will be stopped when a codepage error is returned by Taxware. The default behavior is to allow the order process to continue.

- You can Configure the error messages displayed in the Quote Summary and Order Confirmation views of your employee application. For more information see *Siebel Order Management Guide*.

- You can change the error messages that are displayed to customers on the Quote Form applet - Summary (eSales) applet and Order Form Applet - Confirmation (eSales) applet of your Siebel eSales Web site.

To configure error messages displayed to customers

1 In Siebel Tools, select either the Quote Form - Summary (eSales) applet or Order Form Applet - Confirmation (eSales) applet.

2 Select Applet User Prop in the Object Explorer.

3 Replace the EAI Error Message text with the text of your choice in the user property that has the value LabelTaxNotCalculated.

Using Third-Party Product Availability Management Applications **10**

This chapter tells you how to set up the ability for consumers and business customers to obtain product availability information from your Siebel eSales Web site.

Product availability information is stored in third-party product availability management systems. When a customer clicks the Check Availability button, availability information is passed to the Siebel eSales by a third-party product availability fulfillment engine, also known as an availability-to-promise (ATP) engine. Siebel eSales displays whatever data the ATP engine returns.

NOTE: Product availability information can also be requested by call center agents, sales administrators, and sales representatives using an employee application, such as Siebel Sales or Siebel Call Center. For information about how to set up product availability requests from an employee application, see *Siebel Order Management Guide*.

Integration with the product availability fulfillment engine uses the business service named ATP and a specific, prebuilt Application Services Interface (ASI) named ATP Check. Some configuration is required to set up this integration.

For general information about how to set up, use, and modify integrations based on ASIs, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Required Setup Procedures

To set up the use of third-party product availability systems, you must:

- Check the availability fulfillment methods that your ATP engine supports.

- Set the ATP Action parameter in the Quote business component user properties.

- Verify the External ATP Check business service user properties.

- Configure the Web Services.

Checking the Availability Fulfillment Methods

For the integration to work, you must find a method that is supported by your ATP engine and which checks availability without reserving it. The Inquire method is one possible example. You may want to check other supported methods, such as Reserve and Unreserve, to see how you can extend your availability checking function.

Setting the ATP Action Parameter in the Quote Business Component User Properties

The product availability fulfillment integration is launched from the Quote business component. The Quote business component defines method ATPInquireAll, which invokes the ATP Check ASI.

You must make sure that the values of the ATP Action parameters of the ATPInquireAll method user properties, for both the Quote and Order business components, match the commands expected by the ATP engine. If your ATP engine expects different commands, you can change the ATP Action parameters in Siebel Tools.

To set the business component user properties

1 In Siebel Tools, select the Quote business component.

2 Select Business Component User Prop.

3 In the Value field, query for *ATP*.

This returns all of the Quote business component user properties that are related to the ATP functionality.

4 For the user property that includes the ATPInquireAll method, edit the ATP Action parameter so that it exactly matches the command expected by the ATP engine. The default value is Inquire.

Verifying the External ATP Check Business Service User Properties

You must verify the External ATP Check business service user properties.

To verify the External ATP Check business service user properties

1 In Siebel Tools, select the External ATP Check business service.

2 Select Business Service User Prop.

3 Verify that the Names and Values of the User Properties match those in the following table.

Name	Value
siebel_port_name	Default
siebel_web_service_name	External ATP Check
siebel_web_service_namespace	http://siebel.com/asi/

Configuring Web Services

Web services are used to direct the inbound and outbound messages to and from:

■ The third-party ATP engine.

■ A script, called ATP ASI test, that can be used to test your integration setup.

■ A middleware or integration server that will integrate with your fulfillment engine.

ATP ASI test is a testing script that simulates a simple fulfillment engine. The script writes the output and response to an XML file on the server machine. By default, the output and response are written to ${SIEBEL_HOME}/bin, for example D:\Siebel\bin. The script writes an output file, called ATPOutput.xml, which represents what you would be sending to your middleware or fulfillment engine. Then it generates a real-time response and sends that back to the Web service. The generated response is written into a file called ATPFinished.xml, which you can see in the file system.

This testing infrastructure allows you to analyze what will be sent to the middleware and what Siebel eSales is expecting back. Based on this data, it will show you how it populates the data on the UI.

You must make sure that the Web services are correctly configured.

To configure the Web services

1 Navigate to the Web Services Administration screen.

2 From the Show drop-down list, select Outbound Web Services.

3 Select the row with External ATP Check in the Name field.

4 Verify that the fields in the Outbound Web Services list match those in the following table.

Namespace	Name	Status
http://siebel.com/asi/	External ATP Check	Active

5 In the Service Ports list, click New, and enter the following values in the fields of the new record.

Field	Comments
Name	Enter a name for the port.
Port Type	Enter External ATP Check.

Field	Comments
Transport	Select from the drop-down list.
	If you want to set up testing, for example when you are customizing applets or extending the ASI, select Local Business Service.
Address	When you select a transport, the field will be populated with a template address. Edit the address based on where you are sending the data.
	If you want to set up testing, for example when you are customizing applets or extending the ASI, enter ATP ASI Test.
Binding	If a SOAP header is expected by the receiving application, select SOAP_RPC.
	If you are using ATP ASI Test, select Property Set.

For more information about configuring Web Services and setting up demonstration scripts, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Optional Setup Procedures

When setting up the use of third-party product availability management systems, you may want to:

- Turn off computation of the availability summary date.

- Extend the ASI.

- Extend the data received from the third-party application.

- Require user registration.

- Modify some terms on the user interface.

Preventing Rollup of Availability Information

Product availability information can be displayed for:

- The entire quote

- The quote line items

- The schedule line items

The following information is rolled up:

- Available status, date, and quantity are rolled up from the promised lines to the quote or order lines.

- Available status and date are rolled up from the quote or order lines to the quote or order header.

If your availability fulfillment engine only returns promised schedule lines and does not roll up this data to the line or the header, the preconfigured behavior will provide you with a rollup of the data.

If, however, your fulfillment engine already calculates this rollup, or if you do not want to roll up these fields, you may want to turn off this behavior.

Following are some examples of the preconfigured rollup of availability information:

■ Dates: The latest date is rolled up at the parent level. For example, if line 1 has an available date of 7/15/02 and line 2 has an available date of 7/23/02, the available date for the order is set to 7/23/02. Rollup only occurs on dates if the status of the promised line or line is Available.

■ Status: If all lines have an ATP status of Available, the order also has a status of Available. However, if one of the lines has a different status, the order status is kept blank.

■ Quantity: If schedule line 1 has an availability quantity of 10, Schedule line 2 has an available quantity of 20, and both lines have the same ATP status of Available, then the quantity rolled up is the sum of both quantities (30). Rollup only occurs on quantity if the status of the promised line or line is Available.

To turn off product availability rollup

1 In Siebel Tools, select the ATP business service.

2 Select Business Service User Prop.

3 Select the Rollup Availability user property, and change the value from Y to N.

Extending the ATP Check Interface

If you want to extend the ASI, you must add fields to:

■ The external integration object called ATP Check Interface

■ The following internal integration objects:

　■ ATP Check Interface Request - Quotes

　■ ATP Check Interface Request - Orders

　■ ATP Check Interface Response - Quotes

　■ ATP Check Interface Response - Orders

This will create the necessary mapping between the ATP interface structure and the Siebel Quote and Order business components. Make sure that the names of the fields in the internal and external integration objects match, as illustrated in the following table.

Table 29. Naming Fields

Object Name	Integration Component Field Name	Integration Component External Name
ATP Check Interface	*NameX*	none
ATP Check Interface Request - Quotes	*NameX*	*< Mapping of the NameX field to the correct field on the Quotes Buscomp >*
ATP Check Interface Response - Quotes	*NameX*	*< Mapping of the NameX field to the correct field on the Quotes Buscomp >*

To prevent an added field from being modified by the fulfillment engine

1 In Siebel Tools, select Integration Object in the Object Explorer.

2 Select the integration object ATP Check Interface Response - Quotes.

3 Expand Integration Object in the Object Explorer, and select Integration Component.

4 Select the Quote integration component.

5 Expand Integration Component in the Object Explorer and select Integration Component Field.

6 Select the name of the added field.

7 Expand Integration Component Field in the Object Explorer and select Integration Component Field User Prop.

8 Set the Name of the Integration Component Field User Property to NoUpdate.

9 Set the Value to Y.

For more information about how to extend the integration object, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Requiring User Registration

Siebel eSales does not require the customer to register on the Web site before checking product availability. However, you can configure the logic behind the Check Availability button to require this by:

■ Hiding the Check Availability button. In this case, anonymous users will not see the button unless they explicitly log in.

■ Adding the Explicit Login parameter to the view.

To hide the Check Availability button

1 In Siebel Tools, lock the eSales - Quote project.

2 In the Object Explorer, click Applet and select Quote Form Applet - Current (eSales).

3 In the Object Explorer, click Applet User Prop.

4 Create a new user property called Hide Control 4 with the following value: 'ButtonInquireAll','GetProfileAttr("Is Anonymous") = "TRUE"'

To add the Explicit Login parameter to the ATP Fulfillment View (eSales).

1 In Siebel Tools, lock the ATP project.

2 In the Object Explorer, click View and select ATP Fulfillment View (eSales).

3 Right-click on the Views bar at the top of the list and select Columns Displayed.

4 In the Available Columns box, select Explicit Login, move it to the Displayed Columns box, and click OK.

5 Scroll to the right of the view and check the Explicit Login column for ATP Fulfillment View (eSales).

6 Check in and compile the projects.

UI Terms

You may want to change the following terms in the user interface to more precisely reflect the type of data returned by your particular product availability fulfillment engine. Alternatively, you could clarify the terms by adding popups that appear when the customer's cursor moves over them.

Requested Date. This could mean either the date on which the customer wants to receive the product or the date on which the customer wants the seller to ship the product.

Available Date. This could mean either the date that the customer will receive the product or the date that the product will be shipped.

These two fields are designed to work together, reflecting parallel information.

Using Third-Party Shipment Tracking Applications **11**

This chapter tells you how to set up the ability for consumers to track the shipping progress of packages that you are sending to them. Each package is scanned by the shipping carrier at various checkpoints on its journey, and information about the progress of the package is stored in the carrier's shipment tracking database.

Consumers access the shipment tracking function through the Check Shipment button, which appears when there is a shipment. When the consumer clicks the button it shows the shipments that are associated with the order. If the shipment has a Shipment Identification Number, the Track Shipment button appears. When the consumer clicks this button, information in the shipment tracking database is delivered to Siebel eSales using a specific, prebuilt Application Services Interface (ASI) named External Shipment Tracking. Some configuration is required to set up this integration.

Integration also uses the published interfaces called Shipment Tracking Interface Request and Shipment Tracking Interface Response. For information about how to extend this integration object, and for more information about how to set up, use, and modify integrations based on ASIs, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

The following terms are used when referring to shipment tracking:

- **Shipment.** A part of an order that is shipped using the same carrier and shipment method. For example, an order can consist of one air-freight shipment and one ground shipment that have the same destination address. A shipment is made up of one or more packages. More than one order can be included in a single shipment, and a single order can require more than one shipment. In other words, there is a many-to-many relationship between orders and shipments.

- **Shipment Tracking Number.** Also called Shipment Identification number or Waybill number. A unique identifier used to track a shipment through the delivery system.

■ **Package.** A container for the parts of a shipment. For example, a computer shipment may have a package for the monitor and a package for the computer's CPU case.

■ **Package Tracking Number.** A unique identifier used to track a package through the delivery system.

■ **Shipment Reference Number.** A unique identifier that is defined by the seller and used to track shipments. This number can be used in conjunction with a package, a set of packages within one or more shipments, or all packages within a shipment.

Required Setup Procedures

To set up the use of third-party shipment tracking system, you must:

■ Set the Shipment Tracking - Package Tracking business component user properties.

■ Verify the External Shipment Tracking ASI user properties.

■ Configure the Web Services.

Setting the Shipment Tracking-Package Tracking User Properties

The virtual business component from which the shipment tracking application can be launched is associated with the Request Action method and its associated Request Option. These methods invoke the External Shipment Tracking ASI when the Track Shipment button on the Shipment View (eSales) view is clicked. The Request Action is Track, and it should match the shipper's system command. The Request Option is Last Package or Last Activity, which should also match the shipper's system.

To set the Shipment Tracking - Package Tracking business component user properties

1 In Siebel Tools, select the Shipment Tracking - Package Tracking business component.

2 Select Business Component User Prop.

3 Verify that the Names and Values of the User Properties match those in the following table.

Business Component	Name	Default Value
Shipment Tracking-Package Tracking	Request Action	Track
	Request Option	Last Activity

NOTE: If you want to support integration with more than one carrier, the user property values required by the carriers will probably be different. In this case, you will need to employ a middleware adapter that will change the values passed to each carrier.

Verifying the External Shipment Tracking ASI User Properties

You must verify the External Shipment Tracking ASI user properties.

To verify the External Shipment Tracking ASI user properties

1 In Siebel Tools, select the External Shipment Tracking business service.

2 Select Business Service User Prop.

3 Verify that the Names and Values of the User Properties match those in the following table.

Name	Value
siebel_port_name	Default
siebel_web_service_name	External Shipment Tracking
siebel_web_service_namespace	http://siebel.com/asi/

Configuring Web Services

Web services are used to direct the inbound and outbound messages to and from:

■ The third-party shipment tracking application.

■ A demonstration script that can be used to test your integration setup.

■ A middleware component.

You must make sure that the Web services are correctly configured.

To configure the Web services

1 Navigate to the Web Services Administration screen.

2 From the Show drop-down list, select Outbound Web Services.

3 Select the row with External Shipment Tracking in the Name field.

4 Verify that the fields in the Outbound Web Services list match those in the following table.

Namespace	Name	Status
http://siebel.com/asi/	External Shipment Tracking	Active

5 In the Service Ports list, click New, and enter the following values in the fields of the new record.

Field	Comments
Name	Enter a name for the port.
Port Type	Enter External Shipment Tracking.
Transport	Select from the drop-down list.
	If you want to set up testing, for example when you are customizing applets or extending the ASI, select Local Business Service.

Required Setup Procedures

Field	Comments
Address	When you select a transport, the field will be populated with a template address. Edit the address based on where you are sending the data. If you want to set up testing, enter Shipment Tracking ASI Test.
Binding	If a SOAP header is expected by the receiving application, select SOAP_RPC. If you are using Shipment Tracking ASI Test, select Property Set.

For more information about configuring Web Services and setting up demonstration scripts, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II.*

Optional Setup Procedures

To set up the use of third-party shipment tracking application, you may want to:

■ Extend the data received from the third-party application.

■ Change the package sorting order.

■ Turn off package sorting.

Extending Returned Data

You can extend the returned data by adding a field to the response integration object and displaying it in the user interface.

To extend the returned data

1 Add the field to the Shipment Tracking Interface Response integration object.

2 Add the field to the Shipment Tracking - Package Tracking business component, making sure that the name of the field matches that of the integration object.

3 Add the control to the Shipment Tracking - Package Tracking (eSales) applet, which maps to the added field in the business component.

For more information about how to extend the data that is received from the shipment tracking application, see *Integration Platform Technologies: Siebel eBusiness Application Integration Volume II*.

Changing the Package Sorting Order

Packages are displayed as a list of records in the Shipment Tracking - Package Tracking (eSales) applet. The list is sorted in the order shown in Table 30.

Table 30.   Package Sorting Order

Sort Level	Value Sorted	Sort Order
First	Package Tracking Number	Ascending

Table 30.   Package Sorting Order

Sort Level	Value Sorted	Sort Order
Second	Date	Descending
Third	Time	Descending

You can change the order in which packages are listed.

To change the package sorting order

1 In Siebel Tools, select the Shipment Tracking (eSales) business service.

2 Select Business Service User Prop.

The displayed list of user properties includes nine sort fields.

3 Change the values of the fields to change the sorting order for the three levels of sort.

Turning Off Package Sorting

You may want to turn off package sorting within Siebel eSales to improve performance if:

■ The order in which information is returned does not matter to you.

■ You usually only have one package in a shipment.

■ Sorting is performed in middleware.

■ Sorting is performed by the carrier's shipment tracking application.

To turn off package sorting

1 In Siebel Tools, select the Shipment Tracking-Package Tracking business component.

2 Select Business Component User Prop.

3 Select the Sort Results user property.

4 Change the value from Y to N.

Shopping Service API   A

In Siebel eSales, the Shopping Cart and order management use workflows for various actions, such as checking out, editing quotes, modifying orders, and so on.

The Shopping Service business service provides methods that can be invoked in the workflows. In addition, in Siebel 7 the Add to Cart feature has been moved from the Quote business component to the Shopping Service business service. This is because business services can be accessed more universally than business components.

Therefore, the Shopping Service can support other features such as Add to Favorites, Quick Add, and Save Cart As Template. It is also easier for other applications such as Siebel eAuction, Siebel eTraining, and Siebel Partner Relationship Management to integrate with Siebel eSales order management.

The Shopping Service business service is a collection of methods, written in C++, that fall into one of three categories:

- Methods used in user actions, such as Add To Cart.

- Methods used in workflows, such as eSales - Checkout Process.

- Methods used as integration APIs for other applications, such as Siebel eAuction.

User Action Methods

These methods are invoked by actions taken by users of the Siebel eSales Web site, such as clicking Add to Cart.

AddToCart

This method is invoked to add an item to the Shopping Cart. It checks the input argument Action. Depending on the value of Action, the Shopping Cart takes different actions, as described in the Table 31.

Table 31.   Shopping Cart Actions

Action	Method Invoked
AddToCart	DefaultAddToCart
Customize	DefaultAddToCart
QuickAdd	QuickAdd
AddTrainingItem	AddTrainingItem
AddEventItem	AddTrainingItem
AddEventSessionItem	AddTrainingItem

What the AddToCart method does is to create one or more (for complex products) records in the Quote Item business component in the current quote record (indicated by CurrentQuoteId) in the Quote business component.

If the product has extended attributes, it will also copy the extended attribute values from the Product XA VBC business component to the Quote Item XA business component. The extended attributes for a product are in the XA Attribute Value business component. End users can select values for each modifiable attribute; these selections are stored in the Product XA VBC business component.

For example, if you add a product with four attributes to the Shopping Cart, you create one record in the Quote Item business component and four records in the Quote Item XA business component. The mapping is as follows:

■ Product to Quote Item

■ Product XA VBC to Quote Item XA

Expected Preconditions Before the Method Can Be Called

■ **Where AddToCart can be called.** This method can be called from either an applet or a business component. In each case, the caller function needs to call the SetBusComp method to set the current business component to the Shopping Service instance.

The Shopping Service instance needs to use the current business component to get the current business object and all the context information. Therefore, you cannot invoke this method from an applet that does not have a business component.

■ **Quote record.** The Shopping Cart is just a quote record whose row ID equals the CurrentQuoteId profile attribute. The Quote Type field value for this current quote record can be Quotation, Persistent Cart, or Anonymous Quote.

   ■ If it is Quotation, then the current quote is a normal quote.

   ■ If it is Persistent Cart, it means this application supports the Persistent Shopping Cart and this quote is the Persistent Shopping Cart for that user.

   ■ If it is Anonymous Quote, it means this application allows anonymous users to add items to the Shopping Cart and this user is an anonymous user.

■ **Price List Id, Promotion Id, and Campaign Id fields.** The current quote record has a Price List Id field, a Promotion Id field, and a Campaign Id field. The field value for Price List Id cannot be empty. The field values for Promotion Id and Campaign Id can be empty or not.

There are also three corresponding profile attributes: PromotionId, CampaignId, and PriceListId. These can be set by Siebel eMarketing when a user clicks the hyperlink on a Web offer. Therefore, the field values for Price List Id, Campaign Id, and Promotion Id in the current quote record can be different from the values in the PriceListId, CampaignId, and PromotionId profile attributes. When users add items to the Shopping Cart, these three field values in the current quote record are set to the value from the corresponding profile attributes.

■ **Internal Product by Price List Optional business component.** Underlying product business component for AddToCart, QuickAdd, and Customize.

All other business components use this business component as the proxy business component for AddToCart. This is because only this business component has extended attribute child business components such as Product XA VBC and XA Attribute Value. In addition, it is used in attribute pricing.

The user properties for the Internal Product by Price List Optional business component are listed in Table 32.

Table 32.   Internal Product by Price List Optional BC User Properties

Name	Value	Explanation
Field:Base Price	Catalog Price	The C++ code for the Shopping Service and attribute pricing refers to certain fields. Instead of hard-coding the field name in C++, this user property is used for mapping between the field to which the C++ code refers and the actual field name in the business component.
		For example, this user property indicates that the Base Price to which the C++ code refers is called Catalog Price in the Internal Product by the Price List Optional business component.
		This way, Base Price in the C++ code can be mapped to different fields in different business components.
Field:Catalog Price	Catalog Price	Similar to Field:Base Price. Used in attribute pricing.
Field:Reference Price	Reference Price	Similar to Field:Base Price. Used in attribute pricing.
Field:Price Book Id	Price Book Id	Similar to Field:Base Price. Used in attribute pricing.
Field:Promotional Price	Promotional Price	Similar to Field:Base Price. Used in attribute pricing.

Table 32.   Internal Product by Price List Optional BC User Properties

Name	Value	Explanation
Field:Quantity	Quantity	Similar to Field:Base Price. Refers to the Quantity field. Used in attribute pricing and in the Shopping Service.
Field:Your Price	Your Price	Similar to Field:Base Price. Used in attribute pricing.
Product XA	Product XA VBC	Indicates that the extended attribute to use is Product XA VBC.
SetPriceListSearch	Y	Indicates that the [Price List Id] = GetProfileAttr("PriceListId") search specification should be applied to the business component. If used, only products that are on the current price list are visible in Siebel eSales.
Use Promotional Price	Y	Used in attribute pricing. When this is Y, the Base Price equals the Promotional Price if the Promotional Price field is not empty. Otherwise, the Base Price equals the Reference Price.

- **AddToCartAutoQuote input argument.** When there is no current quote as specified by CurrentQuoteId, AddToCart will decide whether to create a new quote automatically based on certain conditions:

  - AddToCart checks the AddToCartAutoQuote input argument. If its value is Y or TRUE, AddToCart will automatically create a new quote. If its value is N or FALSE, AddToCart will not automatically create a new quote.

  - If the AddToCartAutoQuote input argument is empty, AddToCart checks the AddToCartAutoQuote server component parameter (Table 33 on page 258).

■ **AddToCartGotoView input argument.** The calling action can also specify the next view to which to navigate after finishing the AddToCart method. This is done through the AddToCartGotoView input argument:

  ■ If this input is not empty, the application will navigate to the specified view.

  ■ If this input is empty, the Shopping Service will look for the AddToCartGotoView server component parameter as defined for InfraShoppingService in the repository (Table 33).

■ **Server component parameters.** The server component parameters used by the Shopping Service business service are listed in Table 33. These parameters can be changed by navigating to Server Administration > Components > Component Parameters or by modifying the application configuration (.cfg) file.

Table 33.   Server Component Parameters in the Shopping Service

Name	Default Value	Explanation
AddToCartAutoQuote	TRUE	The value can be TRUE or FALSE. If it is TRUE, AddToCart will automatically create a new quote if there is no current quote.
AddToCartGotoView	NONE	The value can be NONE or a specific view name. If it is a specific view name, the application will navigate the user to that view after finishing the AddToCart method.
AnonymousQuote	TRUE	The value can be TRUE or FALSE. If it is TRUE, AddToCart will allow anonymous users to add items to the Shopping Cart, and it will create quotes with quote type Anonymous Quote. If it is FALSE, AddToCart will not allow anonymous users to add items to the Shopping Cart.

Table 33.   Server Component Parameters in the Shopping Service

Name	Default Value	Explanation
AutoQuoteDefaultOwner	TRUE	The value can be TRUE or FALSE. If it is TRUE, when AddToCart automatically creates a new quote, it will automatically fill in the Contact Id and Account Id fields with the current user's login ID and account ID.
PersistentShoppingCart	FALSE	The value can be TRUE or FALSE. If it is TRUE, the application will support the Persistent Shopping Cart. The quote created by AddToCart will have type Persistent Cart. When the user logs in to the application, the run-time event will trigger the eSales Web Login Action Set. The SetShoppingCart method in that action set will load the quote with type Persistent Cart for that user.
ProductDetailView	Product Detail - Features View (eSales)	Specifies the view name for the Product Detail view.
ShoppingCartView	NONE	Specifies the view for the Shopping Cart.

■ **Business object must include all necessary business components.** The list of business components that must be in the business object calling the AddToCart method is shown in Table 34, using the Catalog business object as an example.

Table 34.   Necessary Business Components in the Business Object

Business Component	Link	Comment
Internal Product by Price List Optional		Underlying business component for AddToCart, QuickAdd, and Customize. All other business components by default use this business component as the AddToCart Proxy Buscomp.
Internal Product by Price List Optional 2	Catalog Category/ Internal Product by Price List Optional 2	Used in the Product list applet for AddToCart. This business component uses Internal Product by Price List Optional as the AddToCart Proxy Buscomp.
XA Attribute Value	Internal Product by Price List Optional/XA Attribute Value	Needed for extended attributes.
Product XA VBC		Needed for extended attributes.
Product XA VBC Form	Internal Product by Price List Optional/Product XA VBC Form	Needed for extended attributes.
Quote		
Quote Item	Quote/Quote Item	
Quote Item XA		
Training Class Registration		Needed for AddTrainingItem.
eEvents Event Attendee		Needed for AddTrainingItem.
eEvents Session Attendee		Needed for AddTrainingItem.

Table 34.   Necessary Business Components in the Business Object

Business Component	Link	Comment
Favorite List		Needed for AddToFavoriteList.
Favorite List Item	Favorite List/Favorite List Item	Needed for AddToFavoriteList.

Arguments

The AddToCart method has the arguments shown in Table 35.

Table 35.   AddToCart Arguments

Name	Type	Data Type	Optional	Comments
Action	Input	String	Y	Specifies the action to take. Action can take the following values: ■ AddToCart ■ Customize ■ QuickAdd ■ AddTrainingItem ■ AddEventItem ■ AddEventSessionItem
AddToCart Quote Fields	Input	String	Y	Concatenated string of Quote business component field name/value pairs. AddToCart deconstructs this string and sets the corresponding fields in the Quote business component.
AddToCart AutoQuote	Input	String	Y	Used to decide whether to create a new quote automatically if there is no current quote. If empty, AddToCart will look for the server component parameter with the same name.

Table 35.   AddToCart Arguments

Name	Type	Data Type	Optional	Comments
AddToCart GotoView	Input	String	Y	Used to decide to which view to navigate after completing adding an item. If empty, AddToCart will look for the server component parameter with the same name.
Source Currency Code	Input	String	Y	Specifies the currency code for the price. If not empty and not equal to the currency code in the quote, AddToCart will do the currency conversion and set the converted Price field in the quote item.
Quote Id	Output	String	Y	Returns the quote ID for the current quote.
Quote Item Id	Output	String	Y	Returns the quote item ID.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm for AddToCart

Follow these steps when using a pseudo-algorithm for AddToCart:

1 Call CanAddToCart method to check if can add item to the Shopping Cart:

If the CurrentQuoteId profile attribute is not empty and is a valid quote ID, return TRUE;

else if the AddToCartAutoQuote input argument is TRUE, return TRUE;

else if the AddToCartAutoQuote server component parameter is TRUE, return TRUE;

else return FALSE.

2 Check the Action input argument:

If Action = AddTrainingItem or AddEventItem or AddEventSessionItem, call the AddTrainingItem method;

Else if Action = QuickAdd, call the QuickAdd method;

Else if Action = AddToCart or Customize:

Call the DefaultAddToCart method.

3 Call the PostAddToCart method.

Pseudo-Algorithm for DefaultAddToCart

Follow these steps when using a pseudo-algorithm for DefaultAddToCart:

1 Get the Quote, Quote Item, and Quote Item XA business components.

2 Call AddHeader to make sure there is a current quote for adding an item, What AddHeader is doing is to make sure if there is a current quote, if there is not current. AddHeader will create a new quote and set the CurrentQuoteID profile attribute value to the Row ID of the newly created quote record.

3 Create a new record in the Quote Item business component.

4 Populate that line item with information from Product the user has selected.

5 Check the Action input argument:

If Action = Customize, then call ReConfigCxProd to launch the customizable product run-time view.

6 End.

Pseudo-Algorithm for PostAddToCart

Follow these steps when using a pseudo-algorithm for PostAddToCart:

1 Check the Action input argument:

If Action = Customize, End;

Else go to step 2.

2 Check the AddToCartGotoView input argument:

If not empty, then navigate to that view and End;

Else go to step 3.

3 Check the AddToCartGotoView server component parameter:

If not empty and < > NONE, then navigate to that view and End;

Else End.

AddToFavoriteList

This method is invoked to add items to the Favorites list.

Expected Preconditions Before the Method Can Be Called

When calling this method, you need to make sure the business components that are shown in Table 36 are in the business object, using the Catalog business object as an example.

Table 36.   Necessary Business Components in the Business Object

Business Component	Link	Comment
Internal Product by Price List Optional		Product business component used in Siebel eSales.
Internal Product by Price List Optional 2	Catalog Category/Internal Product by Price List Optional 2	Business component used in product list applet.
Favorite List		Favorite List business component.
Favorite List Item	Favorite List/Favorite List Item	Favorite List Item business component.

Arguments

The AddToFavoriteList method has the arguments shown in Table 37.

Table 37.   AddToFavoriteList Arguments

Name	Type	Data Type	Optional	Comments
Action	Input	String	Y	Equals AddToFavoriteList.
Product Id	Input	String	Y	If this input is not empty, add the product specified by this ID to the Favorites list. Otherwise, assume the current record in the current business component is the item to add to the Favorites list.

Table 37.   AddToFavoriteList Arguments

Name	Type	Data Type	Optional	Comments
GotoView	Input	String	Y	If this input is not empty, AddToFavoriteList will navigate to this view after completing the AddToFavoriteList action.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 If the user is an anonymous user, End.

2 Get the Favorite List and Favorite List Item business components.

3 Query the Favorite List business component with the search specification
`[Person Id] = LoginId;`

If there is a existing record, go to step 4;

Else create a new record and set [Person Id] to current login ID.

4 Query the Favorite List Item business component with the search specification
`[Product Id] = input product ID;`

If there is an existing record, go to step 5;

Else create a new record and set [Product Id] to input product ID.

5 If GotoView input argument is not empty, navigate to the specified view and End;

Else check the Favorite List View user property in the Shopping Service business service:

If this value is empty, End;

Else navigate to this view and End.

SetShoppingCart

This method is used in run-time event action sets to support the Persistent Shopping Cart and anonymous users adding items to the Shopping Cart.

SetShoppingCart is used in the eSales WebLogin Action Set. This action set is associated with the WebLogin run-time event for the Siebel eSales application object. When a Siebel eSales user logs in, the WebLogin run-time event is triggered. This in turn triggers the eSales Web Login Action Set and executes the SetShoppingCart method.

The method checks if there is already a current quote in the session as indicated by the CurrentQuoteId profile attribute:

■ If this profile attribute is empty, it determines if there is any quote of type Persistent Cart associated with the user. If there is one, it loads that quote and sets the CurrentQuoteId profile attribute to that quote ID.

■ If CurrentQuoteId is already set, it checks if the quote type is Anonymous Quote and converts it to Persistent Cart if it is.

Expected Preconditions Before the Method Can Be Called

■ The following server component parameters must be set to TRUE:

- ■ PersistentShoppingCart

- ■ AnonymousQuote

■ To use this method, you need to create an action set with an action that invokes this method. For example, the actions in the eSales Web Login Action Set are shown in Table 38.

Table 38.   eSales Web Login Action Set Actions

Action	Business Service	InvokeMethod
SetPriceList	Pricing Manager	SetPriceList
SetShoppingCart	Shopping Service	SetShoppingCart

After that, you need to associate this action set with the WebLogin run-time event for the application. The following applications use the eSales WebLogin Action Set:

- ■ Siebel Partner Relationship Management

- ■ Siebel eCustomer

- ■ Siebel eSales

Arguments

None.

Pseudo-Algorithm

1 If the Is Anonymous profile attribute = TRUE, End.

2 Check the CurrentQuoteId profile attribute:

If empty or = EMPTY_CART, there is no current quote. Go to step 3;

Else go to step 4.

3 Get the Catalog business object and the Quote, Quote Item, and Quote Item XA business components. Query the Quote business component with the search specification `[Contact Id] = LoginId () AND [Quote Type] = LookupValue ('QUOTE_TYPE', 'Persistent Cart')` to find the quote record of type Persistent Cart for that user. One or zero records will be returned.

If one record is returned, the user has a Persistent Cart. Set the CurrentQuoteId profile attribute to the record ID, then go to step 8.

4 Get the Catalog business object and the Quote, Quote Item, and Quote Item XA business components. Query the Quote business component with the search specification `[Id] = GetProfileAttr("CurrentQuoteId")` to get the current quote. Check the Quote Type field value:

If [Quote Type] = LookupValue ('QUOTE_TYPE', 'Anonymous Quote'), the current quote is an anonymous user's Shopping Cart. Go to step 5;

Else, go to step 6.

5 Before converting Anonymous Quote to Persistent Cart, it is necessary to check if the user already has a Persistent Shopping Cart. Get a second instance of the Catalog business object and the Quote, Quote Item, and Quote Item XA business components. Query the second instance of the Quote business component with the search specification `[Contact Id] = LoginId () AND [Quote Type] = LookupValue ('QUOTE_TYPE', 'Persistent Cart')`. It will return one or zero records.

If it returns no records, go to step 6;

If it returns one record, it is necessary to resolve the conflict between the anonymous quote and an existing persistent Shopping Cart. Go to step 7.

6 Convert Anonymous Quote to Persistent Cart:

Set [Account Id] to the account ID of the current user;

Set [Contact Id] to the login ID of the current user;

Set [Quote Type] to LookupValue ('QUOTE_TYPE', 'Persistent Cart');

Set [Price List Id] to the current price list ID;

End.

7 There are two quote records: the quote record in the first Quote instance is the Anonymous Quote; the record in the second Quote instance is the previous Persistent Shopping Cart. Save the previous Persistent Shopping Cart as a quote with a name.

8 If the price list in the current quote is different from the current price list, set [Price List Id] to the current price list ID in the system.

SetApplicationName

This method sets the ApplicationName profile attribute, which is used in workflow branching conditions and in Siebel Personalization to hide or show an applet in a view for various applications.

SetApplicationName is used in the eSales WebSessionStart Action Set. This action set is associated with the WebSessionStart run-time event for the Siebel eSales application object. When a Web session starts (usually the first time a user visits the Web site), this event is triggered. This in turn triggers the eSales Web Session Start Action Set, executing the SetApplicationName method. The ApplicationName profile attribute is set to the name for the application that is running.

Expected Preconditions Before the Method Can Be Called

To use this method, you need to create an action set and invoke this method from an action in the action set, as shown for the eSales WebSessionStart Action Set in Table 39.

Table 39.   Sales WebSessionStart Action Set

Action	Business Service	InvokeMethod
SetApplicationName	Shopping Service	SetApplicationName

The following applications use the eSales WebSessionStart Action Set:

■ Siebel Call Center

■ Siebel Partner Relationship Management

■ Siebel eCustomer

■ Siebel eEvents Management

■ Siebel eSales

■ Siebel eService

■ Siebel eTraining

■ Siebel Marketing

Arguments
None.

Pseudo-Algorithm
Get the application name and set the ApplicationName profile attribute.

OrderTemplate

OrderTemplate copies all the line items from a template to the Shopping Cart. The behavior is similar to AddToCart; the difference is that when you order a template, you add several line items to the Shopping Cart. Each line item will have the quantity specified in the template.

A template is a quote of type Template, so template records are a subset of quote records. Templates have a similar structure to quotes: there is a 1:1 mapping between template and quote business components:

■ Quote Template to Quote

■ Quote Template Item to Quote Item

■ Quote Template Item XA to Quote Item XA

Expected Preconditions Before the Method Can Be Called

OrderTemplate uses field maps defined in the Shopping Service business service user properties to copy field values from Quote Template Item to Quote Item and from Quote Template Item XA to Quote Item XA. The field maps are shown in Table 40 and Table 41.

Table 40. Quote Template Item to Quote Item Field Map

Name	Value
Quote Template Item|Quote Item FieldMap 100	Product Id|Product Id
Quote Template Item|Quote Item FieldMap 101	Quantity Requested|Quantity Requested
Quote Template Item|Quote Item FieldMap 102	Adjusted Reference Price|Adjusted Reference Price
Quote Template Item|Quote Item FieldMap 103	Base Price|Base Price
Quote Template Item|Quote Item FieldMap 104	Unit Price|Unit Price
Quote Template Item|Quote Item FieldMap 105	Product|Product
Quote Template Item|Quote Item FieldMap 106	Product Port Id|Product Port Id
Quote Template Item|Quote Item FieldMap 107	End

Table 41. Quote Template Item XA to Quote Item XA Field Map

Name	Value
Quote Template Item XA|Quote Item XA FieldMap 100	Attribute Id|Attribute Id
Quote Template Item XA|Quote Item XA FieldMap 101	Name|Name
Quote Template Item XA|Quote Item XA FieldMap 102	Display Name|Display Name
Quote Template Item XA|Quote Item XA FieldMap 103	Read Only|Read Only
Quote Template Item XA|Quote Item XA FieldMap 104	Data Type|Data Type
Quote Template Item XA|Quote Item XA FieldMap 105	LOV Type|LOV Type

Table 41. Quote Template Item XA to Quote Item XA Field Map

Name	Value
Quote Template Item XA|Quote Item XA FieldMap 106	Value|Value
Quote Template Item XA|Quote Item XA FieldMap 107	End

The OrderTemplate method has the arguments shown in Table 42.

Table 42. OrderTemplate Arguments

Name	Type	Data Type	Optional	Comments
Template Id	Input	String	Y	Not used, as OrderTemplate is always row-sensitive.
ReturnVal	Output	String	Y	Returns Success or Fail depending on whether AddItem succeeds or not.

Pseudo-Algorithm

1 Get the Quote Template, Quote Template Item, Quote Template Item XA, Quote, Quote Item, and Quote Item XA business components.

The Quote Template business component is already positioned on the correct record, as the OrderTemplate method is row-sensitive.

2 Call the AddHeader method to make sure there is a Shopping Cart.

3 Loop through each record in the Quote Template Item business component and create a corresponding record in the Quote Item business component. Use the field maps to copy fields from Quote Template Item to Quote Item, then copy the child records from Quote Template Item XA to Quote Item XA.

NOTE: As Quote Item and Quote Template Item have hierarchies, you cannot simply loop through the records in Quote Template Item and copy them to Quote Item. You need to maintain the hierarchical relationship. To do this, you need to copy the parent record before you copy its child records.

In the Shopping Service implementation, records are first loaded from Quote Template Item and a tree in the memory is generated. The tree is then traversed from the root, so the parent record is copied before the child records.

Workflow Methods

These methods are invoked by Siebel eSales workflows.

SaveCartAsTemplate

SaveCartAsTemplate generates a template from a quote. The implementation is Template (see "OrderTemplate" on page 271) with some special considerations, such as you cannot copy a Siebel eAuction, Siebel eTraining, or Siebel eEvents Management line item into a template.

Expected Preconditions Before the Method Can Be Called

Field maps are used to copy fields from the Quote to Quote Template, Quote Item to Quote Template Item, and Quote Item XA to Quote Template Item XA business components.

Example sample field maps are shown in Table 43. See the Shopping Service business service user properties in Siebel Tools for more details.

Table 43. Sample Field Maps for the SaveCartAsTemplate Method

Name	Value
Quote|Quote Template FieldMap 100	Contact Id|Contact Id
Quote Item|Quote Template Item FieldMap 100	Product Id|Product Id
Quote Template Item XA|Quote Item XA FieldMap 100	Attribute Id|Attribute Id

Arguments

The SaveCartAsTemplate method has the arguments shown in Table 44.

Table 44.   SaveCartAsTemplate Arguments

Name	Type	Data Type	Optional	Comments
Quote Name	Input	String	Y	Saves the Shopping Cart as a template with this name.
Quote Name Field	Input	String	Y	Tells the Shopping Service which field is the quote name. By default, it is Name if this input argument is not used.
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way, the Shopping Service will not return an error but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote Template, Quote Template Item, Quote Template Item XA, Quote, Quote Item, and Quote Item XA business components.

The Quote Template business component is already positioned on the correct record, as the OrderTemplate method is row-sensitive.

2 Check the Quote Name input argument. Query the Quote business component to see if there is an existing record with the same name.

If there is, go to step 3;

Else go to step 4.

As Quote Template is a special type of Quote, the Quote business component can be used to search both Quote and Quote Template.

3 Set Error Message to indicate there is a duplicate name. Check the Return Error Code input argument.

If Return Error Code = N, do not return an error;

Else return an error.

4 Create a record in the Quote Template business component. Use the Quote to Quote Template field maps to copy fields from the record in the Quote business component to the record in the Quote Template business component. Set the Name to the Quote Name input argument.

5 Copy each record in the Quote Item business component to the Quote Template Item business component, but skip line items that are Siebel eAuction or Siebel eTraining items by checking the Class Registration Id and Auction Item Id.

NOTE: As in the OrderTemplate method, make sure the hierarchical relationship is copied correctly by copying each parent record before its child records. Also copy the child records from Quote Item XA to Quote Template XA.

SaveCartAsQuote

SaveCartAsQuote saves the Shopping Cart (current quote record) as a quote.

Expected Preconditions Before the Method Can Be Called

- This method is invoked in the following workflows:

  - eSales - Save Cart Process

  - eSales - Edit Quote Process

  - eSales - Order Quote Process

  - eSales - Modify Order Process

  - eSales - Reorder Process

- The field value of Quote Type for the current quote record can be Persistent Cart, Auction Quote, Quotation, or Anonymous Quote. Anonymous users cannot call SaveCartAsQuote, so only the first three quote types can be saved.

  If the quote type is Persistent Cart, SaveCartAsQuote changes the type to Quotation. Otherwise, it does not change the quote type.

Arguments

The SaveCartAsQuote method has the arguments shown in Table 45.

Table 45.   SaveCartAsQuote Arguments

Name	Type	Data Type	Optional	Comments
Quote Name	Input	String	Y	Saves the Shopping Cart as a quote with this name.
Quote Name Field	Input	String	Y	Tells the Shopping Service which field is the quote name. By default, it is Name if this input argument is not used.

Table 45. SaveCartAsQuote Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors.
				When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote business component.

2 Get the Id of the current record in the Quote business component:

If Id < > CurrentQuoteId profile attribute, go to step 3;

Else go to step 4.

3 SaveCartAsQuote is being invoked from the eSales - Edit Quote Process, eSales - Order Quote Process, eSales - Modify Order Process, or eSales - Reorder Process workflow. The current record in the Quote business component is the quote being acted upon, and it is not the current quote in the Shopping Cart.

Get another instance of the Catalog business object and the Quote business component, and position the second instance of the Quote business component on the quote record as indicated by the CurrentQuoteId profile attribute. As the first instance of the Quote business component is not being acted upon, from now on Quote means the second instance of the Quote business component.

4 Check the Quote Name input argument. Query the Quote business component to see if there is an existing record with the same name:

If there is, go to step 5;

Else go to step 6.

5 Set the Error Message output argument to indicate that there is a duplicate name. Check the Return Error Code input argument:

If Return Error Code = N, do not return an error;

Else return an error.

6 Set the Name field with the Quote Name input argument. Check the field value of [Quote Type]:

If it is Persistent Cart, then change it to Quotation.

DiscardCart

DiscardCart discards the Current Quote and clears the CurrentQuoteId profile attribute. If the current quote type is Persistent Cart or Anonymous Quote, it will also delete the record from the Quote business component.

Expected Preconditions Before the Method Can Be Called

■ This method is invoked in the following workflows:

- ■ eSales - Edit Quote Process

- ■ eSales - Order Quote Process

- ■ eSales - Modify Order Process

- ■ eSales - Reorder Process

It is also invoked by the Empty Cart button in the Shopping Cart.

■ The field value of Quote Type for the current quote record can be Persistent Cart, Auction Quote, Quotation, or Anonymous Quote. When the quote type is Persistent Cart or Anonymous Quote, the quote record is deleted.

Arguments

The DiscardCart method has the arguments shown in Table 46.

Table 46.   DiscardCart Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors.
				When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote business component.

2 Get the Id of the current record in the Quote business component:

If Id < > CurrentQuoteId profile attribute, go to step 3;

Else go to step 4.

3 DiscardCart is being invoked from the eSales - Edit Quote Process, eSales - Order Quote Process, eSales - Modify Order Process, or eSales - Reorder Process workflow. The current record in the Quote business component is the quote being acted upon, and it is not the current quote in the Shopping Cart.

Get another instance of the Catalog business object and the Quote business component, and position the second instance of the Quote business component on the quote record as indicated by the CurrentQuoteId profile attribute. As the first instance of the Quote business component is not being acted upon, from now on Quote means the second instance of the Quote business component.

4 Set the CurrentQuoteId profile attribute = EMPTY_CART.

5 Check the field value of [Quote Type]:

If it is Persistent Cart or Anonymous Quote, then delete the record.

OrderQuote

OrderQuote is called in the eSales - Checkout Process workflow. It checks if there are any line items in the Shopping Cart. It returns an error if the Shopping Cart does not have any line items. It also sets the CurrentCheckOutQuoteId profile attribute.

Expected Preconditions Before the Method Can Be Called

This method is invoked in the eSales - Checkout Process workflow. The sequence called is OrderQuote, then ValidQuote (see "ValidQuote" on page 283), and then RemoveInvalidItems (see "RemoveInvalidItems" on page 285).

Arguments

The OrderQuote method has the arguments shown in Table 47.

Table 47.   OrderQuote Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
Quote Id	Input	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote and Quote Item business components.

2 If there are any records in the Quote Item business component, go to step 3;

Else go to step 4.

3 Set the CurrentCheckOutQuoteId profile attribute.

4 Set the Error Message output argument if there is any error;

If Return Error Code = N, do not return an error;

Else return an error.

ValidQuote

ValidQuote is called in the eSales - Checkout Process workflow to validate the line items in the Shopping Cart. Valid line items are those that do not have an empty Base Price field in the Quote Item business component.

ValidQuote sets the Invalid output argument to Y if there are any line items that are invalid, and also sets Invalid Flag field for each line item that is invalid. The Invalid Flag field is a virtual field in the Quote Item business component that is persistent in the session.

Expected Preconditions Before the Method Can Be Called

■ This method is invoked in the eSales - Checkout Process workflow. The sequence called is OrderQuote (see "OrderQuote" on page 282), then ValidQuote, and then RemoveInvalidItems (see "RemoveInvalidItems" on page 285).

■ This method only checks the Base Price field in the Quote Item business component. If this field is empty for a record, then the record is invalid. You can override this method to do your own validity checking.

Arguments

The ValidQuote method has the arguments shown in Table 48.

Table 48. ValidQuote Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
Invalid	Output	String	Y	Returns Y if there are any invalid items in the Shopping, Cart. Else returns N.
Quote Id	Input	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote and Quote Item business component. Create a variable invalidFlag = N.

2 For each record in the Quote Item business component, check the Base Price field:

   If this field is empty, set invalidFlag = Y and set the Invalid Flag field = Y for that record.

3 Set the Invalid output argument = invalidFlag.

4 Set the Error Message output argument if there is any error;

If Return Error Code = N, do not return an error;

Else return an error.

RemoveInvalidItems

RemoveInvalidItems is called in Check Out workflow. It deletes each record in the Quote Item business component whose Invalid Flag is Y.

Expected Preconditions Before the Method Can Be Called

■ This method is invoked in the eSales - Checkout Process workflow. The sequence called is OrderQuote (see "OrderQuote" on page 282), then ValidQuote (see "ValidQuote" on page 283), and then RemoveInvalidItems.

■ This method only checks the Base Price field in the Quote Item business component. If this field is empty for a record, then the record is invalid. You can override this method to do your own validity checking.

Arguments

The RemoveInvalidItems method has the arguments shown in Table 49.

Table 49.   RemoveInvalidItems Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.

Table 49.   RemoveInvalidItems Arguments

Name	Type	Data Type	Optional	Comments
Invalid	Input	String	Y	If equal to N, do nothing. Else loop through each line item to delete invalid items.
Quote Id	Input	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote and Quote Item business components.

2 Check the Invalid input argument:

If Invalid = N, go to step 4.

3 For each record in the Quote Item business component, check the Invalid Flag field:

If the field value is Y, delete the record.

4 Set the Error Message output argument if there is any error;

If Return Error Code = N, do not return an error;

Else return an error.

CreateOrder

CreateOrder method creates an order from the current quote. It creates a record in the Order Entry - Orders business component. It copies records from the child business component Quote Item to Order Entry - Line Items and from the grandchild business component Quote Item XA to Order Item XA.

Expected Preconditions Before the Method Can Be Called

Field maps are used to copy fields from the Quote to Order Entry - Orders, Quote Item to Order Entry - Line Items, and Quote Item XA to Order Item XA business components.

Example sample field maps are shown in Table 50. See the Shopping Service business service user properties in Siebel Tools for more details.

Table 50.   Sample Field Maps for the CreateOrder Method

Name	Value
Quote|Order FieldMap 100	Contact Id|Contact Id
Quote Item|Order Item FieldMap 100	Class Registration Id|Class Registration Id
Quote Item XA|Order Item XA FieldMap 101	Name|Name

Arguments
The CreateOrder method has the arguments shown in Table 51.

Table 51.   CreateOrder Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
Quote Id	Input	String	Y	Not used.
Order Id	Output	String	Y	ID of the order record that is created.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Quote, Quote Item, Quote Item XA, Order Entry - Orders, Order Entry - Line Items, and Order Item XA business components.

The Quote business component is already positioned on the correct record, as the CreateOrder method is row-sensitive.

2 Create a record in the Order Entry - Orders business component. Use Quote|Order FieldMap n to copy fields from the Quote business component to the Order Entry - Orders business component.

3 For each record in the Quote Item business component, copy it to the Order Entry - Line Items business component using the Quote Item|Order Item FieldMap n field maps. To maintain hierarchical relationships, copy the parent record before copying its child records. Also copy records from the grandchild business component Quote Item XA to Order Item XA.

NOTE: As Quote Item and Order Entry - Line Items have hierarchies, you cannot simply loop through the records in Quote Item and copy them to Order Entry - Line Items. You need to maintain the hierarchical relationship. To do this, you need to copy the parent record before you copy its child records.

In the Shopping Service implementation, records are first loaded from Quote Item and a tree in the memory is generated. The tree is then traversed from the root, so the parent record is copied before the child records.

4 When doing step 3, for each record in the Quote Item business component:

If the record is a Siebel eTraining item, confirm the registration record in the eTraining business component.

5 Set the CurrentOrderId profile attribute to the order that is created;

Set the Order Id output argument;

Clear the CurrentCheckOutQuoteId profile attribute;

If the Id of the quote record equals the CurrentQuoteId profile attribute, clear the CurrentQuoteId profile attribute by setting it = EMPTY_CART.

6 Set the Error Message output argument if there is any error;

If Return Error Code = N, do not return an error;

Else return an error.

Reorder

Reorder is the reverse of CreateOrder. It creates a quote from an existing order.

Expected Preconditions Before the Method Can Be Called

■ You cannot reorder Siebel eAuction or Siebel eTraining items. The Shopping Service skips those line items in the order.

■ Because of this, if you are also using Siebel eTraining or Siebel eAuction, you must make sure that the eSales - Cancel Order Process and eSales - Modify Order Process workflows are not available for orders that contain Siebel eTraining or Siebel eAuction items. You should also disable the Cancel and Modify Order buttons in the My Orders view for orders that contain Siebel eTraining or Siebel eAuction items.

■ Field maps are used to copy fields from the Order to Quote and Order Entry - Line Items to Quote Item business components, in the reverse of the CreateOrder method. Field maps are used to copy records from the Order Item XA to the Quote Item XA business component.

Example sample field maps are shown in Table 52. See the Shopping Service business service user properties in Siebel Tools for more details.

Table 52. Sample Field Maps for the Reorder Method

Name	Value
Quote|Order FieldMap 100	Contact Id|Contact Id
Quote Item|Order Item FieldMap 100	Class Registration Id|Class Registration Id
Quote Template Item XA|Quote Item XA FieldMap 100	Attribute Id|Attribute Id

Arguments

The Reorder method has the arguments shown in Table 53.

Table 53.   Reorder Arguments

Name	Type	Data Type	Optional	Comments
Return Error Code	Input	String	Y	If equal to N, the method will not return errors. When a method returns an error, the workflow stops. In order not to kill the workflow, you can set this input to N. This way the Shopping Service will not return an error, but instead will save the error message in the output argument Error Message. You can then handle the error message as you wish.
Error Message	Output	String	Y	Stores error messages.
Quote Id	Output	String	Y	ID of the quote that is created.
Order Id	Output	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get the Order Entry - Orders, Order Entry - Line Items, and Order Item XA business components. Get an instance of the Catalog business object and of the Quote, Quote Item, and Quote Item XA business components from this Catalog business object instance.

The Order Entry - Orders business component is already positioned on the correct record, as the Reorder method is row-sensitive.

2 Create a record in the Quote business component. Use Quote|Order FieldMap n to copy fields from the Order Entry - Orders business component to Quote.

3 For each record in the Order Entry - Line Items business component, copy it to the Quote Item business component using Quote Item|Order Item FieldMap *n* field maps. To maintain hierarchical relationships, copy the parent record before copying its child records. Also copy records from the grandchild business component Order Item XA to Quote Item XA.

NOTE: As Order Entry - Line Items and Quote Item have hierarchies, you cannot simply loop through the records in Order Entry - Line Items and copy them to Quote Item. You need to maintain the hierarchical relationship. To do this, you need to copy the parent record before you copy its child records.

In the Shopping Service implementation, records are first loaded from Order Entry - Line Items and a tree in the memory is generated. The tree is then traversed from the root, so the parent record is copied before the child records.

4 When doing step 3, for each record in the Order Entry - Line Items business component:

If the record is a Siebel eTraining item, confirm the registration record in the eTraining business component.

5 Set the Error Message output argument if there is any error;

If Return Error Code = N, do not return an error;

Else return an error.

GetShoppingCartStatus

GetShoppingCartStatus is called to get the status of the Shopping Cart (current quote as indicated by the CurrentQuoteId profile attribute). It returns three output arguments: Status, Quote Type, and Count.

Expected Preconditions Before the Method Can Be Called

None.

Arguments

The GetShoppingCartStatus method has the arguments shown in Table 54.

Table 54.   GetShoppingCartStatus Arguments

Name	Type	Data Type	Optional	Comments
Quote Type	Output	String	Y	Type of the current quote record. If Persistent Cart, check Status and Count to determine whether the quote is empty or not. If not Persistent Cart, Status will always be Empty and Count will always be 0 even though the current quote record might contain line items.
Status	Output	String	Y	Can be Empty or Not Empty.
Count	Output	String	Y	Number of line items in the Shopping Cart.
Quote Id	Input	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 If CurrentQuoteId is empty or equals to EMPTY_CART:

   Set Quote Type = Quotation;

   Set Status = Empty;

   Set Count = 0;

   End.

2 If Quote Type is not Persistent Cart:

   Set Quote Type accordingly;

   Set Status = Empty;

   Set Count = 0;

   End.

3 Loop through the Quote Item business component. Set Status and Count accordingly.

MoveToCart

MoveToCart moves a quote record into the Shopping Cart. By doing this, it sets the CurrentQuoteId profile attribute to the quote record ID. It also sets the Price List Id field value of this quote to the current price list for the session as indicated by the PriceListId profile attribute, for users associated with an account that has a default price list, and by DefaultPriceListId for users who are not associated with such an account. This will trigger a reprice if the price list for this quote has been changed.

In addition, if the field value of Quote Type is not Auction Quote, it will change the quote type to Persistent Cart if the application supports persistent Shopping Carts. For applications that do not support Shopping Carts, the Shopping Service will not change the quote type.

Expected Preconditions Before the Method Can Be Called

■ This method is invoked in the following workflows:

   ■ eSales - Edit Quote Process

   ■ eSales - Order Quote Process

   ■ eSales - Modify Order Process

   ■ eSales - Reorder Process

■ The field value of Quote Type for the current quote record can be Persistent Cart, Auction Quote, or Quotation. When the quote type is not Auction Quote, if the application supports persistent Shopping Carts, the quote type is changed to Persistent Cart.

Arguments

The MoveToCart method has the arguments shown in Table 55.

Table 55.   MoveToCart Arguments

Name	Type	Data Type	Optional	Comments
Quote Id	Input	String	Y	Not used.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Set the CurrentQuoteId profile attribute to the quote record ID. As the MoveToCart method is row-sensitive, the current record in the Quote business component is the record to move to the Shopping Cart.

2 If the PriceListId profile attribute is not empty and if the Price List Id field in this quote record < > PriceListId profile attribute, then change the Price List Id for this quote. This triggers a reprice. Note that you need to use DefaultPriceListId instead of PriceListId if the user is not associated with an account that has a default price list.

3 If Quote Type is not Persistent Cart or Auction Quote, change it to Persistent Cart.

RepriceQuote

RepriceQuote reprices the quote.

Expected Preconditions Before the Method Can Be Called
None.

Arguments
The RepriceQuote method has the arguments shown in Table 56.

Table 56.   RepriceQuote Arguments

Name	Type	Data Type	Optional	Comments
Quote Id	Input	String	Y	ID for the quote record to be repriced.
Error Message	Output	String	Y	Error message, if any.
Return Error Code	Input	String	Y	Does not return an error if equal to N.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Position the Quote business component on the record indicated by the Quote Id input argument.

2 Call Pricing Manager to get the current price list ID:

If this price list ID is different from the quote record's price list Id, then change the quote record's price list ID.

SelectPrimary

This method is used to select a row from the picklist.

Expected Preconditions Before the Method Can Be Called
None.

Arguments
The SelectPrimary method has the arguments shown in Table 57.

Table 57.   SelectPrimary Arguments

Name	Type	Data Type	Optional	Comments
PickList Field	Input	String	Y	Name of the field that has the picklist.
Primary ID Field	Input	String	Y	Primary Id field.
Primary Row Id	Input	String	Y	Row ID for the picklist.
ReturnVal	Output	String	Y	Returns Success or Fail. Not used.

Pseudo-Algorithm

1 Get and check the input arguments.

2 Get the picklist business component from the Quote business component with the PickList Field input argument.

3 Set the search specification using either the Primary Row Id or Primary ID Field input argument.

4 Pick the first row if an active row exists;

   Else clear the picklist.

5 Write and refresh the business component.

SetBusCompFields

This method is used to set a list of fields in a business component.

Expected Preconditions Before the Method Can Be Called

None.

Arguments

The SetBusCompFields method has the arguments shown in Table 58.

Table 58.   SetBusCompFields Arguments

Name	Type	Data Type	Optional	Comments
Business Object	Input	String	N	Business object.
Business Component	Input	String	N	Business component.
Search Field	Input	String	Y	Field on the business component.
Search Value	Input	String	Y	Value to be set to the search specification.
< Field Name1 >	Input	String	Y	Name/value pair.
< Field Name2 >	Input	String	Y	Name/value pair.

Pseudo-Algorithm

1 Get the required inputs to get an instance of the business component.

2 Get the search specification fields:

   If they are passed, then set the search specification on the business component.

3 Query the business component if it has not been queried or if the search specification is passed.

4 Go through all the input arguments for < Field Name n > and set the value to the business component.

5 Write to the record.

ValidatePayment

This method is used to validate the payment information for either a purchase order or a credit card.

Expected Preconditions Before the Method Can Be Called
None.

Arguments
The ValidatePayment method has the arguments shown in Table 59.

Table 59.   ValidatePayment Arguments

Name	Type	Data Type	Optional	Comments
PO Number	Input	String	N	Purchase order number.
Credit Card Number	Input	String	Y	Credit card number.
Credit Card Type	Input	String	Y	Credit card type.
Expiration Month	Input	String	Y	Expiration month.
Expiration Year	Input	String	Y	Expiration year.
Return Error Code	Input	String	N	Does not return an error if equal to N.
Error Message	Output	String	N	Error message, if any.

NOTE: If you want to perform credit card validation on a business component other than Quote, the business component must be either based on the CSSBCBase class, based on a class that is itself based on the CSSBCBase class, or based on a class that inherits from the CSSBCBase class, such as CSSBCQuote. For more information, see the section on credit card user properties in *Siebel Tools Reference*.

Pseudo-Algorithm

1 Check what kind of payment is entered by checking the PO Number and Credit Card Number input arguments.

2 If PO Number has a value, then the payment information is valid.

3 If Credit Card Number has a value, then get all the required fields.

4 Pass the credit card information to the Credit Card Transaction Service business service to validate the information.

ValidateAddress

This method is used to validate the address information by checking to see that the necessary information has been entered. Input argument names are used in any error messages.

Expected Preconditions Before the Method Can Be Called

None.

Arguments

The ValidateAddress method has the arguments shown in Table 60.

Table 60.   ValidateAddress Arguments

Name	Type	Data Type	Optional	Comments
Street Address	Input	String	N	
State	Input	String	N	
City	Input	String	N	
Country	Input	String	N	
Postal Code	Input	String	N	
Return Error Code	Input	String	N	Do not return an error if equal to N.
Error Message	Output	String	N	Error message, if any.

Pseudo-Algorithm

Go through all the input arguments and make sure that the values are not null.

Siebel eAuction Integration Methods

The following methods are used in integration with Siebel eAuction. As they are not used in workflows and should not be customized, they are described here only briefly.

Siebel eAuction needs to call three methods sequentially to create a quote:

- **CreateAuctionQuote.** Called by Siebel eAuction to create a quote for auction items. The quote type used is Auction Quote.

- **AddAuctionQuoteItem.** Adds an auction item to the quote created in the CreateAuctionQuote method. AddAuctionQuoteItem might be called several times, once for each auction item.

- **CommitAuctionQuote.** Commits the auction quote.

For more information on Siebel eAuction, see *Siebel eAuction Guide*.

Index

Refund credit card charge modification,
about   154
refund credit card charge, procedure   158
Refund, Credit Card Transaction Service
business method, described   168
Reject Order Process, workflow   114
release, what's new   14
RemoveInvalidItems method
arguments (table)   285
expected preconditions   285
pseudo-algorithm   286
Reorder method
arguments (table)   291
expected preconditions   290
pseudo-algorithm   291
Reorder Process, workflow, description and
diagram   119
Reprice Process workflow, description and
diagram   90
RepriceQuote method
arguments (table)   296
expected preconditions   296
pseudo-algorithm   296
Requested Date user interface term,
defined   244
responsibilities
and user types (table)   31
predefined, list of   30
returned data, extending   251
Reverse, Credit Card Transaction Service
business method, described and
arguments   168
reversing charges   158
rollup of availability information
about and examples   240
turning off   241
RSA encryption, about regularly backing up
data   46
run-time events, about configuring
Shopping Cart behavior   137, 138

S
Sales/Use Taxware module

described   198
installing   200
setting up   205
tax calculation, enabling   212
Save Account Shipping Address
workflow   109
Save Cart Process workflow, description and
diagram   91
Save Credit Card workflow, description and
diagram   107
Save Shipping Address workflow,
description and diagram   108
SaveCartAsQuote method
arguments (table)   278
expected preconditions   278
pseudo-algorithm   279
SaveCartAsTemplate method
arguments (table)   276
expected preconditions   275
pseudo-algorithm   276
scripts
business service scripts, setting up
shipping charge calculation   44
CyberSource Adapter Service, using to
modify scripts   182
search
about   39
attribute, making searchable   79
class, making searchable   77
implementing Siebel Search, about   39
List Price field, removing from search   80
parametric search, about and
accessing   21
parametric search, about setting up   77
product family, initiating search with
product family selected   80
products, about determining
searchability   79
search definitions, predefined (table
of)   40
SelectPrimary method
arguments (table)   297
expected preconditions   297