



# **Siebel Order Management Guide Addendum for Industry Applications**

Version 7.7  
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# 1

## What's New in This Release

### What's New in Siebel Order Management Guide Addendum for Industry Applications, Version 7.7

Table 1 lists changes described in this version of the documentation to support version 7.7 of the software.

Table 1. New Product Features in Siebel Order Management Guide Addendum for Industry Applications, Version 7.7

Topic	Description
<a href="#">"Effects of Order Management on Siebel Configurator (Server-Based)" on page 30</a>	Added list of Web templates for Configurator high-interactivity interface.
<a href="#">"Configuring the Display of Pricing Information" on page 38</a>	Added this topic describing this new functionality of version 7.7.
<a href="#">"Suspending and Resuming Service (End User)" on page 55</a>	Added this topic describing how to create suspend and resume orders, new features of version 7.7.
<a href="#">Chapter 5, "Workflows for Employee Ordering"</a>	Updated this chapter to reflect changes in workflows for 7.7.
<a href="#">Chapter 9, "Setting Up Network Ordering"</a>	Added this chapter describing how to set up network ordering, a new feature of version 7.7 that allows users to configure large computer networks.
<a href="#">Chapter 10, "Using Network Ordering"</a>	Added this chapter describing how to use network ordering.
<a href="#">Chapter 11, "Business Service Methods Reference"</a>	Updated this chapter to reflect changes in methods for 7.7.



# 2

## Overview of Order Management

This book is an addendum that should be used in combination with *Siebel Order Management Guide*. For more complete background information about order management, and for information about how to set up order management, see *Siebel Order Management Guide*.

This chapter introduces key concepts in Siebel Customer Order Management that are specific to communications, media and energy industries. It covers the following topics:

- “Order Management for the Service Industry” on page 13
- “Basic Concepts of Order Management” on page 14
- “Activating Workflows for Order Management” on page 23

### Order Management for the Service Industry

Siebel Customer Order Management allows users to manage complex orders for both simple products and customizable products and services. Siebel Customer Order Management adds extra capabilities to the general order processing capabilities of Siebel applications, in order to support companies whose product offerings include complex service products, such as those in the communication, media entertainment, and energy industries.

Siebel Customer Order Management was designed to assist companies in managing the order life cycle, from the time customers initiate new service until the time they disconnect service. It allows end users to capture and validate customer orders for complex combinations of products and services.

Communication, media, and energy companies need to give end users and customers the ability to create, modify, and process orders that contain complex pricing, combined billing types, combination services, or multiple suppliers. For example, a single sales order for a telecommunications customer can contain products and services from multiple suppliers, each provisioned in a different way. Such an order might include service installation, monthly-billed services (such as voice mail and usage-based calling plans), and feature services such as call forwarding. These services have different price types—one time, recurring, and usage-based—that need to be included in the same order. Siebel Customer Order Management provides this functionality.

### Asset-Based Ordering and Multiple Price Types

Siebel Order Management consists of these product modules:

- **Asset Based Ordering (ABO).** Provides the core features required in the Order Management system for the communications, media and energy industries. ABO automates processes that support complex orders by using specialized workflows and business service methods. For detailed information about ABO, see *Siebel Order Management Guide*. For information about ABO functionality specific to the communication, media, and energy industries, see [Appendix A, "Adding or Removing ABO and MPT User Interfaces."](#)
- **Multiple Price Types (MPT).** Allows companies to have multiple price types and totals for products and services. You can develop pricing models for one-time, periodic, and usage-based charges.
- **Network Ordering.** Allows companies to configure orders for large networks, such as computer networks and telecommunications networks. For more information, see [Chapter 9, "Setting Up Network Ordering"](#) and [Chapter 10, "Using Network Ordering."](#)

## Basic Concepts of Order Management

This section describes the basic concepts and functionality of Order Management specific to the communication, media, and energy (CME) industries. It covers the following topics:

- ["Customer Service Profile for Order Management" on page 14](#)
- ["About Products and Assets" on page 16](#)
- ["About Multiple Price Types and Multiple Totals" on page 18](#)
- ["Multiple Price Types and Totals in Opportunities" on page 18](#)
- ["About Quotes and Orders" on page 19](#)
- ["Auto Match for Siebel Configurator" on page 22](#)
- ["Activating Workflows for Order Management" on page 23](#)

## Customer Service Profile for Order Management

The customer's *service profile* is a record of all the active assets for that customer. An *asset* is a product or service currently provided to a customer that has been marked as a trackable asset in the product record, in the Product Administration screen. Assets are sometimes referred to as *installed assets* and are listed in the Installed Assets and Billing Items views.

When you have the asset-based ordering turned on in Siebel Customer Order Management, employee end users have access to three views on the Accounts screen that display a customer's service profile:

- Customer Portal
- Billing Items
- Installed Assets

These views can serve as a starting point for configuring changes to the goods and services already provided to a customer. Quotes, orders, and changes to the customer's assets can all be started and updated from these views. The Customer Portal view shows the service profile, and also shows all products and services quoted, ordered, and delivered to or provisioned for that customer.

Having a central point for the customer's service profile is important for a number of reasons.

- You can see the current asset information and launch quotes and orders from the same screen.
- When these views are used in conjunction with the automated Order Management Workflows, the amount of time to create quotes, orders, and asset records is reduced because many tasks are automated.
- The service profile information is available through both the employee end-user and customer applications, so both company employees and customers can see and request changes to the current information.

Employee end users can see details about an account's service profile in the Customer Portal view and in the Billing Item and Installed Assets views. Customer end users can see it on their My Accounts page.

**NOTE:** Although there is an Accounts view labeled Service Profile, it does not display the customer's service profile as that term is used in Order Management. Although the Service Profile view can be used to list assets, it is used primarily in Field Service. Your customer's service profile for use in order management is most easily accessed through the Customer Portal view in the Accounts screen.

Figure 1 is an example of the Customer Portal View.

Customer Portal

Account

New Query

1 of 7

Name: SAB Networks

Address Line 1: #7 Mission Street

City: Noe Valley

Zip: 94110

Site:

Address Line 2:

State: CA

Country:

URL:

Status: Active

Industry: Wireless

Account Team: SADMIN

Account Type: Customer

Main Phone #:

Main Fax #:

Account Class: Customer

Installed Assets

Query New Modify Disconnect

1 of 1

Product	Asset Descrip	Status	Installed Date
Wireless Call Forw	QA	Active	10/19/2002

Billing Items

Query New Modify Disconnect

1 of 1

Product	Service ID	Service Point	Service Descrip
Wireless Call Forw		QA	04

Quotes

Query

1 - 3 of 3

Status	Quote #	Name
Order Placed	1SIA-N5Y1	1SIA-N5Y1
In Progress	1SIA-N6VL	1SIA-N6VL
Order Placed	1SIA-N69L	1SIA-N69L

Orders

Query

1 - 2 of 2

Status	Order Date	Order #	Type
Open	10/18/2002 02:01	83602-1083812	Sales Order
Open	10/17/2002 11:48	83602-1080817	Sales Order

Additional Account Info

Agreements

Billing

Contacts

Trouble Tickets

Query

No Records

Priority	Status	Service Reque	Summary
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Figure 1. Customer Portal View

- The Customer Portal view allows users to see most relevant information for the account, including account details, service items, billing items, quotes, orders, and trouble tickets.
- In the Service Items list, users can drill down into each item for additional detail about the assets.
- In both the Billing Items and Service Items lists, users can start the quote order process for a new item or service, start the process to modify, suspend, or resume an existing asset, or start the process to disconnect an asset.

## About Products and Assets

The following concepts related to products and assets are important in complex order management. For more information on order management products and assets, see *Siebel Order Management Guide*.

### Installed Assets and Billing Items

Installed assets are the assets that are served to a particular account. Installed assets include both products and services. A line item from an order becomes a service item if it is marked as a trackable asset in the product record.

Billing items are the services that are billed to a particular account.

Sometimes installed assets are installed at one account location, but are billed to another account location. For example, a company might have 150 phone lines installed at two different locations, yet receive the bill for all 150 phone lines at one of those locations. In that case, the location that receives the bill might only have 50 installed assets (the ones installed at that location), but have 150 billing items.

The service account and billing account for each line item are specified during the quote-and-order process. For customer end users creating quotes and orders in Siebel eSales, the service account and billing account are automatically defaulted for every line item. Employee end users may need to select the service account and billing account.

### Service Products

A service product is a product that is not a physical product, although it is often associated with one. For example, a service that is delivered over time, such as telephone or electrical service, is considered a service product. A service product may have physical components. For instance, a residential electric service would include a meter. A product becomes a service product if it is marked as one in the product record.

### Customizable Products

Your Siebel application provides the capability to build products composed of multilevel product hierarchies. A product may have other products as subcomponents, and those subcomponents may in turn have other products as their subcomponents, and so on.



Most customizable products are composed of multiple parts and can be configured in different ways, depending on the customer's needs. Here are some examples of customizable service products:

- A service that is delivered over time, such as telephone or electrical service. Such a service includes installation, monthly line usage, and usage-based items, such as long-distance calls.
- A bundle of services and products, such as service for a telephone line, options on that line—such as voice-mail and call waiting—and a phone.

Each product, regardless of its position in the hierarchy of a customizable product, may in turn have one or more specified attributes. For example, a telephone may be available in beige, taupe, or blue. These colors are the telephone's attributes, and provide another way that the product can be customized.

Customizable products can be sold as *bundled products*. When purchased as a bundle, different pricing structure may be used. For example, if a business purchases 10 phone lines, they may get a price break on the cost per month. Or with the addition of voice mail to an order, the user may have the option to add another option at a reduced cost. For more information about products and attributes and how they are handled in Siebel applications, see *Product Administration Guide*.

### Simple Product

Simple products may have attributes that can be selected, but do not have subcomponents. For example, a telephone might come in different colors, but not have subcomponents to select.

### Service ID

A *service ID* is a unique identifier of a service item, such as the phone number for a phone line.

When a customer orders a quantity of a certain product or service, such as a dozen phone lines, each phone line becomes an individual line item and can be given a separate service ID. End users can either explicitly ungroup the items to assign service IDs, or they will be automatically ungrouped when the quote is converted to an order.

The Service ID field is a text field, typically populated by your company's asset management system.

### Integration ID

An *integration ID* is a unique identifier that is assigned to each trackable asset when it becomes a line item in a quote or an order. The integration ID does not appear on the screen.

**NOTE:** It is important that this field not be used for other purposes, as this may affect the functions of the Order Line Items, Quote Line Items, and Assets.

### Service Point

A *service point* is an asset that is installed at a particular service location and represents a network delivery point, such as a phone jack or a gas pipe. A field on the Quote and Order forms lets you select a service point based on the product type. The use of Service Points requires the Siebel Premises module. For more information, see *Applications Administration Guide*.

## About Multiple Price Types and Multiple Totals

In service-related industries such as energy and telecommunications, a service product may be made up of subcomponents that have different price types and different units of measure.

### Multiple Price Types

Multiple price types can include the following:

- **One-time.** A one-time charge for installation or network connection, such as telephone or electrical service.
- **Recurring.** Periodic charges for continuing service such as a monthly fee for phone service.
- **Usage.** Usage-based charges for use of a service over and above the periodic fees; for example, charges for long distance phone calls.

When a product has multiple price types, quotes and orders must also have multiple price totals, one for charges of each price type and unit of measure. This is important because these different types of prices cannot be added up as one total, since they are in different units of measure (each and per month, respectively).

In the Multiple Price Type module, the initial settings provide nonrecurring and per month subtotals and totals on quotes and orders. If your organization needs additional totals such as per week or every six months, you can customize the quote and order forms to provide for them. Additional configuration details of MPT are provided in later chapters of this guide.

### Multiple Units of Measure

Multiple units of measure allow prices that are measured differently, such as price per each, price per month, or price per year.

The available units of measure (UoM) for a particular line item are constrained by the price type. For example, when the price type is recurring, the available units of measure will be limited to per month, per year, and per quarter.

If you need additional values in the UoM lists, you can add them through Application Administration, by modifying the UoM list of values.

## Multiple Price Types and Totals in Opportunities

Multiple price types and multiple totals also affect opportunities. When an end user updates an opportunity from a quote that contains multiple price types, revenue is computed and displayed appropriately. Items that have recurring price types appear as separate line items, each listed with the date when the revenue will be received. For example, monthly phone charges for a twelve-month period will appear as twelve separate line items, one per month over the course of a year. Items with one-time price types will be listed on the date of installation or activation.

The number of occurrences that are created in the Revenue view of the Opportunity screen is controlled by the number of Revenue Occurrences set for the product in the Product Administration screen. The number of occurrences can be overridden in the quote line item. For example, if you select 12 and the charge is Per Month then you will have 12 revenue occurrences one year out.

For more information about changes to opportunities, see [Chapter 3, "Effects of Order Management on Other Siebel Applications."](#)

## About Quotes and Orders

Siebel Order Management provides a number of enhancements to the basic quote and order functionality. For detailed information on Order Management processing of quotes and orders see *Siebel Order Management Guide*.

A quote is an offer to a customer for specific products and services at a specific price. Quotes can be generated by employee end users such as call center sales representatives, by customers using Siebel eSales, or by a channel partner. The quote may include products and services (configured to show the customer-selected attributes), any discounts by line item and by account, price per item, and the service and billing accounts for each item. If you have the Multiple Price Types option turned on, they may also detail one-time, recurring, and usage-based fees that will be incurred.

For customizable products, all levels in the product hierarchy are treated equally. Every level can have pricing, billing, and service accounts, a service asset, and attributes. This structure allows end users to create one quote that spans multiple service accounts and billing accounts. For example, when placing a quote for phone services that span multiple locations, you can identify individual service accounts, billing accounts, and agreement names for individual line items, as well as applying appropriate pricing discounts and other rules.

### Active Quote

An end user session can have only one active quote at a time. Each item that is added to a quote for a customer is added to the active quote. The active quote is associated with one *master account*. (The master account is the primary, or parent, account. If you have set up separate billing and service accounts for a client, those accounts will be associated with a higher-level master account for the client.) A key value of an active quote is it avoids creating new quotes when you are working with the same customer. The active quote adds all quotes of services or products requested by one customer into one quote so that all quotes are together.

A quote becomes the active quote when:

- The employee end user creates a new quote by clicking the New, Modify, Disconnect, Suspend or Resume buttons in the Installed Assets, Billing Items or Customer Portal views.
- The employee end user navigates to the Quote Details view and clicks the Profile button.
- The customer end user goes to the shopping cart.

When an end user makes changes to the service profile of a different account, a different quote is made active. When a new quote is made active, the previously active quote becomes inactive by implication.

When a quote is converted to an order, the quote becomes inactive.

**NOTE:** If the employee end user clicks **New** in the Customer Portal, Installed Assets, or Billing Items view, and there is already an active quote for the same account, the end user is taken to the existing active quote. An additional new quote is not created.

### Active Order

An order becomes active only when the employee end user creates a new order by clicking the **New**, **Modify**, **Disconnect**, **Suspend** and **Resume** buttons in the Installed Assets, Billing Items or Customer Portal Views.

When an order is submitted, the order becomes inactive.

### Quote-to-Sales Order

When a customer approves a quote and it becomes an order, an employee end user such as a CSR (Customer Service Representative) can automatically write the quote information into an order with the click of a button. When the end user clicks the **Sales Order** button or the **Auto Order** button, a workflow does the following:

- Generates a new sales order
- Converts all line items in a quote to order line items
- Explodes all quote line items, so that there multiple quantities of an item become individual line items

After a quote is converted to a sales order, the original quote still exists, and can be referenced. You will see the quote number in the order header.

**NOTE:** All orders created from quotes are considered *Sales Orders*. These orders may include items that are physical products and items that are service products. Sales Orders should not be confused with *Service Orders*. Service Orders are created as a result of a service request and are managed as part of Siebel Field Service.

### Multiple Open Orders

Multiple orders may be in progress for a particular customer or even a particular service item at any given time.

One benefit of having multiple open orders is that when a customer places an order and then reconsiders and requests different options before the order has been provisioned, both requests can be placed, tracked, and addressed appropriately.

From the end user's perspective, there are three ways to modify an order after it has been placed:

- Submit multiple orders against the same asset.
- Make a change to a previously submitted order.
- Create a follow-on order.

This is handled by two processes, Modify Order and Supplemental Order. Creating a supplemental order does not actually create an additional order; it revises an existing order.

For customer end users, multiple open orders appear as separate items in the My Orders view.

## Supplemental Order

A supplemental order is created by revising an open order. A supplemental order overrides an order that has already been sent to the provisioning system, is still in process, and has not yet been provisioned. Supplemental orders are useful when a customer wants to make further changes to an order while it is in transit— that is, before its status is Complete in the provisioning system. A revised order submits an entirely new order, not the difference between the latest order and the prior order.

The following is an example of when a supplemental order can be useful.

A customer currently subscribes to DSL plan at a speed of 786K and now wants to change the speed associated with the plan to 1.1Mbps. In the Customer Portal view, Installed Assets list, the call center sales representative selects the plan, clicks Modify, and creates a quote for the change. With the customer's approval, the sales representative then converts the quote to an order and submits it. The order is then sent to a provisioning system. There is now an open order for this item.

An hour later, the customer calls again and wants to back out of the change. The call center representative (CCR) again goes to the Customer Portal. In the Orders list, the CCR drills down into the open order and reviews the order. On the order header the CCR selects *Revise*. This action increments the revision number on the Order Header. The employee selects the appropriate line item, makes a change during the configuration session that returns the DSL plan speed to the original 786K. The employee clicks *Done* to add the change and then submits the supplemental order. In this case, the change the end user submits is supplemental to the original order.

The order number of a supplemental order remains the same with a different version. A user will see multiple orders instances with the same order number and the most recent order instance is listed at the top of the order list.

**NOTE:** Some provisioning systems do not support supplemental orders. Others only support a limited set of allowed changes. To support the widest possible set of provisioning systems, your Siebel application supports these types of changes to an order: Add, Delete, Update, and no change.

**NOTE:** Supplemental orders are not implemented using Workflows and PMT Business Services, as are all the other order types supported. Supplemental Order was implemented using CSSBCBase user properties.

## Ungroup and Explode

A line item with a quantity of more than one may be ungrouped to become multiple items, each with a quantity of one. This is required if each item has unique characteristics and therefore must be tracked separately with a unique integration ID. If the end user does not ungroup items during configuration, the quote-to-order process automatically ungroups them. This automatic ungrouping is referred to as *exploding* the items.

**NOTE:** Ungrouping or exploding items occurs only when an item has the Auto Explode flag set. All other items remain as an order for a multiple quantity, without being ungrouped.

In addition to providing unique integration IDs, the Ungroup feature can simplify the process of creating complex orders. The following example shows how an end user can take advantage of the Ungroup feature to simplify a new bulk order.

The customer wants to order ten local lines, with similar configurations: five will have voice mail, five will have call waiting. The customer wants each of the ten lines to have the same four additional features. An employee end user can start by creating one line item—with the four features that are desired on each of them—and the quantity two. Then, the end user ungroups that item, so that there are two items. Next, the end user takes one of those items, adds voice mail to it, and changes the quantity to five. Then, the user takes the second line item, adds call waiting to it, and changes the quantity of it to five. Finally, the user ungroups both line items, so that there are ten individual line items.

Now each line item has a setting for an integration ID, which is assigned when the line items are created. In addition, each line item has a field for Service ID. Depending on the implementation of the Siebel applications with the back end systems, the employee end user in this example might click a button to populate the field with phone numbers from the asset management system, or a phone number might be assigned as part of the provisioning process.

**NOTE:** The Ungroup process was not designed to ungroup large quantities.

### Move Orders

Services can now be moved from one location to another. For example, if a customer is moving to a new location but wants to keep the same phone services and maintain the same phone numbers, the customer can do so by moving the service.

Behind the scenes, moving a service is handled by performing both disconnect and reconnect actions transparently for the user.

On the screen, the end user specifies the new location, a start date for the move-in address, and an end date for the move-out address.

**NOTE:** This functionality is included in the employee application only. It does not appear in the customer application. For detail information on move processing, see ["Moving a Service to Another Location \(End User\)" on page 54](#).

### Auto Match for Siebel Configurator

Within certain limitations, the Auto Match business service allows Siebel Configurator to automatically match components in a quote, order, or asset with components in the current version of the product model. This capability is important when the product components in a quote, order, or asset were generated from an old version of a product model or when they were populated directly from an external system with different product models.

This can occur in a few different situations. For example:

- After a software upgrade, such as upgrading from Siebel 6.x to Siebel 7.x, it may be necessary or desirable to regroup product components under different relationships in a customizable product.

- During an upgrade, if existing product models are converted to newer product models, regrouping of product components may occur as part of the conversion.

In each of these situations, when product components are regrouped under different relationships, there will be conflicts between the new version of the customizable product and existing transaction data in quotes, orders, and assets. Depending on how the customizable products have changed, it may be possible to use Auto Match to help resolve such conflicts.

Here is a high-level summary of how Auto Match works: Before Configurator is launched, the order management workflows run Auto Match to ensure that the product instance from the quote, order or asset is compatible with the latest version of the customizable product definition. There are three relationship criteria Auto Match validates. It looks for a product that meets any of these criteria:

- Has no component relationship foreign key
- Has an invalid product relationship foreign key
- No longer appears in a valid product relationship

If it finds a product component that fits any of these criteria then the Auto Match business service looks to see whether that product component belongs to a different relationship under the same parent component in the hierarchy. If it finds a valid relationship, the Auto Match business service updates the relationship foreign key of the product component in the in-memory product instance. If no valid relationship is found then the Auto Match business service generates a warning message and deletes the component from the product instance.

## Activating Workflows for Order Management

Siebel Customer Order Management uses workflows to specify what processes occur—and in what order—to complete the quote-order-asset cycles. When users complete work on a view, these workflows take them to the new view that they need next. For example, when an employee end user clicks the New button on the Service Items list, a workflow is launched that displays the Quote screen's Detail view and predefaults the account information and price list information.

There are two types of workflows in your Siebel application that control complex order management, as follows:

- **Functional.** These workflows provide the business logic such as the setting of different action codes. These workflows are used by both the customer application and the employee application.
- **User Interface.** These workflows control flow from view to view. On this level, the workflows do different things because the views in a Web site are different from the views in an employee application.

You can use Siebel Business Process Designer to modify workflows. You can:

- Use predefined workflow processes to automate and simplify the order processes available to your end users and customers. For example, when an order is filled, a workflow process automatically creates assets from the items and adds them to the customer's service profile in the Accounts screen.

- Customize the predefined workflow processes to match your business processes. For example, some organizations particularly those involved in selling to consumers may want to bypass the Quote step in the New order process and move immediately to an Order.
- Create new workflows to match your own business processes.

For more information about Business Process Manager and how to use it, see *Siebel Business Process Designer Administration Guide*.

**NOTE:** It is very important that the professionals within your organization responsible for customizing the shipped workflow processes have received the required Business Process Designer training for successful implementation of customized workflows. The in depth knowledge of this tool is a critical success factor.

For details about the workflows provided with Order Management, see [Chapter 5, "Workflows for Employee Ordering"](#) and [Chapter 7, "Workflows for Customer Ordering."](#)

These workflows use business services to implement their logic. For information about Order Management business service methods, see [Chapter 11, "Business Service Methods Reference."](#)

In addition to the setup described in *Siebel Order Management Guide*, you must activate of workflows specific to your business model. All the workflows for Siebel Customer Order Management are listed in [Chapter 7, "Workflows for Customer Ordering"](#) and [Chapter 5, "Workflows for Employee Ordering."](#)

You can find the workflow processes that you must activate for different applications by using the following queries:

- **Siebel eSales.** search for
  - *CUT eSales\**
  - *eSales\**
  - *SIS OM\**
- **Siebel Partner Portal.** search for
  - *CUT eChannel\**
  - *SIS OM\* (7.5 only)*
- **Employee applications.**
  - Search for *SIS OM\**
  - In addition, activate the following workflows:
    - *CUT Quote To Order PMT Enhancement\**
    - *CUT Order Profile Process*
    - *CUT Quote Portal Process*
    - *CUT Order Portal Process*
    - *CUT Go To Customer Portal Sub-process*
    - *VORD Validate\**

For information about how to activate workflows, see *Siebel Business Process Designer Administration Guide*.



# 3

## Effects of Order Management on Other Siebel Applications

This chapter describes how Siebel Customer Order Management enhances Siebel Communications, Siebel Media, and Siebel Energy.

This chapter also describes changes to the functionality of applications such as Siebel Configurator, Siebel Advisor, and Siebel Pricer when used with Siebel Customer Order Management. These applications must be licensed separately from Siebel Customer Order Management.

This chapter is meant for product and pricing administrators, who should read this chapter before defining component-type customizable products and before creating pricing models for use with Siebel Customer Order Management.

Before reading this chapter, you should understand the concepts in *Product Administration Guide* and *Pricing Administration Guide*.

This chapter covers the following topics:

- “Effects of Order Management on CME Applications” on page 25
- “Effects of Order Management on Fields and Functions” on page 26
- “Effects of Order Management on Siebel Configurator (Server-Based)” on page 30
- “Effects of Order Management on Siebel Configurator (Browser-Based)” on page 34
- “Effects of Order Management on Siebel Advisor” on page 34
- “Effects of Order Management on Siebel Pricer” on page 35
- “Configuring the Display of Pricing Information” on page 38

## Effects of Order Management on CME Applications

This section describes the effects of Siebel Customer Order Management on the Communications, Media and Energy (CME) applications.

Siebel Customer Order Management functionality is implemented through two modules:

- **Asset Based Ordering (ABO).** Provides the core features and views for Siebel Customer Order Management.
- **Multiple Price Types (MPT).** Provides price type support for products that have recurring charges.

**NOTE:** For more information about ABO and MPT see “Basic Concepts of Order Management” on page 14.

The effects of these two modules and of the other options available with Siebel Customer Order Management are outlined in the following sections.

## CME Without Order Management

CME applications without Siebel Customer Order Management do not have Asset Based Ordering functionality. However, they do have Multiple Price Type (MPT) functionality, including the following features:

- **Monthly Recurring Charge (MRC).** The Line Items view in both Quotes and Orders displays MRC subtotals and totals fields.
- **Non-Recurring Charge (NRC).** The Line Items view in both Quotes and Orders displays NRC subtotals and totals fields.
- **Revenue Computation.** Revenue computation for opportunities is revised to include recurring charges.

**NOTE:** Users of Siebel Industry Applications other than CME must use Siebel Tools to configure applets to display the fields and controls used by MPT.

CME applications with MPT replaces the package price rollup functionality in Siebel Pricer with separate recurring and non-recurring rollups based on price type. None of the ABO workflows and business services are available for use.

## CME with Order Management

When CME applications include Siebel Customer Order Management, they provide a full set of complex ordering functionality which including ABO, MPT, and revised revenue computation for Opportunities. The order management workflows are present and can be manually activated. With Order Management the following views are accessible:

- Customer Account Portal
- Accounts > Installed Assets
- Accounts > Installed Assets > Line Item Detail
- Accounts > Billing Items, Accounts > Billing Items > Line Item Detail
- Quote > Line Item > Modify History
- Quote > Line Item > Network Detail
- Order > Line Item > Modify History
- Order > Line Item > Modify History

**NOTE:** Users of Siebel Industry Applications other than CME must use Siebel Tools to configure applets to display the fields and controls used by MPT and ABO.

# Effects of Order Management on Fields and Functions

This section describes the effects of Siebel Customer Order Management on fields and functions in the following screens:

- [“Product Administration” on page 27](#)

- “Quotes” on page 28
- “Orders” on page 29
- “Opportunities” on page 30

## Product Administration

Products are defined in Product Administration > Products. Several new fields have been added to the product record that are specific to order management. Fields added to the product record for order management are listed in [Table 2](#).

**NOTE:** When you are configuring the product in Siebel Tools, be sure to include the right More Info form for the Product Administration screen. For communications, media, and energy, the Product Administration screen uses the applet named Product Administration view. For other industry applications, use the applet prefixed with the name or initials of the product. For example, for Siebel Life Sciences, use LS Product Administration view.

Table 2. Fields Added to the Product Record by Order Management

Field	Function
Service Instance	<p>This check box designates the product as a service item.</p> <p>Customer-facing applications use this flag during check-out to request additional information about the account. Anonymous users cannot place orders containing products marked as a service instance. To order these products, anonymous users must create an account by registering.</p> <p>Service Instance is also used to identify the products that display in the Trouble Tickets Service Instance field.</p>
Track as Asset	<p>This check box causes the Order To Asset workflow to copy the item to the asset table. Items in this table display as customer assets in the Service Items or Billing Items applet. These applets list the assets that the customer has purchased. Asset tracking may not be suitable for some items. For example, usage-based products like Excess Minutes or Installation charges may not be tracked as assets.</p>
Price Type	<p>Required. The menu choices are One-Time, Recurring, and Usage.</p> <p>Select One-Time if you charge the customer only once for the product. For example, you would select One-Time for hardware products that the customer purchases. Items in this category are totalled in quotes and orders as non-recurring charges (NRCs).</p> <p>Select Recurring if you periodically charge the customer for the product. For example, you would select Recurring for a product that is a monthly service. Items in this category that have the Per Month unit of measure are totalled in quotes and orders as monthly recurring charges (MRCs). No other unit of measure is totalled in quotes and orders.</p> <p>Select Usage if you bill the customer based on amount of usage for a product. For example, you would select Usage for electrical service billed by kilowatt hour of usage. This price type is for information only and is not used in any price computations.</p>

Table 2. Fields Added to the Product Record by Order Management

Field	Function
Ship	This check box designates the product as one that must be shipped to the customer.
UoM	<p>Unit of Measure. This menu provides a variety of choices such as per Month, Pound, Day, Case, Dollar, and Dozen.</p> <p>Per Month is the only unit of measure for which subtotals and totals are provided in quotes and orders. Other unit of measure totals can be configured using Siebel Tools.</p> <p>The UoM that can be selected is determined by price type. For example, if the price type is Recurring, only the per Day, Month, Year and so on. units of measure can be selected. You can add additional units of measure in the Applications Administration screen.</p>
Auto Explode	This check box identifies items that will be exploded or ungrouped by the Ungroup and Quote to Order workflows.
Network Element Type	<p>Select a value for all products that are network components.</p> <p>Select Network to designate a product as the top level component of a network (e.g. Frame Relay). This does not have a location.</p> <p>Select Network Node to designate a product as a location in a network (e.g. Port).</p> <p>Select Network Connection to designate a product as a connection between two locations in a network (e.g. Access, PVC).</p>
Compound Product	This check box identifies a product as a compound product for which compound product rules are specified.
Service Length and Service Length UoM	<p>The user can define a service length within the product definition to specify how long the service will be provided.</p> <p>Select an integer in the Service Length field and select the units of measure in the Service Length UoM field. For example, to specify that the service will be provided for six months, select 6 in the Service Length field and select month in the Service Length UoM field.</p>
Service Length Period	A concatenated field that displays the values in the Contract Length and Service Length UoM fields.
Service Start Date and Service Date	Displays the start date and end date, which are calculated based on the period selected and the completion date of the line item. For example, if the Service Length Period is 14 weeks and the Completed Date is Jan. 1, 2004, the Service Start Date will display Jan. 1, 2004, and the Service End Date will display April 15, 2004.

## Quotes

The following changes have been made to the Quotes screen.

- The Delta Quote button has been removed from Quotes > Line Items. Instead, a Modify button was added to the Service Items and Billing Items applets. For more information about the Modify button and its associated workflows, see [Chapter 5, "Workflows for Employee Ordering."](#)
- The Sum Components button has been removed from Quotes > Line Items.
- An Auto Order button is added to Quotes > Quote > Line Items.
- A Modify button has been added to Orders > Sales Order > Line Items. This button creates a follow-on order for an order that has reached the point of no return.
- If a user creates multiple orders from the same quote, the application generates the full history in the Quotes > Orders view.
- New fields have been added to the following views:
  - Quotes > Quotes form
  - Quotes > Quote > Line Items
  - Quotes > Quote > Line Items > Attributes
  - Quotes > Quote > Line Items > Totals
  - Quotes > Quote > Line Items > Line Item Detail
  - Quotes > Payments> Totals

## Orders

The following changes have been made to the Orders screen.

- In Orders > Sales Order, and in Orders > Line Item Detail, Pending has been added to the Status field LOV. Pending is the status of the order after it has been created but before it has been submitted.
- An Auto-Asset button has been added to Orders > Sales Order > Line Item. This button is for application demonstration purposes only and may be absent from the installation. The underlying auto-asset method is designed to be called by the external provisioning system when an item has been completed.
- The auto-asset process is initiated by setting all line items to complete and clicking the Auto-Asset button at the line item level. For any type of product, for example, frame relay, wireless service, or DSL, the auto-asset process must be run on each line item.
- New fields have been added to the following views:
  - Orders > Sales Order form
  - Orders > Sales Order > Line Items
  - Orders > Sales Order > Line Items > Attributes
  - Orders > Sales Order > Line Items > Totals
  - Orders > Sales Order > Line Items > Line Detail
  - Orders > Sales Order > Payments> Totals

## Opportunities

The following changes have been made to the Opportunities screen.

When the user clicks Update Opportunity in Quotes > Quotes, the revenue associated with the quote is transferred to the opportunity listed in the quote's Opportunity field. In Opportunities > Opportunities, the user can display the opportunity and view the total revenue that has been transferred from Quotes. The user can also display all the line items contributing to total revenue.

Revenue is computed and displayed in Opportunities differently. The following process describes the steps in how revenue is generated from a quote:

- 1 Items with the One-Time price type are added together. Each item is then displayed separately in Opportunities > Revenues.
- 2 The price of each item that has the Recurring price type is multiplied by a designated number of periods (occurrences). For example, an item is priced at \$10 per month. If that item is typically purchased for one year, the number of occurrences associated with that product should be set to 12, so the revenue for this item is \$120.

**NOTE:** You can change the number of occurrences used to compute the revenue in one of two ways:

You can define the number of periods used to compute revenue for an item by entering a number in the # of Occurrences field in the Item's product record. This is useful when the company changes the way in which a product is sold—for example, if the default length of the contract is changed from one to two years. (You edit product records in Product Administration > Products.)

You can also define the number of periods in the # of Revenue Occurrences field in Quotes > Line Item Detail. This is useful when a particular customer purchase is for a different number of periods than is usual.

- 3 Items with the Recurring price type are added together. Each item is then displayed separately in Opportunities > Revenues.
- 4 The two price type subtotals are added together. When the user selects Update Opportunity in the Opportunities > Revenues drop-down menu, the total is displayed in the Revenue field in Opportunities > Opportunities.

The amount of revenue contributed by each item is displayed in Opportunities > Revenues. Items with the One-Time price type display only once. Items with the Recurring price type display once for each unit of measure (per week, month, and so on.). For example, if an item's revenue is computed using a period of 12 months, there is a separate line item for each month.

## Effects of Order Management on Siebel Configurator (Server-Based)

This section describes changes to the function of the server-based version of Siebel Configurator within Siebel Industry Applications modules. For information about the baseline functionality of Siebel Configurator, see *Product Administration Guide*.

This section covers the following topics:

- “Customizable Products Tab” on page 31
- “Base Themes” on page 31
- “Web Templates for UI Controls” on page 31
- “Recommended Practices” on page 34

## Customizable Products Tab

The subviews in Product Administration > Configuration Designer require a Configurator license. These subviews are Product Rule Manager, Product Resource Designer, Product Link Designer, and Script Designer. The UI Property Designer, a subview of Customizable Products, also requires a Configurator license.

These subviews allow you to create component-based customizable products. You can also design the selection pages the user sees during a configuration session.

## Base Themes

You select a base theme and product theme in Customizable Product > Product Versions. These themes control the basic page layout and presentation method for selection pages in a configuration session.

A specific Communications and Media Customer Order Management template entitled SIS Base Theme with Auto Reprice allows you to display the MRC and NRC total pricing within the Configurator session.

## Web Templates for UI Controls

In the Configurator Product UI Designer, you select a UI control for each item in a group. The UI control (radio button, check box and so on) determines how the user makes product selections during a configuration session. Web templates that define the UI controls are located in the WEBTEMPL subdirectory of the Siebel installation directory.

Siebel Customer Order Management adds additional UI-control Web templates, which all begin with the prefix SISOM.

When designing a customizable product UI in the Configurator Product UI Designer, use only the SISOM UI control Web templates.

**NOTE:** SISOM UI control Web templates are not the default templates. To create selection pages that correctly display multiple price types, you must select a base and product theme, and you must select SISOM UI control Web templates. If you do not select a product theme or base theme and do not define selection pages for a customizable product, Configurator uses default themes and default UI controls.

The new UI-control Web templates add some or all of the following information to the display of the UI control:

- Service point and service ID

- Unit of Measure
- Total NRC (non-recurring charge)
- Total MRC (monthly recurring charge)
- Price totals are displayed by price type

The SISOM UI-control Web templates provided with Order Management are for only a subset of possible UI controls. To create additional UI controls for use with order management, you can create additional SISOM templates based on the original Web templates.

**NOTE:** Depending on the release you are using, the dialog box that displays UI controls in the Configurator Product UI Designer may not contain the Order Management UI controls (SISOM UI-control Web templates). If not, you must add these controls manually to make them available for use with all customizable products.

### Available Order Management UI Controls

Table 3 lists the SISOM UI-control Web templates that need to be added to the Pick UI Style dialog box. The description specifies the combination of controls that each template will display per product. For an explanation of each control type, see the discussion of the user interface controls in *Product Administration Guide*.

Table 3. SISOM UI-Control Web Templates

UI Control Web Template Filename	Description
SISOMeCfgControlCheckPrice.swt	Check box control plus price information.
SISOMeCfgControlComboAdd.swt	Multiple selection combo box control.
SISOMeCfgControlComboAddPrice.swt	Multiple selection combo box control plus price information.
SISOMeCfgControlComboPrice.swt	Single selection combo box control plus price information.
SISOMeCfgControlComboPriceQuantity.swt	Single selection combo box control plus quantity box and price information.
SISOMeCfgControlComboQuantity.swt	Single selection combo box control plus quantity box.
SISOMeCfgControlQuantity.swt	Text box control plus quantity box.
SISOMeCfgControlRadioPrice.swt	Radio button control plus price information.
SISOMeCfgControlText.swt	Text box control.
SISOMeCfgControlTextPrice.swt	Text box control plus price information.
SISOMeCfgControlCheckPriceJS.swt	Check box control plus price information. (High Interactivity version)
SISOMeCfgControlComboAddJS.swt	Multiple selection combo box control. (High Interactivity version)



Table 3. SISOM UI-Control Web Templates

UI Control Web Template Filename	Description
SISOMeCfgControlComboAddPriceJS.swt	Multiple selection combo box control plus price information. (High Interactivity version)
SISOMeCfgControlComboPriceJS.swt	Single selection combo box control plus price information. (High Interactivity version)
SISOMeCfgControlComboPriceQuantityJS.swt	Single selection combo box control plus quantity box and price information. (High Interactivity version)
SISOMeCfgControlComboQuantityJS.swt	Single selection combo box control plus quantity box. (High Interactivity version)
SISOMeCfgControlQuantityJS.swt	Text box control plus quantity box. (High Interactivity version)
SISOMeCfgControlRadioPriceJS.swt	Radio button control plus price information. (High Interactivity version)

### Adding Order Management UI Controls to the Product UI Designer

Follow this procedure to add order management controls to the Pick UI Style dialog box of the Product UI Designer.

**NOTE:** In the following procedure, to display the Pick UI Style dialog box, you must have a customizable product for which you have created at least one group and for which you have selected a UI control for the items in the group.

#### *To add the Web templates to the Pick UI Style dialog box*

- 1 Navigate to Product Administration and select a customizable product.
- 2 Click the Customizable Products tab.
- 3 In Customizable Products > Versions, lock the customizable product.
- 4 In the Show menu, select Product UI Designer.
- 5 In the Product UI Designer Group List, click a group name.
- 6 In the Group Item List, click an item.  
This selects the record.
- 7 In the record, click the Select button in the UI control field.  
The Pick UI Style dialog box appears.
- 8 In the dialog box, click New and fill out the form for adding a new template:
  - **Name.** Enter a descriptive name. For example: SISOM Check Box.
  - **Template.** Enter the filename of a SISOM UI-control Web template.
  - **Description (Optional).** Enter a brief description of the template.

- 9** Click OK to save the record.

This adds the SISOM UI-control Web template to the dialog box. It does not assign the SISOM template to the item.

- 10** Repeat [Step 8](#) and [Step 9](#) until all the SISOM UI-control Web templates have been added to the dialog box.

## Recommended Practices

This section describes recommended practices, intended to minimize order problems.

**Require rules and untracked assets.** Avoid creating require rules that add items that are not tracked as assets to a customizable product.

For example, you write a require rule that adds a one-time charge for Installation to a customizable product. You do not set the Track as Asset flag for Installation in its product record. This means Installation does not display as a customer asset.

Then the customer requests an addition to the service. The call center agent selects the service, clicks Modify, and starts a configuration session. The Configurator engine adds Installation, because it is required by configuration rules. Installation is transferred to the quote even though it is not required by the service modification.

**Multiple instances of an item.** Avoid adding the same product to more than one relationship in a customizable product. If you restructure the customizable product and publish a new version, the Auto Match business service in Configurator may not pick the correct relationship for the item if transactional data (for quotes, orders, and assets) based on old versions of the product is reconfigured. For more information see ["Auto Match for Siebel Configurator"](#) on page 22.

## Effects of Order Management on Siebel Configurator (Browser-Based)

The Order Management workflows and business services do not support browser-based Configurator pagesets.

Use the server-based version of Siebel Configurator to create customizable products. It is located in Product Administration > Customizable Products and in Configuration Designer.

To prevent using the browser-based version of Siebel Configurator to create customizable products, the pageset field has been removed from the product record. This field contains the name of the pageset that is launched when the user clicks Customize in Quotes > Line Items.

## Effects of Order Management on Siebel Advisor

You can use Siebel Advisor to create projects to guide the user in selecting products. If the product is customizable, Siebel Advisor must start a configuration session using the server-based version of Siebel Configurator.

When used with Advisor, the Get My Price API does not support the package rollup prices of customizable products. It returns either the price of a simple product or that of the parent root of a complex product.

You create Advisor projects in the Interactive Designer. For information about using Interactive Designer, see *Siebel Interactive Designer Administration Guide*.

## Effects of Order Management on Siebel Pricer

This section describes changes to Siebel Pricer functionality when used with a Multiple Price Type (MPT) license. MPT is included with CME applications.

The MPT license allows you to create simple products that have one of three price types. Using the subviews of the Customizable Products view tab, you can also create customizable products with components and assign a price type to each component and to the product root. Price Type is a required field when you define a product in Product Administration > Products. The three price types are:

- **One-Time.** This price is charged only once. For example, you assign this price type to a piece of equipment that the customer can purchase.
- **Recurring.** This price is charged on a recurring basis. For example, you assign this price type to a service to which the customer subscribes.
- **Usage.** This price is charged based on customer consumption. For example, you assign this price type to an electric service that is billed by kilowatt hour of usage. The Usage price type is provided for information only and is not used in any price calculations.

The MPT license turns off price roll up in Siebel Pricer. For customizable products, this prevents Pricer from totaling the prices of components to arrive at a total price for the customizable product root. It also prevents Siebel Pricer from totaling line items to arrive at a total price for a quote or order.

Instead, Siebel Pricer forwards the price of each item (after price adjustments) to Order Management. Order Management then splits the items into two groups:

- **Non-Recurring Charge (NRC).** Items with a price type of One-Time are assigned to this group. Taxes and shipping charges are computed on NRC totals only.
- **Monthly Recurring Charge (MRC).** Items with a price type of Recurring and the Per Month unit of measure are assigned to this group.

Order Management then totals the two groups and provides separate NRC and MRC subtotals for each customizable product. It also provides an NRC and MRC total for the whole quote or order.

For the Recurring price type, pre-configured subtotals and totals are provided only for the Per Month unit of measure.

### Price List Used

The price list used by a quote associated with a new, modify, or disconnect workflow is taken from one of three sources, which are below listed in order of precedence:

- The price list entered by the user when the quote is created
- The price list already associated with an active quote
- The price list associated with the account

## Action Codes in Quotes and Orders

When the user modifies an asset, the line items in the resulting quote and order include action codes, which show how the item was changed. Action codes affect price totals as follows:

- **Add.** The item was added during the configuration session. Items with this action code are included in NRC or MRC subtotals and totals.
- **-- (Dash).** A dash means the item was not changed during the configuration session. Items with this action code are not included in NRC or MRC subtotals and totals.
- **Delete.** The item was removed during the configuration session. Items with this action code are not included in NRC or MRC subtotals and totals.
- **Update.** An attribute value for the item was changed during the configuration session. Items with this action code are included in NRC and MRC subtotals and totals.

The Update action code is also assigned if one of these fields in Quotes > Line Items or Orders > Line Items is changed: Product ID, Agreement ID, Billing Account ID, Service Account ID, Usage Asset ID, Service ID, Net Price, Discount Percent, or Discount Amount.

If you require that subtotals in quotes and orders handle action codes differently, you can create a business service method with the logic you need. For example, if you want items that are not changed in the configuration session (those with the dash action code) to be included in the NRC or MRC subtotals, or if you want items with the Update action code to be excluded from those totals, instead of included, you can create a business service to make the necessary change.

## Component-Based Pricing Adjustments

Siebel Pricer makes component-based pricing adjustments as defined in the Pricing Designer, but it does not add these adjustments to the list price of the customizable product. Instead, Siebel Pricer forwards the adjusted price of each component to Order Management. It also forwards the list price of the customizable product. These will be rolled up separately based on price types.

For example, you define component-based pricing for a customizable product in which the list price is zero and the total price is the sum of the adjusted component prices by price type. The Quotes and Orders screens will display a price of zero for the customizable product root and will display the adjusted price for each of the components. Order Management will sum the adjusted prices of the components by price type and display the NRC and MRC subtotals for the customizable product.

Alternately, you enter a list price for a customizable product, and you give non-default components delta prices from their associated default item. For example, a non-default monitor is given a price of +\$50, the difference in price from the default monitor. If the user picks a non-default item, the delta price is applied to the list price of the customizable product. The Quotes and Orders screens will display the list price for the customizable product root and will display the delta price, if any, for each item. Order Management will sum the list price and any price adjustments for non-default components by price type, and it will display the NRC and MRC subtotals for the customizable product.

## Attribute-Based Pricing Adjustments

Attribute-based pricing adjustments defined on components of a customizable product work primarily as described in *Pricing Administration Guide*, with one main difference.

In Order Management with Multiple Price Types, each product, whether root or component, is treated independently. Attribute pricing adjustments are always made on each product item, and never on the whole customizable product. This means that the list price of the customizable product root is adjusted individually, and the list prices of components of that customizable product are adjusted individually, based on attribute pricing adjustments for the root and for each component. This allows the adjusted prices to be rolled up by price type—one-time, recurring, and usage-based.

For example, if you have a wireless plan set up as a customizable product, including the monthly wireless plan, caller ID, call waiting, a mobile phone, and an activation fee, you can apply attribute-based pricing adjustments any individual component of that plan. If you want to give a customer a 10% discount on the price of each item in the product, you will need to apply that discount to each line item.

This differs from how attribute-based pricing works without the Multiple Price Type license. Without MPT, you can set up adjustments so that selection of an attribute at the root level causes an adjustment to be made to the price of the whole product. Without MPT, prices for each line item roll up into the total for the customizable product, so the discount can be applied to the total rather than to each line item.

## Pricing Models and Pricing Factors

Single, Bundle, Matrix and Script pricing factors act on each individual product or component's list price to come up with the net price. The parent root of a customizable product is treated like a component with no rollup. MPT will rollup the prices separately into MRC and NRC subtotals and totals.

Aggregate pricing factors are not supported with MPT, because they depend on Siebel Pricer computing totals for the whole quote.

## Tier Pricing

In the CME industries, many products and services are priced based on tier rates. Examples include rate tables, rate based billing systems, and extended price rates used in the Energy industry. With MPT, this feature is limited to the price comparison functionality.

## Other Changes to Siebel Pricer for Industry Applications

In the Siebel Industry Applications version of Siebel Pricer, the following new views have been added to Pricing Administration:

- Quote Pricing Model Validation > Test Quotes Line Items > Totals
- Order Pricing Model Validation > Test Orders Line Items > Totals

New fields have been added to the following views in Pricing Administration. In the case of the Test Quotes Line Items tab (applet), a new applet replaces the existing applet of the same name.

- Costing > Cost List Line Items
- Rate List > Rate List Line Items
- Quote Pricing Model Validation > Quotes
- Quote Pricing Model Validation > Test Quotes Line Items
- Order Pricing Model Validation > Sales Orders
- Order Pricing Model Validation > Test Orders Line Items

## Recommended Practices

This section describes recommended practices for using Siebel Pricer with Siebel Industry Applications, which are intended to minimize order problems. Unless noted, these recommendations apply to installations with or without MPT.

**Pricing display when modifying a customer asset.** During a configuration session when modifying a customer asset, the prices displayed in the configuration selection pages will not take into account action codes, since there is no checking of action codes in configuration rules. MRC and NRC totals are computed as if in Add action state. This is different from quotes and orders price computation which is based on action codes. At the end of the configuration session, pricing is updated using the price list associated with the account and is displayed in the quote. Prices are updated for items that have an action code of Add or Update. Prices are not updated for items with an action code of Delete or "-" (dash).

**Manual price adjustments in quotes.** After entering a manual price adjustment to a line item in a quote, click Reprice. This forces Siebel Pricer to update quote subtotals and totals. If you manually adjust the price of a line item and want to retain the adjustment during a configuration session, click the Keep Discount check box in Line Item Detail.

## Configuring the Display of Pricing Information

You can specify the behavior of pricing based on Action Code.

Before configuration, the Start and Net price fields will be empty for the combinations of Action Code and Price Type shown in [Table 4](#). For all other combinations of Price Type and Action Code combinations, the Start and Net Price will be displayed.

In addition, the NRC and MRC Subtotal and Header Totals will only sum up those line items whose prices are displayed.

Table 4. Combinations of Action Type and Price Type with No Prices Displayed

Action Code	Price Type
Deleted	One-Time, Recurring, Usage
Existing	One-Time
Modified	One-Time

## Specifying Prices Displayed for All Business Components

If you want pricing displayed for the same combinations of action code and price type in all business components to which pricing is applied (driving business component), you can use the `SISOMZeroPricesforActionCodes` user property of the Pricing Manager business service to define the behavior for all business components. The value of the user property is a comma separated list of action code and price type combinations. For example:

Deleted:One-Time, Deleted:Recurring, Deleted:Usage, Existing:One-Time, Modified:One-Time

## Specifying Prices Displayed for Individual Business Components

If you want pricing displayed for the different combinations of action code and price type in all business components, you must:

- Add the user property `SISOMZeroPricesForActionCodes` user property to each business component
- Set the value of this user property according to the behavior required for that business component.

For each action code, there is a calculated field in the driving business component (such as Quote Item, Order Entry - Line Item) as shown in [Table 5](#):

Table 5. Driving Business Component Calculated Fields

Field Name	Calculated	Calculated Value	ForceActive
AC Existing LDC	Y	LookupValue("DELTA_ACTION_CODE", "Existing")	Y
AC Modified LDC	Y	LookupValue("DELTA_ACTION_CODE", "Modified")	Y
AC New LDC	Y	LookupValue("DELTA_ACTION_CODE", "New")	Y
PT OneTime LDC	Y	LookupValue("UNIT_OF_MEASURE", "One-Time")	Y

The Pricer Action Code field in each driving business component has the following value:

```
IIf([Action Code]=[AC New LDC] OR ([Action Code]=[AC Modified LDC] AND [Price Type]<>[PT OneTime LDC]) OR ([Action Code] = [AC Existing LDC] AND [Price Type]<>[PT OneTime LDC]) OR [Action Code] IS NULL,"Y","N")
```

This value corresponds to all combinations of action code and price type that is not listed in [Table 4](#).

**NOTE:** No Action code checking will be applied for VBC/External situations.



# 4

## Employee Use of Order Management

This chapter describes how employee end users, such as salespeople and customer service representatives (CSRs), work with quotes and orders using Siebel Order Management. It includes the following topics:

- "About Employee Order Management" on page 41
- "Scenario for Employee Order Management" on page 42
- "Creating a Quote (End User)" on page 43
- "Creating a Quote That Modifies a Service Asset (End User)" on page 45
- "Ungrouping Quote Line Items (End User)" on page 46
- "Editing Quote Line Items (End User)" on page 47
- "Updating an Opportunity From a Quote (End User)" on page 48
- "Converting Quotes to Orders (End User)" on page 48
- "Editing Order Line Items (End User)" on page 49
- "Submitting an Order (End User)" on page 50
- "Revising a Submitted Order (End User)" on page 50
- "Creating a Follow-On Order (End User)" on page 52
- "Modifying the Service Profile (End User)" on page 52
- "Disconnecting an Installed Service Asset (End User)" on page 53
- "Suspending and Resuming Service (End User)" on page 55

For information about how customers work with quotes and orders, see [Chapter 6, "Customer Use of Order Management."](#)

## About Employee Order Management

End users create quotes and orders when customers want to:

- Order products or services for the first time. The user must open a new account for the potential customer, and then create a quote and order.
- Change existing products or services, including deleting services. The user must work with existing information in the database to create a quote and order.

A quote includes instructions (actions) with enough information to generate a price. An order includes instructions plus status, and it also allows the addition of details, such as service account, billing account, provisioning details, and so forth.

The procedures in this chapter use the Customer Portal view as their starting point, because it is a central point for viewing information about an account and initiating many order management tasks.

The Customer Portal view is part of the Order Processing module. If you have not licensed the Order Processing module, employee end users can start from one of the other screens that allow access to quotes and orders, such as the Quotes screen and Orders screen.

## Scenario for Employee Order Management

This scenario provides an example of a process performed by customer service representatives (CSRs) in a telecommunications company. Your company may follow a different process according to its business requirements.

During a typical day in a customer service organization, a group of CSRs responds to customer phone calls to generate quotes and sales orders.

If the caller is new, the CSR creates an account and adds the caller to the database. If the caller is an existing contact, the CSR searches the database to display the contact's record.

Then the CSR launches Advisor to help understand the customer's needs. For example, if the caller asks questions about your company's product, the CSR can access a summary of product features, literature about the company, and its competitors.

If the conversation leads to a potential sale, the CSR will create a quote and fax, email, or mail it to the caller. The caller can use the quote to get approval to place the order.

The information collected during the call is permanently stored, associated with the contact's record.

When the caller contacts the CSR to place the order, the CSR reviews the quote and converts the quote to an order. Any changes to the product and pricing definitions since the quote was saved are displayed in the quote the CSR views.

The CSR enters any additional information required for the order and submits the order. A new Order record is created. After the order has been fulfilled, trackable items become assets, and appear in the Customer Portal view for this customer.

At a later date, the customer may contact the CSR to add or delete items from the order. The order may be pending or in another status, such as complete. In either case, the CSR can generate a quote and order to change the initial order.

**NOTE:** If your company uses Siebel eSales, customers may perform these tasks themselves through the Web, or they may call the CSR for some of these tasks and perform others themselves through the Web. For more information, see [Chapter 6, "Customer Use of Order Management."](#)

## Setting Up a Product with Recurring Prices

If needed, administrators can perform the following procedure to set up a product with recurring prices.

**To set up a product with recurring prices**

- 1 Navigate to the Products view of the Product Administration screen.
- 2 In the Products list, select the desired product.  
**NOTE:** A check mark in the Service Instance check box identifies the product as a service.
- 3 Confirm that Price Type is set to Recurring.
- 4 Confirm that UoM (unit of measure) is set to Per Month.
- 5 In the More Info form, click the Show More button.
- 6 Locate the # of Revenue Occurrences field and enter the desired number of periods.

Some fields are described in the following table:

Field	Comments
# of Revenue Occurrences	Number of periods for which revenue is expected for the service or product. For example, if a phone line is expected to be leased for 2 years and charged on a per-month basis, the number of revenue occurrences would be 24.
Service Instance	Flag to indicate that the product requires a service point.
Ship	Flag to indicate that the product requires shipping to the customer.
Track As Asset	Flag to indicate that the product should be tracked as an asset. These are the items that will appear in the customer's service profile.
UoM	Unit of measure associated with the price of the item.
Auto Explode	Flag to indicate that the product must be exploded or ungrouped.

## Creating a Quote (End User)

End users can use the procedure below to create a quote for an existing customer. This quote will add a new service or product.

**NOTE:** When you use this procedure, the account type determines whether a quote or order is created. If the account type is *Residential*, quotes are not created and all modifications of the service profile create an order directly. For all other account types, a quote is created.

**To create a quote**

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Service Items list, click New.

The Quote form and Line Item list appear.

**NOTE:** If there is already an active quote for this account, it is shown. If there is not already an active quote, a blank new quote appears.

In the Quote form, the Status field displays In Progress and the Quote # field displays a unique number generated by the system. The Quote Name field also displays this unique number, which you may change to a quote name.

- 3 In the Line Items list, click Add Items.

- 4 In the Pick Products dialog box, select the items that the customer wants, and click OK.

The Action field for the line items you added displays Add. For products and services that are customizable, the Customize button is available.

- 5 To customize an item, select it in the Line Items list and click Customize.

A Configurator session launches and displays selection pages.

- 6 Make the selections that the customer wants, and click Done.

The Quote Line Items list appears with the quote.

Some fields in the Line Items list and the Totals form below it are described in the following table:

Field	Comments
Item Net Price	The price of the line item after discounts from pricing rules, volume discounts, or manual discounts. (Read-only)
Extended Price	Quantity times the start price.
Net Discount%	The percentage of the start price that the discount equals. If a discount was entered in either Discount Amount or Discount Price, this percentage is calculated based on the discount entered and the start price. (Read-only)
Tier Price	Information about the pricing tiers applicable to the product.
Service Point	Serial number of the service point's asset with which the item is associated, for example a phone jack.
Service Id	Free-text identifier for the service item, for example a phone number.
NRC Subtotal	Non-recurring charge subtotal. The sum of all items within a customizable product with a one-time price type.
MRC Subtotal	Monthly recurring charge subtotal. The sum of all items within a customizable product with a per-month UoM.
Action	Action required for delta processing. Choices are add, update, delete, or - (dash). A dash means the item was not changed, though the associated child line items may change.
Billing Account	Account which is billed for the service.

Field	Comments
Service Account	Account at which the service is provided.
Agreement Name	Agreement under which the quote line item was made.
Adjustment MRC	Total adjustments for monthly recurring charges.
Adjustment NRC	Total adjustments for non-recurring charges.
Item Total MRC	Total charges for monthly recurring charges.
Item Total NRC	Total charges for non-recurring charges.
Net Total MRC	Net total for monthly recurring charges.
Net Total NRC	Net total for non-recurring charges.
Total Item Discount MRC	Total discounts for monthly recurring charges.
Total Item Discount NRC	Total discounts for non-recurring charges.

## Creating a Quote That Modifies a Service Asset (End User)

Employee end users can use the procedure below to create a quote that is based on an asset. For example, a customer has five phone lines installed as part of a small business service product. The customer calls and wants to add additional phone lines. You would use the existing service item as the basis for a new quote that adds additional phone lines.

**NOTE:** When you use this procedure, the account type determines whether a quote or order is created. If the account type is *Residential*, quotes are not created and all modifications of the service profile create an order directly. For all other account types, a quote is created.

### ***To modify an installed asset***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Service Items list, select the service item you want to modify.
- 3 Click Modify.

Siebel Configurator displays the current configuration of the item, adjusted for any open orders.

- 4 In the Configurator selection pages, modify the configuration by adding or deleting items or by changing item attribute values.
  - 5 When you are finished modifying the configuration, click Done in the selection pages.
- The Quote form appears and the changes you made are shown in the Line Items list.

- 6 In the Line Items list, verify that items display correctly and have the correct action codes.

The configuration displayed in the quote is a composite of the asset as it is currently installed and adjustments to the asset requested in open orders.

- 7 Click Profile to return to the Customer Portal view.

## Ungrouping Quote Line Items (End User)

Before a quote is turned into an order, line items with a quantity of more than one are *ungrouped* to become separate instances, each with a quantity of one, if the product's Auto Explode flag is set.

Ungrouping only applies to assets for which the Auto Explode flag is set. If the end user does not ungroup them configuration, the quote-to-order process automatically ungroups them.

Ungrouping is needed to give each asset separate a Service ID, so it can be tracked and serviced in the future. It also gives each asset a separate integration ID, which is used by the back-end provisioning system for fulfillment.

The ungroup feature allows you to configure once for multiple items and then splitting them into individual items that can have their own variant configurations, telephone numbers, or Billing/Service accounts. To do this, the end user performs the following tasks:

- Adds the customizable product to a quote and specify the desired quantity.
- Starts a configuration session and choose components and attributes common to all the instances of the product. This configuration is applied to all of the items.
- Ungroups the product.
- For each instance of the product, starts a configuration session and further customizes the product. The configuration changes are applied only to the single item.

For example, the customer wants to order ten local lines, with similar configurations, except that five will have voice mail, five will have call waiting. An employee end user can start by creating one line item with the quantity two and with all the features the customer wants except voice mail and call waiting. Then, the user ungroups that item, so that there are two items. Then, the user takes one of those items, adds voice mail to it, and changes the quantity to five. Then, the user takes the other item, adds call waiting to it, and changes the quantity to five. Finally, the user ungroups both line items, so that there are ten individual line items.

### ***To ungroup quote line items***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Quotes list, drill down on the desired quote number.

The Quote view appears.

- 3 Click the Line Items view tab.

The line items in the quote display.

- 4 Select the line item you want to ungroup.

This will be a line item with multiple quantities that need to be configured differently.

- 5 Click Ungroup.

The quote ungroups the item and displays it as multiple line items, with a quantity of one for each item.

## Editing Quote Line Items (End User)

End users may need to edit line items when creating a new quote, or when returning to an existing quote.

Use the procedure below to do one of the following:

- Edit line item details for a simple product, for example if you want to change the attributes.
- Configure or reconfigure a customizable product in a quote an end user is creating in the Quotes screen. If a customer asset exists, Configurator selection pages display the asset adjusted for any open or pending orders.
- Edit the configuration of a customizable product in a quote created by modifying an asset or disconnecting an installed asset.

### ***To edit quote line items***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Quotes list, click on the desired Quote Number.

The Quote form appears, displaying details of the quote.

- 3 In the Line Items list, select the line item that you want to edit and change the values of the fields directly in the line item.

The action code of the line item will be changed to Update. See [Chapter 11, "Business Service Methods Reference"](#) for more information about action codes.

To retain manual discounts, click the Keep Discount check box in the Line Item Detail form.

- 4 To customize an item, select a customizable product in the Line Items list.

The Customize button becomes active.

- 5 Click Customize.

A Configurator session launches and displays selection pages, which the current configuration of the customer asset adjusted for any open orders.

- 6 Modify the configuration of the customizable product or service as needed and click Done.

The revised configuration displays in Line Items.

## Updating an Opportunity From a Quote (End User)

End users may need to update an opportunity with the potential revenue from a quote. This will keep managers current with the potential revenue and may impact their decisions.

### *To transfer revenue from a quote to an opportunity*

- 1 Navigate to the Quotes screen and select the desired quote.
- 2 If you want to review the opportunity, perform the following steps:
  - a In the Quote list, drill down on the name in the Opportunity column.
  - b Review the information about the opportunity, and when you are finished, return to the Quotes screen.
- 3 Click the Line Items view tab.
- 4 In the Line Items list, verify that the quote line items and prices are correct.
- 5 When you are satisfied the entries are correct, click Update Opportunity.

## Converting Quotes to Orders (End User)

After a customer agrees to the details of a quote, the employee end user can follow the procedure below to convert a quote into an order.

### *To convert a quote to an order*

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.  
The Customer Portal view appears.
- 2 In the Quotes list, drill down on the desired Quote Number.  
The Quote form appears, displaying details of the quote.
- 3 Click the Orders view tab.
- 4 On the Quote Header form, click Auto Order.  
The quote is converted to an order and displayed in the Orders Line Items view.

The following Business Component fields are transferred from the quote to the order when the user click Sales Order. Some of these fields are not exposed in the UI:

- **To Order.** Account Id, Discount, Discount Amount, Discount Amount MRC, Discount Reason, Contact Id, Currency Code, Price List Id, Order Type, Quote Id, Billing Account Id, Service Account Id, Agreement Id.



- **To Order Item.** Base Price, Service Account Id, Asset Id, Service Id, Discount Amount, Discount Amount MRC, Discount Percent, Discount Percent MRC, Discount Source, Volume Discount Id, Volume Discount Item Id, Unit Price, MRC CxTotal, NRC CxTotal, Due Date, Agreement Id, Quantity Requested, Product Id, Action Code, List Price, Asset Integration Id, Billing Account Id.
- **To Order Item Attribute.** Name, Required, Sequence, Unit of Measure, Validation, Description, Action Code, Data Type, Value, Attribute Id, Display Name, Hidden, LOV Type, Read Only.

## Editing Order Line Items (End User)

Employee end users can edit the configuration of customizable products in pending orders by use the procedure below. A customer asset does not need not be associated with the order.

If the order an end user is changing is a modification to a customer asset, all open orders are applied to the asset before it is displayed in the Configurator selection pages.

### *To edit order line Items*

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Orders list, drill down on the desired Order #.

The Sales Order form and Line Items list appear, displaying details of the order.

- 3 In the Line Items list, select the line item you want to modify.

- 4 In the order's Status field, make sure the status is Open or Pending.

If the status is Complete, the order has been fulfilled. If the customer wants to make a change to a completed order, you must create a new order or revise an existing order. To create a new order, which you must do when modifying an installed customer asset, see ["Modifying the Service Profile \(End User\)" on page 52](#). To revise an existing order, see ["Revising a Submitted Order \(End User\)" on page 50](#).

- 5 Select the line item that you want to edit and change the values of the fields directly in the line item.

The action code of the line item will is changed Update. For more information about action codes, see [Chapter 11, "Business Service Methods Reference."](#)

- 6 To change the configuration of an item, select the line item you want to edit and click Customize. A Configurator session launches and displays selection pages.

- 7 Modify the configuration of the product or service as needed, and click Done.

The revised configuration appears in the Line Items list. The Revision field displays the version of the order, which is incremented when the order is revised to create a supplemental order.

## Submitting an Order (End User)

Employee end users can use the following procedure to submit an order.

### ***To submit an order***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Orders list, drill down on the desired Order #.

The Sales Order form and Line Items list appear displaying details of the order.

- 3 In the Sales Order form, click Submit.

The Status changes to Open for the order and for any line items that were previously pending.

## Revising a Submitted Order (End User)

Employee end users may need to revise an order that has been submitted. It must be revised before it can be changed and resubmitted. This is also called a **Supplemental** order. The procedure below describes how end users can do this to open orders.

### ***To revise a submitted order***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.

The Customer Portal view appears.

- 2 In the Orders list, drill down on the desired order number of the open order.

The Sales Order form and Line Items list appear, displaying details of the order.

- 3 In the Sales Order form, click Revise.

- 4 In the Line Items list, select the line item you want to modify.

- 5 To change the configuration of a line item, select the item and click Customize.

A Configurator session launches and displays selection pages. The selection pages display the current configuration of the customer asset adjusted for any open orders.

- 6 Modify the configuration of the customizable product or service as needed and click Done.

- 7 In the Sales Order form, click Submit.

The Status changes to Open for the order and any line items that were previously pending.

The integrator is responsible for extending the Submit Order Process workflow to do both of the following:

- Compare the before and after versions of the order.

- Interact with the service fulfillment system to cancel, update, rollback, or accelerate the order line items.

If a user changes the action codes manually in the line item, it changes the effect on the previous order as shown in the table below. For more information about action codes, see [Chapter 11, "Business Service Methods Reference."](#)

Original Action	Status	New Action	Effect
- (Dash)	All	- (Dash)	No effect
- (Dash)	All	Update	Updates service item
- (Dash)	All	Delete	Deletes service item
- (Dash)	All	Add	No effect
Add	Complete	- (Dash)	No effect
Add	Complete	Update	Updates service item
Add	Complete	Delete	Deletes service item
Add	Complete	Add	No effect
Add	Complete	- (Dash)	No effect
Add	Complete	Update	No effect
Add	Complete	Delete	No effect
Add	Complete	Add	Adds service item
Update	All	- (Dash)	No effect
Update	All	Update	Updates service item
Update	All	Delete	Deletes service item
Update	All	Add	No effect
Delete	Complete	- (Dash)	No effect
Delete	Complete	Update	No effect
Delete	Complete	Delete	No effect
Delete	Complete	Add	Adds service item with same configuration
Delete	Complete	- (Dash)	No effect
Delete	Complete	Update	Updates service item
Delete	Complete	Delete	Deletes service item
Delete	Complete	Add	No effect

## Creating a Follow-On Order (End User)

An order passes the point of no return when the company's business policies dictate that a customer is no longer allowed to change the order because it would be too expensive. For example, the service is fully installed and is now being tested.

When an order has reached the point of no return, so it is not possible to create a supplemental order, you can create a follow-on order for a customer, which allows the customer to place a new order for the same service using the original order as a starting point.

### ***To create a follow-on order***

- 1 Navigate to the Orders screen.
- 2 In the Orders list, query for the order for which you want to create a follow on order.
- 3 Drill down on the Order # link to display the Order > Line Items view.
- 4 Select the line item for the service that you want to change and click Modify.
- 5 If the service is customizable, the Configurator view will be displayed. Make the changes to the service and click Done.

Depending on the type of Account (Residential or Business) either the Quote Detail view or the Order Line Items view will be displayed with the follow-on order.

## Modifying the Service Profile (End User)

Employee end users use the Customer Portal to access the service profile and invoke the processes above. End users can also access an account's service profile in the Billing Item and Installed Asset views.

**NOTE:** There is an Accounts view labeled Service Profile, but it is used primarily in Field Service. It does not display the customer's service profile as it is used in ordering.

There are several ways to modify the service profile of a customer:

- Create a quote for a new item. See ["Creating a Quote \(End User\)" on page 43](#).
- Create a quote that modifies an existing item. See ["Creating a Quote That Modifies a Service Asset \(End User\)" on page 45](#).
- Create a quote to disconnect an item. See ["Disconnecting an Installed Service Asset \(End User\)" on page 53](#).

If a quote is generated by any of these methods, the service profile will be updated when the quote and subsequent order are fulfilled. This is typically done in one of two ways:

- From an external order management system. For more information on how this is done, see ["Workflow to Apply an Order to the Service Profile" on page 68](#).

- From an external system that maintains service profiles. In this case Siebel EIM sends a replication of the customer's profile to the Siebel application. For more information about EIM, see *Siebel Enterprise Integration Manager Administration Guide*.

Preconfigured, an Auto-Asset button can be used to update the service profile from a completed Order. However, when one of the two methods above is implemented, the integrator usually removes the Auto-Asset button. If the Auto-Asset button has not been removed, the end user can use the following procedure.

### ***To modify the service profile using Auto-Asset***

- 1 Navigate to the Sales Orders view of the Orders screen.
- 2 In the Orders list, drill down on the desired order number of an order that has been submitted.
- 3 In the Line Items list, set the status of the line items to Complete.
- 4 Click Auto-Asset.  
**NOTE:** Auto-Asset must be invoked once for each root level product in the Order.
- 5 Navigate to the Customer Portal view for the Service Account associated with the line items.  
The completed order line items will be reflected in the service profile.

## **Disconnecting an Installed Service Asset (End User)**

Employee end users can use the procedure below to create a quote that discontinues an existing customer service.

**NOTE:** When you use this procedure, the account type determines whether a quote or order is created. If the account type is *Residential*, quotes are not created and all modifications of the service profile create an order directly. For all other account types, a quote is created.

### ***To disconnect a service item***

- 1 Navigate to the Accounts screen, and in the Account list, drill down on the account name hyperlink.  
The Customer Portal view appears.
- 2 In Service Items or Billing Items, select the service item you want to disconnect, and click Disconnect.  
The Quotes form appears. The Line Items list shows the items that will be disconnected.
- 3 Verify that the service items you want to disconnect display an action code of Delete.
- 4 Convert the quote to an order and submit it. For more information, see ["Converting Quotes to Orders \(End User\)" on page 48](#).

## Moving a Service to Another Location (End User)

Employee end users can use the following procedure to disconnect services at one address (move-out address) and install the same services at another address (move-in address).

If the correct service points exist at the new address for the transferred services, the services are automatically assigned to these service points.

This procedure creates a quote that shows the service being deleted for one address and added for another address. The items displayed in the quote reflect the current configuration of the service adjusted for changes contained in open orders.

**NOTE:** A service can only be transferred if it is provisioned at a service point. The Workflow will not recognize services that are not tied to a service point.

### *To transfer a service to another location*

- 1** Navigate to the All Accounts view of the Accounts screen with the desired account selected.
- 2** In the Account form, click Select in the Address Line 1 field.  
The Account Addresses dialog box displays.
- 3** In the Account Addresses dialog box, select the move-in address.  
If the move-in address is not present, click New and enter the address.
- 4** In the Start Date field, enter the date on which you want the services to become active for billing purposes.
- 5** In the move-out address End Date field, enter the date on which you want the services to end for billing purposes.
- 6** Click the Transfer Service button.  
The Line Items view appears.  
It lists two copies of the service. The line items in one copy have an action code of Delete and are associated with the move-out address. The line items in the other copy have an action code of Add and are associated with the move-in address.
- 7** For each service item, verify that there is a service point in the Service Point field.  
**NOTE:** This indicates that there is a service point available at the move-in address.
- 8** If a service item does not display a service point, delete the item from the quote.
- 9** Convert the quote to an order and submit it. See [“Converting Quotes to Orders \(End User\)”](#) for more details.

## Suspending and Resuming Service (End User)

When you create a suspend order, you stop service. The customer is still the owner of the service, but no service is being delivered. When you create a resume order, you recommence a service that has been suspended.

You may use suspend and resume orders for a number of reasons:

- Customers who are going on vacation may want to suspend their newspaper delivery service while they are away.
- A chain store may have one branch in a remote location that closes for the winter, so it wants to suspend both its phone and internet service to that site for the winter.
- A phone company may have a policy saying that, if customers have not paid their bills for three months and do not respond to calls from collection agents, the phone company suspends their service. The phone company resumes service after the bills are paid.
- Customers may report that they have lost their cell phones, and the phone company suspends service to prevent fraud. When the phones are found, the company resumes the service.

### ***To enter a suspend order***

- 1** Navigate to the Accounts view of the Accounts screen.
- 2** In the Accounts list, click the name of the customer who has the service.
- 3** Click the Installed Assets view tab.
- 4** If necessary, do a query to find the assets to be suspended.

For example, if you want to suspend service to a site, query on the Point of Service field to find all assets for that site.

- 5** In the Installed Assets list, select one or more services with the status of Active.
- 6** Click Suspend.

### ***To enter a resume order***

- 1** Navigate to the Installed Assets view.
- 2** In the Installed Assets list, select a service that has the status of Suspended.
- 3** Click Resume.





# 5

## Workflows for Employee Ordering

This chapter explains the Siebel workflows used for employee order management.

In this chapter, the workflows are grouped in sections that correspond to the business processes that they automate. Each section describes a workflow process and may describe one or more subprocesses that are called by the main process. These are grouped together to show how the process and its subprocesses are related to each other.

This chapter includes the following sections:

- [“About Workflows for Employee Ordering” on page 57](#)
- [“Workflow to Generate Revenue Line Items for an Opportunity” on page 58](#)
- [“Workflow to Ungroup Quote Line Items” on page 59](#)
- [“Workflow to Ungroup Order Line Items” on page 60](#)
- [“Workflow to Edit Quote Line Items” on page 61](#)
- [“Workflow to Convert a Quote to an Order” on page 63](#)
- [“Workflow to Edit Order Line Items” on page 65](#)
- [“Workflow to Submit an Order” on page 68](#)
- [“Workflow to Apply an Order to the Service Profile” on page 68](#)
- [“Workflows to Modify the Service Profile” on page 70](#)
- [“Workflows to Redisplay the Service Profile” on page 72](#)
- [“Workflows to Modify a Service Item” on page 76](#)
- [“Workflows to Disconnect a Service Item” on page 82](#)
- [“Workflows to Transfer a Service to Another Location” on page 85](#)
- [“Workflows to Suspend or Resume Service Items” on page 93](#)
- [“Workflows to Validate a Network” on page 96](#)
- [“Workflow for Pricing Comparison” on page 99](#)
- [“Workflows for Enrollment” on page 101](#)

## About Workflows for Employee Ordering

Workflows are a central feature of Siebel Order Management. They automate the business processes associated with managing accounts, quotes, orders, and assets.

You can modify these workflows to suit your own business model using Siebel Business Process Designer. For more information, see *Siebel Business Process Designer Administration Guide*.

Many of these processes and subprocesses use business service methods that are specific to Order Management. The descriptions of workflows include tables listing the names of any methods they call. For information about these methods, see [Chapter 11, "Business Service Methods Reference."](#)

## Workflow to Generate Revenue Line Items for an Opportunity

This workflow generates revenue line items for an opportunity from its associated quote. It consists of the workflow process:

### ■ SIS OM Update Revenue

#### SIS OM Update Revenue Workflow

This workflow creates revenue items for all quote line items. For quote line items that have a recurring charge, multiple revenue items are generated at intervals defined by the unit of measure. The number of occurrences specified in the quote line item defines the number of line items generated. This workflow is shown in [Figure 2](#).

A user initiates this workflow by clicking the Update Opportunity button in the Quote Detail view.

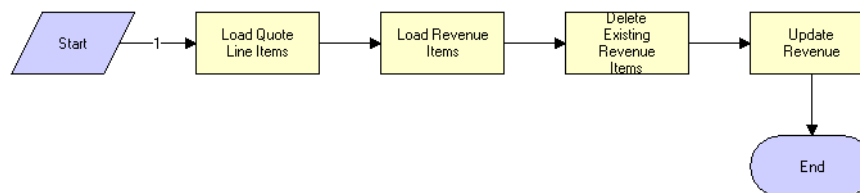


Figure 2. SIS OM Update Revenue Workflow

**Workflow Description.** This workflow does the following:

- 1** Reads the quote line items from the database.
- 2** Reads the revenue items associated with the opportunity related to the quote from the database.
- 3** Deletes the existing revenue items.
- 4** Creates revenue items for each quote line item that has the following:
  - An action code of Add or Update
  - A price type that is not Usage

- An extended quantity that is not zero

For line items with recurring price types, the workflow generates a quantity of revenue items equal to the value of the quote line item's Number of Occurrences field, at intervals equivalent to the unit of measure.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
Update Revenue	Quote To Revenue

## Workflow to Ungroup Quote Line Items

This workflow ungroups the line items in a quote so that all items have a quantity of 1. It consists of the workflow process:

- SIS OM Ungroup Quote

### SIS OM Ungroup Quote

This workflow decomposes each line item with a quantity greater than 1 into multiple line items, each with a quantity of 1. It ungroups the root product and every child product. Subsequently, a user can specify different attributes for each line item. Ungroup can act only on the root product level; it cannot ungroup individual child products without ungrouping the root and all its children. This workflow is shown in [Figure 3](#).

A user initiates this workflow by clicking the Ungroup button in the Order Entry - Line Items view (Sales).

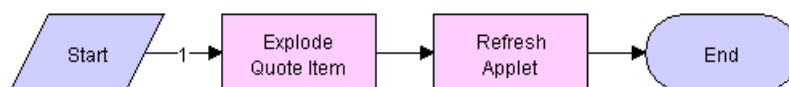


Figure 3. SIS OM Ungroup Quote Business Process

**Workflow Description.** This workflow does the following:

- 1 Ungroups (explodes) the quote line items.

If the quantity of any line item is greater than 1, then the workflow creates multiple instances of the line item, each with a quantity of 1.

**NOTE:** NOTE: Items with the Auto Explode flag set to N are not exploded.

- 2 Refreshes the Quote Item list of the Order Entry - Line Items view (Sales).

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Explode Quote Line Item	Ungroup
Refresh Applet	Refresh Business Component

## Workflow to Ungroup Order Line Items

This workflow ungroups the line items in a quote so that all items have a quantity of 1. It consists of the workflow process:

### ■ SIS OM Ungroup Order

#### SIS OM Ungroup Order

This workflow decomposes each line item with a quantity greater than 1 into multiple line items, each with a quantity of 1. It ungroups the root product and every child product. Subsequently, a user can specify different attributes for each line item. Ungroup can act only on the root product level; it cannot ungroup individual child products without ungrouping the root and all its children. This workflow is shown in [Figure 4](#).

A user initiates this workflow by clicking the Ungroup button in the Quote Detail view.

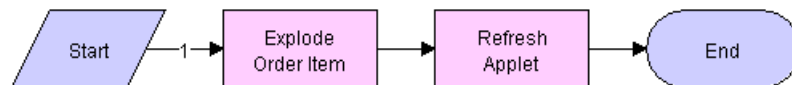


Figure 4. SIS OM Ungroup Order Business Process

**Workflow Description.** This workflow does the following:

**1** Ungroups (explodes) the order line items.

If the quantity of any line item is greater than 1, then the workflow creates multiple instances of the line item, each with a quantity of 1.

**NOTE:** Items with the Auto Explode flag set to N are not exploded.

**2** Refreshes the Order Entry - Line Item view's Order Item list.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Explode Order Line Item	Ungroup
Refresh Applet	Refresh Business Component

# Workflow to Edit Quote Line Items

This workflow allows a user to edit the line items of quotes that result from creating or modifying service items. It consists of the workflow process:

## ■ SIS OM Edit Delta Quote Line Item

### SIS OM Edit Delta Quote Line Item

This workflow applies active and unprocessed orders to the asset associated with the selected line item and displays the asset in the Product Configurator view. The user makes changes to define the newly requested state and clicks the Done button. The workflow writes the delta of the current and requested states of the asset to the current quote as 1 or more line items. This workflow is shown in Figure 5.

A user initiates this workflow by clicking Customize in the Quote Detail view.

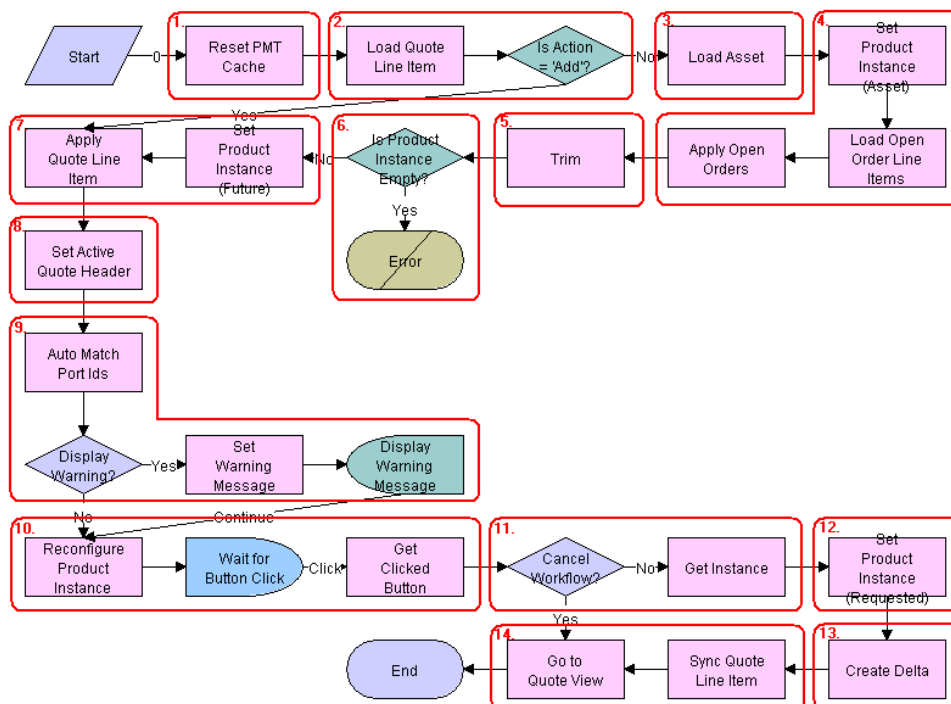


Figure 5. SIS OM Edit Delta Quote Line Item Workflow

**Workflow Description.** This workflow does the following:

- 1 Clears business service cache of existing product instances.
- 2 Checks the action code of the top-level component of the order line item. If the action code is Add, then goes to Step 7.

- 3 If the action code is not Add, reads the asset associated with the selected quote line item from the database. Components with a status of Inactive are excluded.
- 4 Retrieves all prior active and unprocessed orders that relate to the asset and applies them to generate the requested future state of the asset.
- 5 Removes all asset components that do not have the 'Track As Asset' flag set.
- 6 If one of the active and unprocessed orders disconnects the top-level component, or there are asset components with the 'Track As Asset' flag set, the resulting asset is empty. The workflow displays the following error message: A request has already been made to disconnect this service item. The workflow stops.
- 7 Applies the current quote line item to the asset.
- 8 Stores the quote header so that line items can be added to it.
- 9 Self-heals the asset such that the asset structure matches the product definition. If any changes are made to the asset, a warning message appears.
- 10 Displays the currently requested state of the asset in the Product Configurator view. The user makes the required changes and clicks the Done or Cancel button.
- 11 If the user clicks the Cancel button, the workflow is terminated. If the user clicks the Done button, the newly requested state is retrieved from the Configurator.
- 12 If the action code of the root item is not Add, caches the previously requested state of the asset to be used as an input to Delta.
- 13 Generates the delta of the following as 1 or more quote line items:
  - The requested state of the asset before the current order line item was applied.
  - The state of the asset after the user has reconfigured it.
- 14 Writes the quote line item to the database and refreshes the view.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Set Product Instance (Asset)	Set Product Instance
Load Open Order Line Items	Find Orders
Apply Open Orders	Apply
Trim	Trim
Set Product Instance (Future)	Set Product Instance
Apply Changes Quote Line Item	Apply
Set Active Quote Header	Set Output Header
Auto Match Port Ids	AutoMatch
Reconfigure Product Instance	Reconfigure Product Instance

Workflow Step	Business Service Method Called
Get Clicked Button	Get Configure Button Click Information
Get Instance	Get Product Instance
Set Product Instance (Requested)	Set Product Instance
Create Delta	Delta
Sync Quote Line Item	Synchronize
Go To Quote View	GotoView

## Workflow to Convert a Quote to an Order

This workflow allows a user to convert a sales quote to a sales order. It consists of the workflow processes:

- SIS OM Quote To Order Workflow
- CUT Quote To Order PMT Enhancement
  - CUT Quote To Order PMT Enhancement Sub-process

### SIS OM Quote To Order PMT Version

This workflow creates an order that is associated with the current quote. It copies the line items from the quote to the order and sets the quote's status to Order Placed. This workflow is shown in [Figure 6](#).

A user initiates this workflow by choosing the Sales Order button or menu option in the Quote Orders view.

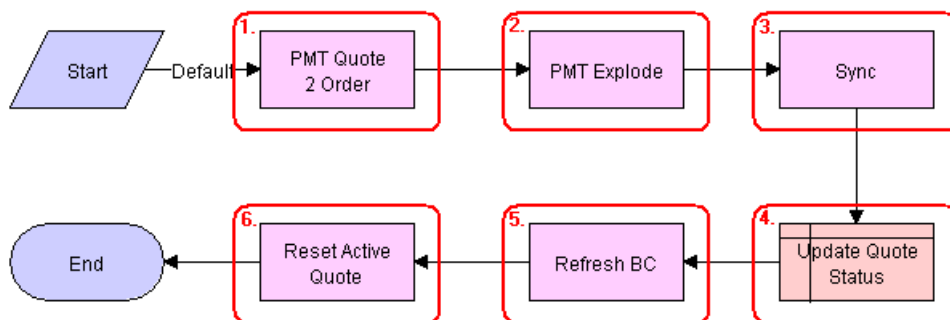


Figure 6. SIS OM Quote To Order Workflow PMT Version

**Workflow Description.** This workflow does the following:

- 1 Converts a quote to an order. The new order has all the line items and attributes of the quote.

- 2 Explodes line items with a quantity greater than 1 into multiple copies of the line item, each with quantity 1.
- 3 Writes the order to the database.
- 4 Set the status of the quote to Order Placed.
- 5 Refreshes the Quote Orders View.
- 6 Resets the Active Quote so that the current quote is no longer the active quote.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
PMT Quote 2 Order	Convert Product Instance
PMT Explode	Explode
Sync	Synchronize
Refresh BC	Refresh Business Component
Reset Active Quote	Set Profile Attribute

## CUT Quote To Order PMT Enhancement

This workflow creates an order that is associated with the current quote. It copies the line items from the quote to the order and sets the quote's status to Order Placed. It then displays the new order in the Order Entry - Line Items view. This workflow is shown in [Figure 7](#).

A user initiates this workflow by clicking the Auto Order button in the Quote Detail view.

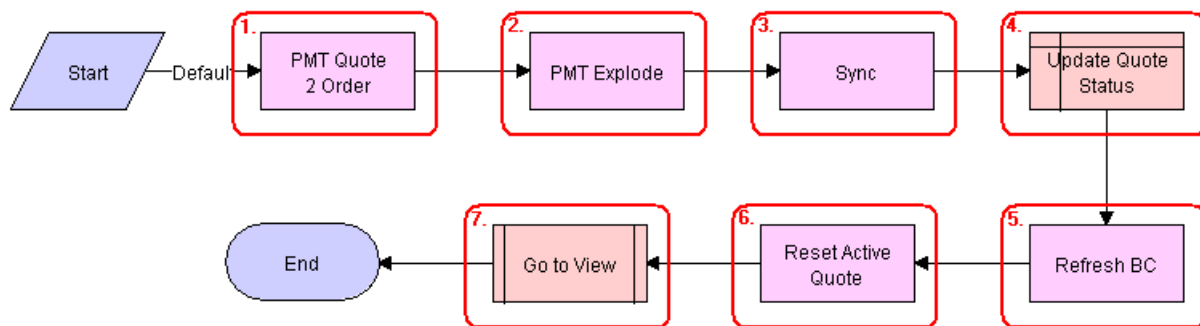


Figure 7. CUT Quote To Order PMT Enhancement

Workflow Description. This workflow does the following:

- 1 Converts a quote to an order. The new order has all the line items and attributes of the quote.
- 2 Explodes line items with a quantity greater than 1 into multiple copies of the line item, each with quantity 1.



- 3 Writes the order to the database.
- 4 Set the status of the quote to Order Placed.
- 5 Refreshes the Quote Orders business component.
- 6 Resets the Active Quote such that the current quote is no longer the active quote.
- 7 Displays the Order Entry - Line Items view.

Associated Business Service Methods. The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
PMT Quote 2 Order	Convert Product Instance
PMT Explode	Explode
Sync	Synchronize
Refresh BC	Refresh Business Component
Reset Active Quote	Set Profile Attribute

## CUT Quote To Order PMT Enhancement - Sub-process

This workflow displays the Order Entry - Line Items view.

The CUT Quote To Order PMT Enhancement workflow initiates this workflow. The workflow is shown in [Figure 8](#).

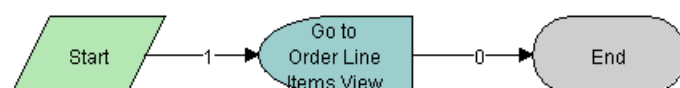


Figure 8. CUT Quote To Order PMT Enhancement - Sub-process

## Workflow to Edit Order Line Items

This workflow allows a user to edit order line items. It consists of the workflow process:

- SIS OM Edit Service Order Line Item

### SIS OM Edit Service Order Line Item

This workflow applies active and unprocessed orders to the asset associated with the selected line item and displays the asset in the Product Configurator view. The user makes changes to define the newly requested state and clicks the Done button. The workflow then writes the delta of the current and requested states of the asset to the current order as 1 or more line items. This workflow is shown in [Figure 9](#).

A user initiates this workflow by clicking the Customize button in the Order Detail view.

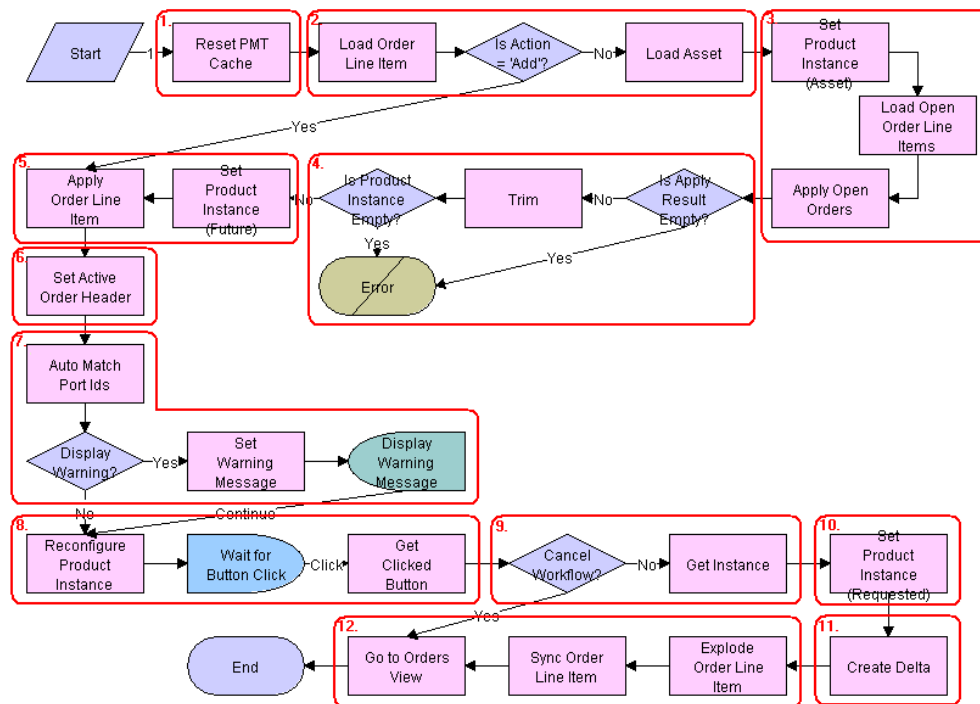


Figure 9. SIS OM Edit Service Order Line Item Workflow

**Workflow Description.** This workflow does the following:

- 1 Clears the business service cache of existing product instances.
- 2 Loads the asset associated with the current order line item, if it exists. Checks the action code of the top-level component of the order line item. If the action code is Add, then go to [Step 5](#).
- 3 Retrieves all prior active and unprocessed orders related to the asset and applies them to generate the requested future state of the asset.
- 4 Removes the asset components that do not have the 'Track As Asset' flag set. If none of the components has the 'Track As Asset' flag set or one of the active and unprocessed orders disconnects the top-level component, the resulting asset is empty. The workflow displays the following error message: A request has already been made to disconnect this service item. The workflow stops.
- 5 Applies the current order line item to the asset.
- 6 Stores the order header so that line items can be added to it.
- 7 Self-heals the asset such that the asset structure matches the product definition. If any changes are made to the asset, as warning message is displayed.
- 8 Displays the currently requested state of the asset in the Product Configurator view. The user makes the required changes and clicks the Done or Cancel button.

- 9 If the user clicks the Cancel button the workflow is terminated. If the user clicks the Done button, the newly requested state is retrieved from the Configurator.
- 10 Caches the newly requested state of the asset to be used as an input to Delta.
- 11 Generates the delta of the following as one or more order line items:
  - The requested state of the asset before the current order line item was applied.
  - The state of the asset after the user has reconfigured it.
- 12 Explodes (ungroups) any order line item that has a quantity of more than 1 into multiple line items, each with a quantity of 1. Writes the order line item to the database and refreshes the view.

**NOTE:** This step does not control the quantity of the line items, but only works with the quantity it has been given. The user specifies order line item quantities in Configurator.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Set Product Instance (Asset)	Set Product Instance
Load Open Order Line Items	Find Orders
Apply Open Orders	Apply
Trim	Trim
Set Product Instance (Future)	Set Product Instance
Apply Order Line Item	Apply
Set Active Order Header	Set Output Header
Auto Match Port Ids	AutoMatch
Reconfigure Product Instance	Reconfigure Product Instance
Get Clicked Button	Get Configure Button Click Information
Get Instance	Get Product Instance
Set Product Instance (Requested)	Set Product Instance
Create Delta	Delta
Explode Order Line Items	Explode
Sync Order Line Items	Synchronize
Go to Orders View	GotoView

## Workflow to Submit an Order

This workflow allows a user to submit an order, which signals the provisioning system that the order is ready to be provisioned. It consists of the workflow process:

### ■ SIS OM Submit Order Process

#### SIS OM Submit Order Process

This workflow checks that account information exists. It sets the status of the order and the line items to Open. Because only orders that do not have a status of Open can be submitted, this prevents the order from being submitted again. This workflow is shown in [Figure 10](#).

A user initiates this workflow by clicking the Submit button on the order header form in the Order Entry views.

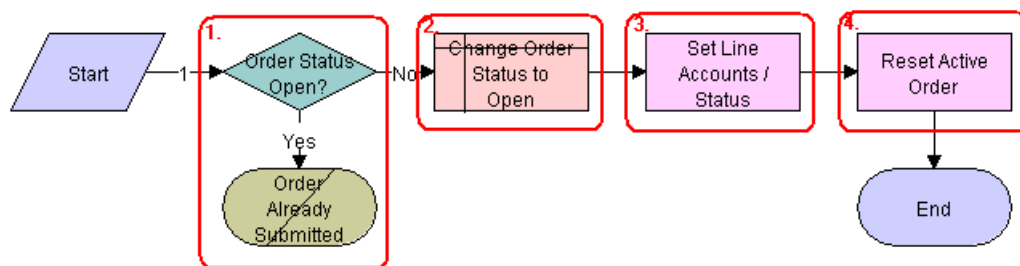


Figure 10. SIS OM Submit Order Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Checks that the order status is not Open.
- 2 If the order has a status of Open, it cannot be submitted, because it has already been submitted.
- 3 Sets the status of the order to Open.
- 4 Sets the status of each Pending line item to Open.
- 5 Resets the Active Order such that the current order is no longer the active order.

#### SIS OM Auto Select Order Billing and Service Accounts - SIA

This workflow used to be called by an earlier version of "SIS OM Submit Order Process." It is now obsolete, but it has been retained for backward compatibility.

## Workflow to Apply an Order to the Service Profile

This workflow applies a completed order line item to the current account's service profile. It consists of the workflow process:

■ SIS OM Apply Completed Service Order Line Item to Service Profile

## SIS OM Apply Completed Service Order Line Item to Service Profile

This workflow creates assets from completed order line items or modifies a current asset. It therefore maintains the account's service profile, which consists of its associated assets. If there are multiple accounts in an account hierarchy, service items are applied to the service account. This workflow is shown in [Figure 11 on page 69](#).

**NOTE:** You must develop an order synchronization workflow that updates the status of order line items in your Siebel application when your company's external order management system completes all or part of an order. After it updates all the order items, the order synchronization workflow must call this workflow to apply the completed changes to the customer's service profile, which is stored as a series of assets. You can disable this workflow if an external system maintains service profiles.

By default, a user initiates this workflow by clicking the Auto-Asset button in the Order Entry - Order Line Items view.

**NOTE:** The Auto-Asset button is designed for testing and demonstration purposes, not for actual end use. It is recommended that you configure your Siebel application to call this workflow as a subprocess of the order synchronization workflow mentioned previously.

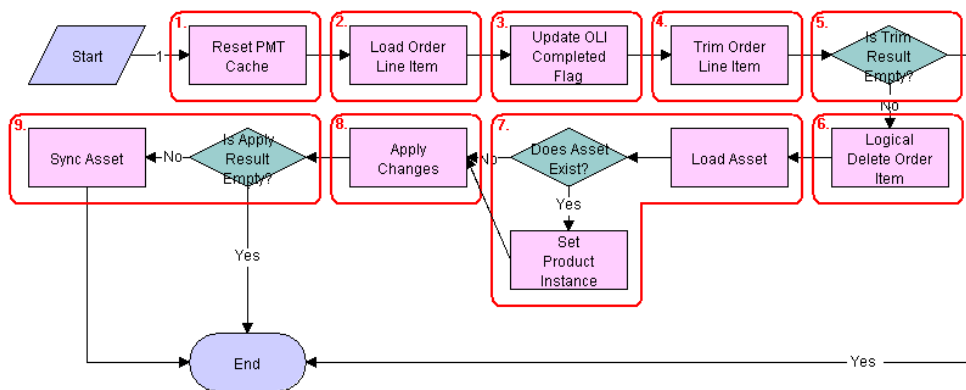


Figure 11. SIS OM Apply Completed Service Order Line Item to Service Profile Workflow

**Workflow Description.** This workflow does the following:

- 1 Clears business service cache of existing product instances.
- 2 Loads the selected order line item from the database.
- 3 Updates the Order Item Processed flag.

The workflow updates the Order Item Processed flag of the topmost order line item. The workflow sets this flag to Y if all line items have a status of Complete, Failed, or -. Other workflows use this flag to determine whether a line item remains Open and should be applied to the current service profile to generate a requested future state.

**4** Applies the Trim method.

Trim eliminates any incomplete or failed changes from the order line item. It eliminates line items whose products are not tracked as assets, line items whose status is not Complete, and line items whose action code is "-". This causes the service profile to reflect the true state of the assets.

**5** Checks whether line items exist.

If Trim has eliminated all line items, the workflow stops. Otherwise, the workflow continues.

**6** Converts Delete actions into Update actions.

The Logical Delete step converts Delete actions into Update actions and sets the status to Inactive. This step supports the maintenance of a history of disconnected services.

**7** Loads the service profile from the database.

If the order line item is a change to an existing item, the workflow loads the corresponding service profile, or asset, from the database.

**8** Applies the order line item to the asset.

If the asset does not already exist, the workflow creates a new asset.

**9** Checks whether the asset is empty.

If, as a result of applying the changes, the asset is empty, the workflow stops. Otherwise, the workflow writes the asset to the database.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Update OLI Completed Flag	Update Order Line Item Completed Flag
Trim Order Line Item	Trim
Logical Delete Order Line Item	Logical Delete
Apply Changes	Apply
Set Product Instance	Set Product Instance
Sync Asset	Synchronize

## Workflows to Modify the Service Profile

This group of workflows allows a user to modify a service profile by requesting new service items. It consists of the workflow process and nested subprocesses:

- SIS OM New Products & Services Process
- SIS OM New Products & Services Process - VORD
  - SIS OM Active Quote Sub-process

■ SIS OM Active Order Sub-process

## SIS OM New Products & Services Process

This workflow displays the active document, if there is one, or a newly created document in the Quote Detail or Order Entry - Line Items view. The user can then add line items, add or delete an asset, or change the attributes of the asset. This workflow is shown in [Figure 12 on page 71](#).

A user initiates this workflow by clicking the New button in the Account screen's Service Items view, Billing Items view, or Customer Portal view. This workflow is also initiated as a subprocess of the SIS OM New Products & Services Process - VORD.

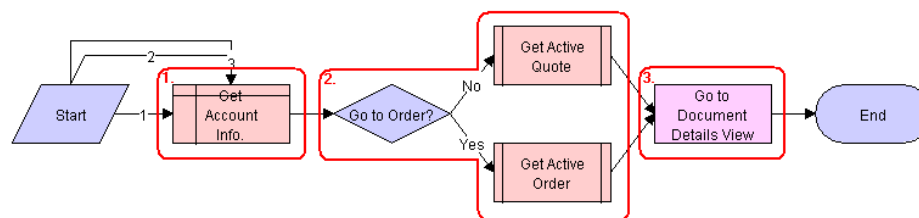


Figure 12. SIS OM New Products & Services Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Gets the account information.
- 2 If the account is of type 'Residential', the workflow retrieves the active order. Otherwise it retrieves the active quote.

The workflow retrieves the active document (quote or order) from the session. If there is no active document, a new document is created and set as the active document. If there is an active document, the subprocess checks that the document is associated with the same customer account as the asset being modified, and that the document has the correct status. See ["SIS OM Active Quote Sub-Process" on page 78](#) and ["SIS OM Active Order Sub-Process" on page 79](#). If the quote does not meet these criteria, the workflow creates a new document and sets it as the active document.

- 3 Displays the document in the Quote Details or Order Entry - Line items view, as appropriate.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls business service methods.

Workflow Step	Business Service Method Called
Go to Document Details View	GotoView

## SIS OM New Products & Services Process - VORD

This workflow displays the active document, if there is one, or a newly created document in the Quote Detail or Order Entry - Line Items view. The user can then add line items, add or delete an asset, or change the attributes of the asset. This workflow is shown in [Figure 13 on page 72](#).

A user initiates this workflow by clicking the New button in the Networks screen's Nodes, Connections or All Elements view.

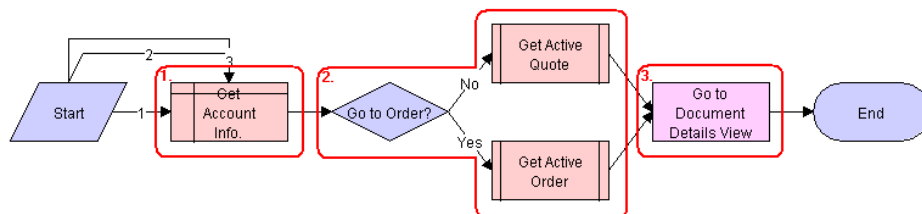


Figure 13. SIS OM New Products & Services Process - VORD Workflow

**Workflow Description.** This workflow does the following:

- Gets the account information associated with the current network and initiates the SIS OM New Products & Services workflow to display the active document.

## Workflows to Redisplay the Service Profile

- There are a number of workflows that navigate to the current account's service profile (Service Items, Billing Items or Customer Portal view), which displays only the account's active assets. They are:
  - SIS OM Profile Process
  - CUT Order Profile Process
  - SIS OM Go to Products and Services Sub-process
  - CUT Quote Portal Process
  - CUT Order Portal Process
  - CUT Go To Customer Portal Sub-process

### SIS OM Profile Process

This workflow makes the current quote the active quote. It then displays the Billing Items or Service Items view for the account associated with the current quote. This workflow is shown in [Figure 14](#).



A user initiates this workflow by clicking the Profile button in the Quote Details view.

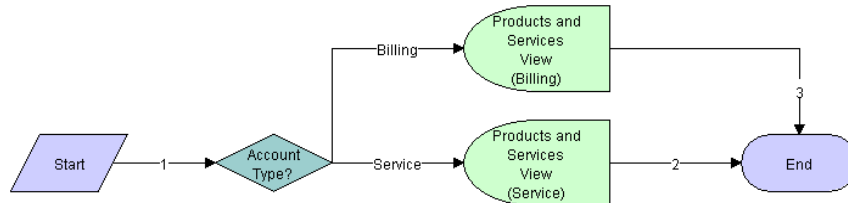


Figure 14. SIS OM Go to Products and Services Sub-Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Displays an error message and stops if the quote header does not specify an account.
- 2 Sets the current quote as the active quote.
- 3 Displays the Service Items or Billing Items view, depending on the type of account.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset Active Quote	Set Profile Attribute
Set Active Quote	Set Profile Attribute
Go to Account Profile View	GotoView

## CUT Order Profile Process

This workflow displays the Billing Items or Service Items view for the account associated with the current order. This workflow is shown in [Figure 15 on page 73](#).

A user initiates this workflow by clicking the Profile button in the Order Entry - Line Items view.

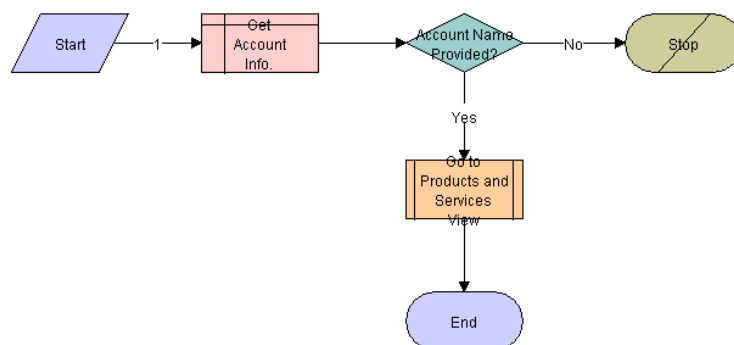


Figure 15. CUT Order Profile Process

**Workflow Description.** This workflow does the following:

- 1 Displays an error message and stops if the quote header does not specify an account.
- 2 Displays the Service Items or Billing Items view, depending on the type of account. See ["SIS OM Go to Products and Services Sub-Process"](#) on page 74.

## SIS OM Go to Products and Services Sub-Process

Displays the Billing Items or Service Items view, depending on the type of account associated with the current quote. This workflow is shown in [Figure 16](#).

The CUT Order Profile Process initiates this workflow.

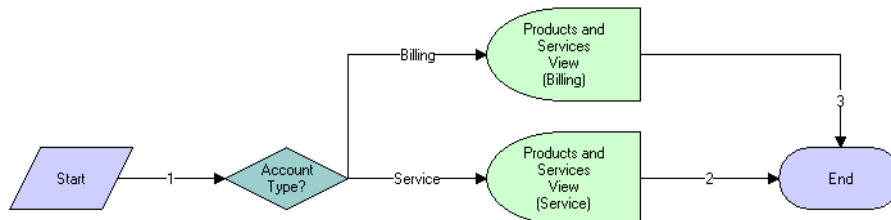


Figure 16. SIS OM Go to Products and Services Sub-Process Workflow

**Workflow Description.** This workflow does the following:

- If the account is a billing account, displays the Billing Items view.
- If the account is not a billing account, displays the Service Items view.

## CUT Quote Portal Process

This workflow displays the Customer Portal view for the account associated with the current quote. This workflow is shown in [Figure 17 on page 74](#).

A user initiates this workflow by clicking the Portal button in the Quote Detail view.

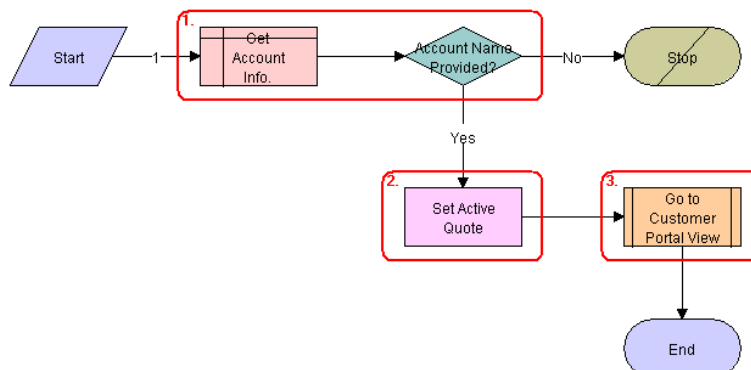


Figure 17. CUT Quote Portal Process

**Workflow Description.** This workflow does the following:

- 1 Displays an error message and stops if the quote header does not specify an account.
- 2 Sets the current quote as the active quote.
- 3 Displays the Customer Portal view. See [“CUT Go To Customer Portal Sub-process” on page 75.](#)

**Associated Business Service Methods.** The following table shows the step in this workflow that calls business service methods.

Workflow Step	Business Service Method Called
Set Active Quote	Set Profile Attribute

## CUT Order Portal Process

This workflow displays the Customer Portal view for the account associated with the current order. This workflow is shown in [Figure 18 on page 75.](#)

A user initiates this workflow by clicking the Portal button in the Order Entry - Line Items view.

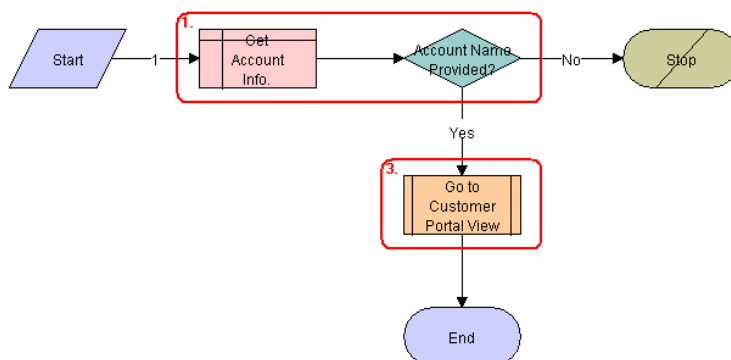


Figure 18. CUT Order Portal Process

**Workflow Description.** This workflow does the following:

- 1 Displays an error message and stops if the quote header does not specify an account.
- 2 Displays the Customer Portal view. See [“CUT Go To Customer Portal Sub-process” on page 75.](#)

## CUT Go To Customer Portal Sub-process

This workflow displays the Customer Portal view.

The CUT Quote Portal Process and CUT Order Portal Process initiate this workflow. The workflow is shown in [Figure 19 on page 76](#).

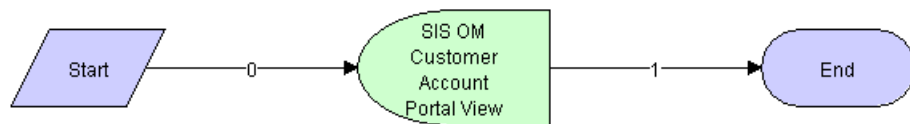


Figure 19. CUT Go To Customer Portal Sub-process

## Workflows to Modify a Service Item

This group of workflows allows a user to modify a service item. It consists of the workflow process and nested subprocesses:

- SIS OM Modify Products & Services Process
  - SIS OM Active Quote Sub-Process
  - SIS OM Active Order Sub-Process
  - SIS OM Edit Complex Asset Workflow

### SIS OM Modify Products & Services Process

This workflow determines whether there is an active quote for the current account. If there is no active quote, it creates a new quote. It generates a quote line item to update the selected asset. If the product is a customizable product, the workflow displays the service item in Configurator with all related open orders applied to it. Otherwise, it displays the Quote Detail view. This workflow is shown in [Figure 20 on page 77](#).

A user initiates this workflow by clicking the Modify button in the following views:

- Accounts > Service Items view
- Accounts > Billing Items view,
- Accounts > Customer Portal view
- Networks > Nodes view
- Networks > Connections view
- Networks > All Elements view

■ Orders > Order Entry - Line Items view

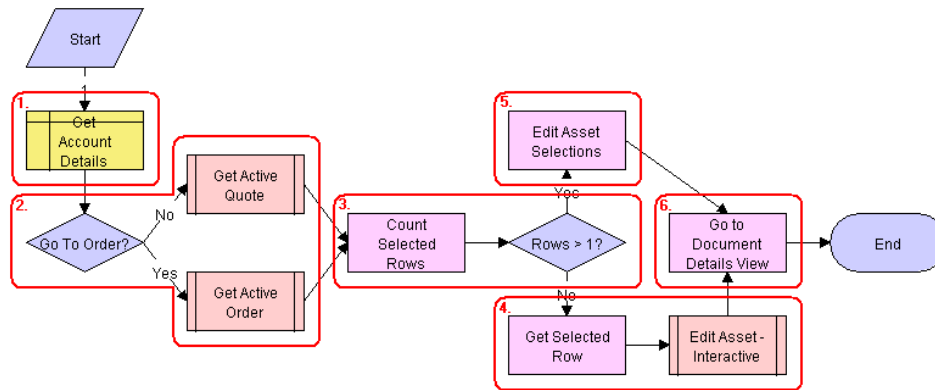


Figure 20. SIS OM Modify Products & Services Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Gets the details of the current account.
- 2 Retrieves the active document (quote or order) for the session.  
If the account is of type 'Residential' the active order is retrieved. Otherwise the active quote is retrieved. See SIS OM Active Quote Sub-process and SIS OM Active Order Sub-process.
- 3 Gets the number of assets that the user has selected to modify.
- 4 If the user has selected only one asset, the currently requested state of the asset is retrieved and displayed in the Product Configurator view. See SIS OM Edit Complex Asset Workflow.
- 5 If the user has selected more than one asset, the currently requested state of each asset is retrieved and added to the active document. See SIS OM Edit Complex Asset Workflow.
- 6 Displays active document.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Count Selected Rows	Get Selected Row Count
Get Selected Row	Get First Selected Row Value
Edit Asset Selections	Iterate Process For Selected Rows
Go to Document Details View	GotoView

## SIS OM Active Quote Sub-Process

This workflow determines whether the user has an active quote for the current account. The workflow has two process properties that are set by the calling workflow: the Row ID of the customer account associated with the asset and the Row ID of the active quote. This workflow is shown in [Figure 21](#).

The following workflows initiate this workflow as a subprocess:

- SIS OM New Products & Services Process
- SIS OM New Products & Services Process - VORD
- SIS OM Modify Products & Services Process
- SIS OM Disconnect Products & Services Process
- SIS OM Suspend / Resume Products & Services Process

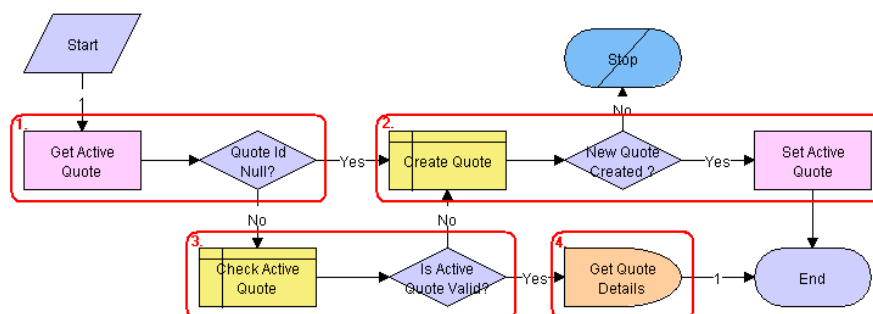


Figure 21. SIS OM Active Quote Sub-Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Retrieves the active quote for the session and checks that there is a value.
- 2 If there is no active quote, a new quote is created and set as the active quote.
- 3 If there is an active quote, determines whether the quote is associated with the same customer account as the asset being modified, and whether the quote has a status of In Progress. If the quote is not valid, a new quote is created and set as the active quote.
- 4 If the new quote is valid, retrieves the price list Id and the currency code associated with the quote and returns them to the calling workflow.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Count Selected Rows	Get Selected Row Count
Get Selected Row	Get First Selected Row Value

Workflow Step	Business Service Method Called
Get Active Quote	Get Profile Attribute
Set Active Quote	Set Profile Attribute

## SIS OM Active Order Sub-Process

This workflow determines whether the user has an active order for the current account. The workflow has two process properties that are set by the calling workflow: the Row ID of the customer account associated with the asset and the Row ID of the active order. This workflow is shown in Figure 22.

The following workflows initiate this workflow as a subprocess:

- SIS OM New Products & Services Process
- SIS OM New Products & Services Process - VORD
- SIS OM Modify Products & Services Process
- SIS OM Disconnect Products & Services Process
- SIS OM Suspend / Resume Products & Services Process

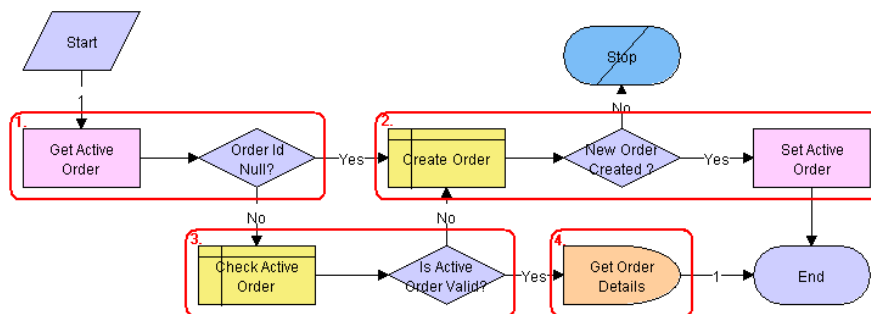


Figure 22. SIS OM Active Order Sub-Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Retrieves the active order for the session and checks that there is a value.
- 2 If there is no active order, a new order is created and set as the active order.
- 3 If there is an active order, determines whether the order is associated with the same customer account as the asset being modified, and whether the quote has a status of Open. If the quote is not valid, a new order is created and set as the active order.
- 4 If the new order is valid, retrieves the price list Id and the currency code associated with the order and returns them to the calling workflow.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Get Active Quote	Get Profile Attribute
Set Active Quote	Set Profile Attribute

## SIS OM Edit Complex Asset Workflow

This workflow applies the open and pending orders related to the selected asset and displays the requested state in the Product Configurator view. After the user makes the changes that specify the newly requested state, the workflow writes the delta of the two requested states as quote line items and adds them to the active quote. This workflow is shown in Figure 23.

The SIS OM Modify Products & Services Process initiates this workflow.

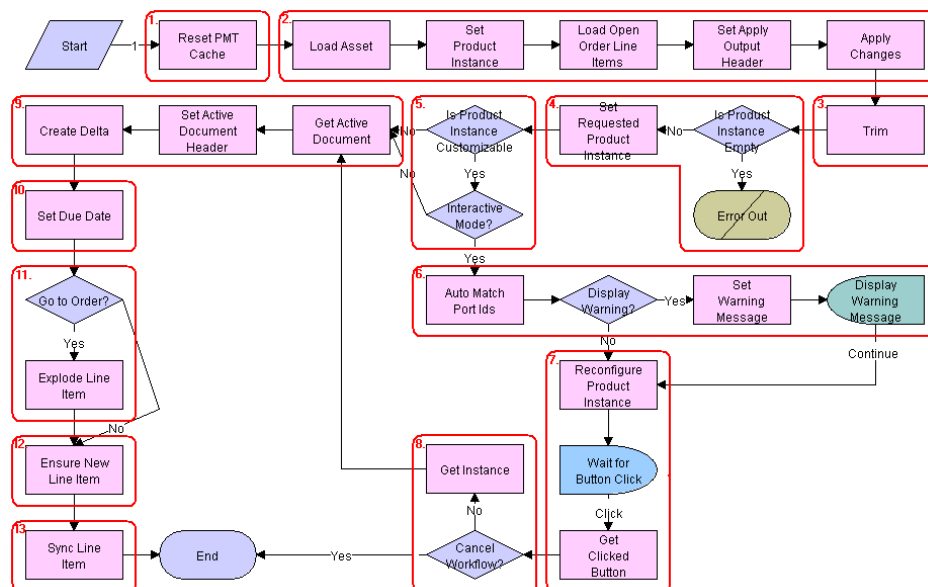


Figure 23. SIS OM Edit Complex Asset Workflow

**Workflow Description.** This workflow does the following:

- 1 Clears the business service cache of existing product instances.
- 2 Reads the asset from the database.

Only components that do not have a status of Inactive are included. The changes specified by all the open and pending orders related to the asset are applied to it to re-create the state of the service product as the customer has requested.

- 3 Removes components from the asset that do not have the 'Track As Asset' flag set.



- 4 Determines whether an open or pending order disconnects the root component. If one of the open or pending orders disconnects the root component, or there are no components of the asset with the 'Track As Asset' flag set, then the workflow returns an empty asset and displays an error message.
- 5 Tests for a customizable asset and interactive mode.  
If the asset is customizable and the workflow is in interactive mode, the asset is displayed in the Product Configurator view, where the user can make changes to it. If the asset is not customizable or the workflow is not in interactive mode, it goes directly to Step 9.
- 6 Self-heals the asset such that the asset structure matches the product definition. If any changes are made to the asset, a warning message appears.
- 7 The future requested state of the asset is displayed in the Configurator view.
- 8 If the user clicks the Cancel button, the workflow is terminated. If the user clicks the Done button, the newly requested state is retrieved from the Configurator.
- 9 The workflow retrieves the active document. The delta of the previously requested state of the asset and the newly requested state of the asset are added as line items.
- 10 Sets the due date for all the line items.
- 11 If the active document is an order, the line items with a quantity greater than 1 are exploded into multiple copies of the line item, each with quantity 1.
- 12 Generates a unique asset integration Id for all line items with an action code of Add.
- 13 Saves the document to the database.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Set Product Instance	Set Product Instance
Load Open Order Line Items	Find Orders
Set Apply Output Header	Set Output Header
Apply Changes	Apply
Trim	Trim
Set Requested Product Instance	Set Product Instance
Auto Match Port Ids	AutoMatch
Reconfigure Product Instance	Reconfigure Product Instance
Get Clicked Button	Get Cfg Button Click Information
Get Instance	Get Product Instance
Set Active Document Header	Set Output Header
Create Delta	Delta

Workflow Step	Business Service Method Called
Set Due Date	Set Field Value
Explode Line Item	Explode
Ensure New Line Item	Set Field Value
Sync Line Item	Synchronize

## Workflows to Disconnect a Service Item

This group of workflows allows a user to disconnect a service. It consists of the workflow process and nested subprocesses:

- SIS OM Disconnect Products & Services Process
  - SIS OM Active Quote Subprocess
  - SIS OM Active Order Subprocess
  - SIS OM Disconnect Asset Subprocess

### SIS OM Disconnect Products & Services Process

This workflow identifies an active document (quote or order) for the current account. Then it generates a line item to disconnect the selected asset and displays the document detail view. This workflow is shown in [Figure 24](#).

A user initiates this workflow by clicking the Disconnect button in the following views:

- Accounts > Service Items view
- Accounts > Billing Items view,
- Accounts > Customer Portal view
- Networks > Nodes view
- Networks > Connections view
- Networks > All Elements view

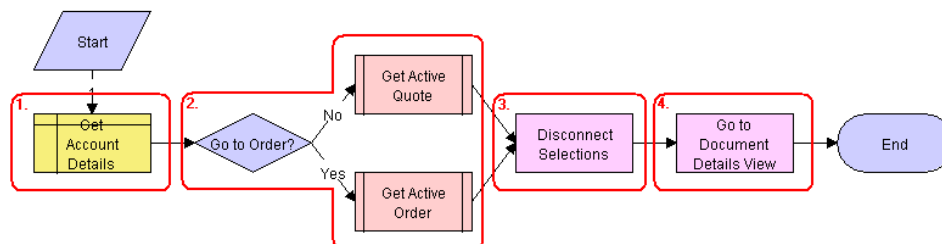


Figure 24. SIS OM Disconnect Products & Services Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Gets the details of the current account.
  - 2 Retrieves the active document (quote or order) for the session.  
If the account is of type 'Residential', the active order is retrieved. Otherwise, the active quote is retrieved. See SIS OM Active Quote Sub-process and SIS OM Active Order Sub-process.
  - 3 Allows the user to disconnect the asset.  
The workflow gets the asset's current state and then creates quote line items to disconnect the asset in that state. See 'SIS OM Disconnect Asset Sub-process'.
- NOTE:** When deleting a network node, the process will automatically delete all associated network connections. If this is not desirable behavior, change the value of the "Delete Connection" argument to 'N'
- 4 Displays active document.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Disconnect Selections	Iterate Process For Selected Rows
Go to Document Details View	GotoView

## SIS OM Disconnect Asset Sub-process

This workflow applies the open and pending orders related to the selected asset to get its requested state. Then it creates quote line items to disconnect the selected asset in that state. It adds these line items to the active quote. This workflow is shown in [Figure 25](#).

The SIS OM Disconnect Products & Services Process initiates this workflow.

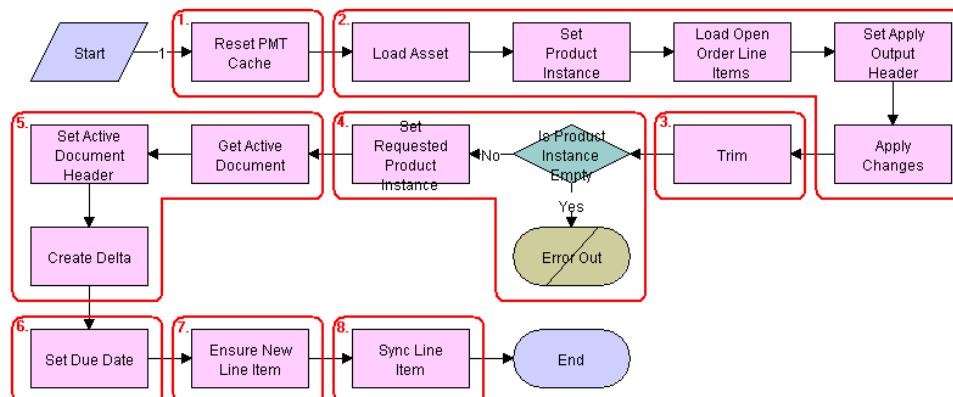


Figure 25. SIS OM Disconnect Asset Sub-process Workflow

**Workflow Description.** This workflow does the following:

**1** Clears the business service cache of existing product instances.

**2** Reads the asset from the database.

The workflow includes only components that do not have a status of Inactive. The workflow looks for all the orders with a status of Open or Pending that are related to the selected asset. The workflow applies the changes specified by those orders. This re-creates the state of the service product as the user has requested it.

**3** Removes any components from the asset that do not have the 'Track As Asset' flag set.

**4** Displays an error message if the asset is empty.

If one of the open or pending orders disconnects the root component, or there are no components that have the 'Track As Asset' flag set, the result is an empty asset. In this case, the workflow displays an error message.

**5** Retrieves the active document. The workflow generates the delta of the requested state of the asset and the future empty state of the asset. This creates line items to disconnect the asset. The workflow adds these line items to the active document.

**6** Sets the due date for the line items.

**7** Generates a new asset integration ID for any line item with an action code of Add.

**8** Saves the document to the database.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Set Product Instance	Set Product Instance
Load Open Order Line Items	Find Orders
Set Apply Output Header	Set Output Header
Apply Changes	Apply
Trim	Trim
Set Requested Product Instance	Set Product Instance
Set Active Document Header	Set Output Header
Create Delta	Delta
Set Due Date	Set Field Value
Ensure New Line Item	Set Field Value
Sync Line Item	Synchronize

## Workflows to Transfer a Service to Another Location

When a customer moves, this workflow facilitates the transfer of service from the old location to the new one. It consists of the workflow process and nested subprocesses:

- SIS OM Move Process
  - SIS OM Move Exception Handling
  - SIS OM Move Service Point Check
  - SIS OM Move Display Quote

### SIS OM Move Process

This workflow creates a quote with line items to disconnect all services at the move-out address and connect those same services at the move-in address. The workflow automatically assigns service points to services at the new address in each case in which a service point of the correct type exists there. This workflow is shown in [Figure 26 on page 86](#).

A user initiates this workflow by clicking the Transfer Service button in the Address MVG of the Accounts view. The user must first specify the end date for services at the move-out address and the start date for services at the move-in address.

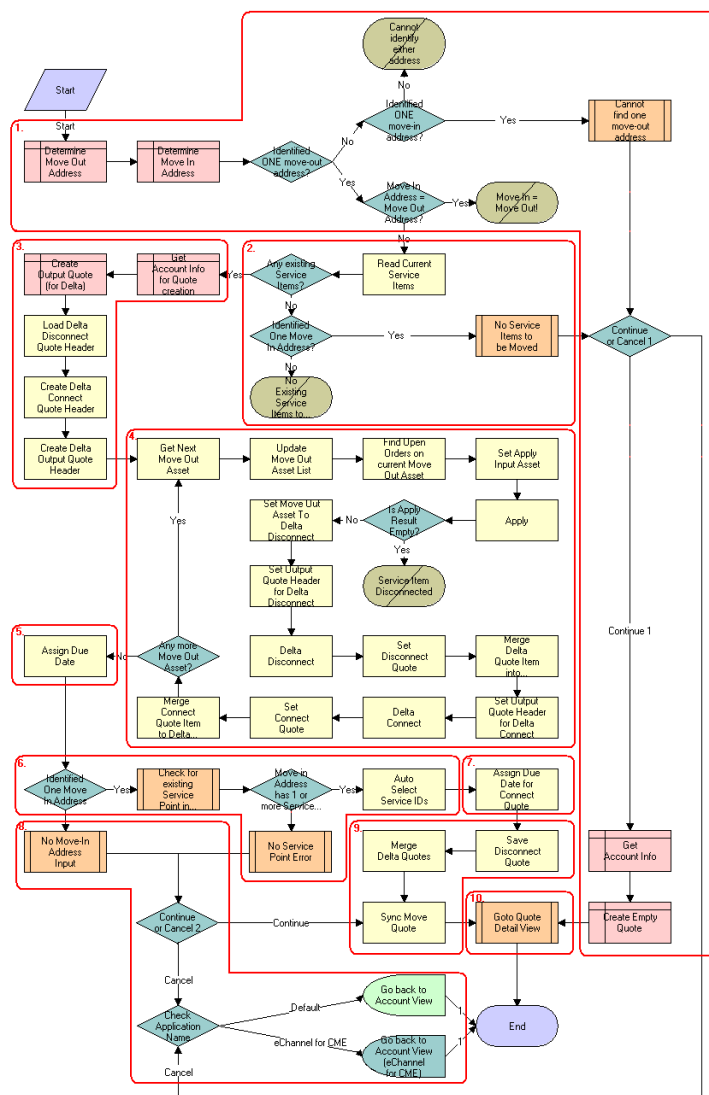
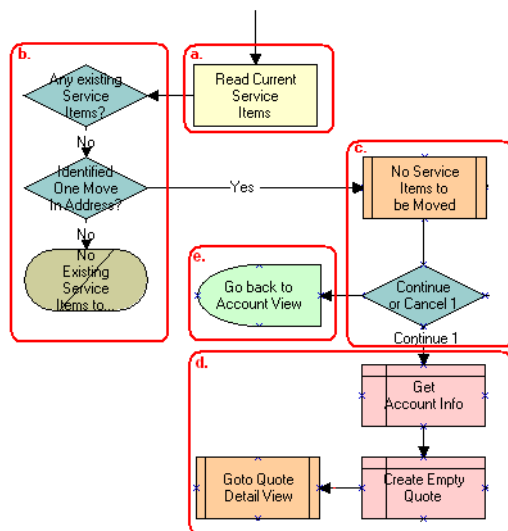


Figure 26. OM Move Process Workflow

**Workflow Description.** This workflow does the following:

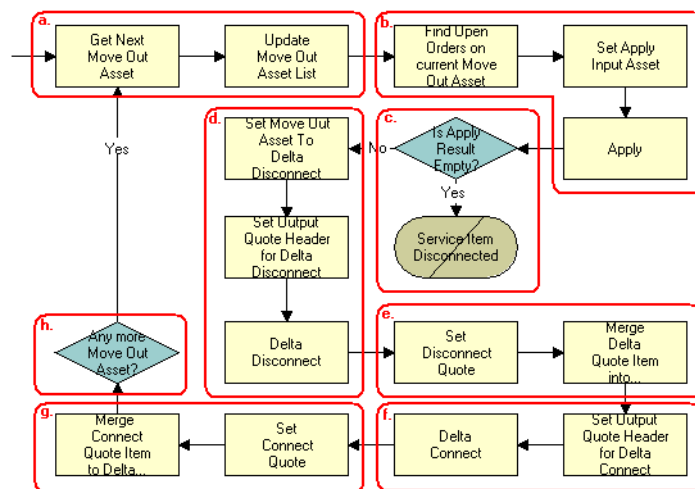
- 1** Identifies and validates the move-out and move-in addresses.
  - a** The workflow identifies the move-out address as the address record for the current account that has been updated most recently and for which an end date later than the current date is specified.

- b** The workflow identifies the move-in address as the address record for the current account that has been updated most recently and for which a start date later than the current date is specified.
  - c** If the workflow can identify neither a move-out address nor a move-in address, it displays the following error message: "Cannot identify the move-out address and move-in address. Press OK to return to the Account view." Then the workflow stops.
  - d** If the workflow cannot identify a move-out address but can identify a move-in address, the following error message is displayed: "Cannot identify the move-out address. Please press Cancel to return to the previous view and provide a valid move-out address, or Continue to manually create a Connect quote for the move-in address." See ["SIS OM Move Exception Handling" on page 91](#).
  - e** If the user clicks OK, the workflow creates and displays an empty quote in the Quote Detail view. In this view, the user can manually add new items for the move-in address.
  - f** If the user clicks Cancel, the workflow returns the user to the Account view.
  - g** If the workflow identifies a move-out address and a move-in address that are the same, it displays the following error message: "The move-in address cannot be the same as the move-out address. Press OK to return to the previous view and try again. Move Out Address = <move-out address> Move Out Date = <move-out date> Move In Address = <move-in address> Move In Date = <move-in date>" Then it stops.
- 2** If the move-in address and the move-out address are validated, retrieves the service items for the move-out address.



- a** The workflow retrieves the service items.
- b** If there are no service items at the move-out address and a move-in address has not been identified, the workflow displays the following error message: "There are no existing service items at the move-out address selected. Press OK to return to the Accounts view." Then it stops.

- c If there are no service items at the move-out address and a move-in address has been identified, the workflow displays the following error message: "There are no existing service items at the move-out address selected. Press Cancel to return to the Accounts view, or Continue to manually create a Connect quote."
- d If the user clicks OK, the workflow displays an empty quote in the Quote Detail view. In this view, the user can manually add new items for the move-in address.
- e If the user clicks Cancel, the workflow returns the user to the Account view.
- 3 Creates an output quote and fills in the account information.
- 4 Generates two quote line items for each service item at the move-out address:
  - A quote line item to disconnect the service item at the move-out address
  - A quote line item to connect the service item at the move-in address



- a The workflow retrieves each service item at the move-out address in turn.
- b The workflow applies all open and pending orders related to each service item to generate the requested future state of the item.
- c The workflow checks whether the asset has been disconnected as a result of an open or pending order. If it has, an error message is displayed and the workflow is terminated.
- d The workflow generates the delta of the requested state of service item and an empty future state to create the disconnect instructions for the item.
- e The workflow adds the disconnect line items to the disconnect quote.
- f The workflow generates the delta of the requested state of service item and an empty current state to create the connect instructions for the item.
- g The workflow adds the connect line items to the connect quote.



- h** If there are more service items at the move-out address, the workflow continues to the next item.

**Associated Business Service Methods.** The following table shows the steps in this part of the workflow that call business service methods.

Workflow Step	Business Service Method Called
Find Open Orders on current Move Out Asset	Find Orders
Set Apply Input Asset	Set Product Instance
Apply	Apply
Set Move Out Asset To Delta Disconnect	Set Product Instance
Set Output Quote Header for Delta Disconnect	Set Output Header
Delta Disconnect	Delta
Set Disconnect Quote	Set Product Instance
Merge Delta Quote Item Into Disconnect Quote	Merge
Set Output Quote Header for Delta Connect	Set Output Header
Delta Connect	Delta
Set Connect Quote	Set Product Instance
Merge Connect Quote Item to Delta Connect Quote	Merge

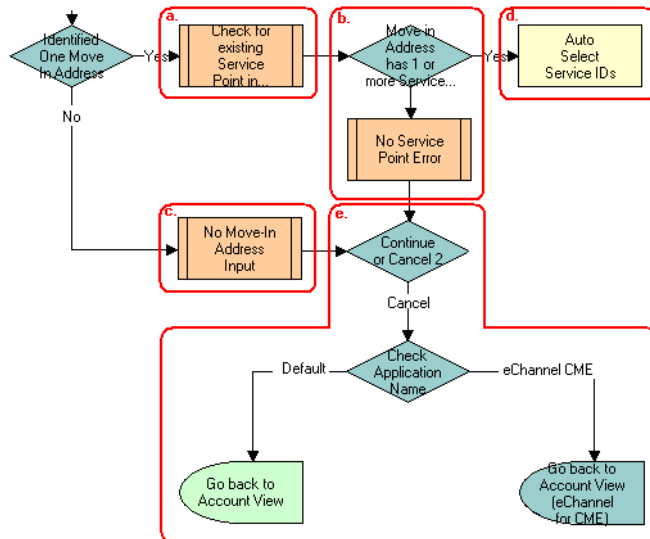
- 5** Specifies the due date for each of the disconnect line items.

The workflow sets the due date to the end date for the move-out address.

**Associated Business Service Methods.** The following table shows the step in this part of the workflow that calls a business service method.

Workflow Step	Business Service Method Called
Assign Due Date	Set Field Value

- 6 If the move-in address is identified, assigns a service point to each service item to be connected at that address.



- a** The workflow checks whether there are any existing service points of any type at the move-in address. See ["SIS OM Move Service Point Check" on page 92](#).
- b** If there are no service points at the move-in address, the workflow displays the following error message: "There are no service points at the move-in address selected. Address may be invalid or outside the service area. Press Continue to proceed with only the Disconnect operation or Cancel to return to the Accounts view."
- c** If the user clicks Continue, the workflow displays the disconnect quote in the Quote Detail view.
- d** If the user clicks Cancel, the workflow returns the user to the Account view.
- e** If there are service points at the move-in address, the workflow assigns each service item a service point of the same type as the item. If there are no available service points of the correct type, the item's Service Point ID will be empty.

**Associated Business Service Methods.** The following table shows the step in this part of the workflow that calls a business service method.

Workflow Step	Business Service Method Called
Auto Select Service IDs	Assign New Service Ids

- 7** Specifies the due date for each of the connect line items.

The workflow sets the due date to the start date for the move-in address.

**Associated Business Service Methods.** The following table shows the step in this part of the workflow that calls a business service method.

Workflow Step	Business Service Method Called
Assign Due Date for Connect Quote	Set Multiple Field Values

- 8** If there is no move-in address, displays the following error message: "Cannot identify the move-in address. Please press Cancel to return to the previous view and provide a valid start date or Continue to proceed with only a disconnect at the move-out address. Move In Date Entered =." The user can cancel the process or proceed with the disconnect only. If the user clicks the Cancel button, redisplay the Accounts view.
- 9** Merges the disconnect line items and the connect line items into one quote and saves that quote to the database.

**Associated Business Service Methods.** The following table shows the steps in this part of the workflow that call business service methods.

Workflow Step	Business Service Method Called
Merge Delta Quotes	Merge
Save Disconnect Quote	Set Product Instance

- 10** Displays the quote in the Quote Detail view.

See ["SIS OM Move Display Quote" on page 92](#).

## SIS OM Move Exception Handling

This workflow provides exception handling for the SIS OM Move Process. This workflow is shown in [Figure 27](#).

The SIS OM Move Process initiates this workflow.

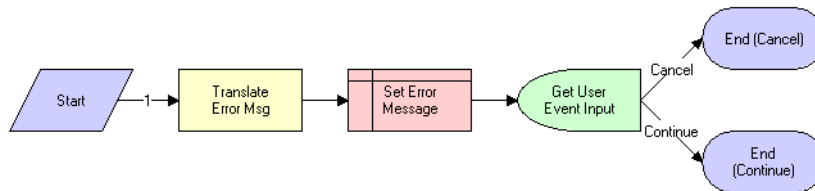


Figure 27. SIS OM Move Exception Handling Workflow

**Workflow Description.** This workflow displays an error message in a view (not in a popup window) and determines whether the user clicked the Continue button or the Cancel button.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
Translate Error Msg	Set Exception Error Message

## SIS OM Move Service Point Check

This workflow checks whether there are any service points in the move-in address. This workflow is shown in [Figure 28](#).

The SIS OM Move Process initiates this workflow.

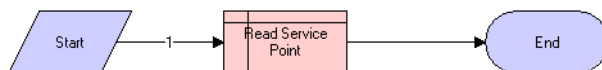


Figure 28. SIS OM Move Service Point Check Workflow

**Workflow Description.** For a given address, this workflow determines the number of service points associated with the address.

## SIS OM Move Display Quote

This workflow displays the newly created quote in the Quote Detail view. This workflow is shown in [Figure 29](#).

The SIS OM Move Process initiates this workflow.



Figure 29. SIS OM Move Display Quote Workflow

**Workflow Description.** This workflow displays the Quote Detail view.

## Workflows to Suspend or Resume Service Items

This group of workflows allows a user to suspend or resume a service. It consists of the workflow process and nested subprocesses:

- SIS OM Suspend / Resume Products & Services Process
  - SIS OM Active Quote Sub-process
  - SIS OM Active Order Sub-process
  - SIS OM Suspend / Resume Asset Sub-process

### SIS OM Suspend / Resume Products & Services Process

This workflow identifies an active document for the current account. Then it generates a line item to suspend or resume the selected asset and displays the document detail view. This workflow is shown in [Figure 30](#).

A user initiates this workflow by clicking the Suspend or Resume button in the following views:

- Accounts > Service Items view
- Accounts > Billing Items view,
- Accounts > Customer Portal view
- Networks > Nodes view
- Networks > Connections view

■ Networks > All Elements view

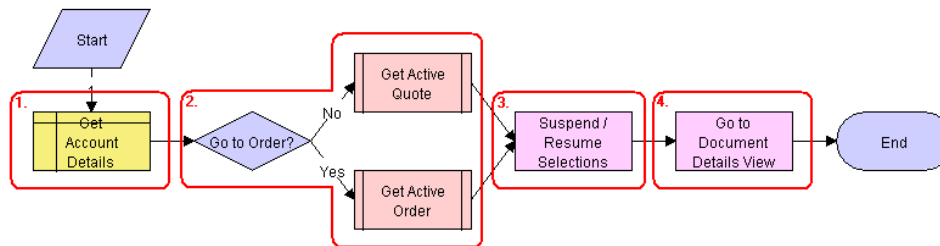


Figure 30. SIS OM Suspend / Resume Products & Services Process Workflow

**Workflow Description.** This workflow does the following:

- 1 Gets the details of the current account.
- 2 Retrieves the active document (quote or order) for the session.  
If the account is of type 'Residential', the active order is retrieved. Otherwise, the active quote is retrieved. See SIS OM Active Quote Sub-process and SIS OM Active Order Sub-process.
- 3 Allows the user to suspend or resume the asset.  
The workflow gets the asset's current state and then creates quote line items to suspend or resume the asset in that state. See 'SIS OM Suspend / Resume Asset Sub-process'.
- 4 Displays active document.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Suspend / Resume Selections	Iterate Process For Selected Rows
Go to Document Details View	GotoView

## SIS OM Suspend / Resume Asset Sub-process

This workflow applies the open and pending orders related to the selected asset to get its requested state. Then it creates line items to suspend or resume the selected asset in that state. It adds these line items to the active document. This workflow is shown in [Figure 31](#).

The SIS OM Suspend / Resume Products & Services Process initiates this workflow.

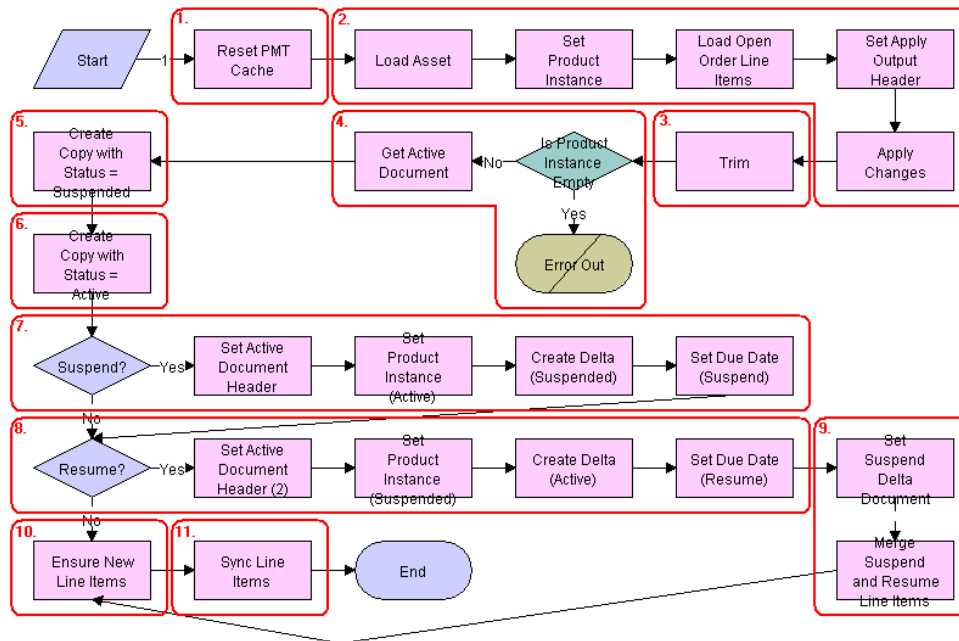


Figure 31. SIS OM Suspend / Resume Asset Sub-process

**Workflow Description.** This workflow does the following:

- 1 Clears the business service cache of existing product instances.
- 2 Reads the asset from the database.

The workflow includes only components that do not have a status of Inactive. The workflow looks for all the orders with a status of Open or Pending that are related to the selected asset. The workflow applies the changes specified by those orders. This re-creates the state of the service product as the user has requested it.

- 3 Removes any components from the asset that do not have the 'Track As Asset' flag set.
- 4 Displays an error message if the asset is empty.

If one of the open or pending orders disconnects the root component, or there are no components that have the 'Track As Asset' flag set, the result is an empty asset. In this case, the workflow displays an error message.

- 5 Copies the asset and sets the status of each component to 'Suspended'.
- 6 Copies the asset and sets the status of each component to 'Active'.
- 7 If the Suspend button was clicked, the workflow generates the delta of the requested state of the asset and the future suspended state of the asset. This creates line items to suspend the asset. Sets the due date for each line item.

- 8 If the resume button was clicked, the workflow generates the delta of the requested state of the asset and the future active state of the asset. This creates line items to resume the asset, and it sets the due date for each line item.
- 9 Merges the line items of the suspend and resume requests into a single document.
- 10 Generates a new asset integration Id for any line item with an action code of Add.
- 11 Saves the document to the database.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Reset PMT Cache	Reset
Set Product Instance	Set Product Instance
Load Open Order Line Items	Find Orders
Set Apply Output Header	Set Output Header
Apply Changes	Apply
Trim	Trim
Create Copy with Status = Suspended	Set Field Value
Create Copy with Status = Active	Set Field Value
Set Active Document Header	Set Output Header
Set Requested Product Instance (Active)	Set Product Instance
Create Delta (Suspended)	Delta
Set Due Date (Suspend)	Set Field Value
Set Active Document Header (2)	Set Output Header
Set Requested Product Instance (Suspended)	Set Product Instance
Create Delta (Active)	Delta
Set Due Date (Resume)	Set Field Value
Set Suspend Delta Document	Set Product Instance
Merge Suspend and Resume Line Items	Merge
Ensure New Line Item	Set Field Value
Sync Line Item	Synchronize

## Workflows to Validate a Network

This group of workflows allows a user to validate a network.



- VORD Validate (Quote)
- VORD Validate (Order)

## VORD Validate (Quote)

This workflow validates the network (or compound product) associated with the currently selected quote line item. It executes the rules associate with the Compound Product and reports any violations.

This workflow is initiated when a user clicks the Validate button on the Network Line Detail applet in the Quote > Line Item > Network Line Detail View.

This workflow is shown in [Figure 32](#).

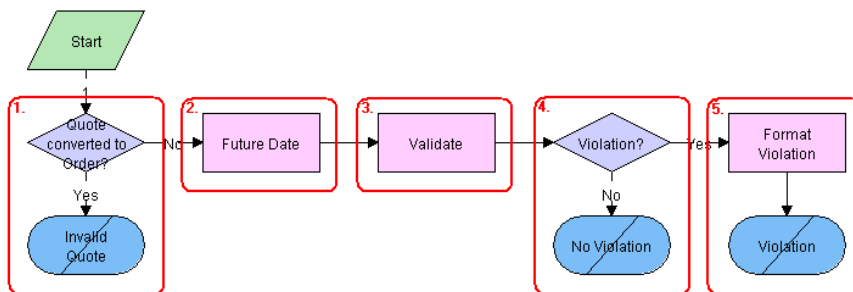


Figure 32. VORD Validate (Quote)

**Workflow Description.** This workflow does the following:

- 1** Checks whether the quote has already been converted to an order. If so, displays an error message and terminates the workflow.
- 2** Calculates the future date for which the network is to be validated.  
The future date is the due date of root line item in the current quote that is part of the same network, with the due date farthest in the future.
- 3** Invokes the Compound Product Validation Engine to validate each of the rules associated with the compound product.
- 4** If there are no violations, displays the following message: 'This <compound product> is valid'.
- 5** If there are violations, the error messages are concatenated into a single string and displayed to the user.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Future Date	Find Future Date

Workflow Step	Business Service Method Called
Validate	Validate
Format Violation	Format Violation

## VORD Validate (Order)

This workflow validates the network (or compound product) associated with the currently selected order line item. It executes the rules associated with the Compound Product and reports any violations.

This workflow is initiated when a user clicks the Validate button on the Network Line Detail Applet in the Order > Line Item > Network Detail View.

This workflow is shown in [Figure 33](#).

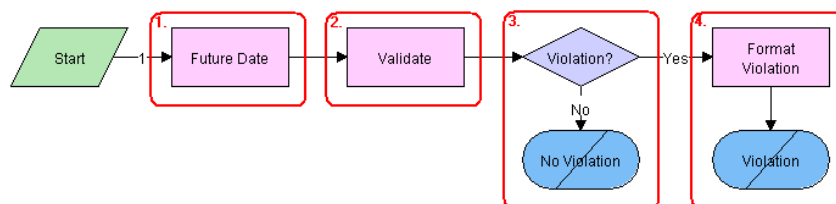


Figure 33. VORD Validate (Order)

**Workflow Description.** This workflow does the following:

- 1 Calculates the future date for which the network is to be validated.  
The future date is the due date of root line item in the current order that is part of the same network, with the due date farthest in the future.
- 2 Invokes the Compound Product Validation Engine to validate each of the rules associated with the compound product.
- 3 If there are no violations, displays the following message: This <compound product> is valid.
- 4 If there are violations, the error messages are concatenated into a single string and displayed to the user.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Future Date	Find Future Date
Validate	Validate
Format Violation	Format Violation

# Workflow for Pricing Comparison

This group of workflows is used to modify products and installed assets. It consists of the workflow processes:

- SIS OM PC Price Comparison Process
  - SIS OM Goto Price Comparison View Process

## SIS OM PC Price Comparison Process

This workflow generates comparison quotes based on the service that a customer currently subscribes to with a competitor company. One quote is generated for each product that meets the customer needs, such as region of service, and gives the total annual charge and savings based on the current usage.

This workflow is shown in [Figure 34](#).

The workflow is called by a SmartScript session that is invoked by clicking the New button in the SIS OM PC Opportunity Price Comparison view or by clicking the Compare Prices link on the Home Page.

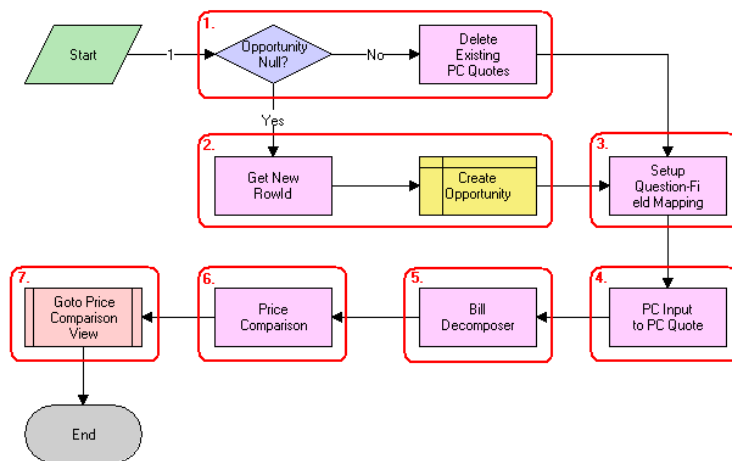


Figure 34. SIS OM PC Price Comparison Process

**Workflow Description.** This workflow:

- 1 Checks to determine whether an opportunity exists for the Price Comparison. If there is an opportunity all existing price comparison quotes are deleted.
- 2 If an opportunity does not exist, creates a new opportunity.
- 3 Maps the SmartScript session questions to fields of a quote.
- 4 Converts the answers from the SmartScript session into a competitor quote using the mapping created in the previous step.
- 5 The Bill Decomposer method uses the competitor quote information to calculate the user's annual usage.

- 6 The Price Comparison method generates a comparison quote for each product offered by the company that meets the criteria specified by the user. The usage amounts calculated by the Bill Decomposer step are used to calculate the projected annual bill given the pricing of the product.
- 7 Displays the comparison quotes in the Opportunity Price Comparison view. For more details, see [“SIS OM Goto Price Comparison View Process” on page 100.](#)

**Associated Business Service Methods.** The following table shows the steps in this workflow that call a business service method.

Workflow Step	Method Called	In Business Service
Delete Existing PC Quotes	Delete Existing PC Quotes	SIS OM Pricing Calculator Service
Get New RowId	Get Next RowId	SIS OM Pricing Calculator Service
Setup Question-Field Mapping	Setup Question Field Map	SIS OM Pricing Calculator Service
PC Input to PC Quote	Convert PC Input to PC Quote	SIS OM Pricing Calculator Service
Bill Decomposer	Bill Decomposer	SIS OM Pricing Calculator Service
Price Comparison	Price Comparison	SIS OM Pricing Calculator Service

## SIS OM Goto Price Comparison View Process

This workflow displays the Opportunity > Price Comparison view.

This workflow is shown in [Figure 35.](#)

This workflow is invoked as a sub-process of the SIS OM PC Price Comparison Process.

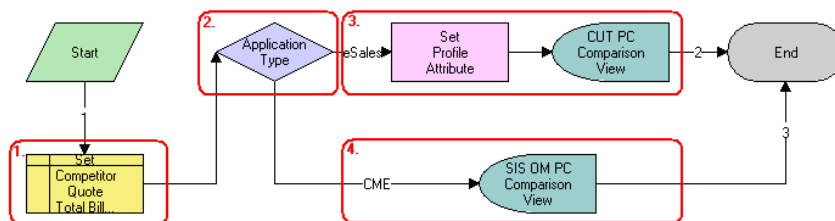


Figure 35. SIS OM Goto Price Comparison View Process

**Workflow Description.** This workflow:

- 1 Sets the Primary Revenue Amount of the Opportunity to the total bill amount, passed as an input to the workflow.
- 2 Checks the application that is invoking the workflow.
- 3 If the application is eSales, stores the Opportunity Id as a profile attribute and displays the CUT Opportunity PC Price Comparison View (eSales).

4 Otherwise, displays the SIS OM Opportunity PC Price Comparison View.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Method Called	In Business Service
Set Profile Attribute	Set Profile Attribute	Product Manipulation Toolkit Service

## Workflows for Enrollment

This group of workflows is used to modify products and installed assets. It consists of the workflow process and subprocesses:

- SIS OM PC Enrollment
  - SIS OM PC Create Account Subprocess
  - SIS OM PC Go To Opportunity View
  - SIS OM PC Set Opportunity Account
  - CUT eSales - PC Enrollment Process
    - SIS OM PC Go to Order Entry - Line Items View (Sales)
    - CUT eSales - Set Shopping Cart Price List
    - CUT eSales - PC Prepare Cart Process

### SIS OM PC Enrollment

This workflow generates an Order for the product that the user selects from the quotes generated by the Price Comparison process.

This workflow is shown in [Figure 36](#).

This workflow is invoked by clicking the Enroll button in the SIS OM PC Opportunity Price Comparison View or the CUT Opportunity PC Price Comparison View (eSales).

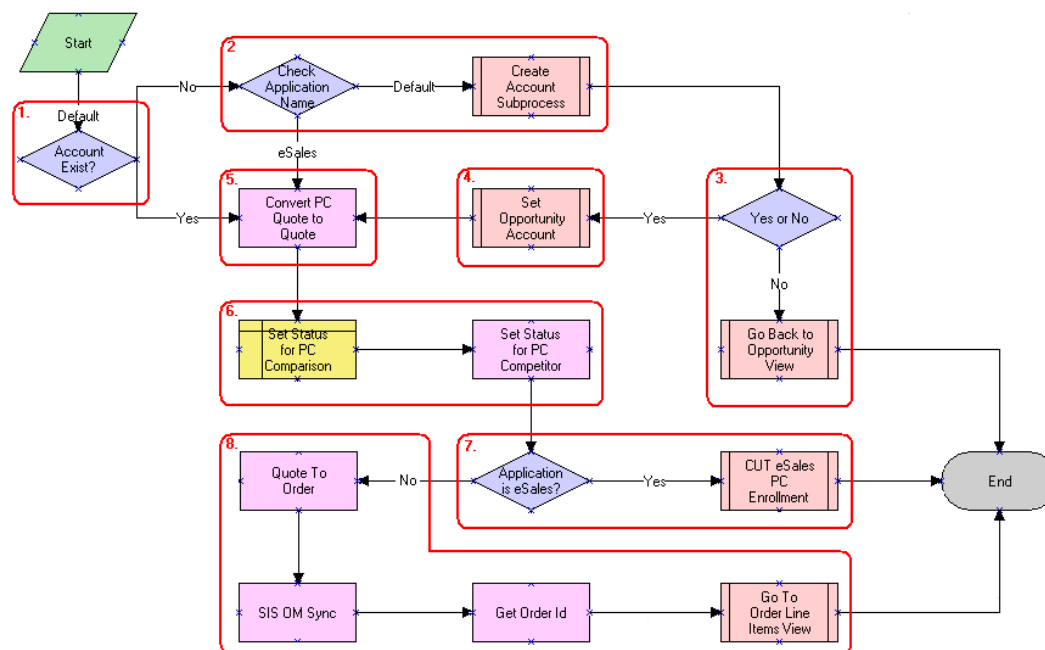


Figure 36. SIS OM PC Enrollment Process

**Workflow Description.** This workflow:

- 1 Checks to determine whether an account is associated with the opportunity.
- 2 If an account does not exist and the application that invoked the workflow is not eSales, displays the SIS OM PC Account Entry view to allow the user to create a new account. For more details, see ["SIS OM PC Create Account Subprocess" on page 103](#).
- 3 Checks to see whether an account was created. If an account was not created, returns the user to the SIS OM PC Opportunity Price Comparison view. For more details, see ["SIS OM PC Go To Opportunity View" on page 104](#).
- 4 If the user created a new account, associates the account with the opportunity. For more details, see ["SIS OM PC Set Opportunity Account" on page 104](#).
- 5 Converts the comparison quote to a regular quote that can be processed through the order lifecycle.
- 6 Sets the Status of the comparison and competitor quotes to *Order Placed*.
- 7 If the application that invoked the workflow is eSales, merges the comparison quote with the shopping cart. For more details, see ["CUT eSales - PC Enrollment Process" on page 104](#).
- 8 If the application is not eSales, converts the quote to an order and displays the order in the Order Line Item view. For more details, see ["SIS OM PC Go to Order Entry - Line Items View \(Sales\)" on page 106](#).

**Associated Business Service Methods.** The following table shows the steps in this workflow that call a business service method.

Workflow Step	Method Called	In Business Service
Convert PC Quote to Quote	Convert PC Quote to Quote	SIS OM Pricing Calculator Service
Set Status for PC Competitor	Update Status	SIS OM Pricing Calculator Service
Quote to Order	Convert Product Instance	Product Manipulation Toolkit Service
SIS OM Sync	Synchronize	Product Manipulation Toolkit Service
Get Order Id	Return Property Values	Workflow Utilities

## SIS OM PC Create Account Subprocess

This workflow creates a new account for a customer based on the details entered by the user. This workflow is shown in [Figure 37](#).

This workflow is invoked as a subprocess of the SIS OM PC Enrollment workflow.

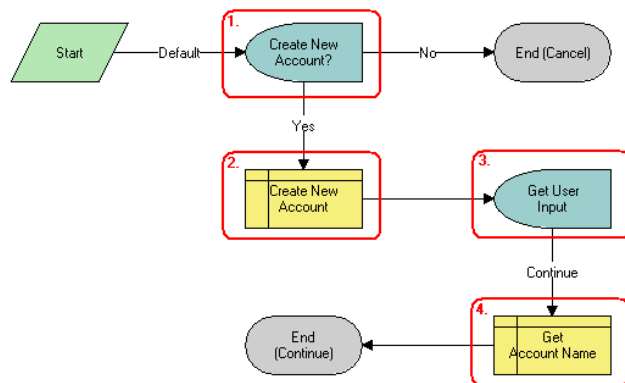


Figure 37. SIS OM PC Create Account Subprocess

**Workflow Description.** This workflow:

- 1 Displays the SIS OM PC Account Entry Selection View and asks the user whether a new account should be created. If the user clicks No, an account is not created and the sub-process is terminated.
- 2 If the user clicks Yes, creates a new account.
- 3 Displays the SIS OM PC Account Entry View to allow the user to enter the details of the account. The user clicks Continue.

- 4 Retrieves the name of the account and returns it to the calling workflow.

## SIS OM PC Go To Opportunity View

This workflow is shown in [Figure 38](#).

This workflow is invoked as a subprocess of the SIS OM PC Enrollment workflow.



Figure 38. SIS OM PC Go To Opportunity View

**Workflow Description.** This workflow:

- Displays the SIS OM PC Opportunity Price Comparison view.

## SIS OM PC Set Opportunity Account

This workflow is shown in [Figure 39](#).

This workflow is invoked as a subprocess of the SIS OM PC Enrollment workflow.

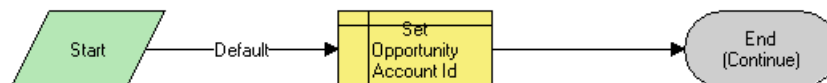


Figure 39. SIS OM PC Set Opportunity Account

**Workflow Description.** This workflow:

- Associates the Account Id specified by the process property with the Opportunity.

## CUT eSales - PC Enrollment Process

This workflow adds product selected from the quotes generated by the Price Comparison process to the Shopping Cart. This workflow is shown in [Figure 40](#).



This workflow is invoked as a subprocess of the SIS OM PC Enrollment workflow.

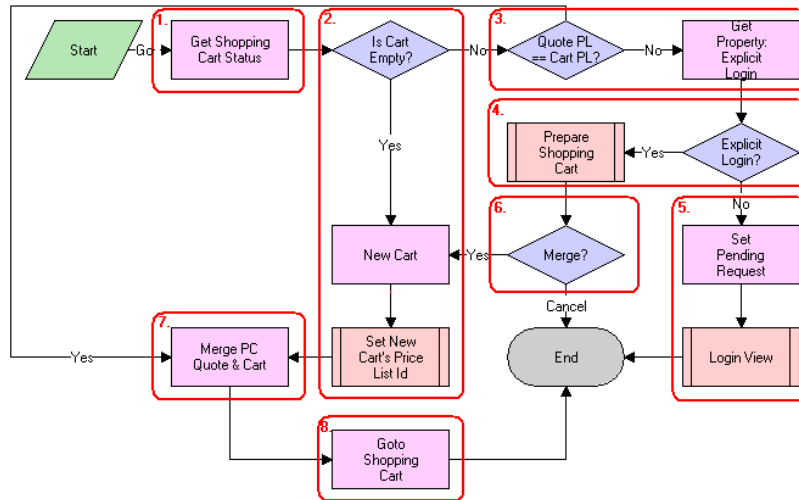


Figure 40. CUT eSales - PC Enrollment Process

**Workflow Description.** This workflow:

- 1 Checks the status of the shopping cart.
- 2 If the cart is empty, creates a new cart and sets the cart's price list to the Price Comparison internal price list. See CUT eSales - Set Shopping Cart Price List for more details, see ["CUT eSales - Set Shopping Cart Price List" on page 106](#).
- 3 If the cart is not empty, compares the cart's price list to the price list of the comparison quote selected by the user. If the price lists are different, checks to see if the user explicitly logged in.
- 4 If the user logged in, displays the Save Cart Confirmation view to allow the user to specify how to handle the existing cart. For more details, see ["CUT eSales - PC Prepare Cart Process" on page 107](#).
- 5 If the user is not logged in, makes a request to display the CUT Opportunity PC Price Comparison View (eSales) on log in, and displays the Login View. The workflow terminates.
- 6 If the user chose not to save or discard the existing cart, the workflow terminates.
- 7 If the comparison quote's price list and the cart's price list are the same, or new cart was created, adds the comparison quote line items to the cart.
- 8 Displays the Shopping Cart view.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call a business service method.

Workflow Step	Method Called	In Business Service
Get Shopping Cart Status	GetShoppingCartStatus	CUT OET Service
Get Property: Explicit Login	GetPropValue	Shopping Service
New Cart	NewCartHeader	CUT OET Service
Set Pending Request	Set Pending Request	Shopping Service
Merge PC Quote & Cart	MergeCxObj	CUT OET Service
Goto Shopping Cart	GotoView	CUT OET Service

### SIS OM PC Go to Order Entry - Line Items View (Sales)

This workflow is shown in [Figure 41](#).

This workflow is invoked as a sub-process of the SIS OM PC Enrollment workflow.

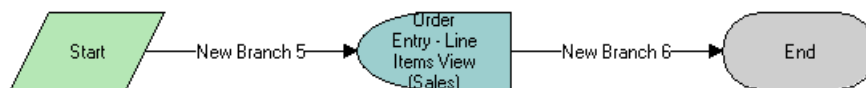


Figure 41. SIS OM PC Go to Order Entry - Line Items View (Sales)

**Workflow Description.** This workflow:

- Navigates to the Order Entry - Line Items View (Sales).

### CUT eSales - Set Shopping Cart Price List

This workflow is shown in [Figure 42](#).

This workflow is invoked as a sub-process of the CUT eSales - PC Enrollment Process workflow.



Figure 42. CUT eSales - Set Shopping Cart Price List

**Workflow Description.** This workflow:

- Updates the cart's price list to the specified value.

## CUT eSales - PC Prepare Cart Process

This workflow allows the user save the current shopping cart or discard the contents before adding the product selected from the quotes generated by the Price Comparison process.

This workflow is shown in [Figure 43](#).

This workflow is invoked as a subprocess of the CUT eSales - PC Enrollment Process workflow.

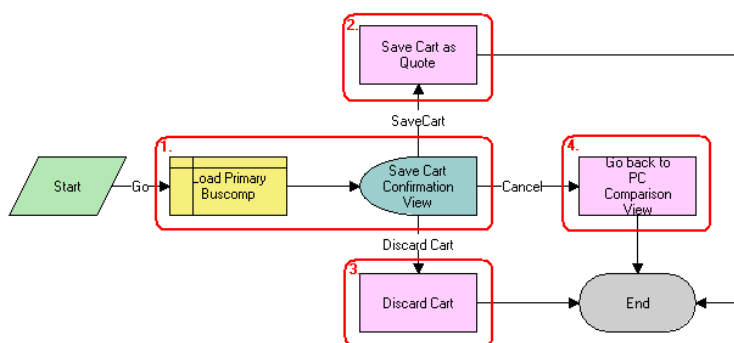


Figure 43. CUT eSales - PC Prepare Cart Process

**Workflow Description.** This workflow:

- 1 Loads the current shopping cart and displays the Save Cart Confirmation view.
- 2 If the user chooses Save, saves the cart.
- 3 If the user chooses Discard, discards the cart.
- 4 If the user chooses Cancel, displays the CUT Opportunity PC Price Comparison View (eSales) and terminates the calling workflow.

**Associated Business Service Methods.** The following table shows the steps in this workflow that calls a business service method.

Workflow Step	Method Called	In Business Service
Save Cart as Quote	SaveCartAsQuote	Shopping Service
Discard Cart	DiscardCart	Shopping Service
Go Back to PC Comparison View	GotoView	CUT OET Service



# 6

## Customer Use of Order Management

Customers can perform many order management tasks for themselves through the Web using Siebel eSales for CME. These are the same as many tasks that employees perform, such as creating accounts, creating quotes, placing orders, and changing orders. However, they use a different interface, which is suitable for general use through the Web.

This chapter describes customer application user interface. It includes the following sections:

- Scenario:
  - ["Scenario for Customer Order Management" on page 110](#)
- Account Management Tasks:
  - ["Creating a New Account \(End User\)" on page 111](#)
  - ["Creating New Addresses for an Existing Account \(End User\)" on page 112](#)
- End-User Quote Management Tasks:
  - ["Adding Items to a Shopping Cart \(End User\)" on page 112](#)
  - ["Customizing an Item \(End User\)" on page 114](#)
  - ["Adding Bulk Items to the Shopping Cart \(End User\)" on page 115](#)
  - ["Saving a Shopping Cart as a Quote or Quote Template \(End User\)" on page 116](#)
- End-User Order Placement Tasks:
  - ["Processing an Order Checkout \(End User\)" on page 117](#)
  - ["Converting a Quote to an Order \(End User\)" on page 118](#)
  - ["Adding Quote Template Items to the Shopping Cart \(End User\)" on page 118](#)
  - ["Entering Shipping Information \(End User\)" on page 119](#)
  - ["Using Payment Methods \(End User\)" on page 119](#)
  - ["Reviewing and Submitting an Order \(End User\)" on page 121](#)
  - ["Revising an Order \(End User\)" on page 121](#)
- End-User Change Order Tasks:
  - ["Modifying an Order \(End User\)" on page 122](#)
  - ["Disconnecting an Order \(End User\)" on page 122](#)

## Scenario for Customer Order Management

This scenario provides an example of a process performed by customers of a telecommunications company. Your customers may follow a different process according to your company's business process.

This scenario describes how customers can:

- ["Create a Quote and Convert it into an Order"](#)
- ["Place a Supplemental Order"](#)

### Create a Quote and Convert it into an Order

A telecom analyst for a small corporation wants to establish ten local telephone lines for a new office his company has opened. He accesses the GCI Telecom Web site and enters his username and password to see his company's account information. He creates a new location and enters details for the new service account for the company's new office.

Then he launches Siebel Advisor and finds that GCI's Small Business Enabler bundle is the most cost-effective solution for this customer.

He customizes this product using Configurator to configure the GCI Small Business Enabler bundle of products.

The GCI Small Business Enabler bundle offers five to twenty local telephone lines for \$5.99 per month per line, with voice mail and call waiting, and one additional optional feature included in the base price. The GCI Small Business Enabler bundle itself costs \$25 per month and includes consolidated billing.

In Configurator, the customer enters 10 as the quantity and selects caller ID as the optional feature. He sets up all 10 lines with the same features and clicks Done.

In the shopping cart, he clicks the Checkout button and creates a new sales order.

For more information, see ["Saving a Shopping Cart as a Quote or Quote Template \(End User\)" on page 116](#) and ["Converting a Quote to an Order \(End User\)" on page 118](#).

### Place a Supplemental Order

A residential customer receives an email from a GCI marketing campaign, which explains the advantages of GCI's local phone service and suggests that the customer switch from her current phone company to GCI's Oregon Local Breakthrough Package. She clicks on the URL provided in the email.

At the Web site, she sees that this package includes a local telephone line, caller Id, and call forwarding. She decides to place the order, selects the package, and configures the service.

She decides to forward calls to her office number after six rings. She also decides to add voice mail service to the base package for an additional \$6.95 per month. She clicks Checkout, enters new account and payment information, and confirms the order.

The Siebel application sends the order request to GCI's provisioning system and sends the customer a confirmation email, which summarizes the purchased service. Twenty minutes later, the customer reads the email and decides that \$6.95 per month is too much for voice mail service, so she clicks the link in the email to access the GCI Web site.

At the Web site, she views her order. All the order line items are still open, so she can click the Revise button to create a supplemental order.

The Siebel application marks the original order as inactive and copies it to a new active order with a status of Pending and a revision number of 2. The customer selects the GCI Oregon Local Breakthrough Package, and clicks the Customize button. In the configuration view, she deletes the voice mail feature.

She also decides to change the call forwarding number (which she provided earlier) to her cell phone number, so she selects the forwarding number attribute of the call forwarding service and changes it. Then, she saves the new configuration to the supplemental order and submits the order. She receives a message indicating that her order is confirmed.

For more information, see ["Revising an Order \(End User\)" on page 121](#).

## Creating a New Account (End User)

This section explains how a customer creates a new account through the Web.

### ***To create a new account***

- 1** Log in to eSales and click My Account in the banner area.
- 2** In the Account Management list, click Current Account.
- 3** In the Current Account form, click Create a New Account.
- 4** Fill in the fields in the Current Account tab.

You must fill in the new Account name, Account Class (Billing, Billing Aggregator, Customer, Service, or Service Aggregator), and Account Type (Business Customer, Subcontractor, and so on). Optionally, you may also supply Phone, Fax, Status (Active, Cancelled, Closed, and so on), and a URL associated with the new account.

- 5** Optionally, to create an account hierarchy, you can define an existing account as the parent account for the new account.
  - a** Click the select button in the Parent Account field.
  - b** In the Pick Account dialog box, select the appropriate parent account.
 

If the account that you want is not listed, click Query, enter the parent account information, click Search, and then select the appropriate account.
- 6** In the Current Account form, click Save to create the new account.

- 7 To select and identify this account as the primary account, select it in the Select Account form and click the select button in the Set as Primary field.

In the absence of any account information, eSales will use the primary account to identify the user during the check out process.

## Creating New Addresses for an Existing Account (End User)

Customers working through the Web can add new addresses for their accounts.

### ***To create a new address for an existing account***

- 1 Log in to eSales and click My Account in the banner area.
- 2 In the My Account screen, in the Account Management list, click Current Account to identify the account to which you will add addresses.

The current account information appears.

- 3 In the Account Address list, click Add.

In the Account Address form, enter the new address, check Primary if you want to identify this address as the primary address for the account, and click Save.

**NOTE:** Click **Reset** to clear the new information or **Cancel** to void the action.

- 4 When the screen refreshes, the new address is added.

## Adding Items to a Shopping Cart (End User)

Customers working through the Web can add items to the shopping cart in several ways:

- By selecting items from a catalog
- By selecting items saved to Favorites
- By choosing an item from Recommended items
- By using Quick Add to specify an item
- By retrieving a stored quote
- By retrieving a quote template

When the user adds an item to the shopping cart from a catalog, the user remains in the catalog view and the item is displayed in the Last Item Added area.

If there are items in the shopping cart when the user exits the session, these items are added to the shopping cart when the user next logs in.



Users do not have to log in before adding items to the shopping cart. However, users must log in to convert the shopping cart contents into an order or to save the shopping cart as a quote or quote template.

With Multiple Price Types, there are two types of shopping cart pricing, with a separate total maintained for each:

- **Non-recurring charge (NRC).** This price is charged only once. Items such as hardware or one-time installation charges are examples.
- **Monthly recurring charge (MRC).** This price is charged on a subscription basis such as once of a week or once a month. The time period is specified in the unit of measure (UoM) field. Monthly telephone line service charges are an example.

This task uses the workflow ["CUT eSales - Prepare Shopping Cart View"](#) which is described in ["Workflows to Modify Products and Installed Assets" on page 144.](#)

### ***To add items to a shopping cart from a catalog***

- 1** Log in to eSales and click the Catalog tab.
- 2** In the Browse list, click on the catalog that you need.  
The catalog screen displays all the items in the catalog.
- 3** To see related items and literature for an item, click the item name.  
A view appears that shows item information. This view lists related items and literature. In this view, you can also perform the following tasks:
  - Enter an item quantity.
  - Click Customize to select components and attributes.
  - Click Add to Favorites to add this item to your Favorites list.
  - Click Change Items Attributes (simple products).
- 4** In the Catalog Items list, enter the quantity of the item in the Qty field of the item you want.
- 5** Click Add to Cart adjacent to the item name.  
This adds the item to the shopping cart. The Last Item Added display updates to display the item name, number of line items in the shopping cart and total price of all items in the shopping cart.
- 6** In the real-time Shopping Cart, click View Details.
- 7** The screen shows the Shopping Cart form with the item that you selected, and also a Recommended Items form listing other items that you may need. Verify that the items you selected display correctly.

The following table describes some of these shopping cart fields.

Field	Comments
Line #	Siebel eSales assigns a number to each line item. If an item has components, a file folder displays in this field. Click on the file folder to see the item's components.
Item	Item name. Click the item name to see additional information about the product, including product literature and related products.
Qty	Quantity of the item. Click in this field to revise the quantity.
MRC Subtotal	Monthly recurring charge (MRC) subtotal for this item.
NRC Subtotal	Non-recurring charge (NRC) subtotal for this item.
Options	Product attributes.
Action	Action codes.
Unit	Unit of measurement (per month, year, quarter).
Comments	Comments from the Pricer.

## Customizing an Item (End User)

Customers working through the Web can customize items by selecting item components and attributes in a configuration session. To start a configuration session, the user clicks Customize. When the user exits the configuration session, the configuration is transferred to the shopping cart.

**NOTE:** Only Customer products can be customized.

If the quantity of a configurable item is greater than one when the user starts a configuration session, the configuration is applied to each of the configurable items. For example, a user adds a configurable Residential Phone Service Package to the shopping cart, enters 4 in the Qty field, and clicks Customize. The configuration is applied to all 4 of the Residential Phone Service Packages.

A Configurator license is required to configure items with components.

### ***To customize an item***

- 1 Navigate to the Catalog screen.
- 2 In the Items list, click Customize  
Selection pages appear showing configurable components and attributes.
- 3 In each category, select the component and enter a quantity (if applicable).  
If a component has configurable attributes, an icon appears in the Customize column.
- 4 Click the icon to configure the attributes for the component.  
If you select combinations of components or quantities that are incompatible, a configuration message displays and presents alternatives.

- 5 After configuring the item, click Save.
- 6 When you are finished, click Done.

You are returned to the Shopping Cart.

## Revising the Contents of the Shopping Cart (End User)

Customers working through the Web can remove single items from the shopping cart or remove all items at once. They can also change the quantity of items, can reconfigure items, and can add new items.

### ***To revise the contents of the shopping cart***

- 1 Navigate to the Shopping Cart.
- 2 Perform one or more of the following, as appropriate:
  - To delete an item, click the item's active record indicator (the diamond icon in the left column), and then click the trash can button.
  - To delete all the items, click Empty Cart.
  - To change the quantity of an item, enter a new quantity in the Qty field and click the Update Quantity button.
  - To use Quick Add to add items, enter the Item Name, Item Code, or Manufacturer Code and click Add to Cart.
  - To add an item from Recommended Items, click on the item name. Then, when a view showing item information appears, click Add To Cart to add the item.

In the real time Shopping Cart, click View Cart to return to Shopping Cart.

## Adding Bulk Items to the Shopping Cart (End User)

Customers working through the Web who are business users frequently need to order configurable items in bulk. For example, a business user may order 20 configurable phone lines for installation at the same location. Rather than configure each instance separately, they can configure the item once and apply the configuration to all the instances. They can then adjust the configuration of individual instances of the item as needed.

This task uses the workflow ["CUT eSales - Ungroup Quote,"](#) which is described in ["Workflows to Ungroup Quotes"](#) on page 138.

### ***To add bulk items to the shopping cart***

- 1 Add a configurable item to the Shopping Cart.

- 2** Navigate to the Shopping Cart and click the item's active record indicator (the diamond button in the left column).
- 3** In the item's Qty field, enter the quantity.
- 4** Click Update Quantity.
- 5** If necessary, click the item's active record indicator to select it again.
- 6** Click Customize.  
Selection pages appear that display the configurable components and attributes of the item.
- 7** Select components and attributes, and then click Done.  
The Shopping Cart appears.
- 8** Verify that the item's active record indicator is highlighted, and then click Ungroup.  
One record is created for each instance of the configurable item.
- 9** To adjust the configuration of an ungrouped instance of the item, click its active record indicator, and then click Customize.

## **Saving a Shopping Cart as a Quote or Quote Template (End User)**

When a customer working through the Web saves the shopping cart, the system first verifies that the user is logged in. If not, the user is required to log in. If the user is not a registered user, the application makes the user register.

When the user saves the shopping cart as a quote, the quote is added to My Quotes. The user can convert the quote to an order at a later time. When the user converts a quote to an order from My Quotes, the quote is removed from My Quotes.

When the user saves a quote as a template, the quote is added to My Templates. The user can use the template to create orders at a later time. Templates are not removed from My Templates when they are used to create quotes.

### ***To save a shopping cart as a quote or quote template***

- 1** Navigate to the Shopping Cart.
- 2** Click Save Cart.  
The Save Cart form appears.
- 3** In the Name field, enter a descriptive name.
- 4** To save the shopping cart as a quote, click Save as Quote.  
If you save the shopping cart as a quote, My Quotes appears and lists the quote. The shopping cart is emptied.

- 5 To save the shopping cart as a quote template, click Save as Template.

If you save the shopping cart as a template, Shopping Cart appears, and its contents are unchanged.

## Processing an Order Checkout (End User)

When the user converts the shopping cart to an order, eSales does the following:

- Verifies that the user is logged in. If not, the user is required to register and log in.
- Verifies that a complete shipping address has been provided. If not, the user is required to enter or select a shipping address.
- Verifies that a payment method has been selected. If not, the user is required to enter credit card information, or select a billing or location purchase order.
- Computes taxes and shipping costs.
- Presents an order summary. The user can edit the shipping and payment details in the order (for example, assigning service IDs to items) summary before submitting the order.

This task uses the following workflows, which are described in [“Workflows to Process an Order Checkout” on page 126](#):

- [“CUT eSales - Checkout Process”](#)
- [“CUT eSales - Set Quote Account Info”](#)
- [“eSales - Enter Shipping Details Process”](#)
- [“eSales - Save Shipping Address”](#)
- [“eSales - Complete Checkout Process”](#)

### ***To check out an order***

- 1 Navigate to the Shopping Cart.
- 2 Verify that the shopping cart contains all the items you want to purchase. Also verify that customizable items are configured correctly.
- 3 Click Check Out.

If the shopping cart contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.

If you have not yet set up a payment method, the Payment Method view appears.

- 4 In the Payment Method form, either enter a credit card and click Charge Me and Continue, or click Bill Me and Continue.

If you select the Bill Me option, you must enter a specific billing address.

## Converting a Quote to an Order (End User)

A customer working through the Web converts a quote to an order by retrieving a quote from My Quotes and transferring it to the shopping cart. This removes the quote from My Quotes.

If the quote has not expired, the items in the quote are transferred to the shopping cart and the check out process starts. If the quote has expired, eSales does the following:

- Verifies that the shopping cart is empty. If not, eSales presents the contents of the shopping cart to the user. The user can cancel the process, save the shopping cart, or discard the shopping cart.
- If the shopping cart is empty, has been discarded, or has been saved, the quote is transferred to the shopping cart. Prices are recalculated. Siebel eSales removes items that are no longer available from the quote.

### ***To convert a quote to an order***

- 1 Log in to eSales and click My Account.
- 2 In the My Information list, click My Quotes.
- 3 In the My Quotes list, select the quote.

In the Quote view, verify that the quote contains all the items that you need, and that customizable items are configured correctly.

- 4 Click Order.

If the quote contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.

If you have not yet set up a payment method, the Payment Method view appears.

**NOTE:** To delete the quote instead of converting it to an order, click Delete.

## Adding Quote Template Items to the Shopping Cart (End User)

A customer working through the Web can add items in a quote template to the shopping cart. These items can be the only items in the shopping cart or can be added to a shopping cart that already contains items.

### ***To add quote template items to the shopping cart***

- 1 Log in to eSales and click My Account.
- 2 In the My Information list, click My Templates.
- 3 In the Template list, locate the quote template and click in the Name field.

**4** In Template Items, delete any items from the quote template or change item quantities, if necessary.

**5** In Template, click Order Template.

The Shopping Cart appears, and contains the items from the quote template. Siebel eSales updates prices for these items to current prices.

**6** Click Check Out.

If the shopping cart contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.

If you have not yet set up a payment method, the Payment Method view appears.

## Entering Shipping Information (End User)

If an order contains items that are to be shipped, eSales verifies that a complete shipping address exists. If not, the user must enter shipping information.

### ***To enter shipping information***

**1** In Shipping Information, click Edit Shipping Details.

**2** Select the recipient and shipping method, and then click Save.

**3** Click the record's edit button to edit the address.

**4** In the Select Shipping Address form, edit the address and click Save.

**5** To create a new shipping address, click Add, fill out the address form, and click Save.

**6** In the Select Shipping Address form, click Save.

The Payment Method view appears.

## Using Payment Methods (End User)

A customer working through the Web has a choice of several payment methods:

- ["Using the Credit Card Payment Method"](#)
- ["Using the Bill Me Payment Method"](#)
- ["Using the Billing Account Payment Method"](#)
- ["Using the Purchase Order Payment Method"](#)

### **Using the Credit Card Payment Method**

This section explains how a customer working through the Web uses the Credit Card Payment Method.

***To use the credit card payment method***

- 1** In the Payment Method form, enter credit card information.
- 2** Enter the billing address.
- 3** To erase the form and start again, click Reset.
- 4** After entering all the information, click Continue.  
The Order Summary appears.

**Using the Bill Me Payment Method**

This section explains how a customer working through the Web uses the Bill Me Payment Method.

***To use the Bill Me payment method***

- 1** In the Payment Method tab, click Bill Me.  
The Billing Account view appears.
- 2** In Select Billing Address, locate the billing address.
- 3** In the address Select field, click Select.  
The Order Summary appears and contains the billing address.

**Using the Billing Account Payment Method**

This section explains how a customer working through the Web uses the Billing Account Payment Method. The customer has two options:

- clicking Billing Account
- clicking Bill Me & Continue

***To use the Billing Account payment method clicking Billing Account***

- 1** In the Payment Method form, click the Billing Account button.  
The Pick Billing Account dialog box appears.
- 2** Select the billing account and click OK.  
The Order Summary appears, showing the billing address.

***To use the Billing Account payment method clicking Bill Me & Continue***

- 1** In the Payment Method form, click Bill Me & Continue.
- 2** Select Account from the list menu.



## Using the Purchase Order Payment Method

This payment method is described in *Siebel eSales Administration Guide*.

# Reviewing and Submitting an Order (End User)

This section explains how a customer working through the Web can review and submit an order.

### ***To review and submit an order***

- 1 Log in to eSales and click My Account.
- 2 In the My Information list, click My Orders.
- 3 In the My Orders list, select an order with the status Pending.
- 4 Review the shipping information, payment information, items requested, and total cost to verify that all information is correct.
- 5 Select or confirm the Shipping address.
- 6 Click Submit.

The Order Summary appears.

## Revising an Order (End User)

A customer working through the Web can change an existing order by revising an order. In this process, the user creates a supplemental order by changing an order that is not yet provisioned.

This task uses the workflow "[CUT eSales - Goto Revise Order View](#)," which is described in "[Workflows to Revise an Order](#)" on page 142.

### ***To revise an order***

- 1 Log in to eSales and click My Account.
- 2 In the My Information list, click My Orders.  
The My Orders list appears showing your existing orders. This screen is used to select an open order.
- 3 Select the appropriate order and click Revise.  
The status of the order must be Open.
- 4 In the Line Items list, select the item to be revised.
- 5 Click Customize.
- 6 Change the item and click Checkout.

## Modifying an Order (End User)

A customer working through the Web can modify a service item that is already provisioned. In this action, the user can change product attributes or a feature or component of the service item.

**NOTE:** In Siebel eSales for Industry Applications, orders and services are the same thing. When you select Service Items under the Products & Services tab, you are accessing screens to work with existing orders.

This task uses the following workflows, which are described in [“Workflows to Modify Products and Installed Assets”](#) on page 144:

- [“CUT eSales - Modify Products and Services Process”](#)
- [“CUT eSales - Prepare Shopping Cart View”](#)

### ***To modify an existing service item***

- 1** In the My Account screen, in the Products & Services list, click Service Items.  
The Service Items screen appears.
- 2** In the Select Account list, select the account to be changed.
- 3** In the Service Items list, select the item to be changed.
- 4** Click Modify.
- 5** When the selection pages appear, change the product attributes, features, or components, as needed.
- 6** Click Done.
- 7** When the Shopping Cart appears, you can see the changed action codes.

## Disconnecting an Order (End User)

A customer working through the Web can disconnect a complete service item and all of its components. This action disconnects the parent product and all child products on lower levels of the hierarchy.

You cannot disconnect a child product by itself.

**NOTE:** In Siebel eSales for Industry Applications, orders and services are the same thing. When you select Service Items under the Products & Services tab, you are accessing screens to work with existing orders.

This task uses the workflow [“CUT eSales - Disconnect Products and Service Process,”](#) which is described in [“Workflow to Disconnect Products and Services”](#) on page 147.

### ***To disconnect an order***

- 1** In the My Account screen, in the Products & Services list, click Service Items.

- 2** In the Select Account list, select the account.
- 3** In the Service Items list, select the item to be disconnected.
- 4** Click Disconnect.

You are taken to the Shopping Cart, where you see the product and all of its components with the Action code of Delete.

- 5** Click Check Out.



# 7

## Workflows for Customer Ordering

This chapter explains the Siebel workflows used for customer order management.

The workflows are grouped in sections that correspond to the business processes that they automate. Each section describes a workflow process and may describe one or more subprocesses that are called by the main process. These are grouped together to show how the process and its subprocesses are related to each other.

This chapter includes the following sections:

- [“About Workflows for Customer Ordering” on page 125](#)
- [“Workflows to Process an Order Checkout” on page 126](#)
- [“Workflows to Ungroup Quotes” on page 138](#)
- [“Workflow to Order a Saved Quote” on page 139](#)
- [“Workflow to Edit a Delta Quote Line Item” on page 140](#)
- [“Workflows to Revise an Order” on page 142](#)
- [“Workflow to Reject an Order” on page 143](#)
- [“Workflows to Modify Products and Installed Assets” on page 144](#)
- [“Workflow to Disconnect Products and Services” on page 147](#)

## About Workflows for Customer Ordering

Workflows are a central feature of Siebel Order Management. They automate the business processes associated with managing the cycle of accounts, quotes, orders, and assets.

You can modify these workflows to suit your own business model using Siebel Business Process Designer. For more information, see *Siebel Business Process Designer Administration Guide*.

Many of these processes and subprocesses business service methods that are specific to Order Management. The descriptions of workflows include tables listing the names of any methods they call. For information about these methods, see [Chapter 11, “Business Service Methods Reference.”](#)

Some of these Customer-facing CME workflows can override the functions specified by certain Siebel horizontal subprocesses. These possible overrides are indicated in [Table 6](#).

Table 6. CME Workflows Overrides

CME Customer Workflow	Horizontal Subprocess
CUT eSales - Order Quote Process	Display Error Message

Table 6. CME Workflows Overrides

CME Customer Workflow	Horizontal Subprocess
CUT eSales - Checkout Process	Login View
CUT eSales - Prepare Shopping Cart View	Display Error Message

## Workflows to Process an Order Checkout

This group of workflows is used to process an order checkout. It consists of the workflow process and nested subprocesses:

- CUT eSales - Checkout Process
  - CUT eSales - Set Quote Account Info
  - eSales - Enter Payment Details Process
  - CUT eSales - Bill Me Process
  - eSales - Complete Checkout Process
  - CUT eSales - Prepare Quote Process
  - eSales - Authorize Order Process

### CUT eSales - Checkout Process

This workflow invokes multiple subprocesses to process an order checkout. This workflow is shown in [Figure 44 on page 126](#).

For more information, see ["Processing an Order Checkout \(End User\)" on page 117](#).

The user starts this workflow by clicking the Checkout button in the Shopping Cart View.

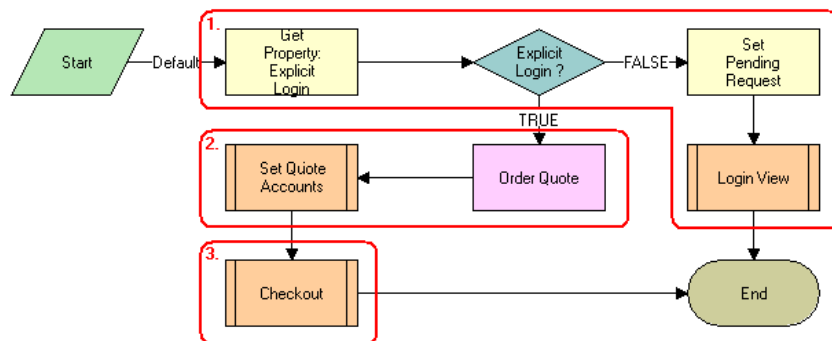


Figure 44. CUT eSales - Checkout Process Workflow

**Workflow Description.** This workflow:

- 1 Checks to determine whether the user is logged in. If not, displays the Log In view and terminates.
- NOTE:** Set Pending Request is set so that the workflow continues with the checkout process. However, you can configure this stop to redefine the checkout process to meet your business needs.
- 2 If the user has logged in, the Quote ID is stored in the Current Checkout Quote Profile attribute. The account information is set for the quote.

See "CUT eSales - Set Quote Account Info" on page 127

The checkout process is complete.

## CUT eSales - Set Quote Account Info

This workflow is called to set Quote Account information. This workflow is shown in Figure 45.

The CUT eSales – Check Out Process invokes this workflow.

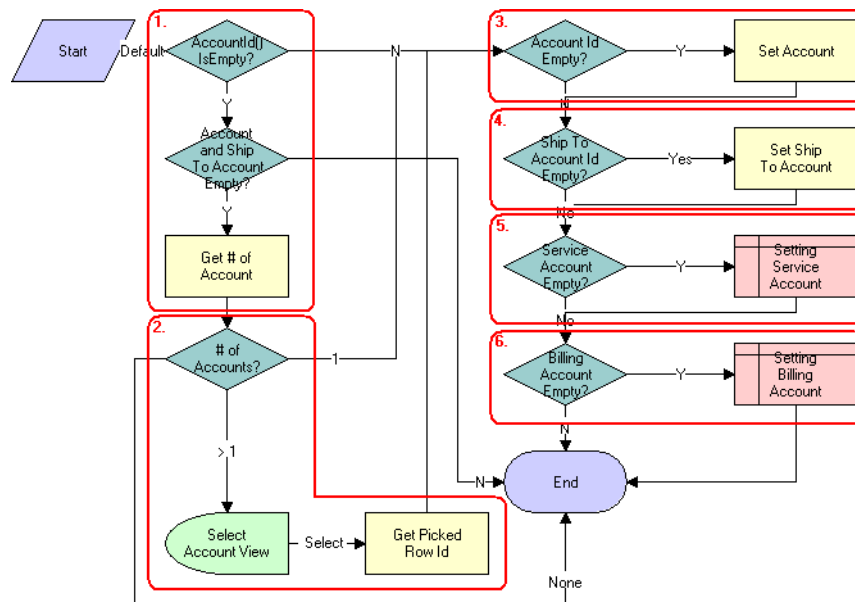


Figure 45. CUT eSales - Set Quote Account Info Workflow

**Workflow Description.** This workflow:

- 1 Retrieves the account associated with the user. If the user does not have an account and the Quote's ship to account is not specified, counts the number of accounts for which the user is a contact.
- 2 If the user is a contact of more than one account, displays the Select Account View. The user must select an account.

- 3 If the user is an account user, or an account is identified as the only account, or it is chosen by the user, fills in the account.
- 4 If the ship to account is specified, sets the account to be the current account and fills in the Account Id information with the quote.
- 5 If the service account is empty, sets the service account to be the current account and fills in the Account Id information with the quote.
- 6 If the billing account is empty, sets the billing account to be the current account and fills in the Account Id information with the quote.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Get # of Accounts	"GetBCCount Method".



## eSales - Enter Shipping Details Process

This workflow allows a user to specify a destination address for shipping products. This workflow is shown in Figure 46. This workflow is invoked by the eSales - Checkout Process.

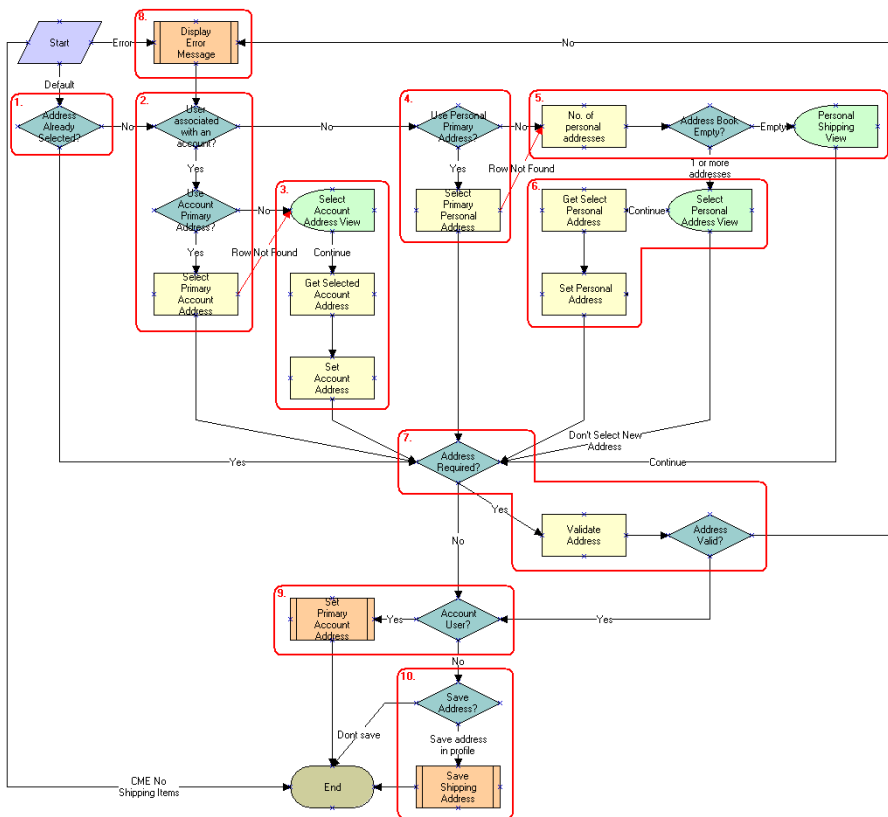


Figure 46. eSales - Enter Shipping Details Workflow

### Workflow Description. This workflow:

- 1 Checks to determine whether an address has already been selected
- 2 If no address has been selected, the workflow checks whether the user is associated with an account, and if so, whether the primary address of the account should be used.
- 3 If the user is associated with an account but the primary address is not used, the Select Account Address View is displayed. The user chooses an address. After the address is selected, the workflow sets the address as the account address.
- 4 If the user is not associated with an account, the user's personal addresses are checked.
- 5 If the user's personal address not to be used, and the user's address book is empty, the Personal Shipping View is displayed. The user enters a shipping address.
- 6 If the address book is not empty, the Select Personal Address View is displayed and the user selects an existing address. The selected address is set as the user's personal address.

- 7 If an address is required it is validated. If is not, an error message is displayed.
- 8 If the address is valid and the user is an account user, the address is set as the primary address of the account.
- 9 If the user is not an account user and the user has set the Save check box in the Personal Shipping View, the shipping address is saved.

See ["eSales - Save Shipping Address" on page 130](#) for more information.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
# Personal Addresses	"GetBCCount Method"

## eSales - Save Shipping Address

This workflow is invoked during order processing to save a shipping address for the account. This workflow is shown in [Figure 47](#).

The CUT eSales - Enter Shipping Details workflow invokes this workflow as a subprocess.

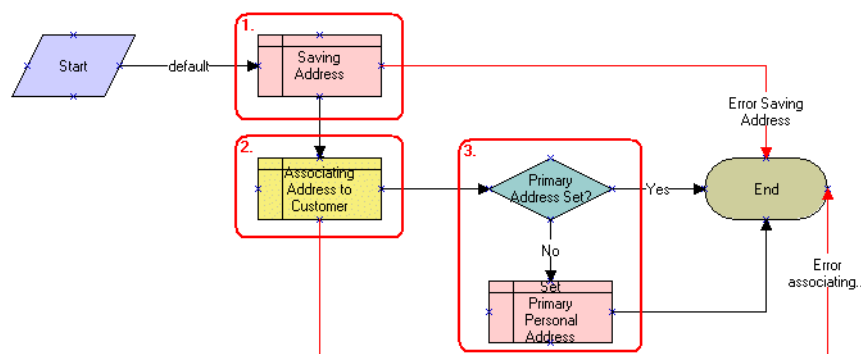


Figure 47. eSales - Save Shipping Address Workflow

**Workflow Description.** This workflow:

- 1 Saves the address.
  - 2 If it saves the address successfully, associates it with the customer.
  - 3 If the account does not have a primary address set, sets the new address as the primary address.
- If any step causes an error, the workflow terminates.

## eSales - Set Primary Account Address

This workflow (shown in Figure 48) allows the user to specify a primary account.

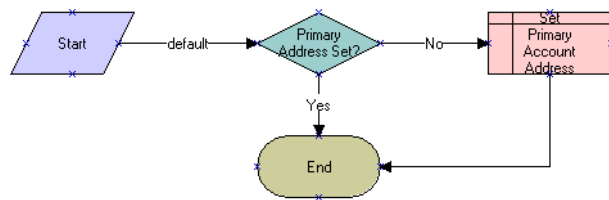


Figure 48. eSales - Set Primary Account Address Workflow

### Workflow Description.

- 1 Checks for a primary account address.
- 2 If there is not a primary account address, sets the specified account address as the primary account address.

## eSales - Enter Payment Details Process

This workflow allows the user to specify the type of payment: Credit Card, Purchase Order, or Bill to address. This workflow is shown in [Figure 49](#). The eSales - Complete Checkout Process invokes this workflow.

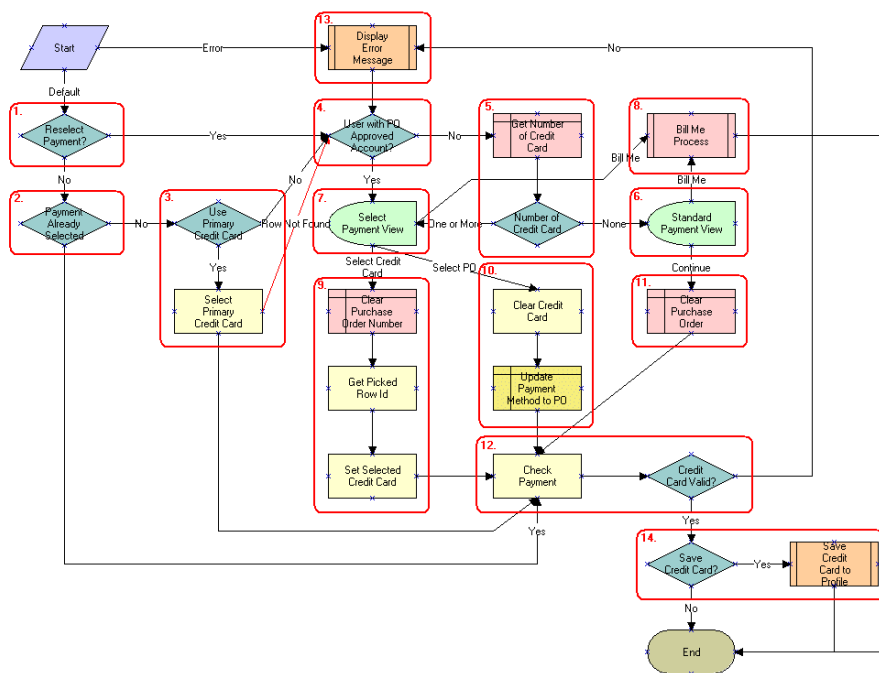


Figure 49. eSales - Enter Payment Details Process Workflow

### Workflow Description.

- 1 Checks the caller workflow. If an error message was passed by the caller workflow, the payment must be reselected.
- 2 If a payment option has already been selected, it is verified.
- 3 If the user has a primary credit card, it is automatically selected as the payment option.
- 4 Checks to determine whether the user has a Purchase Order approved account.
- 5 If not, retrieves the user's credit card information.
- 6 If a credit card is not specified for the user, displays the Standard Payment View.
- 7 If the user has one or more credit cards specified or has a Purchase order approved account, displays the Select Payment View.

The user selects to make payment by Purchase Order, Credit Card, or request to be billed.

- 8** If the user chooses to be billed, the Bill Me Process is invoked.

Bill Me applet is only displayed if the following two conditions are met:

- a The application definition is CME eSales (evaluated at the applet level)
- b At least one of the products in the shopping cart is a service item as defined in the Product Administration.

See "CUT eSales - Bill Me Process" on page 133.

- 9 If the user selects credit card as the payment method, the purchase order number is cleared and the selected credit card details are retrieved.
- 10 If the user selects purchase order as the payment method, the credit card details are cleared and the purchase order payment method is set.
- 11 If the user chooses Continue in the Standard Payment View, the purchase order number is cleared.
- 12 The payment method is validated. If it is not valid, an error message is displayed.
- 13 If the credit card is valid, it is saved in the user's profile.

## CUT eSales - Bill Me Process

This workflow determines whether an address can be identified for billing the user. This workflow is shown in Figure 50. The CUT eSales - Enter Payment Details Process invokes this workflow as a subprocess.

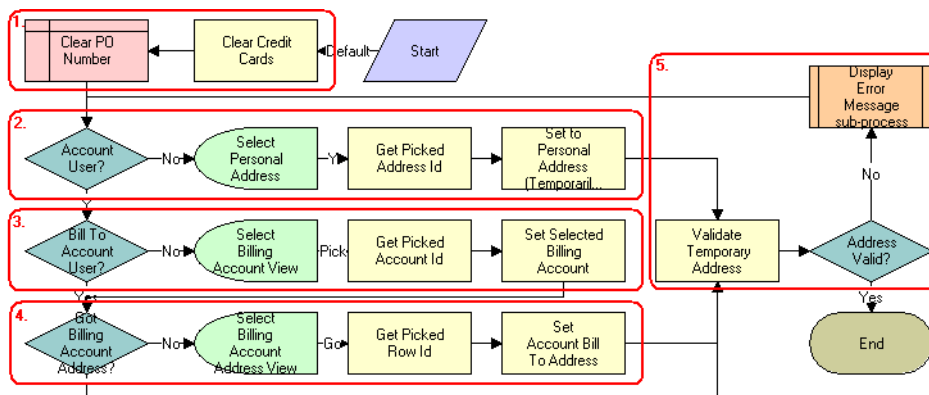


Figure 50. CUT eSales - Bill Me Process Workflow

**Workflow Description.** This workflow:

- 1 Clears any credit card or purchase order details.
  - 2 If the user is not associated with an account, gets the address from the address book and sets this as the billing address.
- NOTE:** This information will be used to create a billing account for the user.
- 3 If the user is an account user but a billing account is not identified for the user, displays the Select Billing Account view. The user selects the billing account to be used.

- 4 Once a billing account is identified for the user, if an address cannot be identified for that account, displays the Select Billing Account Address View.

The user enters a billing address.

- 5 Validates the address by checking for required fields. If the fields are not filled in, displays an error message.

The user must enter a valid address.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
Primary Billing Account	"SelectPrimary Method".

## eSales - Complete Checkout Process

Displaying the Order Summary View, this workflow allows the user to change the shipping details and payment details, cancel the order, or confirm the order. If the user decides to continue shopping, the Shopping Cart View is displayed. If the user decides to cancel the order, the Home Page view is displayed. If the user decides to continue with the order and depending upon the order items, the CUT eSales – Auto Select Billing, Service Accounts Process, and CUT eSales – Authorize Order Process are triggered to complete the ordering process. This workflow is shown in Figure 51.

The CUT eSales - Checkout Process invokes this workflow.

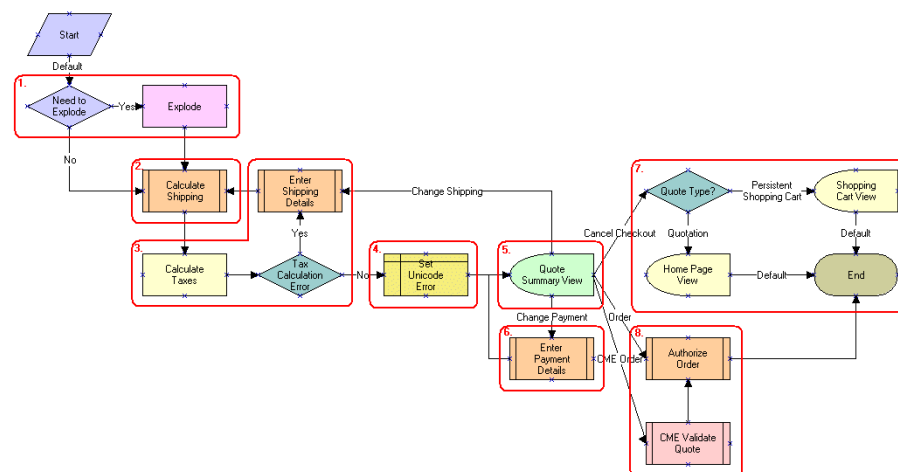


Figure 51. eSales - Complete Checkout Process Workflow

**Workflow Description.** This workflow:

- 1 Explodes any item in the Shopping Cart that has quantity of more than one. The items are exploded into multiple items with a quantity of one.  
**CAUTION:** If customers are expecting orders with large quantities, orders with quantities over 200, then the Explode step should be moved to after the Submit order as performance can be adversely impacted by exploding large quantities.
- 2 Checks to determine whether any products are to be shipped and if so, calculates the shipping costs.
- 3 Calculates the taxes and if there is an error, the user must re-enter shipping details.
- 4 Saves the error message returned by the 'Calculated Taxes' step.
- 5 If the tax calculation is successful, displays the Order Summary View.  
The user indicates whether to change shipping details, change payment details, proceed with the order, or cancel the checkout.
- 6 If the user chooses to change the shipping details, invokes the Enter Payment Details subprocess.  
See ["eSales - Save Shipping Address" on page 130](#) for more information.
- 7 If the user chooses to cancel the checkout, returns the user to the Home Page or to the Shopping Cart View depending upon whether the checkout was initiated from a Quote or the Shopping Cart.
- 8 If the user chooses to continue with the Order, invokes the Prepare Quote and Authorize Order processes to complete the checkout.  
See ["eSales - Complete Checkout Process" on page 134](#) and ["eSales - Authorize Order Process" on page 137](#) for more information.

## CUT eSales - Prepare Quote Process

This workflow is invoked as a subprocess to generate and return the necessary event information for the order. This workflow is shown in [Figure 52](#).

The eSales - Complete Checkout Process invokes this workflow as a subprocess.

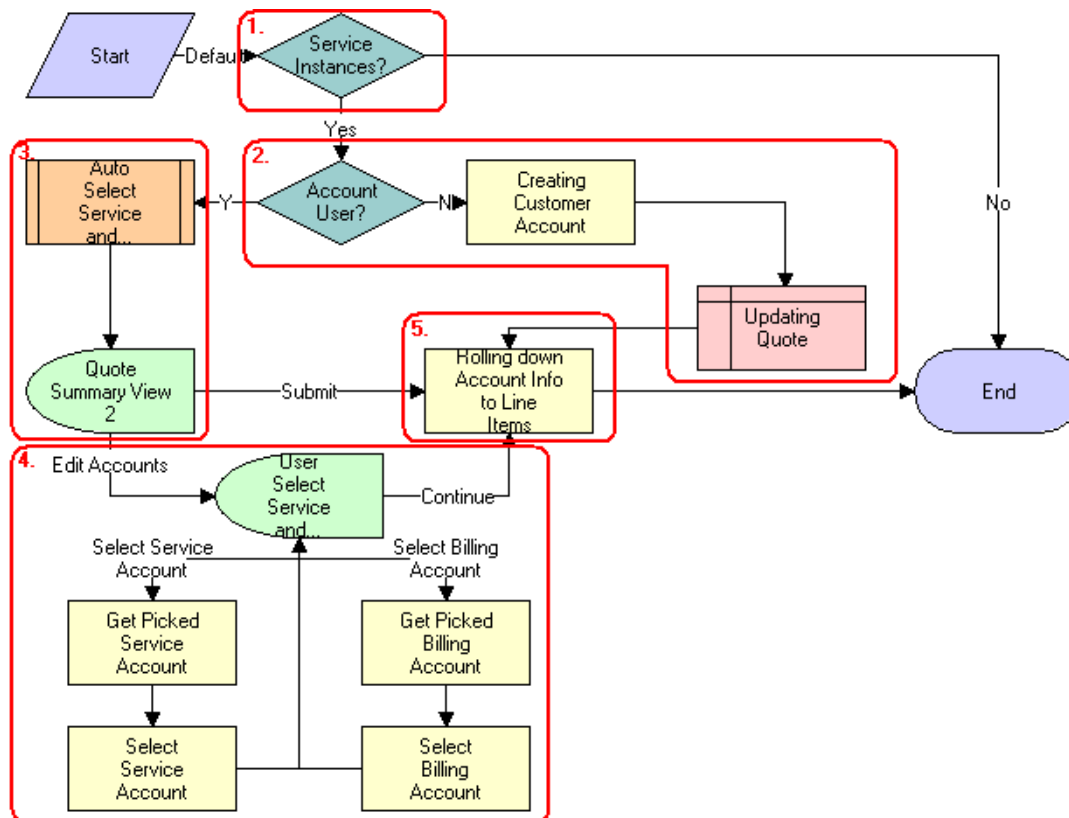


Figure 52. CUT eSales - Prepare Quote Process Workflow

**Workflow Description.** This workflow:

- 1** Checks to determine whether any item in the shopping cart is a service instance. If not, it terminates.
- 2** Checks to determine whether the user is associated with an account or not. If the user does not have an account, creates a customer account for the user (based on the shipping and billing address provided earlier in the checkout process) and sets the quote's billing and service accounts to this new account.
- 3** If the user is an account user, selects the billing and service account and displays them in the Quote Summary View.  
The user can accept the selected accounts and confirm the order by clicking Submit or choose to edit the accounts.
- 4** If the user chooses to edit the accounts, displays the User Select Service and Billing Account View.  
The user selects the required service and billing accounts.



**5** Getting Account information.

- a** If there are no changes to the Service and Billing Account fields (they are still NULL), their default values become the service and billing information included in the Order header.
- b** If either the Service or Billing Account fields are changed, the current (non-NULL) value is kept.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Creating Customer Account	"CreateOrder Method"
Rolling Down Account Info to Line Items	"SetLIAccounts Method"

## eSales - Authorize Order Process

This workflow verifies payment details and creates a credit card order or purchase order. Then it sends an order approved email and displays the Order Confirmation View. This workflow is shown in Figure 53.

The eSales - Complete Checkout Process invokes this workflow as a subprocess.

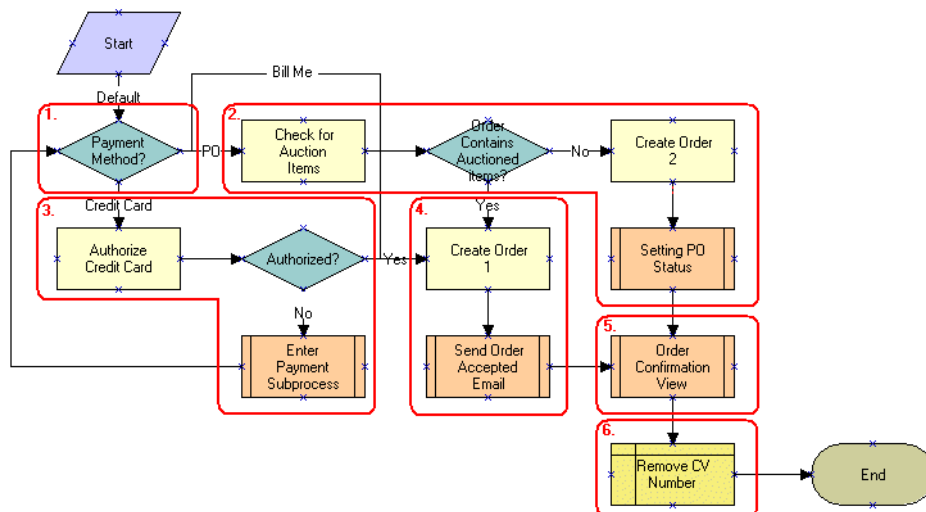


Figure 53. eSales - Authorize Order Process Workflow

**Workflow Description.** This workflow:

- 1** Checks the payment method selected by the user.
- 2** If the user has chosen to pay by purchase order, checks to determine whether any auctioned items are included in the order or not. If not, creates a purchase order.

- 3 If the user has elected to pay by credit card, authorizes the credit card. If it is not authorized, invokes the Enter Payment subprocess.
- 4 The user specifies an another payment method.
- 5 If the user chooses to pay using an authorized credit card, the workflow creates a credit card order and emails a confirmation email to the user.
- 6 Explodes order line items, creating multiple copies of a line item for any line item with a quantity greater than 1.

## Workflows to Ungroup Quotes

This workflow is used to ungroup items of a quote (shopping cart). It consists of two variations of the same workflow:

- CUT eSales - Ungroup Quote (All)
- CUT eSales - Ungroup Quote (Select)

### CUT eSales - Ungroup Quote

This workflow decomposes all or some line items into multiple instances with a quantity of one where the quantity is greater than 1. This workflow is shown in [Figure 54 on page 139](#).

The end user starts this workflow by clicking the Ungroup button in the Shopping Cart View.

#### Ungrouping Selected Line Items

If any line items are selected when the end user clicks the Ungroup button, `FrameEventMethodUngroupSelected` is called to ungroup only those selected line items. This workflow decomposes the root item, associated with the selected item, and all its children into multiple instances, each with a quantity of one where the original quantity is greater than 1.

#### Ungrouping All Line Items

If not line items are selected when the end user clicks the Ungroup button, `FrameEventMethodUngroupAll` is called to ungroup all the line items.

**NOTE:** If this workflow variations used, you must change the configuration by removing the select item column from the shopping cart.

The user starts this workflow by clicking the Ungroup button in the Shopping Cart View when a line item is selected.

Figure 54 represents both variations of the workflow.

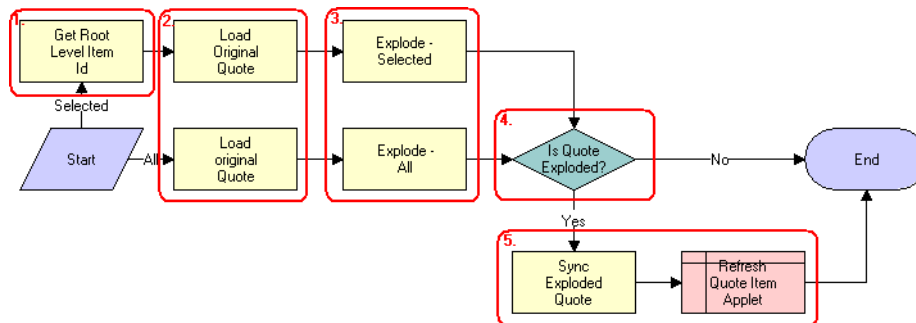


Figure 54. CUT eSales - Ungroup Quote Workflow

**Workflow Description.** This workflow:

- 1 If a quote line item is selected, retrieves the Id associated with the root level item.
- 2 Reads the quote from the database.
- 3 If the quantity of any component of the selected line item or all line items if none is selected, is greater than 1, creates multiple copies of that line item each with a quantity of one.
- 4 If the quote is not fully ungrouped or exploded, terminates.
- 5 Otherwise, writes line items to the database and refreshes the Shopping Cart View.

For more information, see ["Adding Bulk Items to the Shopping Cart \(End User\)."](#)

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Explode	"Explode Method"

## Workflow to Order a Saved Quote

This workflow allows a user to order a saved quote. It consists of a single workflow process:

- CUT eSales - Order Quote Process

### CUT eSales - Order Quote Process

This workflow creates an Order from the current Quote copying the line items from the Quote to the Order. This workflow is shown in [Figure 55](#).

The user invokes this workflow by clicking the Order button in the eSales application Quote Detail View.

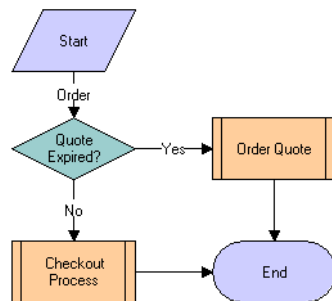


Figure 55. CUT eSales - Order Quote Process Workflow

**Workflow Description.** This workflow:

- 1 Checks to determine whether the quote has expired or not. If not, invokes the Checkout process.  
See ["CUT eSales - Checkout Process" on page 126](#) for more information.
- 2 If the quote has expired, invokes the Order Quote subprocess.

## Workflow to Edit a Delta Quote Line Item

This workflow allows a user to edit a delta quote line item. It consists of a single workflow process:

- CUT eSales - Edit Delta Quote Line Item

### CUT eSales - Edit Delta Quote Line Item

This workflow applies open and pending orders to the asset associated with the selected line item and displays the asset in the Product Configurator view. The user makes changes to define the newly requested state and clicks the Done button. The workflow writes the delta of the current and requested states of the asset to the current quote as 1 or more line items. This workflow is shown in [Figure 56](#).

A user starts this workflow by clicking Customize in the Quote Detail view.

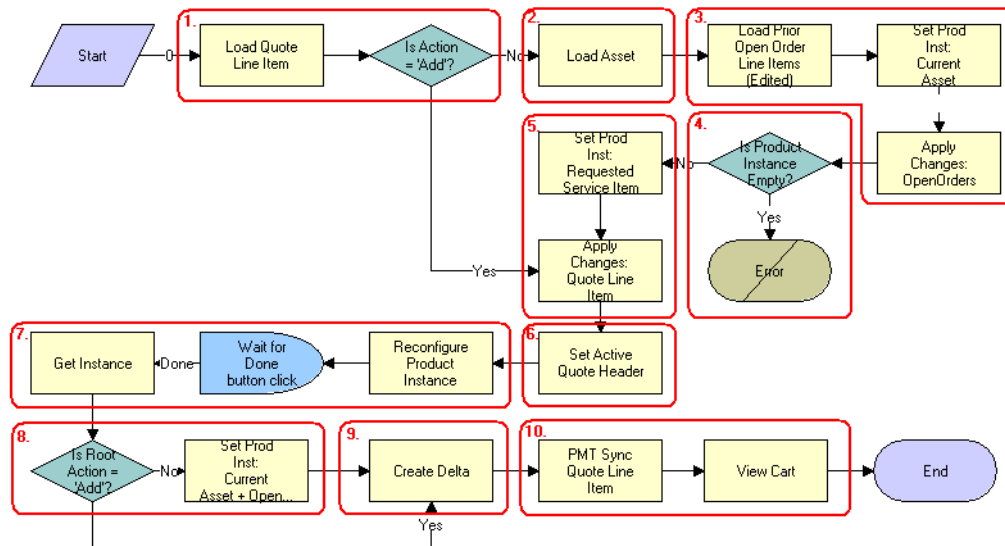


Figure 56. CUT eSales - Edit Delta Quote Line Item Workflow

**Workflow Description.** This workflow does the following:

- 1 Checks the action code of the top-level component of the order line item. If the action code is Add, then goes to Step 5.
- 2 If the action code is not Add, reads the asset associated with the selected quote line item from the database. Components with a status of Inactive are excluded.
- 3 Retrieves all prior open and pending orders that relate to the asset and applies them to generate the requested future state of the asset.
- 4 If one of the open or pending orders disconnects the top-level component, the resulting asset is empty. The workflow displays the following error message: "A request has already been made to disconnect this service item." The workflow stops.
- 5 Applies the current quote line item to the asset.
- 6 Stores the quote header so that line items can be added to it.
- 7 Displays the currently requested state of the asset in the Product Configurator view. The user makes the required changes and clicks the Done button.
- 8 If the action code of the root item is not Add, caches the previously requested state of the asset to be used as an input to Delta.
- 9 Generates the delta of the following as 1 or more quote line items:
  - The requested state of the asset before the current order line item was applied
  - The state of the asset after the user has reconfigured it

**10** Writes the quote line item to the database and refreshes the view.

**Associated Business Service Methods.** The following table shows the steps in this workflow that call business service methods.

Workflow Step	Business Service Method Called
Load Prior Open Order Line Items (Edited)	Find Orders
Set Product Inst: Current Asset	Set Product Instance
Set Asset Header	Set Output Header
Apply Changes: OpenOrders	Apply
Set Prod Inst: Requested Service Item	Set Product Instance
Set Asset Header2	Set Output Header
Apply Changes: Delta Quote Line Item	Apply
Set Active Order Header	Set Output Header
Create Delta	Delta
PMT Sync Quote Line Item	Synchronize
Reconfigure Product Instance	Reconfigure Product Instance
Get Instance	Get Product Instance
Refresh View	Refresh View

## Workflows to Revise an Order

This group of workflows allows a user to display the latest version of a revised order. It consists of the workflow process and nested subprocess:

- CUT eSales - Revise Order Process
  - CUT eSales - Goto Revise Order View

### CUT eSales - Revise Order Process

This workflow invokes a subprocess to refresh the display. This workflow is shown in [Figure 57](#).

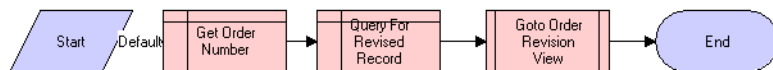


Figure 57. CUT eSales - Revise Order Process Workflow

**Workflow Description.** This workflow:

- 1** When the workflow starts, it invokes Get Order Number.

- 2 Get Order Number invokes Query For Revised Record.
- 3 Query For Revised Record invokes Goto Order Revision View.

The new view appears.

## CUT eSales - Goto Revise Order View

This workflow displays the Revise Order view. This workflow is shown in [Figure 58](#).

The CUT eSales - Revise Order Process workflow invokes this workflow automatically to display the revised order view.

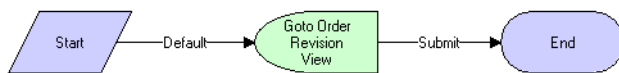


Figure 58. CUT eSales - Goto Revise Order View Workflow

**Workflow Description.** This workflow:

- 1 Retrieves the order number of the revised order.
- 2 Retrieves the latest revision of that order.
- 3 Displays this revision in the Order Revision View.

**NOTE:** Revising orders that are PO approved does not reevaluate the PO approval amount.

For more information, see ["Revising an Order \(End User\)"](#) on page 121.

## Workflow to Reject an Order

This workflow allows a purchasing manager or delegated administrator to reject an order. It consists of a single workflow process:

- CUT eSales - Reject Order Process

### eSales - Reject Order Process

This workflow is called to process an order that is rejected by a power user (delegated administrator or purchasing manager). This workflow is shown in [Figure 59](#).

The user starts this workflow by clicking the Reject button on the Order Approval View.

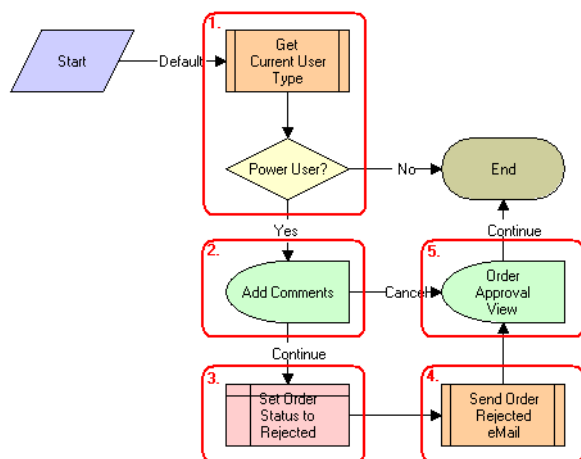


Figure 59. CUT eSales - Reject Order Process Workflow

**Workflow Description.** This workflow:

- 1 Checks the type of user that is rejecting the order.
- 2 If the user is not a power user (not a Purchasing Manager or Delegated Administrator), displays a message and terminates.
- 3 If the user is a power user, displays the Add Comments View.  
The user enters comments explaining why the order is being rejected or cancels the process.
- 4 If the user does not cancel the process, sets the order status to Rejected.
- 5 Sends an email to the contact associated with the order, informing them of the rejection.
- 6 Returns the user to the Order Approval View.

## Workflows to Modify Products and Installed Assets

This group of workflows is used to modify products and installed assets. It consists of the workflow process and nested subprocess:

- CUT eSales - Modify Products and Services Process
  - CUT eSales - Prepare Shopping Cart View

### CUT eSales - Modify Products and Services Process

This workflow invokes the SIS OM Edit Complex Asset Workflow to generate a quote line item to update the selected asset and displays the Quote Detail View. This workflow is shown in [Figure 60](#).



The user invokes this workflow by clicking on the Modify button on the Installed Assets or Billing Items View in the eSales application.

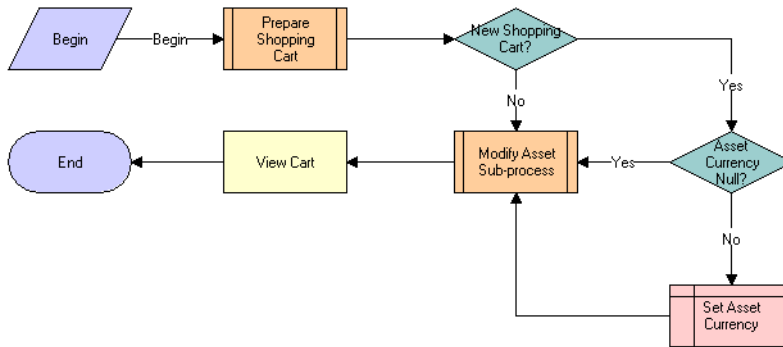


Figure 60. CUT eSales - Modify Products and Services Process Workflow

**Workflow Description.** This workflow:

- 1 Prepares the Shopping Cart so that line items that specify the changes to the modified installed assets can be added to it.  
See ["CUT eSales - Prepare Shopping Cart View" on page 145](#) for more information.
- 2 If the Shopping Cart is new, checks the currency code associated with the asset. If no currency is specified, sets it to the default.
- 3 Invokes the Modify Asset subprocess to modify the Asset that is selected in the Installed Assets or Billing Items view.
- 4 Once the asset is modified, displays the line items that specify the changes in the Shopping Cart view.

**Associated Business Service Methods.** The following table shows the step in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
View Cart	<a href="#">"ViewCart Method"</a> .

## CUT eSales - Prepare Shopping Cart View

This workflow prepares the Shopping Cart View. This workflow is shown in [Figure 61](#).

The CUT eSales - Modify Products and Services Process invokes this workflow.

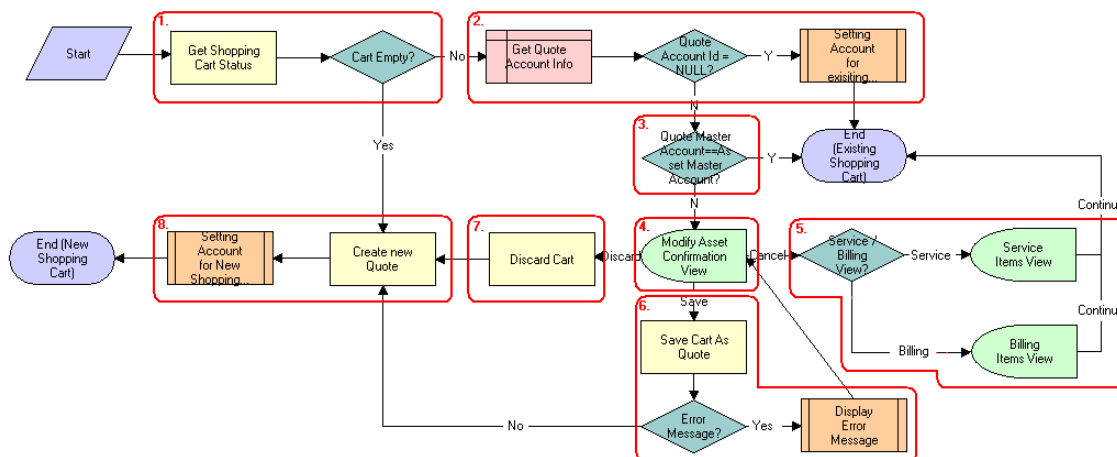


Figure 61. CUT eSales - Prepare Shopping Cart View Workflow

**Workflow Description.** This workflow:

- 1** Checks the status of the current Shopping Cart. If the shopping cart is empty, creates a new quote (shopping cart).
- 2** If the shopping cart is not empty and is not associated with an account, sets the quote account to the account to which the asset being modified belongs. Then, it terminates.
- 3** If the shopping cart is not empty and has an associated account, determines if the quote's master account matches the master account to which the asset being modified belongs. If the master accounts are the same, it terminates.
- 4** If the master accounts are not the same, displays the Modify Asset Confirmation View.  
The user can save the existing cart, discard it, or cancel the Modify process.
- 5** If the user decides to cancel, displays the Installed Assets or Billing Items View depending on where the original process was invoked.
- 6** If the user decides to save, saves cart. If an error occurs, displays an error message and returns the user to the Modify Asset Confirmation View. If the cart is saved successfully, creates a new quote.
- 7** If the user decides to discard the cart, creates a new quote.
- 8** Sets the quote's account to the account to which the asset being modified belongs.

For more information, see ["CUT eSales - Modify Products and Services Process"](#) on page 144.

# Workflow to Disconnect Products and Services

This workflow allows a user to disconnect products and services. It consists of a single workflow process:

## ■ CUT eSales - Disconnect Products and Service Process

### CUT eSales - Disconnect Products and Service Process

This workflow invokes the SIS OM Disconnect Asset subprocess to generate a quote line item to disconnect the selected asset and displays the Quote Detail View. This workflow is shown in [Figure 62](#).

The user invokes this workflow by clicking the Disconnect button in Installed Assets or Billing Items.

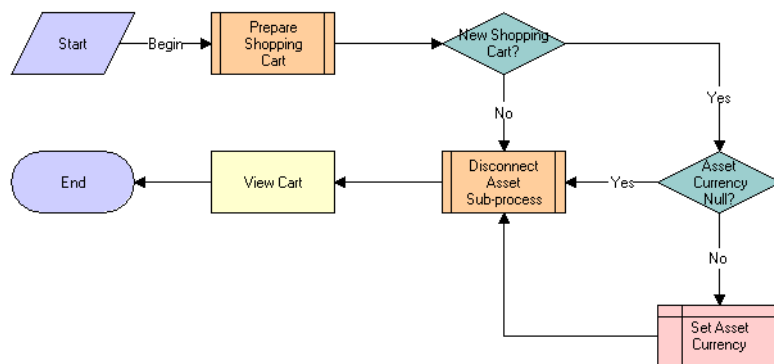


Figure 62. CUT eSales - Disconnect Products and Service Process Workflow

**Workflow Description.** This workflow:

- 1** Prepares the Shopping Cart so that line items that specify the disconnected installed assets can be added to it.  
See ["CUT eSales - Prepare Shopping Cart View"](#) on [page 145](#) for more information.
- 2** Checks the currency code associated with the asset and if it no currency is specified, sets it to the default.
- 3** Invokes the Disconnect Asset subprocess to disconnect the Asset that is selected in the Installed Assets or Billing Items View.
- 4** Once the asset is disconnected, displays the line items that specify the changes in the Shopping Cart View.

**Associated Business Service Methods.** The following table shows the steps in this workflow that calls a business service method.

Workflow Step	Business Service Method Called
View Cart	"ViewCart Method"

# 8

## Order Management in Siebel PRM

This chapter describes Order Management functionality within the Siebel Partner Relationship Management (PRM) applications. It focuses on the procedures a partner end-user would complete in order management and order placement.

This chapter includes the following sections:

- [“About Order Management in Siebel PRM” on page 149](#)
- [“Scenario for Partner Order Management” on page 150](#)
- [“Order Management with Standard Partner Commerce” on page 151](#)
- [“Power Partner Commerce Order Management” on page 163](#)
- [“Order Management Workflows for PRM” on page 164](#)

### About Order Management in Siebel PRM

Siebel PRM allows your partners to resell or purchase your organization’s products. It also allows partners to communicate and collaborate with your organization. For more information about Siebel PRM, see *Siebel Partner Relationship Management Administration Guide*.

This chapter focuses on the user interfaces and workflows that are unique to the PRM module implementation of Order Management.

PRM order management processing has been enhanced to provide support for two different types of partner users within the PRM module:

- **Standard Partner Commerce User.** This partner end user uses the shopping cart view to purchase product and services for their customers or for their organization. This Order Capture interface is similar to the one utilized in the eSales applications and is designed for simplicity and ease of use and is most appropriate for business to consumer transactions. The Standard Partner Commerce user has access to the product catalog and Advisor.
- **Power Partner Commerce User.** This partner end user uses the same quotes and orders modules used by employees. This role is meant to support the partner end user who is assisting customers in meeting their specialized needs.

These variations from standard PRM functionality are described in detail in:

- [“Order Management with Standard Partner Commerce” on page 151](#)
- [“Power Partner Commerce Order Management” on page 163](#)
- [“Order Management Workflows for PRM” on page 164](#)

## Scenario for Partner Order Management

This scenario describes how a partner organization could establish a partnership with a brand owner organization and complete sales channel. This is only an example. Depending upon your organization's business requirements and your partnership program, you and your partners may apply different processes.

### The Brandowner Recruits Partners

The channel manager for TeleMedia Inc. Wireless has developed a partnership campaign to use channel partners to resell TeleMedia mobile phone packages.

Prospective partners receive a campaign email that directs them to the TeleMedia Partner Portal, where they can view information about available TeleMedia Inc. partner programs and apply to become partners.

The TeleMedia channel manager reviews and approves these applications. When an organization is approved, it is given full access to the Partner Portal. It is assigned accounts and responsibilities and its employees are assigned the appropriate user type, power users or standard users.

### Partners Order Through the Partner Portal

After being approved as a TeleMedia partner, the electronics department manager for ComTel Networks can expand his stores selection by offering TeleMedia products. The partner store manager logs into the TeleMedia Partner Portal. On the home page, there is a Partner Alert about a promotional campaign for the TeleMedia mobile package which includes partner re-sell incentives.

He decides to upgrade the existing store inventory of mobile phones and promote the mobile package through the newer mobile models along with clearance of older mobile models.

The partner store manager browses the TeleMedia Product Catalog and decides to use the Advisor to find the best deals TeleMedia is offering its partners. After being directed to a mobile package promotion by Advisor, the partner store manager adds the suggested products to the shopping cart, and completes the ordering process.

### Partners Create and Modify Customer Orders

The mobile package promotion allows ComTel Networks to sell a substantial number of TeleMedia products.

One of the mobile packages offered by TeleMedia is a family package that provides primary phone service with 1500 plan minutes with the option to add multiple mobile phones managed under one service account. Each additional mobile phone receives individual service options at discount rates and shares the primary service minutes.

A ComTel Networks customer purchases a family 1500 plan for his wife and daughter. The next morning, this customer calls and requests to add two new mobile products and services to his account.

This call is handled by a partner employee who is a Power Commerce user. The employee finds the customer's account and all the products and services currently requested by this customer.

The employee orders two more phone products with the service options the customer requested. In the Orders list, the employee selects the open order. The Sales Order form and Line Items list appear. The employee revises the order to add the two additional phone products and with the customizable service options.

The product Configurator appears showing all of the installed products for that customer and the expected state of the customer service profile after the open order is provisioned. The employee customizes the phone packages and submits the order.

The employee has essentially created a supplemental order, which is an order that revises an existing open order. When you submit the revised order it submits an entirely new order and not the difference between your revised order and your previous order. For more details, see ["Revising a Submitted Order \(End User\)" on page 50](#).

Several weeks later, after the service is provisioned, this customer wants to change the service options for one family member in the plan.

A partner employee uses the TeleMedia Partner Portal to look up the customer's account and sees the three mobile phones and service plan options purchased by this customer's account. The employee uses Configurator to change the service options for one phone, and then submits the order.

This employee has modified an order that has already been fulfilled. For more details, ["Revising an Order \(Standard Partner Commerce\)" on page 161](#).

**NOTE:** This ordering process would be different if the employee were a Standard Partner Commerce user. The employee would work with eCatalog and the Shopping Cart. For more information, see ["Order Management with Standard Partner Commerce" on page 151](#).

## Order Management with Standard Partner Commerce

This section provides information about how Standard Commerce users create quotes and orders. The Standard Commerce user works with an interface similar to the Siebel eSales user interface, including eCatalog, the shopping cart, Advisor, and other simplified quote to order features.

This section covers the following tasks for quote and order management:

- Standard Partner Commerce Quote Management Tasks:
  - ["Adding Items to a Shopping Cart \(Standard Partner Commerce\)" on page 152](#)
  - ["Customizing an Item \(Standard Partner Commerce\)" on page 154](#)
  - ["Revising the Contents of the Shopping Cart \(Standard Partner Commerce\)" on page 155](#)
  - ["Adding Bulk Items to the Shopping Cart \(Standard Partner Commerce\)" on page 155](#)
  - ["Saving a Shopping Cart as a Quote or Quote Template \(Standard Partner Commerce\)" on page 156](#)
- Standard Partner Commerce Order Placement Tasks:
  - ["Converting a Quote to an Order \(Standard Partner Commerce\)" on page 156](#)
  - ["Processing an Order Checkout \(Standard Partner Commerce\)" on page 157](#)

- "Adding Quote Template Items to the Shopping Cart (Standard Partner Commerce)" on page 158
- "Entering Shipping Information (Standard Partner Commerce)" on page 159
- "Using the Credit Card Payment Method (Standard Partner Commerce)" on page 159
- "Using the Bill Me Payment Method (Standard Partner Commerce)" on page 159
- "Using the Billing Account Payment Method (Standard Partner Commerce)" on page 160
- "Using the Purchase Order Method (Standard Partner Commerce)" on page 160
- "Reviewing and Submitting an Order (Standard Partner Commerce)" on page 160
- Standard Partner Commerce Change Order Tasks:
  - "Revising an Order (Standard Partner Commerce)" on page 161
  - "Selecting Billing and Service Accounts (Standard Partner Commerce)" on page 161
  - "Modifying an Order (Standard Partner Commerce)" on page 161
  - "Disconnecting an Order (Standard Partner Commerce)" on page 162

## Adding Items to a Shopping Cart (Standard Partner Commerce)

Standard Partner end users can add items to the shopping cart in several ways:

- By selecting items from a catalog
- By selecting items saved to Favorites
- By choosing an item from Recommended items
- By using Quick Add to specify an item
- By retrieving a stored quote
- By retrieving a quote template

When the user adds an item to the shopping cart from a catalog, the user remains in the catalog view and the item is displayed in the Last Item Added area.

If there are items in the shopping cart when the user exits the session, these items remain in the shopping cart when the user next logs in.

Users do not have to log in before adding items to the shopping cart. However, users must log in to convert the shopping cart contents into an order or to save the shopping cart as a quote or quote template.

There are two types of shopping cart pricing:

- **Non-recurring charge (NRC).** This price is charged only once. Items such as hardware or one-time installation charges are examples.



- **Monthly recurring charge (MRC).** This price is charged on a subscription basis such as once of a week or once a month. The time period is specified in the unit of measure (UoM) field. Monthly telephone line service charges are an example.

Separate totals are maintained for each price type.

This task uses the workflow ["CUT eSales - Modify Products and Services Process,"](#) which is described in ["Workflows to Modify Products and Installed Assets"](#) on page 144.

### ***To add items to a shopping cart from a catalog***

- 1 Log in to the Partner Portal and click the Product Catalog tab.

- 2 In the Browse list, click on the catalog that you need.

The catalog screen displays all the items in the catalog.

- 3 To see related items and literature for an item, click the item name.

A view appears that shows item information. This view lists related items and literature. In this view, you can also perform the following tasks:

- Enter an item quantity.
- Click Customize to select components and attributes.
- Click Add to Favorites to add this item to your Favorites list.
- Click Change Items Attributes (simple products).

- 4 In the Catalog Items list, enter the quantity of the item in the Qty field of the item you want.

- 5 Click the Add Item button adjacent to the item name.

This adds the item to the shopping cart. The Last Item Added display updates to display the item name, number of line items in the shopping cart and total price of all items in the shopping cart.

- 6 In the real-time Shopping Cart, click View Details.

The screen shows the Shopping Cart form with the item that you selected, and also a Recommended Items form listing other items that you may need.

- 7 Verify that the items you selected display correctly.

The following table describes some of these shopping cart fields.

Field	Comments
Line #	The Siebel application assigns a number to each line item. If an item has components, a file folder displays in this field. Click on the file folder to see the item's components.
Item	Item name. Click the item name to see additional information about the product, including product literature and related products.
Qty	Quantity of the item. Click in this field to revise the quantity.
MRC Subtotal	Monthly recurring charge (MRC) subtotal for this item.

Field	Comments
NRC Subtotal	Non-recurring charge (NRC) subtotal for this item.
Options	Product attributes.
Action	Action codes.
Unit	Unit of measurement (per month, year, quarter).
Comments	Comments from the Pricer.

## Customizing an Item (Standard Partner Commerce)

Standard Partner Commerce users customize items by selecting item components and attributes in a configuration session. To start a configuration session, the user clicks Customize. When the user exits the configuration session, the configuration is transferred to the shopping cart.

**NOTE:** Only Customer products can be customized.

If the quantity of a configurable item is greater than one when the user starts a configuration session, the configuration is applied to each of the configurable items. For example, a user adds a configurable Residential Phone Service Package to the shopping cart and specifies 4 in the Qty field, and clicks Customize. When the user exits the configuration session, the configuration is applied to all 4 of the Residential Phone Service Packages.

A Configurator license is required to configure items with components.

### ***To customize an item***

- 1 In the Catalog screen, in the Items list, click Customize.  
Selection pages appear showing configurable components and attributes.
- 2 In each category, select the component and enter a quantity (if applicable).  
If a component has configurable attributes, an icon appears in the Customize column.
- 3 Click the icon to configure the attributes for the component.  
If you select combinations of components or quantities that are incompatible, a configuration message displays and presents alternatives.
- 4 After configuring the item, click Save.
- 5 When you are finished, click Done.  
You are returned to the Shopping Cart.

## Revising the Contents of the Shopping Cart (Standard Partner Commerce)

Standard Partner Commerce users can remove single items from the shopping cart or remove all items at once. Users can also change the quantity of items. In addition, end users can reconfigure items and add new items.

### ***To revise the contents of the shopping cart***

- 1** Navigate to the Shopping Cart.
- 2** Perform one or more of the following, as appropriate:
  - To delete an item, click the item's active record indicator (the diamond icon in the left column), and then click the trash can button.
  - To delete all the items, click Empty Cart.
  - To change the quantity of an item, enter a new quantity in the Qty field and click the Update Quantity button.
  - To use Quick Add to add items, enter the Item Name, Item Code, or Manufacturer Code and click Add to Cart.
  - To add an item from Recommended Items, click on the item name. Then, when a view showing item information appears, click Add To Cart to add the item.

In the real time Shopping Cart, click View Cart to return to Shopping Cart.

## Adding Bulk Items to the Shopping Cart (Standard Partner Commerce)

Business users frequently need to order configurable items in bulk. For example, a business user may order 20 configurable phone lines for installation at the same location. Rather than configure each instance separately, users can configure the item once and apply the configuration to all the instances. They can then adjust the configuration of individual instances of the item as needed.

This procedure uses the workflow "CUT eSales - Ungroup Quote," which is described in "Workflows to Ungroup Quotes" on page 138.

### ***To add bulk items to the shopping cart***

- 1** Add a configurable item to the Shopping Cart.
- 2** Navigate to the Shopping Cart and click the item's active record indicator (the diamond button in the left column).
- 3** In the item's Qty field, enter the quantity.
- 4** Click Update Quantity.
- 5** If necessary, click the item's active record indicator to select it again.

**6** Click Customize.

Selection pages appear that display the configurable components and attributes of the item.

**7** Select components and attributes, and then click Done.

The Shopping Cart appears.

**8** Verify that the item's active record indicator is highlighted, and then click Ungroup.**9** To adjust the configuration of an ungrouped instance of the item, click its active record indicator, and then click Customize.

## Saving a Shopping Cart as a Quote or Quote Template (Standard Partner Commerce)

When the user saves the shopping cart, the system first verifies the user is logged in. If not, the user is required to log in. If the user is not a registered user, the application makes the user register.

When the user saves the shopping cart as a quote, the quote is added to My Quotes. The user can convert the quote to an order at a later time. When the user converts a quote to an order from My Quotes, the quote is removed from My Quotes.

When the user saves a quote as a template, the quote is added to My Templates. The user can use the template to create orders at a later time. Templates are not removed from My Templates when they are used to create quotes.

### ***To save a shopping cart as a quote or quote template***

**1** Navigate to the Shopping Cart.**2** Click Save Cart.

The Save Cart form appears.

**3** In the Name field, enter a descriptive name.**4** To save the shopping cart as a quote, click Save as Quote.**5** To save the shopping cart as a quote template, click Save as Template.

If you save the shopping cart as a quote, My Quotes appears and lists the quote. The shopping cart is emptied.

If you save the shopping cart as a template, Shopping Cart appears, and its contents are unchanged.

## Converting a Quote to an Order (Standard Partner Commerce)

The user converts a quote to an order by retrieving a quote from My Quotes and transferring it to the shopping cart. This removes the quote from My Quotes.

If the quote has not expired, the items in the quote are transferred to the shopping cart and the check out process starts. If the quote has expired, the Siebel application does the following:

- Verifies that the shopping cart is empty. If not, the Siebel application presents the contents of the shopping cart to the user. The user can cancel the process, save the shopping cart, or discard the shopping cart.
- If the shopping cart is empty, has been discarded, or has been saved, the quote is transferred to the shopping cart. Prices are recalculated. The Siebel application removes items that are no longer available from the quote.

### ***To convert a quote to an order***

- 1** In the Partner Portal, click Quotes.
- 2** In the Quotes screen, click My Quotes or My Customer Quotes to retrieve the appropriate account quote.
- 3** In the My Quotes or My Customer Quotes list, select the quote.

In the Quote view, verify that the quote contains all the items that you need, and that customizable items are configured correctly.

- 4** Click Order.

If the quote contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.

If you have not yet set up a payment method, the Payment Method view appears.

## **Processing an Order Checkout (Standard Partner Commerce)**

When the user converts the shopping cart to an order, the Siebel application does the following:

- Verifies that the user is logged in. If not, the user is required to register and log in.
- Verifies that a complete shipping address has been provided. If not, the user is required to enter or select a shipping address.
- Verifies that a payment method has been selected. If not, the user is required to enter credit card information, or select a billing or location purchase order.
- Computes taxes and shipping costs.
- Presents an order summary. The user can edit the shipping and payment details in the order (for example, assigning service IDs to items) summary before submitting the order.

This procedure uses the following workflows, which are described in [“Workflows to Process an Order Checkout” on page 126](#):

- [“CUT eSales - Checkout Process”](#)
- [“CUT eSales - Set Quote Account Info”](#)

- "eSales - Enter Shipping Details Process"
- "eSales - Complete Checkout Process"
- "eSales - Save Shipping Address"
- "CUT eSales - Ungroup Quote"

### ***To check out an order***

- 1** Navigate to the Shopping Cart.
- 2** Verify that the shopping cart contains all the items you want to purchase. Also verify that customizable items are configured correctly.
- 3** Click Check Out.  
  
If the shopping cart contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.  
  
If you have not yet set up a payment method, the Payment Method view appears.
- 4** In the Payment Method form, either enter a credit card and click Continue, or click Bill Me.  
  
If you select the Bill Me option, you must enter a specific billing address.

## **Adding Quote Template Items to the Shopping Cart (Standard Partner Commerce)**

The user can add items in a quote template to the shopping cart. These items can be the only items in the shopping cart or can be added to a shopping cart that already contains items.

### ***To add quote template items to the shopping cart***

- 1** Log in to Partner Portal and click Quotes.
- 2** In the Quotes list, click My Templates.
- 3** In the Template list, locate the quote template and click in the Name field.
- 4** In Template Items, delete any items from the quote template or change item quantities, if necessary.
- 5** In Template, click Order Template.  
  
The Shopping Cart appears, and contains the items from the quote template. Siebel eSales updates prices for these items to current prices.
- 6** Click Check Out.  
  
If the shopping cart contains items that will be shipped, the Shipping Information view appears for you to select the shipping address.  
  
If you have not yet set up a payment method, the Payment Method view appears.

## Entering Shipping Information (Standard Partner Commerce)

If an order contains items that are to be shipped, the Siebel application verifies that a complete shipping address exists. If not, the user must enter shipping information.

### ***To enter shipping information***

- 1** In Shipping Information, click Edit Shipping Details.
- 2** Select the recipient and shipping method, and then click Save.
- 3** Click the record's edit button to edit the address.
- 4** In the Select Shipping Address form, edit the address and click Save.
- 5** To create a new shipping address, click Add, fill out the address form, and click Save.
- 6** In the Select Shipping Address form, click Save.

The Payment Method view appears.

## Using the Credit Card Payment Method (Standard Partner Commerce)

This section explains how to use the Credit Card Payment Method.

### ***To use the credit card payment method***

- 1** In the Payment Method form, enter credit card information.
- 2** Enter the billing address.
- 3** To erase the form and start again, click Reset.
- 4** After entering all the information, click Continue.

The Order Summary appears.

## Using the Bill Me Payment Method (Standard Partner Commerce)

This section explains how to use the Bill Me Payment Method.

### ***To use the Bill Me payment method***

- 1** In the Payment Method tab, click Bill Me.

The Billing Information view appears.

- 2 In Select Billing Address, locate the billing address.
- 3 In the address Select field, click Select.  
The Order Summary appears and contains the billing address.

## Using the Billing Account Payment Method (Standard Partner Commerce)

This section explains how to use the Billing Account Payment Method.

### ***To use the Billing Account payment method***

- 1 In the Payment Method form, click the Billing Account select button.  
The Pick Billing Account dialog box appears.
- 2 Select the billing account and click OK.  
The Order Summary appears, showing the billing address.

## Using the Purchase Order Method (Standard Partner Commerce)

For information about this activity, see *Siebel eSales Administration Guide* and *Siebel eSales Administration Guide Addendum for Industry Applications*.

## Reviewing and Submitting an Order (Standard Partner Commerce)

This section explains how to review and submit an order.

### ***To review and submit an order***

- 1 Log in to Partner Portal and click My Account.
- 2 In the My Information list, click My Orders.
- 3 In the My Orders list, select an order with the status Pending.
- 4 Review the shipping information, payment information, items requested, and total cost to verify that all information is correct.
- 5 Select or confirm the Shipping address.
- 6 Click Submit.



## Revising an Order (Standard Partner Commerce)

The Customer end user can change an existing order. In this process, the user creates a supplemental order by changing an order that is not yet provisioned.

This procedure uses the workflow ["CUT eSales - Revise Order Process Workflow,"](#) which is described in ["Workflows to Revise an Order"](#) on page 142.

### ***To revise an order***

- 1** Log in to Partner Portal and click My Account.
- 2** In the My Information list, click My Orders.  
The My Orders list appears showing your existing orders. This screen is used to select an open order.
- 3** Select the appropriate order and click Revise.  
The status of the order must be Open.
- 4** In the Line Items list, select the item to be revised.
- 5** Click Customize.
- 6** Change the item and click Checkout.

## Selecting Billing and Service Accounts (Standard Partner Commerce)

This procedure allows you to select and view an existing Billing and Service Account.

### ***To select billing and service accounts***

- 1** In the My Account screen, in the Products & Services list, click Billing Items or Service Items.
- 2** When the Billing Item or Service Item screen appears, select the account.

## Modifying an Order (Standard Partner Commerce)

This feature allows an end user to modify a service item that is already provisioned. In this action, you can change product attributes or a feature or component of the service item.

This procedure uses the workflows ["CUT eSales - Modify Products and Services Process"](#) and ["CUT eSales - Prepare Shopping Cart View,"](#) which are described in ["Workflows to Modify Products and Installed Assets"](#) on page 144.

**NOTE:** In Standard Partner Commerce, orders and services are the same thing. When you select Service Items under the Products & Services tab, you are accessing screens to work with existing orders.

***To modify an existing service item***

- 1** In the My Account screen, in the Products & Services list, click Service Items.
- 2** In the Select Account list, select the account to be changed.
- 3** In the Service Items list, select the item to be changed.
- 4** Click Modify.
- 5** When the selection pages appear, change the product attributes, features, or components, as needed.
- 6** Click Done.
- 7** When the Shopping Cart appears, you can see the changed action codes.

**Disconnecting an Order (Standard Partner Commerce)**

This feature allows a user to disconnect a complete service item and all of its components. This action disconnects the parent product and all child products on lower levels of the hierarchy.

You cannot disconnect a child product by itself.

**NOTE:** In Standard Partner Commerce, orders and services are the same thing. When you select Service Items under the Products & Services tab, you are accessing screens to work with existing orders.

This procedure uses the workflow [“CUT eSales - Disconnect Products and Service Process,”](#) which is described in [“Workflow to Disconnect Products and Services”](#) on page 147

***To disconnect an order***

- 1** In the My Account screen, in the Products & Services list, click Service Items.
- 2** In the Select Account list, select the account.
- 3** In the Service Items list, select the item to be disconnected.
- 4** Click Disconnect.

You are taken to the Shopping Cart, where you see the product and all of its components with the Action code of Delete.

- 5** Click Check Out.

# Power Partner Commerce Order Management

This section provides information about how Power Commerce users create quotes and orders. The Power Commerce user works with an interface similar to the quote and order screens of employee applications, such as Siebel Communications or Siebel Media Call Center. This order-entry interface gives the user full access to the Quotes and Orders modules used by employees.

**NOTE:** The processes and procedures using the Quotes and Orders modules are outlined in the [Chapter 4, "Employee Use of Order Management."](#) chapter of this guide.

The Power User is able to help customers who required more assistance. For example, in helping an existing customer, a Power Commerce user may require access to customers account to compare customers existing entertainment service package to new service offering to upgrade their existing service.

After identifying the customer and accessing the customers account, the Power Commerce user can launch Advisor to analyze the needs of the customer and recommend product and service packages. The Power Commerce user then can create a quote and fax, email, or mail it to the customer.

At a later date, the customer may call again to add or delete items from the order, or get additional comparative information. The Power Commerce user can access the appropriate screens based upon the status of the order. Whether the order is pending or complete, the Power Commerce user can generate a quote and order based on the customer's new requirements.

A Power Commerce user typically manages customer quotes and orders using the following procedures, which are detailed in [Chapter 4, "Employee Use of Order Management."](#)

- **Creating a Quote.** Uses the procedure in ["Creating a Quote \(End User\)"](#) on page 43.
- **Modifying a Quote or Order.** Uses the procedures in the following tasks:
  - ["Creating a Quote That Modifies a Service Asset \(End User\)"](#) on page 45.
  - ["Editing Quote Line Items \(End User\)"](#) on page 47.
  - ["Editing Order Line Items \(End User\)"](#) on page 49.
  - ["Revising a Submitted Order \(End User\)"](#) on page 50.
- **Viewing Quote Details.** Uses the procedure in ["Ungrouping Quote Line Items \(End User\)"](#) on page 46.
- **Converting a Quote to an Order.** Uses the procedure in ["Converting Quotes to Orders \(End User\)"](#) on page 48.
- **Submitting an Order.** Uses the procedure in ["Submitting an Order \(End User\)"](#) on page 50.
- **Modifying a Service Profile.** Uses the procedure in ["Modifying the Service Profile \(End User\)"](#) on page 52.
- **Disconnecting or Transferring a Customer's Service.** Uses procedures in the following tasks:
  - ["Disconnecting an Installed Service Asset \(End User\)"](#) on page 53.
  - ["Moving a Service to Another Location \(End User\)"](#) on page 54.

## Order Management Workflows for PRM

This section explains the Siebel workflows that are specific to Siebel PRM order management. There are also many workflows that are common to Siebel PRM and employee or customer partner management, and they are covered in [Chapter 5, “Workflows for Employee Ordering”](#) and in [Chapter 7, “Workflows for Customer Ordering.”](#)

There are two workflows specific to Siebel PRM, which determine whether the user is directed to the Power Partner Commerce user interface or the Standard Partner Commerce user interface:

- “CUT eChannel - New Products & Services Process”
- “CUT eChannel - Goto Product Catalog View”

**NOTE:** For more information about the Power Partner Commerce and Standard Partner Commerce user interfaces, see [“About Order Management in Siebel PRM”](#) on page 149.

### CUT eChannel - New Products & Services Process

This workflow identifies the user role as either a Partner Power Commerce user or a Standard Partner Commerce user. Then it routes the user to the appropriate user interface.

This workflow is invoked when the user:

- Logs in at the Partner Portal login screen
- Selects the New button from the Installed Assets applet in the Customer Portal view
- Selects New from the Service Items view the business process

This workflow is shown in [Figure 63](#).

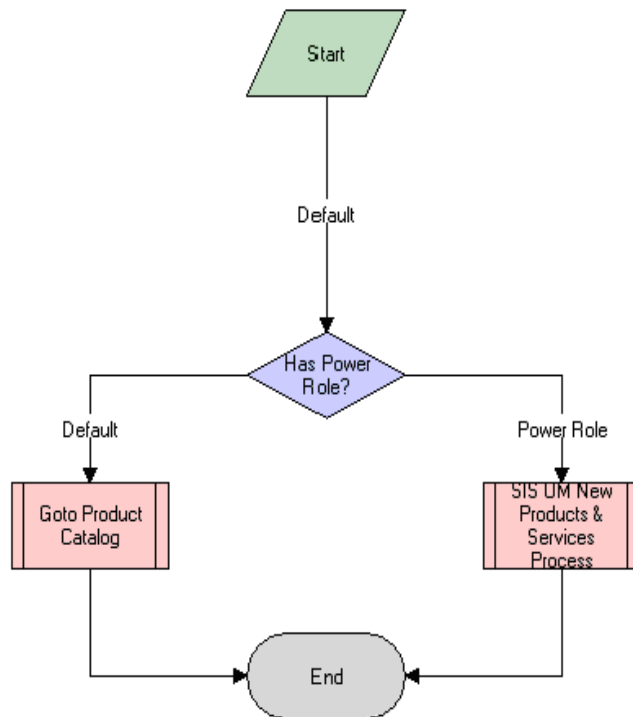


Figure 63. CUT eChannel - New Products and Services Business Process

**Workflow Description.** This workflow does the following:

- Identifies the user role.
- Calls the process to display the appropriate interface for quotes and orders:
  - Calls the ["CUT eChannel - Goto Product Catalog View"](#) sub-process if the user is identified as a Standard Partner Commerce user.
  - Calls the ["SIS OM New Products & Services Process"](#) on page 71 if the user is identified as a Power Partner Commerce user.

### CUT eChannel - Goto Product Catalog View

If the user has been identified as a Standard Partner Commerce user, this workflow displays the product catalog used for Standard Partner Commerce, which allows the user to browse eCatalog, select products, and add products to the shopping cart.

This workflow is shown in [Figure 64](#).



Figure 64. CUT eChannel - Goto Product Catalog View Business Process

**Workflow Description.** This workflow does the following:

- The user role has already be identified as Standard Partner Commerce user by “[CUT eChannel - New Products & Services Process](#)”
- Displays the product catalog for Standard Partner Commerce users.

# 9

## Setting Up Network Ordering

This chapter describes how to set up network ordering. It includes the following sections:

- “About Network Ordering” on page 167
- “Process of Defining Network Compound Products” on page 169
  - “Defining Products for the Network” on page 169
  - “Defining Rule Checker Business Services” on page 171
  - “Defining Maximum and Minimum Quantities for Network Components” on page 172
  - “Defining Simple Expression Rules for Compound Products” on page 173
- “Setting Up Premises” on page 174
- “About the Compound Product Validation Engine and the Projected Asset Cache” on page 175
- “Example of Defining Network Compound Products” on page 181
- “Creating Custom Rule Checkers” on page 186
  - “PreValidate Method” on page 187
  - “Validate Method” on page 189

**NOTE:** In addition to the tasks described in this chapter, to set up network ordering, you must activate the appropriate workflows, as described in “Activating Workflows for Order Management” on page 23.

### About Network Ordering

The network order entry process is used to configure products that are too large to be configured in real time with Siebel Configurator.

Large telecommunications networks might have 500 nodes and 1,000 connections, with each of these components having about 30 attributes.

Siebel Configurator can be used for small telecommunications networks, up to about one-hundredth of the size mentioned in the previous paragraph. However, Configurator validates configuration in real time, and configuring large networks requires so much processing that real-time validation is not possible.

Network order entry solves this problem by:

- Partitioning the network into a number of components.
- Using Configurator to validate configuration of individual components in real time.
- Using the Compound Product Validation Engine to validate cross-component rules only at key times, such as when the user clicks the Validate button.

For example, [Figure 65](#) illustrates part of a network that uses a frame relay as its network product and several ports and PVCs as its components. The network and its components are all defined as separate products. A foreign key field in the component products relates them to the network product. Configurator can be used to validate the configuration of the individual network product and component products. The Compound Product Validation Engine validates the network across products.

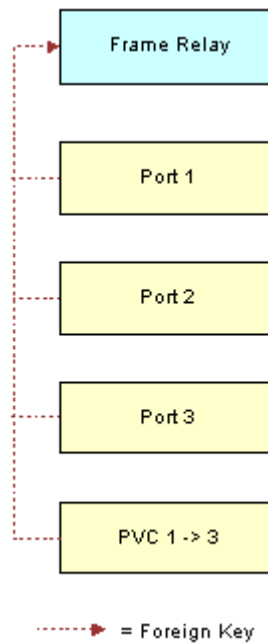


Figure 65. A Network and Its Components Are All Defined As Separate Products

The Compound Product Validation Engine validates the network across components by applying rules, such as:

- A multipoint service must have at least two Ports and at least one PVC.
- There can only be one connection between any two Ports.
- The To and From Ports for a connection must exist in the multipoint service.
- The sum of the bandwidth attribute for all PVCs connected to a Port cannot exceed the speed attribute of the Port.

Network order entry partitions the network into multiple components:

- Siebel Configurator handles intra-component validation rules.
- Business services handle validation rules for the entire multi-component network. These business services are run by workflows that can be customized.



# Process of Defining Network Compound Products

A network is defined as a compound product, which is a loose group of products tied together by a common key. Three types of components make up the compound product structure:

- **Network.** This is the product where one defines values that apply across the entire network. It is the root network product
- **Network Node.** A point or a location within a network.
- **Network Connection.** A circuit connecting two points within a network.

Each of these Network Product Components is a self-contained product which can be modeled as a customizable product, so users can configure each component of the network individually using Siebel Configurator. The Compound product structure allows us to validate across all these individual products; this is called cross-element validation.

To define a network as products, perform the following tasks:

- 1 ["Defining Products for the Network" on page 169](#). Define the network root product, the network node product, and the network connection product
- 2 ["Defining Rule Checker Business Services" on page 171](#). Define the business services which should be invoked to validate the compound product
- 3 ["Defining Maximum and Minimum Quantities for Network Components" on page 172](#). Optionally, define maximum and minimum quantities required for components.
- 4 ["Defining Simple Expression Rules for Compound Products" on page 173](#). Create simple expression rules that validate the entire network and display messages if they are errors.

## Defining Products for the Network

You must define all the network elements as products, including the network product and the network components.

This task is a step in ["Process of Defining Network Compound Products" on page 169](#).

### Defining the Network Product

You can define the network product for network ordering (for example, the frame relay) in the same way you define other customizable products using the Customizable Products view of the Administration - Products screen, but you must enter information in additional fields.

Configurator rules are not required but can be used if needed.

For more information about defining customizable products, see *Product Administration Guide*.

### ***To define the network product***

- 1** Navigate to the Administration - Product screen.
- 2** In the Products list, add a new record and define the product as you would define other products. In addition, use the fields described in the following table.

Field	Comments
Compound Product Flag	Select this checkbox to define this as a compound product.
Network Element Type	Select <i>Network</i> .

### **Defining Network Components as Products**

When customers order networks, your salespeople will add nodes and connections to the network, for example, ports and PVCs.

You must set up each of these products using Administration - Products > Customizable Products > Product Designer and Rule Designer to make sure that they choose only valid combinations of features for each node and connection.

To allow the salesperson to add these components to the network, you must:

- Create product records for all the different types of nodes and connections that you sell as network components.
  - Model each node as an individual customizable product. For example, you may create a product for Port that has Installation and Local Access Line as child components. The Network Element Type of the root of the Customizable Product must be set to *Network Node*. Note that the Compound Product Flag should not be set.
  - Model each connection as an individual customizable product. For example, you may create a product for PVC with components that include CIR, Diversity, and so on. The Network Element Type of the root of the Customizable Product must be set to *Network Connection*. Note that the Compound Product Flag should not be set.
- Set up Configurator rules defining valid combinations of features for each of these ports, accesses, and PVCs.

For more information about creating products and configuration rules, see *Product Administration Guide*.

### ***To define the network components as products***

- 1** Navigate to the Administration - Product screen.

- 2 In the Products list, add a new record and define the product as you would define other products. In addition, use the fields described in the following table.

Field	Comments
Network Element Type	Select <i>Network Node</i> or <i>Network Connection</i> .
Compound Product	Deselect this checkbox.

## Defining Rule Checker Business Services

The Compound Product Validation Engine business service executes the cross-product validation rules associated with a compound product and returns any rule violations. The product administrator associates the rules with each of the compound products.

### ***To define rules for a compound product***

- 1 Navigate to the Administration - Products screen.
- 2 In the Products list, click the name of the Compound Product.
- 3 Click the Compound Products view tab.
- 4 In the link bar, click Rules.
- 5 In the Rules list, add a new record for each rule checker to be executed and complete the fields described in the following table.

Field	Comments
Sequence	Enter the sequence in which the rules are to be executed.
Business Service	Name of the business service that implements the rule.

- 6 In the Parameters list specify the parameters and values that are specific to the selected rule. These will be passed to the PreValidate and Validate methods of the rule checker business service by the Compound Validation Engine. For more information, see ["Creating Custom Rule Checkers" on page 186](#).

The rule-checker business services that are available without any customization of the product are shown in [Table 7](#).

Table 7. Business Services for Checking Compound Product Validation Rules

Business Service	Comments
VORD CPVE Component Cardinality Checker Service	The Cardinality Checker validates that the quantity of network component falls within the minimum and maximum allowed.
VORD CPVE Simple Validation Expression Checker Service	The Simple Validation Expression Checker executes rules defined in Siebel Query Language.

## Defining Maximum and Minimum Quantities for Network Components

The component cardinality checker business service allows product administrators to specify the maximum and minimum quantities of the network product and of the network components.

This task is a step in [“Process of Defining Network Compound Products” on page 169](#).

### *To define maximum and minimum quantities for network components*

- 1 Navigate to the Administration - Product screen.
- 2 In the Products list, click the name of the product that was defined as the compound product for the network.
- 3 Click the Compound Products view tab.
- 4 In the link bar, click Cardinality.

The Compound Product Cardinality list includes all the products that are valid components of this network.

- 5 Click New to add a component to the compound product and complete the fields described in the following table.

Field	Comments
Min Qty	Enter the minimum quantity required for this component.
Max Qty	Enter the maximum quantity required for this component. If this field is blank, an unlimited quantity of this component is allowed.

**NOTE:** You must include the compound product itself, with Min Qty of 1 and Max Qty of 1.

## Defining Simple Expression Rules for Compound Products

The simple expression checker business service allows product administrators to use Siebel Query Language to create simple expressions that are used to validate a compound product.

This task is a step in [“Process of Defining Network Compound Products” on page 169](#).

For each rule, you define a simple expression and an error message. If the expression is true, the application displays the error message to the end user and the compound product is invalid.

For example, you can create a rule to check that every connection has a service address defined for both its endpoints. The error message states the number of connections that do not have both service addresses defined.

- As the expression, enter: ([Network Element Type] = "Network Connection" AND ([Service Address] = ""OR [To Service Address] = ""))
- As the error message, enter: [Count] [Product]s do not have a service address defined for both its endpoints.
- Because the error message uses the aggregate function [Count], enter the other information needed when you use aggregate expressions, as detailed in the field list for the procedure.

If this expression is true, the connection does not have a service address for at least one of its endpoints, and the engine displays an error message to the user.

For more information about Siebel Query Language, see the section about operators, expressions, and conditions in *Siebel Developer's Reference*.

### To define simple expression rules for compound products

- 1 Navigate to the Administration - Product screen.
- 2 In the Products list, click the name of the product that was defined as the compound product for the network.
- 3 Click the Compound Products view tab.
- 4 In the link bar, click Simple Expressions.
- 5 In the Compound Products list, add one or more new records and complete the necessary fields. Some fields are described in the following table.

Field	Comments
Sequence	Enter the sequence in which the rules are executed.
Error Text	Enter the error message that will be displayed if the expression is true.  The error message can contain field names, attribute names and aggregate function names. Field names and aggregate function names are delimited by [ and ]; attribute names are delimited by { and }.

Field	Comments
Search Expression	<p>Enter an expression in Siebel Query Language.</p> <p>The expression can refer to fields in the following business components.</p> <ul style="list-style-type: none"> <li>■ Asset Mgmt – Asset <ul style="list-style-type: none"> <li>■ Asset Mgmt - Asset XA</li> </ul> </li> <li>■ Quote Item <ul style="list-style-type: none"> <li>■ Order Item XA</li> </ul> </li> <li>■ Order Entry – Line Item <ul style="list-style-type: none"> <li>■ Order Item XA</li> </ul> </li> </ul>
Aggregate Function	Enter the type of query to be run. Valid values are Count, Sum, Min, Max, and Avg.
Aggregate Field	If the expression uses an aggregate function of Sum, Min, Max, or Avg enter the name of the field to aggregate.
Group By Fields	If the expression uses an aggregate function, optionally enter a comma separated list of fields by which to group the Aggregate function.
Having Expression	If the expression uses an aggregate function, enter an expression that must be met to generate an error. For example, if you use the [Count] function to count the number of records with an error, you would not want to generate an error message when [Count] = 0, so in this field, you should enter [Count] >= 1.

## Setting Up Premises

This is optional. It automatically populates fields when the salesperson captures the customer's network locations or creates the customer's network. When creating a network node a salesperson will enter the locations Service Address, and the application populates the LATA, CLLI, and other fields based on what you enter when you set up premises.

**NOTE:** This data can also be entered by the end user in the Address Profile view of the Accounts screen.

### *To set up premises*

- 1** Navigation to the Administration - Data screen.
- 2** On the link bar, click Premises.
- 3** In the Premises list, add a new record.
- 4** In the More Info form, click the More button.

- 5** Fill out the necessary information in the record and More Info form. Some fields are described in the following table.

Field	Comments
Prefix	Enter the area code and first three digits of the telephone number for this location.
CLLI	Enter the Common Language Location Identifier (CLLI) code. This standard is used primarily in the United States.
LATA	Enter the Local Access and Transport Area (LATA). This is a term used in the United States defining a geographic area covered by a local telephone carrier.
Rate Center	Enter the rate center. A rate center is a geographic area that contains one or more particular NPA/NXX codes. A rate center helps determine the cost of to/from traffic between two points.
Local Operating Company	Select the local telecommunications service provider. The dialog box displays all accounts where Wireline Operating Company is in the Account Type field.

## About the Compound Product Validation Engine and the Projected Asset Cache

The Compound Product Validation Engine executes validation rules that cross product instances.

A compound product is a group of product instances in quote, order and asset tables that share a common key. A frame relay network is a good example of a compound product.

The Compound Product Validation Engine allows you to create rules that operate on a projected future state of a compound product that includes the current quote and any open orders on the existing assets. This future state is created and stored in the Projected Asset Cache object.

## Overview of Compound Product Validation

The following diagram illustrates how the Compound Product Validation Engine and its supporting components validate a compound product when a user clicks Validate.

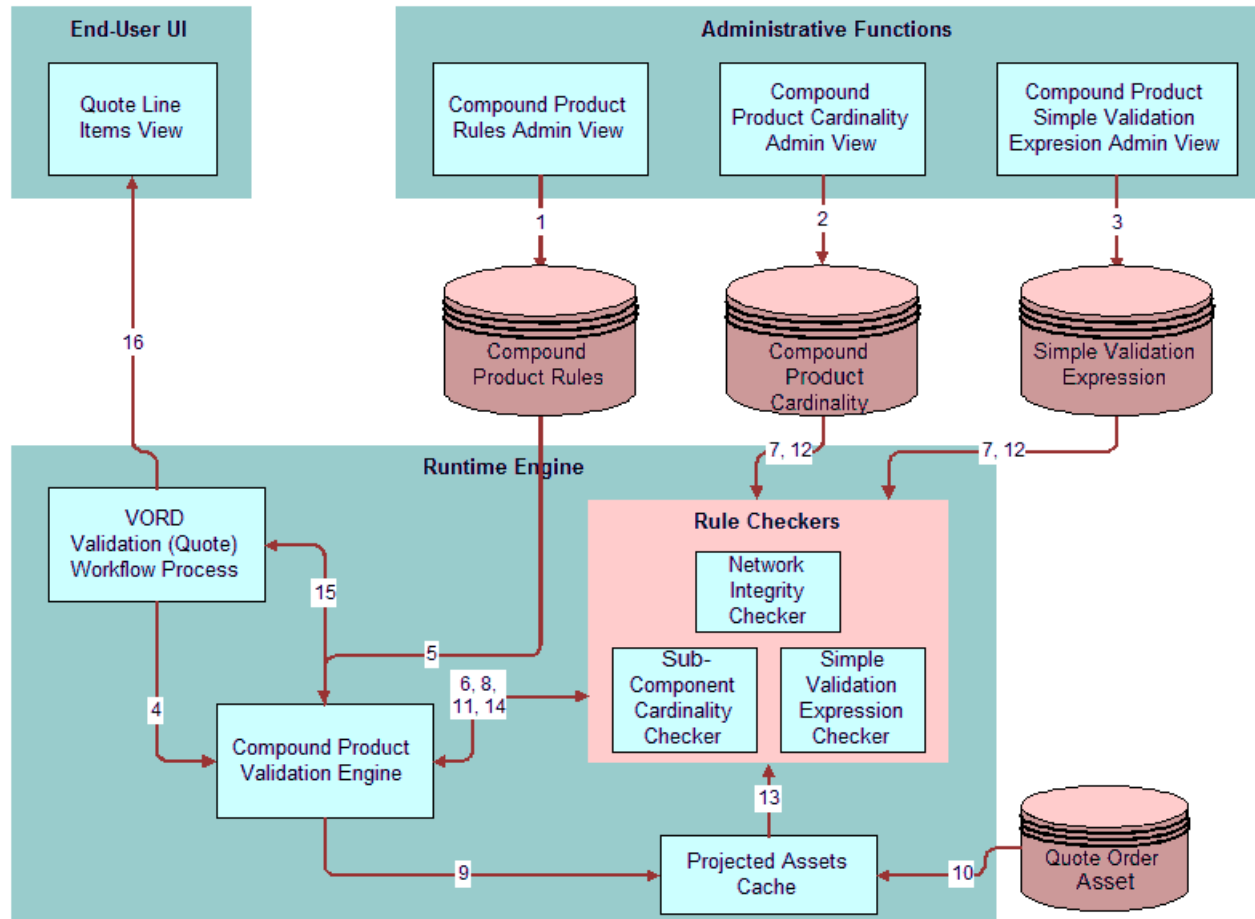


Figure 66. Steps in Compound Product Validation

Compound product validation involves the following actions, shown in [Figure 66](#):

- **Step 1.** Product manager defines the cross-product validation business services rules for the top-level product in the Compound Product Rules Admin View. See ["Defining Rule Checker Business Services"](#) on page 171.
- **Step 2.** Product manager defines the component cardinality rules for the top-level product in the Compound Product Cardinality Admin View and enters basic validation rules in the Compound Product Simple Validation Expression Admin View. See ["Defining Maximum and Minimum Quantities for Network Components"](#) on page 172 and ["Defining Simple Expression Rules for Compound Products"](#) on page 173.



- **Step 3.** The end user creates a change quote for the compound product. The user validates the individual components using Configurator. After exiting Configurator and completing the network connections, the user clicks Validate. The Validate button invokes a named method on the Quote Item Business Component which invokes the VORD Validate (Quote) workflow process.
- **Step 4.** The VORD Validate (Quote) workflow process determines the selected compound product instance. It also determines the future date for which to validate the network based upon the latest requested date of quote line items for the network. See the Future Date step in ["VORD Validate \(Quote\)" on page 97](#). It then calls the Compound Product Validation Engine business service.
- **Step 6.** The Compound Product Validation Engine retrieves the compound product validation rules for the top-level product. See the Validate step in ["VORD Validate \(Quote\)" on page 97](#).
- **Step 6.** For each rule, the Compound Product Validation Engine invokes the Pre-Validate method on the corresponding business service.
- **Step 7.** If necessary, the rules checker business service retrieves product specific data related to the rule (for example, the cardinality constraints for sub-components of the compound product).
- **Step 8.** The rule checker determines what fields and attributes it will require and returns them to the Compound Product Validation Engine which accumulates a list of fields and attributes required by all rules checkers.
- **Step 9.** The Compound Product Validation Engine instructs the Projected Assets Cache to retrieve the compound product instance limited to fields and attributes required by the business service validation rules associated with the compound product.
- **Step 10.** The Projected Assets Cache retrieves all asset records for the compound product. It then retrieves all open order line items due to complete before the specified due date and updates the records retrieved from the asset table to create a future state. Finally, all changes to the compound product instance in the current quote or current order are applied to generate the true future requested state.
- **Step 11.** For each rule, the Compound Product Validation Engine invokes the associated rules checker business service method.
- **Step 12.** If necessary, the rules checker business service retrieves product specific data related to the rule (for example, the cardinality constraints for sub-components of the compound product).
- **Step 13.** The rules checker business service queries the Projected Assets Cache in order to evaluate the rule (for example, it gets the bandwidth for each PVC connected to a node).
- **Step 14.** The rules checker business service returns a list of rule violations to the Compound Product Validation Engine.
- **Step 15.** The Compound Product Validation Engine accumulates the rule violations for each rule and returns them to VORD Validate (Quote) workflow process.

- **Step 16.** The Format method of the Compound Product Validation Engine business service formats an error message and displays it to the end user.

**NOTE:** The Compound Product Validation Engine operates independently of a customizable product definition. Furthermore, the engine only validates the top level component and its immediate attributes. This point will affect your modeling of Network products.

## Compound Product Validation Engine (CPVE)

The Compound Product Validation Engine is a business service that performs these major tasks:

- It finds and sets the Future Date that will be passed into the Projected Asset Cache so only line items whose Due Date is prior to the Future Date are loaded into the Projected Asset Cache.
- With the Product Id of the Compound Product that it was passed, it invokes all the Compound Product Business Service Rules associated with this Product Id. It then accumulates all the required unique Fields and Attributes within these Business Service Rules.
- It initializes the Projected Asset Cache and passes it the required fields and attributes as parameters.
- After the Projected Asset Cache has built the in-memory future requested compound product instance, the Compound Product Validation Engine invokes all associated Business Services and their rules to operate on the in-memory object instance containing the future projected state of the compound product.
- It formats the rules violations into a single error message to display to the user.

For details on each of Rule Checker Business Service methods, see ["Compound Product Validation Engine Service Methods" on page 292](#).

### The Projected Asset Cache

The Projected Asset Cache holds an in-memory version of the future requested state of the compound product instance. The future requested state is needed to allow us to validate across the entire compound product, regardless of whether the data is currently in the Quote, Order, or Asset business object.

After the Projected Asset Cache is instantiated, its contents are used at two different points, summarized in [Table 8](#).

Table 8. Benefits of the Projected Asset Cache

Use of the Projected Asset Cache	Benefit
When the user clicks the Validate button on a quote or order, compound product validation rules (Simple Expression Rules and Minimum and Maximum Quantity Rules) are executed on the contents of the Projected Asset Cache.	Validates across the entire compound product instance regardless of whether the data resides in the Quote, Order, or Asset object.
When the user selects the From/To Nodes for a network component product of type Network Connection, the nodes displayed in the Pick Network Node applet are taken from the Projected Asset Cache.	Allows a user to select a node that is either already an installed asset node or an asset that is undergoing a change order.

There are two key functions to the Projected Asset Cache:

- **"Retrieve Data"**
- **"Build the Future Requested State of the Product Instance"**

### Retrieve Data

To retrieve data, the Projected Asset Cache queries the following business components:

- Quote Item
  - Quote Item XA,
- Order Entry - Line Item
  - Order Item XA
- Asset Mgmt - Asset
  - Asset Mgmt - Asset XA

Within these Business Components, it limits the retrieval of data to only those fields and attributes required by the rules checkers. To find this information, it:

- Loads all the Asset records
- Finds all open orders associated with these Asset records
- Loads all quote line items for the current quote associated with the Compound Product.

The projected asset cache then uses a predefined Field Mapping Service business service (which is discussed next) to translate the field names among business components.

### Build the Future Requested State of the Product Instance

After retrieving the data, the Projected Asset Cache builds the future requested state of the compound product instance. It takes into consideration all assets in the Compound Product and applies all open orders due to complete prior to the specified date. It then applies the current quote or order to generate the future requested state of the compound product instance, as shown in Figure 67.

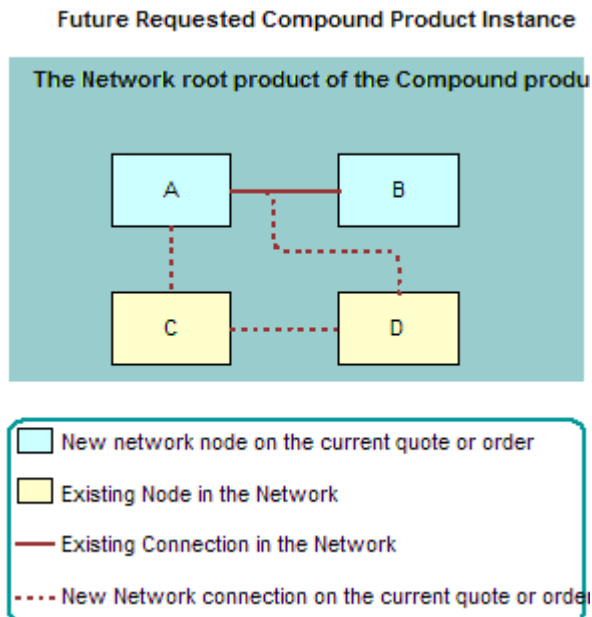


Figure 67. Future Requested State of a Compound Product

This in-memory future requested compound product instance is stored in the business service. It is available for performing validations until it is released or a new initialization of the Projected Asset Cache occurs.

Because the projected asset cache can include any field in the Asset Mgmt - Asset BusComp and also includes data from the Quote Line Item and Order Line Item, the fields must be mapped across three different business components.

This mapping is done by the Field Mapping Service business service. [Table 9](#) gives an example of one field mapping, which translates the Service Point Serial Number field in the Asset Mgmt-Asset BC to the corresponding field in the Quote Item and Order Entry - Line Item business component.

Table 9. Sample of Field Mappings

Name	Value
Asset Mgmt - Asset:Quote Item Map 2	[Service Point Serial Number]:[Service Point]
Asset Mgmt - Asset:Order Entry - Line Items Map 2	[Service Point Serial Number]:[Service Point]

If you add custom fields to the Business Components from which the Projected Asset Cache retrieves data, and you want to use these fields either in Simple Expression Rules or custom rules as part of a custom business service, you need to add new field mappings, as described in this section.

## Example of Defining Network Compound Products

This example shows how to define a network composed of the following products:

- **Frame Relay Network.** The network product.
- **Frame Relay Port.** The node product.
- **Frame Relay PVC.** The connection product.

This example shows one possible way of defining network compound products. Your method of defining these products may differ, depending on your business model.

To define a network compound product, perform the following tasks:

- Defining Products for the Network:
  - [“Defining the Frame Relay Network Product” on page 181](#)
  - [“Defining the Frame Relay Port Product” on page 182](#)
  - [“Defining the Frame Relay PVC Product” on page 183](#)
- Defining the Compound Product:
  - [“Defining Rule Checker Business Services” on page 183](#)
  - [“Defining Maximum and Minimum Quantities for Network Components” on page 184](#)
  - [“Defining Simple Expression Rules for Compound Products” on page 185](#)

### Defining the Frame Relay Network Product

The Frame Relay Network is the network product for this sample network. All Compound Product rules will be associated with this product.

As the network product, it also allows you to define attributes that apply across the entire network. For example, if the same hardware vendor is used for all the products in the network, you can define it as an attribute of the Frame Relay Network.

### ***To define the frame relay network product***

- 1** Navigate to the Administration - Products screen.
- 2** In the Products list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Value
Product Name	Frame Relay Network
Compound Product	True
Network Element Type	Network

### **Defining the Frame Relay Port Product**

In most cases the Frame Relay Port product should be modeled as an individual customizable product.

**NOTE:** Although in most cases the Frame Relay Port product must be modeled as an individual customizable product in order to model valued added services such as reports and installation, it is possible to model the Frame Relay Port product as a simple product and still use the Compound Product Validation Engine.

The attributes of the product may include things like Port Speed, Quality of Service level, and so on. If you have decided to model your nodes as customizable products you must make sure that the attributes that need to be used in cross-product validation rules are associated to the root component.

The sub-components of the product may include products such as Local Access Line and Installation.

### ***To define the frame relay port product***

- 1** Navigate to the Administration - Products screen.
- 2** In the Products list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Value
Product Name	Frame Relay Port

Field	Value
Compound Product	False
Network Element Type	Network Element

- 3 If this is a customizable product, set up Configurator rules to define the valid combinations in this product, as described earlier in this section.

## Defining the Frame Relay PVC Product

In most cases, the Frame Relay PVC product should be modeled as an individual customizable product.

**NOTE:** Although in most cases the Frame Relay PVC product must be modeled as an individual customizable product in order to model valued added services such as reports and installation, it is possible to model the Frame Relay Port product as a simple product and still use the Compound Product Validation Engine.

The attributes of the product may include things like Committed Information Rate (CIR), Diversity, PVC Type (Symmetrical or Asymmetrical).

The subcomponent products may include Installation and value add services such as PVC Reports.

### To define the frame relay pvc product

- 1 Navigate to the Administration - Products screen.
- 2 In the Products list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Value
Product Name	Frame Relay PVC
Compound Product	False
Network Element Type	Network Connection

- 3 If this is a customizable product, set-up Configurator rules to define the valid combinations in this product, as described earlier in this section.

## Defining Rule Checker Business Services

After you have finished defining individual products, you begin defining the features of the entire compound network product.

First, you specify the rule checker business services used to validate this product. In this example, you use the business services that are provided with network ordering. In other cases, you may create custom business services to validate the network and use them. For more information, see [“Creating Custom Rule Checkers” on page 186](#).

### ***To define rule checker business services***

- 1** In the Products list, click the name of the Frame Relay Network product that you created earlier.
- 2** Click the Compound Products view tab.
- 3** In the linkbar, click Rules
- 4** In the Rules list, add a new record and complete the necessary fields, described in the following table.

Field	Value
Sequence	1
Business Service	VORD CPVE Component Cardinality Checker Service

- 5** In the Rules list, add another new record and complete the necessary fields, described in the following table.

Field	Value
Sequence	2
Business Service	VORD CPVE Simple Validation Expression Checker Service

**NOTE:** Do not add the following business services: VORD CPVE Validation Service and VORD Projected Asset Cache. These two services are invoked by the VORD Validation (Quote) and VOR Validation (Order) workflow processes or directly by other services. Adding them here will result in an error.

## **Defining Maximum and Minimum Quantities for Network Components**

In this example:

- The compound product is the Frame Relay Network. The compound product must always have a Minimum Quantity of 1 and a Maximum Quantity of 1.
- The Frame Relay Port product is the node. The definition of a network calls for at least two nodes, because there is no network without at least two nodes. Therefore, a Minimum Quantity of 2 for the Frame Relay Port product is defined.
- The Frame Relay PVC product - the circuit connecting the two ports - is the connection. Because the two nodes must be connected, a Minimum Quantity of 1 is defined for the Frame Relay PVC product.



Because this network can be as large as the customer wants, within the boundaries of the providers network reach, we do not enter a Maximum Quantity for the Frame Relay Port and Frame Relay PVC products.

Because the Cardinality Checker is a Compound Product Business Service, it operates on the Projected Asset Cache. Therefore, these rules apply across the current Quote, existing Assets, and open Orders on the asset. For example, if a customer had 5 frame relay ports and attempted to disconnect four of them, the validation would display an error message saying the minimum quantity is not met for the Frame Relay Port product.

### ***To define maximum and minimum quantities for network components***

- 1 Navigate to the Administration - Product screen.
- 2 In the Products list, click the name of the product that was defined as the compound product for the network (the Frame Relay Network product).
- 3 Click the Compound Products view tab.
- 4 In the link bar, click Cardinality.

The Compound Product Cardinality list includes all the products that are valid components of this network.

- 5 For each product, enter the appropriate value in the Maximum Quantity and Minimum Quantity fields, as shown in the following table.

Product	Minimum Quantity	Maximum Quantity
Frame Relay Network	1	1
Frame Relay Port	2	
Frame Relay PVC	1	

## **Defining Simple Expression Rules for Compound Products**

Finally, you define simple expression rules to validate across the compound product and generate error messages.

### ***To define simple expression rules for compound products***

- 1 In the Administration - Product screen, in the Compound Products view, in the link bar, click Simple Expressions.

- 2 In the Compound Products list, add one or more new records and complete the necessary fields.

Table 10 includes some sample simple expression rules that you could use to validate network ordering. The first six columns contain the values you enter in each record, and the last column contains an explanation of what this rule does.

Table 10. Samples of Simple Expression Rules

Seq	Error Text	Search Expression	Aggregate Function	Group By Fields	Having Expression	Explanation
1	[Count] [Product]s are missing Service Addresses	(([Network Element Type] = "Network Node" AND [Service Address] = ""))	Count	[Product Name]	[Count]>0	Validates that all Nodes have a Service Address.
2	[Count] [Product] are missing a "Service Address" and/or a "To Service Address"	(([Network Element Type] = "Network Connection" AND ((([Service Address] = "") OR ([To Service Address] = ""))))	Count	[Product Name]	[Count]>0	Validates that all Connections have a Service Address associated with each end of the connection.
3	[Product] at [Service Address] must have a different "To Service Address"	(([Network Element Type] = "Network Connection" AND ([Service Address] = [To Service Address])))				Validates that the Addresses for each end of a connection are different.
4	[Count] [Product] are missing a From Node and/ or To Node	(([Network Element Type] = "Network Connection" AND ([Node] = "" OR [To Node] = ""))	Count	[Product Name]	[Count]>0	Validates that all connections have a node associated with each end of the connection.

## Creating Custom Rule Checkers

The Compound Product Validation Engine business service invokes a number of different rules checker business services. Two rules checkers are provided with the product, but a customer can build custom rules checker business services that comply with the following API specification.

The following rule checkers are provided with the product:

- **PreValidate.** Returns the list of field names and attribute names used by the rules checker. The list of required fields and attributes may be influenced by the Parameters passed to the rule. For more information, see ["PreValidate Method" on page 187](#).
- **Validate.** Implements the logic of the specific rule and validates the contents of the Projected Asset cache. It returns rules violations. For more information, see ["Validate Method" on page 189](#).

## PreValidate Method

The PreValidate method determines the list of fields and attributes that the rules checker requires and returns them to the Compound Product Validation Engine. It may optionally use the product Id to retrieve product specific data related to the rule, or other parameters that may influence the list of fields and attributes.

### Arguments

Argument	Description
Product Id	[in] Row Id of the compound product. (Required)
Parameter	[in] Property set of parameters that can be used to influence the list of required fields and attributes returned by the method. The parameters are defined in the Compound Product Rules Admin View. (Optional)
Field	[out] Property set of fields that are required by the rules checker to validate the Projected Asset cache.
Attribute	[out] Property set of fields that are required by the rules checker to validate the Projected Asset cache.

### Example

The Port Over-Subscription Checker business service checks that the sum of the bandwidths of the connections going into or out of a node does not exceed the bandwidth of the node. The checker has two parameters that specify the name of the Bandwidth attribute of the Node product and the name of the bandwidth of the Connection product. The rules checker requires the Network Element Type, Product Name, Node and To Node fields and the Bandwidth attributes to evaluate the rule. The method returns a property set of type Field and a property set of type Attribute containing the list of fields and attributes required by the rules checker.

**NOTE:** This sample code is provided for instructional purposes only. Different code may be needed, depending on how your system is configured.

```
function PreValidate (Inputs, Outputs)
{
    // Retrieve input arguments
```

```
var productId = Inputs.GetProperty("Product Id");
var parameter;

// Retrieve the rules checker specific parameters
// These parameter
for (var i = 0; i < Inputs.GetChildCount(); i++)
{
    var child = Inputs.GetChild(i);
    switch (child.GetType())
    {
        case 'Parameter':
            parameter = child;
            break;
        default:
            throw "Unknown argument: " + child.GetType();
            break;
    }
}

if (parameter == undefined)
{
    throw "Missing input argument 'Parameter'";
}

var connectionAttrib = parameter.GetProperty("Connection Attribute");
var nodeAttrib = parameter.GetProperty("Node Attribute");

// Define the fields used by this rules checker
var field = TheApplication().NewPropertySet();
field.SetType("Field");
field.SetProperty("Network Element Type", "");
```

```

field.SetProperty("Product Name", "");
field.SetProperty("Node", "");
field.SetProperty("To Node", "");

// Define the attributes used by this rules checker
var attribute = TheApplication().NewPropertySet();
attribute.SetType("Attribute");
attribute.SetProperty(connectionAttrib, "");
attribute.SetProperty(nodeAttrib, "");

// Return the required fields and attributes
Outputs.AddChild(attribute);
Outputs.AddChild(field);
}

```

**See Also**

["Validate Method" on page 189.](#)

## Validate Method

The Validate method implements the logic of the rules checker and returns rules violations. It may optionally use the Product Id to retrieve product specific data related to the rule, or other parameters that may influence the logic of the rule. It then queries the Projected Asset Cache using the supplied Asset Cache Key for rule violations and returns an error string for each to the Compound Product Validation Engine.

**Arguments**

Argument	Description
Product Id	[in] Row Id of the compound product. (Required)
Asset Cache Key	[in] Key used to query the Projected Asset Cache. (Required)
Product	[in] Name of the Compound Product which can be used in Rule Violation strings. (Required)

Argument	Description
Parameter	[in] Property set of parameters that can be used to influence the logic of the rules checker. These are defined in the Compound Product Rules Admin View. (Optional)
Rule Violation	[out] Property set of Rules Violations.

### Example

The Port Over-Subscription Checker business service checks that the sum of the bandwidths of the connections going into or out of a node does not exceed the bandwidth of the node. The checker has two parameters that specify the name of the Bandwidth attribute of the Node product and the name of the bandwidth of the Connection product. The Validate method first queries the Projected Asset Cache using the Asset Cache Key passed as an input argument for all Network Node components and sorts the output by Node name. It then queries the Projected Asset cache for the sum of the bandwidth attribute for all Network Connection components grouped by the Node field. Finally, it queries the Projected Asset cache for the sum of the bandwidth attribute for all Network Connection components grouped by the To Node field. Using the results from the three queries, the Validate method then calculates the sum of the sum of the bandwidths of the connections going into or out of each node and constructs an error message string for each instance where the bandwidth of the node is exceeded. The error strings are returned in the Rule Violation output argument.

**NOTE:** This sample code is provided for instructional purposes only. Different code may be needed, depending on how your system is configured.

```
function validate (Inputs, Outputs)
{
    // Retrieve input arguments
    var productId = Inputs.GetProperty("Product Id");
    var product = Inputs.GetProperty("Product");
    var assetCacheKey = Inputs.GetProperty("Asset Cache Key");
    var parameter;

    // Retrieve rules checker specific parameters
    for (var i = 0; i < Inputs.GetChildCount(); i++)
    {
        var child = Inputs.GetChild(i);
        switch (child.GetType())
```

```

    {
        case 'Parameter':
            parameter = child;
            break;
        default:
            throw "Unknown argument: " + child.GetType();
            break;
    }
}

if (parameter == undefined)
{
    throw "Missing input argument 'Parameter'";
}

var connectionAttrib = parameter.GetProperty("Connection Attribute");
var nodeAttrib = parameter.GetProperty("Node Attribute");

// Queries the Projected Asset Cache to retrieve a list of nodes sorted by node
// name.
var assetCacheSvc =
    TheApplication().GetService("VORD Projected Asset Cache");
var svcInputs = TheApplication().NewPropertySet();
var svcOutputs = TheApplication().NewPropertySet();

svcInputs.SetProperty("Asset Cache Key", assetCacheKey);
svcInputs.SetProperty("Search Expression",
    "([Network Element Type] = \"Network Node\")");

var sortByField = TheApplication().NewPropertySet();
sortByField.SetType("Sort By Field");

```

```

sortByField.SetProperty("Node", "ASC");
svcInputs.AddChild(sortByField);

assetCacheSvc.InvokeMethod("Query", svcInputs, svcOutputs);

// Retrieves the result from the output of the Query method
var nodePropSet;

for (var i = 0; i < svcOutputs.GetChildCount(); i++)
{
    var child = svcOutputs.GetChild(i);
    switch (child.GetType())
    {
        case 'Result':
            nodePropSet = child;
            break;
        default:
            throw "Unknown argument: " + child.GetType();
            break;
    }
}

if (nodePropSet == undefined)
{
    throw "Missing output argument 'Result'";
}

// Since we cannot construct a single query to get the bandwidth of connections
// into and out of a node, we retrieve this in two queries, one for connections
// going in and one for connections going out. This maximizes the use of high

```



```

// performance C++ code in the projected asset cache and minimizes the work
// done by this script.

// Get the bandwidth going into each node from the projected asset cache
var assetCacheSvc =
    TheApplication().GetService("VORD Projected Asset Cache");

// Set up the inputs to the Query method
var svcInputs = TheApplication().NewPropertySet();
var svcOutputs = TheApplication().NewPropertySet();

svcInputs.SetProperty("Asset Cache Key", assetCacheKey);
svcInputs.SetProperty("Search Expression",
    "([Network Element Type] = \"Network Connection\")");
svcInputs.SetProperty("Aggregate Field", connectionAttrib);
svcInputs.SetProperty("Aggregate Function", "Sum");

var groupByField = TheApplication().NewPropertySet();
groupByField.SetType("Group By Field");
groupByField.SetProperty("Node", "");
svcInputs.AddChild(groupByField);

var sortByField = TheApplication().NewPropertySet();
sortByField.SetType("Sort By Field");
sortByField.SetProperty("Node", "ASC");
svcInputs.AddChild(sortByField);

// Invoke the Projected Asset Cache Query method
assetCacheSvc.InvokeMethod("Query", svcInputs, svcOutputs);

```

```

// Get the Query result
var nodeFromPropSet;
for (var i = 0; i < svcOutputs.GetChildCount(); i++)
{
    var child = svcOutputs.GetChild(i);
    switch (child.GetType())
    {
        case 'Result':
            nodeFromPropSet = child;
            break;
        default:
            throw "Unknown argument: " + child.GetType();
            break;
    }
}

if (nodeFromPropSet == undefined)
{
    throw "Missing output argument 'Result'";
}

// Get the bandwidth going out of each node from the projected asset cache
var assetCacheSvc =
    TheApplication().GetService("VORD Projected Asset Cache");

ar svcInputs = TheApplication().NewPropertySet();
ar svcOutputs = TheApplication().NewPropertySet();

// Set up the inputs to the Query method
svcInputs.SetProperty("Asset Cache Key", assetCacheKey);

```

```

svcInputs.SetProperty("Search Expression",
    "([Network Element Type] = \"Network Connection\")");
svcInputs.SetProperty("Aggregate Field", connectionAttrib);
svcInputs.SetProperty("Aggregate Function", "Sum");

var groupByField = TheApplication().NewPropSet();
groupByField.SetType("Group By Field");
groupByField.SetProperty("To Node", "");
svcInputs.AddChild(groupByField);

var sortByField = TheApplication().NewPropSet();
sortByField.SetType("Sort By Field");
sortByField.SetProperty("To Node", "ASC");
svcInputs.AddChild(sortByField);

// Invoke the Projected Asset Cache Query method
assetCacheSvc.InvokeMethod("Query", svcInputs, svcOutputs);

// Get the Query result
var nodeToPropSet;
for (var i = 0; i < svcOutputs.GetChildCount(); i++)
{
    var child = svcOutputs.GetChild(i);
    switch (child.GetType())
    {
        case 'Result':
            nodeToPropSet = child;
            break;
        default:
            throw "Unknown argument: " + child.GetType();
    }
}

```

```

        break;
    }
}

if (nodeToPropSet == undefined)
{
    throw "Missing output argument 'Result'";
}

// Create a property set for the errors
var ruleViolation = TheApplication().NewPropSet();
ruleViolation.SetType("Rule violation");

// Check whether each node is over-loaded
var nodeFromIndex = 0;
var nodeToIndex = 0;
for (var i = 0; i < nodePropSet.GetChildCount(); i++)
{
    // Get details for the current node
    var thisNode = nodePropSet.GetChild(i);
    var thisNodeName = thisNode.GetProperty("Node");
    var thisNodeBandwidth = parseInt(thisNode.GetProperty(nodeAttrib));
    var thisNodeProduct = thisNode.GetProperty("Product Name");

    // Find the current node in the 'total from' property set
    var fromNodeBandwidth = 0;
    if (nodeFromPropSet.GetChild(nodeFromIndex).GetProperty("Node") == thisNodeName)
    {
        fromNodeBandwidth =
            parseInt(nodeFromPropSet.GetChild(nodeFromIndex).GetProperty("Sum"));
    }
}

```

```

        nodeFromIndex++;
    }

    // Find the current node in the 'total to' property set
    var toNodeBandwidth = 0;
    if (nodeToPropSet.GetChild(nodeToIndex).GetProperty("To Node") == thisNodeName)
    {
        toNodeBandwidth =
            parseInt(nodeToPropSet.GetChild(nodeToIndex).GetProperty("Sum"));
        nodeToIndex++;
    }

    // Raise an error if the bandwidth of the connections exceeds that of the node
    if (thisNodeBandwidth < (fromNodeBandwidth + toNodeBandwidth))
    {
        ruleviolation.SetProperty(thisNodeProduct + " '"
            + thisNodeName + "' is overloaded (" + (fromNodeBandwidth
            + toNodeBandwidth) + " > " + thisNodeBandwidth + ")", "");
    }
}

// Return any errors
Outputs.AddChild(ruleviolation);
}

```

**See Also**

[“PreValidate Method” on page 187](#), [“Query Method” on page 296](#).



# 10 Using Network Ordering

This chapter describes how end users work with network ordering. It includes the following topics:

- [“Process of Ordering New Networks” on page 199](#)
- [“Viewing a Network as a Billing Item or Service Item” on page 205](#)
- [“Process of Ordering New Sites in Existing Networks” on page 205](#)
- [“Process of Upgrading Bandwidth at Network Sites” on page 209](#)
- [“Process of Disconnecting a Site from a Network” on page 212](#)

For information about setting up network ordering, see [Chapter 9, “Setting Up Network Ordering.”](#)

For general background information about network ordering, see [“About Network Ordering” on page 167.](#)

## Process of Ordering New Networks

Salespeople can order new networks for new customers, adding the customer and all features of the network.

To order a new network, perform the following tasks:

- 1 [“Creating an Account and Locations for a New Network” on page 199](#)
- 2 [“Creating a Quote for a New Network” on page 200](#)
- 3 [“Adding Nodes to a New Network” on page 201](#)
- 4 [“Adding Connections to a New Network” on page 202](#)
- 5 [“Validating a Quote for a Network” on page 203](#)
- 6 [“Creating an Order for a New Network” on page 204](#)
- 7 [“Converting a Completed Network Order to Assets” on page 204](#)

## Creating an Account and Locations for a New Network

When salespeople order new networks for new customers, the first task is creating a new account representing the customer and adding locations for all the nodes of the network.

For more information about creating an account, see *Applications Administration Guide*.

This task is a step in [“Process of Ordering New Networks” on page 199.](#)

**To create an account and locations for a new network**

- 1 Navigate to the Accounts screen.
- 2 In the Accounts list, click New.
- 3 In the new Accounts record, enter basic information about the account.
- 4 Click the name of the Account.
- 5 Click the view tabs, and add more information about Contacts at this account, the account profile, and other data that you require.
- 6 Click the Address Profile view tab.
- 7 In the Address Profile list, add a new record for each location where there will be a node of the network, and enter information about that location.

The following fields are automatically populated based on data for the premise: Prefix, CLLI, LATA, and Rate Center. For more information, see ["Setting Up Premises" on page 174](#).

## Creating a Quote for a New Network

After adding records for all the locations of network nodes, the salesperson can create a Quote record for the new network. Later, all the components of the new network will be attached to this Quote record.

For more information about creating a quote, see *Siebel Order Management Guide*.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

**To create a quote for a new network**

- 1 Navigate to the Customer Portal view.
- 2 In the Installed Assets list, click New.  
If your account type is not *Residential*, the Line Item view of the Quotes screen appears.
- 3 In the Quote header form, click the More button.
- 4 In the Network field, type a name for the new Network.  
This field automatically defaults to the Quote number. Instead, you should enter a descriptive name. This value will be used as the key that will link together components of the network, and so it will be used as the default for the Network field for all line items added to the Quote.
- 5 In the Line Items list, click Add Item.
- 6 In the Pick Products dialog box:
  - a Select a product of the Network Element Type, *Network*.  
For example, this might be a Frame Relay.
  - b Set the quantity to 1.



- c Click OK.

One line item record is added to the quote.

## Adding Nodes to a New Network

After creating a Quote record for a new network, a salesperson adds components of the network as line items of the quote. The salesperson must add a line item for each of the network's nodes. For example, if the network's nodes are ports, there must be a line item for each port.

It is quickest to add one line item with its quantity set to the number of nodes required for the network. Then configure that line item with the attributes and components that are applicable across all nodes. Then ungroup the item to create a separate line item for each node.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

### **To add nodes to a new network**

- 1 Select the Quote record that represents the network.
- 2 Click the Line Items view tab.
- 3 In the Line Items list, click Add Item.
- 4 In the Pick Products dialog box:
  - a Select a product of the Network Element Type, *Network Node*.  
For example, if you use Frame Relay as the network product, you will use *Frame Relay Port* as the network node product.
  - b As the quantity, enter the number of nodes in the network.
  - c Click OK.

One Line Item record is added to the quote.
- 5 For this line item, enter the attributes that are common to all the nodes of the network:
  - If this is a simple product, click the Attributes view tab and enter the attributes in the Attributes form.
  - If this is a customizable product, click Customize and use Configurator to define the attributes.
- 6 In the Line Items list, click Ungroup.  
The line item is ungrouped, so there is a separate line item for each node in the network.
- 7 Enter details for each node:
  - a In the Line Items list, select one of the node line items.
  - b Click the Network Line Detail view tab.

- c** In the Network Line Detail form, in the Node field, enter the name of this node.  
Enter a descriptive name, such as the name of the city where this node is, because this name will be used to make connections with this node.
  - d** In the Network Line Detail form, in the Service Address field, select the address of this node.  
The Prefix and CLLI field are filled in, as defined in premise.
  - e** Enter attributes for the product that are different from the common attributes that you entered in [Step 4](#).  
If this is a simple product, click the Attributes view tab and enter these attributes in the Attributes form. If it customizable product, click Customize to enter the attributes for the line item.
- 8** Repeat [Step 7](#) for all of the nodes in the Line Items list.

## Adding Connections to a New Network

After creating a Quotes record for a new network, a salesperson adds components of the network as line items of the quote. The salesperson must add a line item for each of the network's connections, for example, for each of the PVCs.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

### **To add connections to a new network**

- 1** Click the Line Items view tab.
- 2** In the Line Items list, click Add Item.
- 3** In the Pick Products dialog box:
  - a** Select a product of the Network Element Type, *Network Connection*.  
For example, you may select the product *Frame Relay PVC*.
  - b** As the quantity, enter the number of connections in the network.
  - c** Click OK.One Line Item record is added to the quote.
- 4** For this line item, enter the attributes that are common to all the connections of the network:
  - If this is a simple product, click the Attributes view tab and enter the attributes in the Attributes form.
  - If this is a customizable product, click Customize and use Configurator to define the attributes.
- 5** In the Line Items list, click Ungroup.  
The line item is ungrouped, so there is a separate line item for each connection in the network.
- 6** Enter details for each connection:

- a** In the Line Items list, select one of the connection items,
- b** Click the Network Line Detail view tab.
- c** In the Network Line Detail form, in the From section, in the Node field, select one of the nodes for this connection.

This dialog box allows you to select nodes from across the entire network.

- d** In the Network Line Detail form, in the To section, in the Node field, select the other node for this connection.

This must be a different node than the one selected as the From node.

- e** Select a Service Address for the From and To Nodes.

The Service Address is constrained to show only addresses associated with the selected Service Account

- f** Enter any attributes of this connection that are different from the common attributes that you entered in [Step 3](#).

If this is a simple product, click the Attributes view tab and enter these attributes in the Attributes form. If it customizable product, click Customize to enter the attributes for the line item.

- 7** Repeat [Step 5](#) for all of the connections in the Line Items list.

## Validating a Quote for a Network

After a salesperson has entered all the components of a new network, the salesperson must validate the quote and correct any errors.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

### ***To validate a quote for a network***

- 1** In the Network Line Detail form, click Validate.

The network product or any network component record may be selected, and the entire network is validated.

- 2** If any errors are listed, alter network line items to resolve these errors.

A message box should appear saying the network is valid or listing network errors. If this message box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, "Setting Up Network Ordering."](#)

- 3** Repeat [Step 1](#) and [Step 2](#) until all errors are corrected.

## Creating an Order for a New Network

After creating a quote for a new network, the salesperson presents the quote to the customer as a proposal document or in some other form. After the customer approves this proposal, the salesperson converts the quote to an order and adds final additional engineering details if necessary.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

### ***To create an order for a new network***

- 1** Navigate to the Quotes screen.
- 2** In the Quotes list, click the Quote Name for the quote for the network.
- 3** In the Quote Header form, click Auto Order.  
The quote is converted into an order.
- 4** Click the Network Line Detail view tab.
- 5** Add additional details to network components, as needed, for example Service Id and Port number.
- 6** Click Validate.  
A dialog box should appear saying the network is valid or listing network errors. If this dialog box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, "Setting Up Network Ordering."](#)
- 7** If any errors are listed, alter network components to resolve these errors.
- 8** Repeat [Step 6](#) and [Step 7](#) until all errors are corrected.
- 9** When the order is complete, to submit the order, click Submit.

## Converting a Completed Network Order to Assets

As components of the network order are installed, convert the line items representing these components to assets, so you can track them for service and for change orders.

For more information about converting orders to assets, see ["Workflow to Apply an Order to the Service Profile" on page 68](#).

**NOTE:** Before configuration, the Auto-Asset button can be used to convert line items to assets. However, during configuration, the Auto-Asset button is usually removed and the process is automated. If the Auto-Asset button has not been removed, the end user can use the following procedure.

This task is a step in ["Process of Ordering New Networks" on page 199](#).

### ***To convert the network order to an asset***

- 1** Navigate to the Order screen.

- 2 Click the name of the network order that you want to convert.
- 3 For each root line item:
  - a Select Complete in the Status field of all subcomponents.
  - b Click Auto Asset.

## Viewing a Network as a Billing Item or Service Item

In the Billing Items view or Service Items view, only the network product is displayed.

The other products that are components of this network are not listed in this view, but if you click the name of the network product, the Networks screen appears, with all of the components listed as well as the network product.

### ***To view a network as a billing item or a service item***

- 1 Navigate to the Customer Portal view of the Accounts screen.

The Billing Items list and Service Items list include the network products for the selected account.
- 2 Click the name of a billing item or service item that is a network product.

The Networks screen appears with this network product selected in the Networks list.

**NOTE:** Click the view tabs of the Network screen to view network components and process changes orders on network components.

## Process of Ordering New Sites in Existing Networks

Salespeople can take orders to add new sites to an existing customer's network.

To order a new site in an existing network, perform the following tasks:

- 1 ["Adding a Location for a New Network Site" on page 206](#)
- 2 ["Creating a Quote for a New Network Site" on page 206](#)
- 3 ["Adding a Node for a New Network Site" on page 206](#)
- 4 ["Adding a Connection for a New Network Site" on page 207](#)
- 5 ["Validating a Quote for a New Network Site" on page 208](#)
- 6 ["Converting a Quote to an Order for a New Network Site" on page 208](#)
- 7 ["Converting an Order for a New Network Site to Assets" on page 209](#)

## Adding a Location for a New Network Site

If a salesperson takes an order to add a new sites to an existing customer's network, the first step is to add the location of the site.

For more information about working with accounts, see *Applications Administration Guide*.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

### **To add a location for a new network site**

- 1 Navigate to the Accounts screen.
- 2 In the Accounts list, click Query, and use a query to find the account that is adding a new site.
- 3 After selecting the Account record, click the Address Profiles view tab.
- 4 In the Addresses list, add a new record for the new location being added to the network, and enter information about that location.

The following fields are automatically populated based on data for the premise: Prefix, CLLI, LATA, and Rate Center. For more information, see ["Setting Up Premises" on page 174](#).

## Creating a Quote for a New Network Site

After adding a location for the network site, the salesperson creates a quote for the network. The information about the products at the new site will be line items of this quote.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

### **To create a quote for a new network site**

- 1 Navigate to the Networks screen.
- 2 In the Networks list, select the network that you are adding a site to.
- 3 Click the Nodes view tab.
- 4 In the Nodes list, click New.

The Line Items view of the Quotes screen appears, with the quote already filled out with information about this account and network.

- 5 To confirm the network is the same as the one selected, in the quote header form, click the More button and look at the Network field.

## Adding a Node for a New Network Site

After creating a quote for a new network site, the salesperson adds a line item for the node at that site.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

**To add a node for a new network site**

- 1 In the Line Items view, add a line item for a product of the Network Element Type, *Network Node*.  
For example, if you use Frame Relay as the network product, you will use *Frame Relay Port* as the network node product.
- 2 Click the Network Line Detail view tab.
- 3 Enter details for the node:
  - a In the Network Line Detail form, in the Node field, enter the name of this node.  
Enter a descriptive name, such as the name of the city where this node is, because this name will be used to make connections with this node.
  - b In the Network Line Detail form, in the Service Address field, select the address of this node.  
The Prefix and CLI field are filled in, as defined in premise.
- 4 Enter the attributes of this node:
  - If this is a simple product, click the Attributes view tab and enter the attributes in the Attributes form.
  - If this is a customizable product, click Customize and use Configurator to define the attributes.

**Adding a Connection for a New Network Site**

After creating a quote for a new network site, the salesperson adds a line item for the connection at that site.

This task is a step in [“Process of Ordering New Sites in Existing Networks” on page 205](#).

**To add a connection for a new network site**

- 1 In the Line Items view of the Quotes screen, click Add Item and add a line item for a product of the Network Element Type, *Network Connection*.  
For example, you may select the product *Frame Relay PVC*.
- 2 Click the Network Line Detail view tab.
- 3 In the Network Line Detail form, enter details for the connection:
  - a In the From section, in the Node field, select one of the nodes for this connection.  
This dialog box allows you to select nodes from across the entire network.
  - b In the To section, in the Node field, select the other node for this connection.  
This must be a different node than the one selected as the From node.

**NOTE:** When selecting the From and To nodes, a user will be able to select from the existing nodes as well as the new sites which have just been added to this quote.
- 4 Enter attributes for this connection.

- If this is a simple product, click the Attributes view tab and enter these attributes in the Attributes form.
- If it customizable product, click Customize to enter the attributes for the line item.

## Validating a Quote for a New Network Site

After entering the components at the new network site as line items in a quote, the salesperson validates the network, to make sure that this site is compatible with the rest of the network.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

### ***To validate a quote for a network***

- 1** In the Network Line Detail form, click Validate.

A dialog box should appear saying the network is valid or listing network errors. If this dialog box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, "Setting Up Network Ordering."](#)

- 2** If any errors are listed, alter network components at this site to resolve these errors.
- 3** Repeat [Step 1](#) and [Step 2](#) until all errors are corrected.

## Converting a Quote to an Order for a New Network Site

After creating a quote for a new network, the salesperson presents the quote to the customer as a proposal document or in some other form. After the customer approves this proposal, the salesperson converts the quote to an order and adds final additional engineering details if necessary.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

### ***To create an order for a new network site***

- 1** Navigate to the Quotes screen.
- 2** In the Quotes list, click the Quote name for the quote for the network site.
- 3** In the Quote Header form, click AutoOrder.

The quote is converted into an order.

- 4** Click the Network Line Detail view tab.
- 5** Add additional engineering details to network components, as needed, for example service Id and Port number.
- 6** Click Validate.

A dialog box should appear saying the network is valid or listing network errors. If this dialog box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, "Setting Up Network Ordering."](#)



- 7 If any errors are listed, alter network components to resolve these errors.
- 8 Repeat [Step 6](#) and [Step 7](#) until all errors are corrected.
- 9 When the order is complete, to submit the order, click Submit.

## Converting an Order for a New Network Site to Assets

As components of the network order are installed, convert the line items representing these components to assets, so you can track them for service and for change orders.

For more information about converting orders to assets, see ["Workflow to Apply an Order to the Service Profile" on page 68](#).

**NOTE:** Before configuration, the Auto-Asset button can be used to convert line items to assets. However, during configuration, the Auto-Asset button is usually removed and the process is automated. If the Auto-Asset button has not been removed, the end user can use the following procedure.

This task is a step in ["Process of Ordering New Sites in Existing Networks" on page 205](#).

### *To convert a line item representing a network component to an asset*

- 1 Navigate to the Order screen.
- 2 Click the name of the network order that you want to convert.
- 3 For each line item that represents a network component:
  - a Select Complete in the Status field of all subcomponents.
  - b Click Auto Asset.

## Process of Upgrading Bandwidth at Network Sites

A salesperson can take an order to upgrade bandwidth at an existing network site.

This example of how to upgrade bandwidth assumes that:

- The Frame Relay Port product has an attribute called Port Speed.
- The Frame Relay PVC product has an attribute called Committed Information Rate (CIR).

These attributes represent the bandwidth.

The actual process of upgrading bandwidth will depend on which attributes have been defined to represent bandwidth.

To upgrade bandwidth at a network site, perform the following tasks:

- 1 ["Displaying a Network To Be Upgraded" on page 210](#)
- 2 ["Upgrading the Bandwidth at a Network Site" on page 210](#)

- 3 "Upgrading the Bandwidth of a Network Connection" on page 211
- 4 "Validating a Network After Upgrading Bandwidth" on page 211
- 5 "Converting a Quote to an Order to Upgrade Bandwidth" on page 211
- 6 "Updating Assets when an Order to Upgrade Bandwidth Is Complete" on page 212

## Displaying a Network To Be Upgraded

To upgrade bandwidth at an existing network site, first you display the network to be upgraded.

This task is a step in "Process of Upgrading Bandwidth at Network Sites" on page 209.

### *To display a network to be upgraded*

- 1 Navigate to the Networks screen.
- 2 In the Networks list, select the network that you are upgrading.

## Upgrading the Bandwidth at a Network Site

To upgrade bandwidth at an existing network site, you must increase the speed of the network node product, for example the port speed of the Frame Relay Port product.

This task is a step in "Process of Upgrading Bandwidth at Network Sites" on page 209.

**NOTE:** If you modelled all of your network components as simple products, instead of using this procedure and the following procedure, you can simply navigate to the All Network Elements view of the Networks screen and select both the Network Node and the Network Connection you wish to upgrade. Once the two or more items have been selected, click Modify and a new change quote will appear with all selected items as line items. Then navigate to the Attributes view tab and upgrade accordingly.

### *To modify the access at a network site*

- 1 After selecting the network that you are upgrading, click the Nodes view tab.
- 2 Use a query to find the nodes that you want to modify in the Nodes list.
- 3 After reviewing the current bandwidth in the attributes applet, click Modify.
  - If you are using a customizable product a Configurator session will appear allowing you to increase the port speed as required.
  - If you are using simple products then the Quote Detail View will with a newly created Quote where you can navigate to the Attributes view and increase the speed of the port.
- 4 Click Done.

A change quote appears.

## Upgrading the Bandwidth of a Network Connection

You use the same change quote to upgrade the Committed Information Rate (CIR) on a network connection.

This task is a step in ["Process of Upgrading Bandwidth at Network Sites" on page 209](#).

### ***To upgrade the bandwidth of a network connection***

- 1** After modifying the speed of the node, click Back to return to the Connections view.
- 2** Select the network connection that you want to upgrade and view the current CIR for this connection.
- 3** Click Modify  
If the network connection product is a customizable product you will enter a Configurator session where you can increase the speed of the network connection CIR.
- 4** Click Done.  
The change quote appears with a second line item added.

## Validating a Network After Upgrading Bandwidth

After upgrading bandwidth at an existing site, the salesperson validates the network, to make sure that this site is still compatible with the rest of the network.

This task is a step in ["Process of Upgrading Bandwidth at Network Sites" on page 209](#).

### ***To validate a quote for a network***

- 1** In the Network Line Detail form, click Validate.  
A dialog box should appear saying the network is valid or listing network errors. If this dialog box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, "Setting Up Network Ordering."](#)
- 2** If any errors are listed, alter network components within the quote to resolve these errors.
- 3** If necessary, return to the network view and modify other components so they are compatible with the changes at this site.
- 4** Repeat [Step 1](#) though [Step 3](#) until all errors are corrected.

## Converting a Quote to an Order to Upgrade Bandwidth

After creating a quote to upgrade bandwidth at an existing site, the salesperson presents the quote to the customer as a proposal document or in some other form. After the customer approves this proposal, the salesperson converts the quote to an order.

This task is a step in ["Process of Upgrading Bandwidth at Network Sites" on page 209](#).

**To create an order to upgrade bandwidth at a network site**

- 1 Navigate to the Quotes screen.
- 2 In the Quotes list, click the Quote Name for the quote for the upgrade.
- 3 In the Quote Header form, click Auto Order.  
The quote is converted into an order.
- 4 To submit the order, click Submit.

## Updating Assets when an Order to Upgrade Bandwidth Is Complete

As components needed to upgrade bandwidth are installed, convert the line items representing these components to assets, so you can track them for service and for change orders.

For more information about assets, see *Siebel Field Service Guide*.

For more information about converting orders to assets, see ["Workflow to Apply an Order to the Service Profile" on page 68](#).

**NOTE:** Before configuration, the Auto-Asset button can be used to convert line items to assets. However, during configuration, the Auto-Asset button is usually removed and the process is automated. If the Auto-Asset button has not been removed, the end user can use the following procedure.

This task is a step in ["Process of Upgrading Bandwidth at Network Sites" on page 209](#).

**To convert a line item representing a network component to an asset**

- 1 Navigate to the Order screen.
- 2 Use a search to display the network order.
- 3 For each line item that represents a network component:
  - a Select Complete in the Status field of all subcomponents.
  - b Click Auto Asset.

## Process of Disconnecting a Site from a Network

A salesperson can take an order to disconnect a site from a network.

To disconnect a site from a network, perform the following tasks:

- 1 [“Disconnecting a Network Node and Connections” on page 213](#)
- 2 [“Validating a Network After Disconnecting a Site” on page 213](#)
- 3 [“Converting a Quote to an Order to Disconnect a Network Site” on page 214](#)
- 4 [“Updating Assets After Disconnecting a Network Site” on page 214](#)

## Disconnecting a Network Node and Connections

When a salesperson disconnects a node from a network, all connections associated with that node are automatically disconnected.

This task is a step in [“Process of Disconnecting a Site from a Network” on page 212](#).

### ***To disconnect a node and all associate connections***

- 1 Navigate to the Networks screen.
- 2 In the Networks list, select the network whose node you are disconnecting.
- 3 Click the Nodes view tab.
- 4 In the Nodes list, select the node.
- 5 In the Nodes list, click Disconnect.

A new quote is created. The node and any connections that are connected to it are copied to the quote and marked for Delete.

## Validating a Network After Disconnecting a Site

After disconnecting a node, the salesperson validates the network, to make sure that removing this node has not compromised the network’s integrity.

This task is a step in [“Process of Disconnecting a Site from a Network” on page 212](#).

### ***To validate a quote for a network***

- 1 In the Network Line Detail form, click Validate.

A dialog box should appear saying the network is valid or listing network errors. If this dialog box does not appear or has an unexpected message, the product is not set up correctly. For more information, see [Chapter 9, “Setting Up Network Ordering.”](#)

- 2 If any errors are listed, alter network components to resolve these errors.
- 3 Repeat [Step 1](#) and [Step 2](#) until all errors are corrected.

## Converting a Quote to an Order to Disconnect a Network Site

After creating a quote to disconnect a network site, the salesperson summarizes the changes that will be made and captures the due date. When the customer confirms this order, the salesperson converts the quote to an order.

This task is a step in ["Process of Disconnecting a Site from a Network" on page 212](#).

### ***To convert a quote to an order to disconnect a network site***

- 1** Navigate to the Quotes screen.
- 2** In the Quotes list, click the Quote Name for the quote for the disconnect.
- 3** In the Quote Header form, click Auto Order.  
The quote is converted into an order.
- 4** To submit the order, click Submit.

## Updating Assets After Disconnecting a Network Site

When the work of disconnecting each component at a network site is done, update the customer's assets so they no longer include the component.

For more information about converting orders to assets, see ["Workflow to Apply an Order to the Service Profile" on page 68](#).

**NOTE:** Before configuration, the Auto-Asset button can be used to convert line items to assets. However, during configuration, the Auto-Asset button is usually removed and the process is automated. If the Auto-Asset button has not been removed, the end user can use the following procedure.

This task is a step in ["Process of Disconnecting a Site from a Network" on page 212](#).

### ***To update assets after disconnecting a network site***

- 1** Navigate to the Order screen.
- 2** Click the name of the disconnect order.
- 3** For each line item that represents a disconnected component:
  - a** Select Complete in the Status field of all subcomponents.
  - b** Click Auto Asset.

# 11 Business Service Methods Reference

This chapter is a reference that explains the methods developed for the business services used for order management. It includes the following sections:

- [“About Business Services for Order Management” on page 215](#)
- [“Product Manipulation Toolkit Business Service Methods” on page 216](#)
- [“Order Entry Toolkit Business Service Methods” on page 276](#)
- [“Account Administration Toolkit Business Service Methods” on page 285](#)
- [“Complex Product AutoMatch Business Service Method” on page 289](#)
- [“Compound Product Validation Engine Service Methods” on page 292](#)
- [“VORD Projected Asset Cache Service Methods” on page 295](#)

## About Business Services for Order Management

Generally, a business service:

- Defines reusable business logic that can be executed within the Object Manager
- Can be a built-in service that is defined in Siebel Tools or a run-time service that is defined in the Siebel client application by administrators
- Can be based on the CSSService Class (standard business service) or on specialized classes (specialized business service)  
**NOTE:** Specialized business services are used only by internal Siebel Engineering personnel. Customers should not use specialized business services unless their behavior is specifically documented.
- Can be configured by properties or scripts (written in Siebel VB or Siebel eScript)
- Can be used for generic code libraries that are called from other scripts
- Are used as building blocks in the Siebel Application Integration framework
- Can be referred to by commands associated with a menu item or toolbar button

# Product Manipulation Toolkit Business Service Methods

The Product Manipulation Toolkit (PMT) business service is a set of methods that can be linked to implement order processing workflows. These workflows maintain the service profile as orders are provisioned.

The two primary methods in this toolkit are:

- **Delta.** Creates a Quote or Order that defines the changes required to convert the initial state of an Asset into the final state of an Asset.
- **Apply.** Applies changes defined in Quotes and Orders to an Asset, putting the Asset into a new state.

The toolkit also provides a number of methods to support Delta and Apply.

This section begins with a description of ["User Properties used by PMT Methods" on page 219](#).

Then this section describes all the methods that the PMT business service calls, which are summarized in [Table 11](#).

Table 11. PMT Methods

Method	Comment
<a href="#">Delta Method on page 221</a>	Generates the actions necessary to change an existing customizable product (asset) into a new customizable product. The set of actions can be written to a quote or an order.
<a href="#">Apply Method on page 232</a>	Applies changes defined by a Sales order line item to a customizable asset.
<a href="#">Trim Method on page 243</a>	Eliminates line items from a delta quote or delta order if they do not meet the requirements specified in the input arguments. This action produces a new trimmed quote or order. The method determines which changes in a customizable order item to apply to the service profile stored in Assets.
<a href="#">Explode Method on page 246</a>	Creates multiple instances of a product. The number of instances is determined by the value of the field defined by the ExplodeOnField argument. For each new instance, the value of ExplodeOnField is set to 1. An existing instance is considered for explosion only if it meets the conditions specified by ConditionFieldNames and ConditionValues.
<a href="#">Explode Siebel Object Method on page 249</a>	Functions like Explode except that it also loads the SiebelMessage integration object from the Siebel database with a specified business component and synchronizes it back to the database after the explosion.



Table 11. PMT Methods

Method	Comment
<a href="#">Find Orders Method on page 250</a>	Given the asset integration Id of a root line item, this method finds all instances of order items that have the same asset integration Id. The order header, matching line item, its child items and attributes are returned as part of the output. Other lines item in the same order header with a different integration Ids are not returned.
<a href="#">Logical Delete Method on page 251</a>	Converts any item of a product instance that has a Deleted action code to an Update action code and an Inactive status. Logical Delete only works with a product instance of the Order type. In other words, the Integration Object passed in the Siebel Message is based on the Order Entry business object.
<a href="#">Assign New Service IDs Method on page 252</a>	Assigns a service point Id, associated with a specified premise, to each item of the input complex object where the service point type matches the service type of the product.
<a href="#">Convert Product Instance Method on page 253</a>	Converts a product instance of one type to another; for example, quote to order.
<a href="#">Get Instance Method on page 254</a>	Gets a complex product instance from the Product Configurator.
<a href="#">Get Profile Attribute Method on page 255</a>	Returns the value of the specified attribute of the user profile.
<a href="#">Is Fully Exploded Method on page 255</a>	Checks a product instance to determine if an explode operation is required, based upon the value specified by ExplodeOnField. If the field value is greater than 1 for any component of the product instance, the method returns N. Otherwise, the method returns Y.
<a href="#">Is Module Licensed Method on page 256</a>	Determines whether or not the specified module is licensed.
<a href="#">Merge Method on page 257</a>	Merges the components of one integration object (product instance) under the header of another integration object.
<a href="#">Quote To Revenue Method on page 258</a>	Generates revenue line items for each line item in a quote that matches the criteria specified by the input conditions. The line items are associated with the opportunity from which the quote was created.
<a href="#">Reconfigure Product Instance Method on page 261</a>	Displays the asset that was passed to the Product Configurator as input, in the Configurator UI.
<a href="#">Reset Method on page 263</a>	Clears out all cached product instances.
<a href="#">Retrieve Next Object From List Method on page 263</a>	Given a hierarchical integration object with multiple root components at the second level, this method returns an integration object that contains the header, one root component, its children and their attributes.

Table 11. PMT Methods

Method	Comment
<a href="#">Set Action Method on page 264</a>	Sets the Action Code field of all items in the hierarchy of a given product instance to the specified value.
<a href="#">Set Exception Error Message Method on page 265</a>	Called from the workflow to get the localized error message text that is associated with the input error code.
<a href="#">Set Field Value Method on page 265</a>	Sets a specified field to the given values for all items in the product instance that meet an optional condition.
<a href="#">Set Multiple Field Values Method on page 266</a>	Sets specified fields to the given values for all items in the product instance.
<a href="#">Set Output Header Method on page 267</a>	Caches the output header that will be used by the Apply and Delta methods.
<a href="#">Set Product Instance Method on page 268</a>	Caches a product instance that will be used as an input arguments for Apply and Delta methods.
<a href="#">Set Profile Attribute Method on page 268</a>	Assigns values to attributes in a user profile.
<a href="#">Synchronize Method on page 269</a>	Synchronizes product instance to the database. Optionally, this method also reprices the instance after it is synchronized by calling the Pricing Manager Reprice/RepriceAll. This method calls the EAI Siebel Adapter Execute method to synchronize or upsert.
<a href="#">Update Multi Object List Method on page 270</a>	After a root integration component is stripped from the integration object by the Retrieve Next Object From List method, this method returns the resulting integration object.
<a href="#">Update Order Line Item Completed Flag Method on page 270</a>	Sets the Order Item Processed Flag of the root order line item to Y, if its status and that of all its child items is Complete, Rejected, or '-\.
<a href="#">Get Cfg Button Click Information Method on page 271</a>	Identifies the button the user has clicked in the Complex Product view.
<a href="#">Refresh Business Component Method on page 271</a>	Reexecutes all instances of the specific buscomp to get data from the database.
<a href="#">Invoke BC Method on page 272</a>	Allows a business component-based method to be invoked from a workflow. Acts as a bridge to pass the business component name and method name, along with the parameters, and returns the value required from the workflow to the specified business component
<a href="#">"Iterate Process For Selected Rows Method" on page 273</a>	Loops through all selected rows in the active business component and initiates the specified workflow process for each row.

Table 11. PMT Methods

Method	Comment
<a href="#">“Get Selected Row Count Method” on page 274</a>	Returns the number of rows selected in the active business component (for example, the business component that initiated the workflow).
<a href="#">“Get First Selected Row Values Method” on page 274</a>	Queries the active business component for a given set of field values (specified by the Fields argument) to be assembled and returned in the output property set.
<a href="#">“Ungroup Method” on page 274</a>	Creates multiple instances of a product. The number of instances is determined by the value of the field defined by the ExplodeOnField argument. For each new instance, the value of ExplodeOnField is set to 1. An existing instance is considered for explosion only if it meets the conditions specified by ConditionFieldNames and ConditionValues.

## User Properties used by PMT Methods

The following user properties are used by PMT methods:

- **Alias Action Code.** Used by Delta and Apply to extend the standard set of action codes by creating aliases.

Syntax: Alias Action Code = "<action code>","<alias action code>","<expr to satisfy on Delta>"

Example:

Name = Alias Action Code 1

Value = "Update", "Suspend", "[Old Asset Status] = "Active" AND [Asset Status] = "Suspended"

- **Asset Integration Object Name.** Name of the integration object that is based upon the Asset business object.
- **Attribute Integration Component Name.** Name of the integration component that is based on the extended attribute business component. For example, Quote Item XA is a line item's extended attribute. This value should be the same for all three integration objects: asset, quote, and order.
- **Attribute Item Map.** Used by the Convert Product Instance, Delta, and Apply methods to map Asset, Quote, and Order attribute fields. It allows the methods to transform one data type (Asset, Quote, or Order) to another data type (Asset, Quote, or Order).

Syntax: Name = Src Int Obj Name.Src Int Comp Name:Dest Int Obj Name.Dest Int Comp Name Map #

Value = [Src Field]:[Dst Field]

Example:

Name = SIS OM Quote.XA:SIS OM Order.XA Map 20

Value = [Name]:[Name]

- **Cancel Button Return.** Output value of the Get Cfg Button Click Info method when the Cancel button is clicked in the Complex Product view.

- **Delta Line Item Compare Field.** Used by the Delta method to determine which Asset line item fields are compared to determine if two line items are different.

Syntax: Delta Line Item Compare Field = [Asset line item Integration Field]:[Quote/Order line item Integration object field]

- **Delta Old Field.** Used by the Delta method to capture the old value of a line item field when it is changed by a Modify Order.

Syntax: Delta Old Field # = [field name]:[field name to store old value]

Example:

Name = Delta Old Field 1

Value = [Status]:[Old Status]

- **Delta XA Compare Field.** Used by the Delta method to determine which Asset Line Item's attribute fields are compared to determine if two line item's attributes are different.

Delta Line Item Compare Field = [Asset line item Integration Field]:[Quote/Order line item Integration object field]

Example: If an Order line item's Account Id field is mapped to the Asset Line item's Owner Account Id, PMT user property Quote Integration Object Name is set to SISOM Order, and user property Asset Integration Object name is set to SIS OM Asset, the following user property is created:

SIS OM Order Line Item:SIS OM Asset Line Map 20 [Account Id]:[Owner Account Id]

- **Delta XA Old Field.** Used by the Delta method to capture the old value of an XA field when it is changed by a Modify Order.

Syntax: Delta XA Old Field # = [field name]:[field name to store old value]

Example:

Name = Delta XA Old Field 1

Value = [Value]:[Old Value]

- **Done Button Return.** Output value of the Get Cfg Button Click Info method when the Done button is clicked in the Complex Product view.

- **Header Integration Component Name.** Name of the integration component that is based on header business components. A Quote is a header of a Quote, an Order is a header of an Order, and so on. This value should be the same for all three integration objects: asset, quote, and order.

- **Header Map.** Similar to the Attribute Item Map except that this user property maps header fields.

Syntax: Name = Src Int Obj Name.Src Int Comp Name:Dest Int Obj Name.Dest Int Comp Name Map #

Value = [Src Field]:[Dst Field]

- **Line Item Integration Component Name.** Name of the integration component that is based on line item business components. Quote Item is a line item component, Order Item is a line item component, and so on. This value should be the same for all three integration objects: asset, quote, and order.

- **Line Item Map.** Similar to the Attribute Item Map except that this user property maps line item fields.

Syntax: Name = Src Int Obj Name.Src Int Comp Name:Dest Int Obj Name.Dest Int Comp Name Map #

Value = [Src Field]:[Dst Field]

Example: If an Order line item's Account Id field is mapped to the Asset Line item's Owner Account Id, PMT user property Order Integration Object Name is set to SIS OM Order, and user property Asset Integration Object name is set to SIS OM Asset, the following user property is created:

Name = SIS OM Order.Line Item:SIS OM Asset.Line Item Map 20

Value = [Account Id]:[Owner Account Id]

- **Order Integration Object Name.** Name of the integration object that is based on an Order business object.
- **Quote Integration Object Name.** Name of the integration object that is based on a Quote business object.
- **Workflow Product Configuration View.** Specifies which view the Product Configurator is to use when PMT method Reconfigure Product Instance is invoked.

**NOTE:** The name of the view must be added to both the Application Admin > Views and Application Admin > Responsibilities views in the Siebel client.

Syntax: SIS OM Reconfigure Complex Product View Name: Account

SIS OM Complex Product Runtime Instance View - Account

## Delta Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It generates the actions necessary to change an existing customizable product (asset) into a new customizable product. The set of actions can be written to a quote or an order.

Delta compares two complex assets (original and modified) and returns a quote or order. The return contains line items that specify the actions required to change the asset from the original state to the final state.

**NOTE:** An update occurs if a field in the product or any of its attributes changes. The list of fields being compared is defined by the Delta Line Item Compare Field user properties. This list of fields is configurable to support customer extensions to the database.

### Arguments

*SiebelMessage*

[in] Hierarchical property set containing the final Asset (output returned from call to PMT business service method [Reconfigure Product Instance Method](#)).

*SiebelMessage*

[out] Hierarchical property set containing a quote or order header, complex line items, and attributes.

### Returns

Property Set containing the complex quote or order.

### Remarks

Because Delta is used frequently, you may be able to use the additional information about the method presented below.

### User Properties

The Delta method uses the following user properties:

- Asset Integration Object Name
- Quote Integration Object Name
- Order Integration Object Name
- Delta Line Item Compare Field
- Delta XA Compare Field
- Delta Old Field
- Delta XA Old Field
- Line Item Map
- Attribute Item Map
- Alias Action Code

For descriptions of these user properties, see ["User Properties used by PMT Methods"](#) on page 219.

### Before Invocation

Before Delta is invoked, the system must call two other methods:

■ **Set Product Instance**

Saves the original asset's configuration before the Product Configurator is called. For more information, see ["Reconfigure Product Instance Method" on page 261](#).

■ **Set Output Header**

Saves the quote or order header that will be the Delta output. If a line item or attribute is associated with the Quote or Order property set, it is stripped from the property set returned by the Delta method. For more information, see ["Set Output Header Method" on page 267](#).

**Processing**

During Delta processing, the method:

- Compares the before and after images to determine the correct action codes for output.
- Passes all fields in the new customizable asset through to the delta quote or delta order. This includes all custom fields.

Delta compares a user-configurable set of fields. This includes the parent component ID to make sure that changes to the customizable product structure are reflected as an update.

**Increasing Quantities of an Asset Component**

If the user edits a customizable asset and increases the quantity of an existing component, the result is two line items. The first line item represents the original asset. The second line item adds new copies of that asset. If the original line item is changed, the Delta action is Update or NULL.

**Action Field in the Quote and Order Attribute Tables**

Delta logic populates an Action field in the quote attribute and order attribute tables. This field allows order provisioning logic to determine which of the attributes of a service product has changed.

For example, a delta quote can be represented as shown in [Figure 68](#):

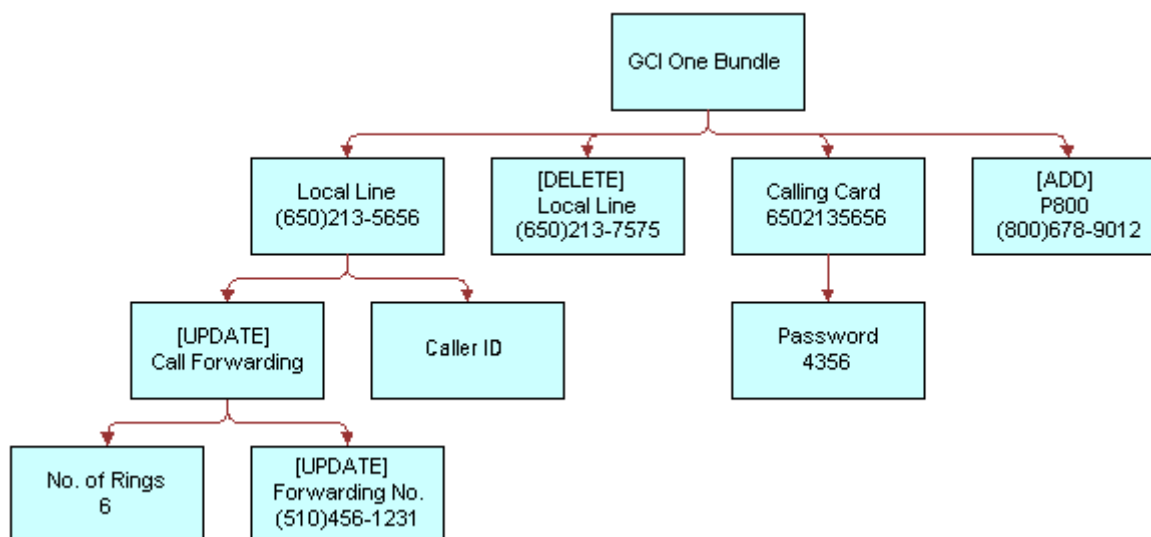


Figure 68. Action on Attribute Method Example

In this example, the call forwarding number changed but the number of rings did not.

### Action Codes Reset Upon Delta Line Item or Attribute Changes

When a delta-enabled field in a line item changes (because of direct user input or a process such as repricing) or an attribute of a line item changes, the action code is automatically set. This is shown in [Table 12](#).

Table 12. Line Item Action Code Transitions

Original Action	New Action
-	Update
Add	Add
Update	Update
Delete	Delete

**NOTE:** The customer should make the Action field Read-Only to avoid possible violations of configuration rules that could be caused by changing the action code of a line item.

### Alias Action Codes

The Delta method has been extended to support *Alias Action Codes*. Delta replaces one of the standard action codes (Add, Update, Delete, -) with an alias action code if a certain condition is met. For example, an action code of *Update* may be replaced by *Suspend* if the status field changes from *Active* to *Suspended*. Alias action codes are evaluated for components but not attributes. Alias action codes are specified by the Alias Action Code user properties.

### Old Value Support

When performing a modify order in Siebel Customer Order Management 7.5, you can view the changes made to a product but only the end state, and values prior to the modify are lost. Downstream provisioning systems require both the prior and current values. For example, a change in bandwidth from 56K to 1024K might require a new piece of equipment to be installed at the wire center whereas a change from 2048K to 1024K is simply a downgrade using the existing equipment.

The Delta method has been extended to store the values of fields prior to their being changed. The prior value is the value of the field in the initial property set being considered by Delta.

### Service Item Unique Keys (Asset Integration Id)

The Delta and Apply method operations depend upon the unique keys to each service item. Typically, the unique key is an invariable combination of fields in the service item record. Because no combination of user-entered fields is certain to be unique or invariable, the Siebel application provides a hidden Asset Integration Id field that stores a unique identifier for each service item.



The asset integration ID links the service item to the quotes and orders that modify it. On creation of a quote to add a new service item a new asset integration ID is generated from the row ID of the quote line item. The quote is converted to an order at which time a new asset integration ID is generated from the row ID of the order line item. This occurs only if the action code of the quote line item is 'Add' to enforce uniqueness if multiple orders are created from the same quote.

When the completed order is converted into an asset the asset integration ID is copied from the order line item to asset. When the asset is subsequently modified (Modify or Disconnect) the asset integration ID is copied to the quote and order line items.

### Action Types

Each action types is implemented as a soft-coded list of values. This soft coding supports a multilingual user interface and allows for industry specific terminology. The action types supported by the Siebel application are listed in [Table 13](#).

Table 13. Action Types

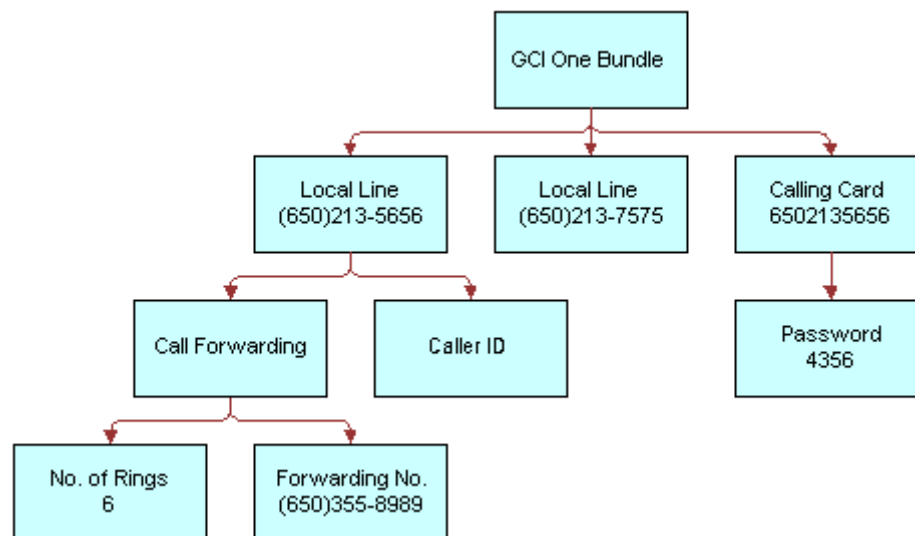
Action Type	Comments
Add	
Update	
Delete	
-	No action

### Examples

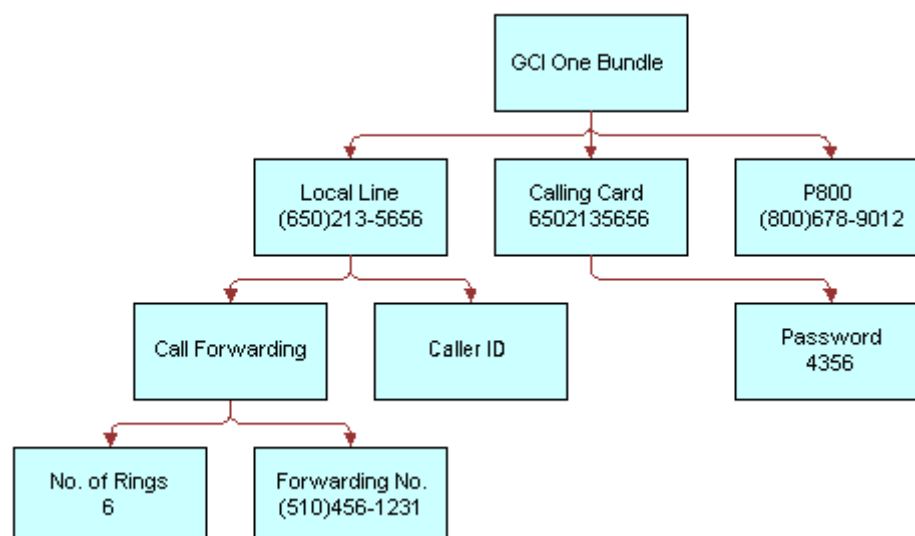
#### Generating a Delta Quote to Update an Asset

The following example shows how this method generates a delta quote to update an asset.

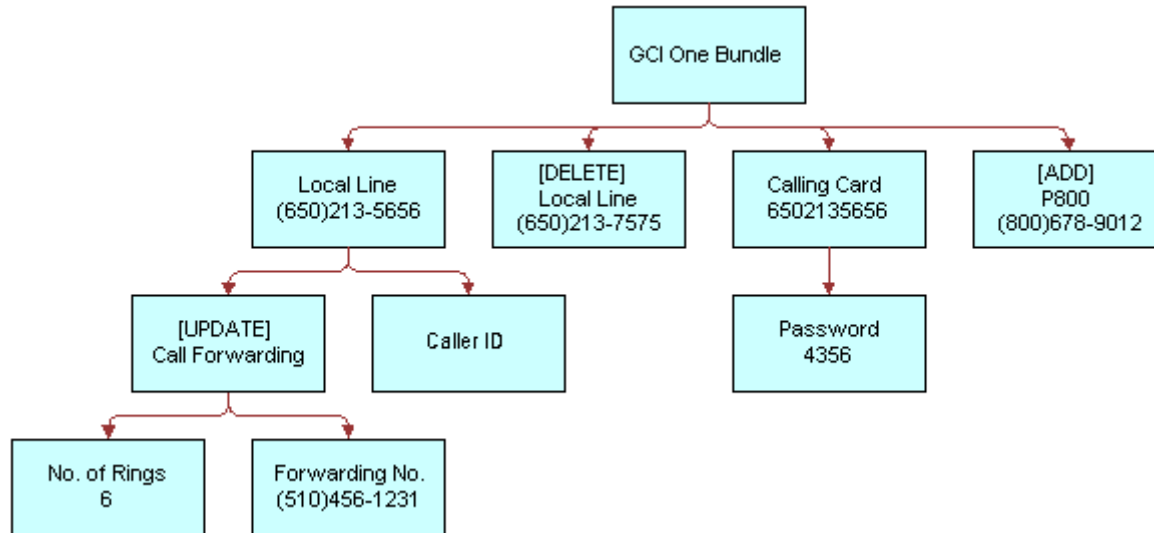
- 1** A configuration session starts with the GCI One Bundle in the state shown in the following diagram.



- 2** A CSR updates the customizable asset.



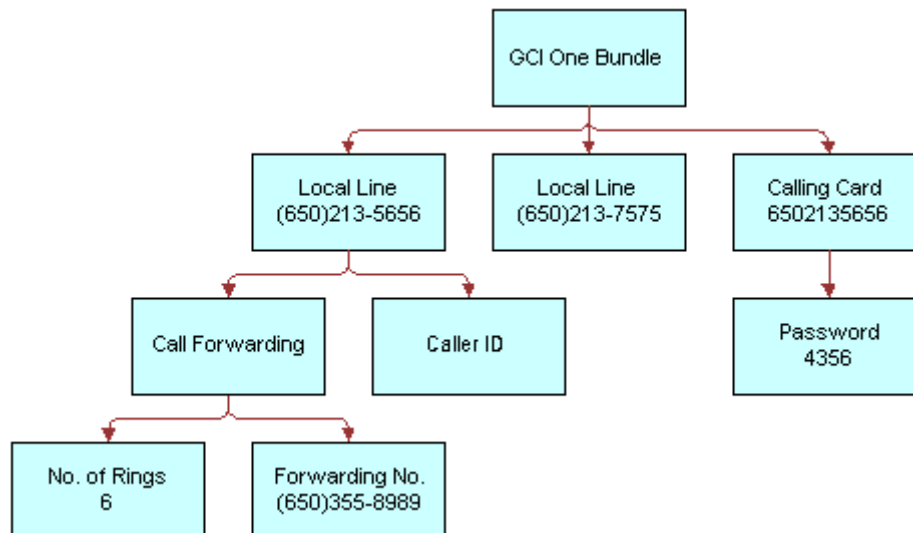
- 3 The Delta method generates the delta quote shown in the following diagram.



#### Generating a Delta Quote to Add a New Asset

The following example shows how this method generates a delta quote to add a new asset.

- 4 A configuration session starts with no existing asset. The user configures a new customizable product.

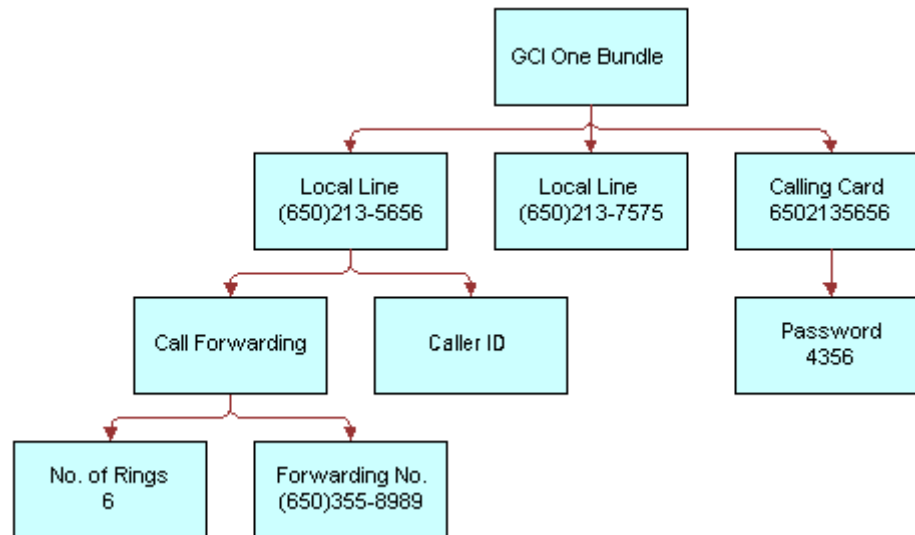


- 5 The Delta method generates the following delta quote.

#### Generating a Delta Quote to Disconnect an Asset

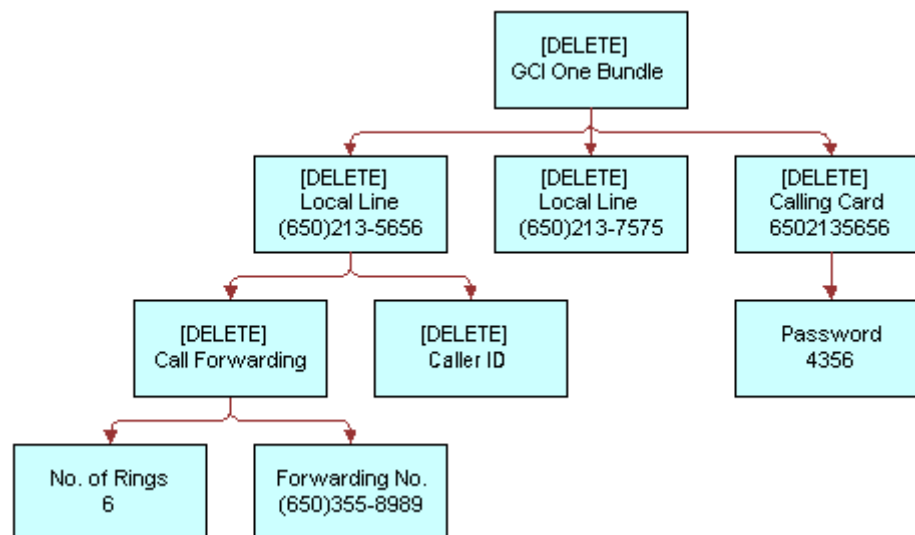
The following example shows how this method generates a delta quote to disconnect an asset.

- 6 The user selects a customizable asset in the service profile view.



- 7 The user clicks Disconnect.

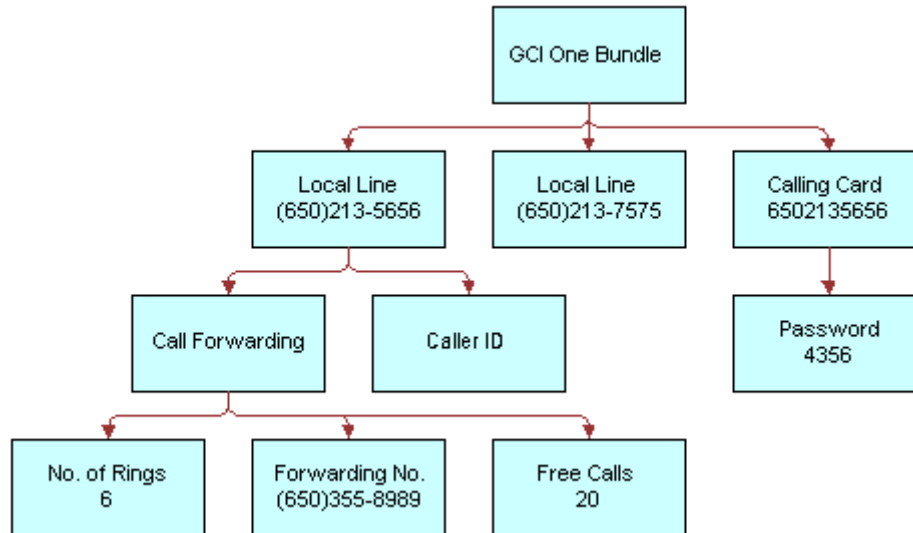
A workflow runs Delta with the current state of the customizable asset and an empty customizable asset as input arguments. The resultant delta quote is shown below.



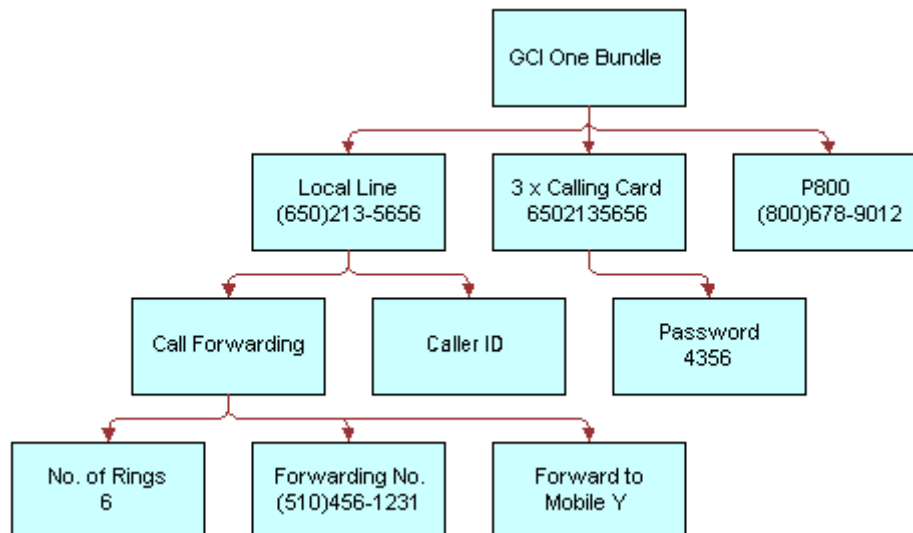
### Generating a Delta Property Set to Add More Assets

The following example shows how this method generates a delta property set to add additional copies of an asset.

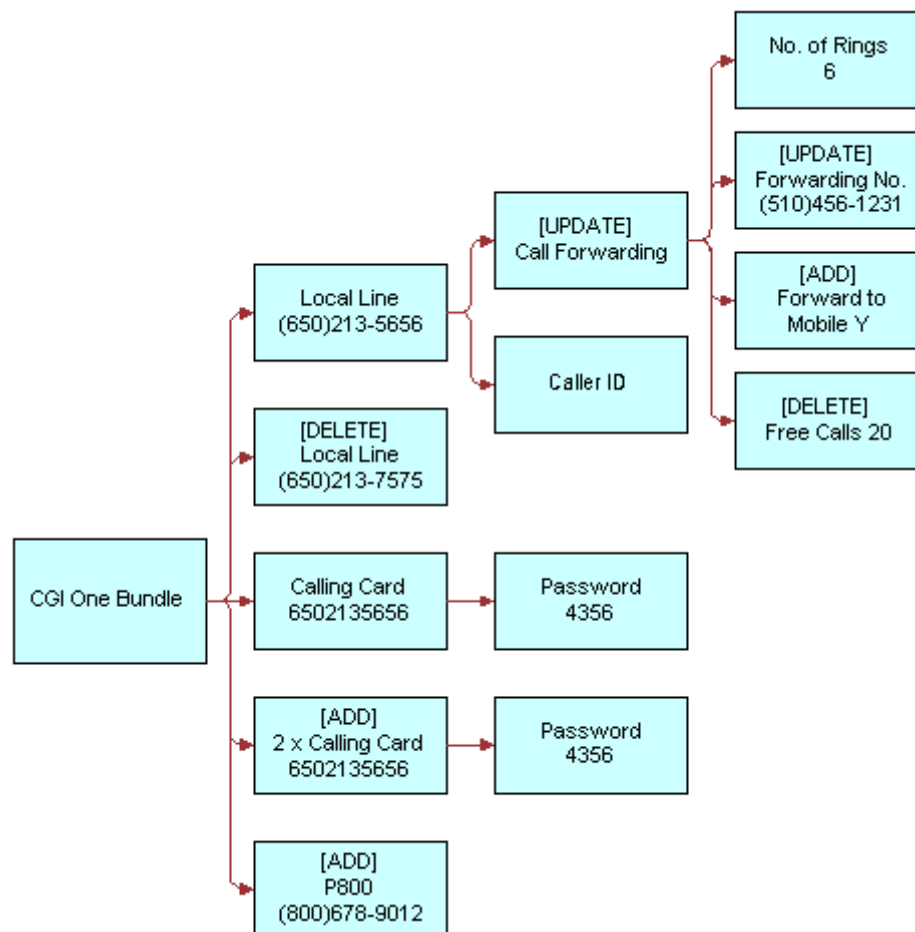
- 8 The user selects a customizable asset in the service profile view.



- 9 The user makes various changes including changing the quantity of Calling Card from one to three.



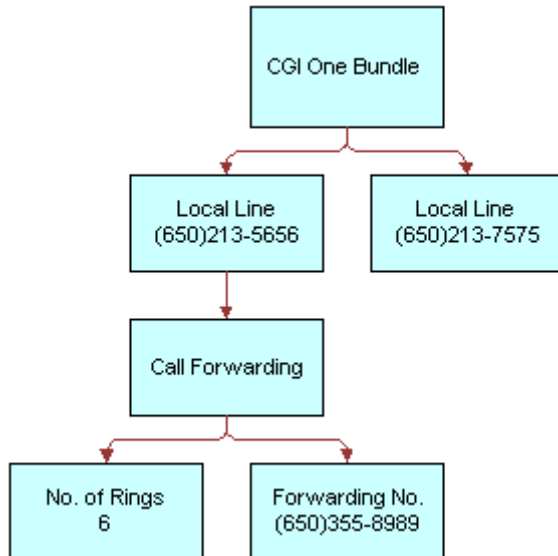
- 10** Delta generates the following delta property set. The calling card record is split out into the original, unchanged asset and an action to add the new copies of the original calling card.



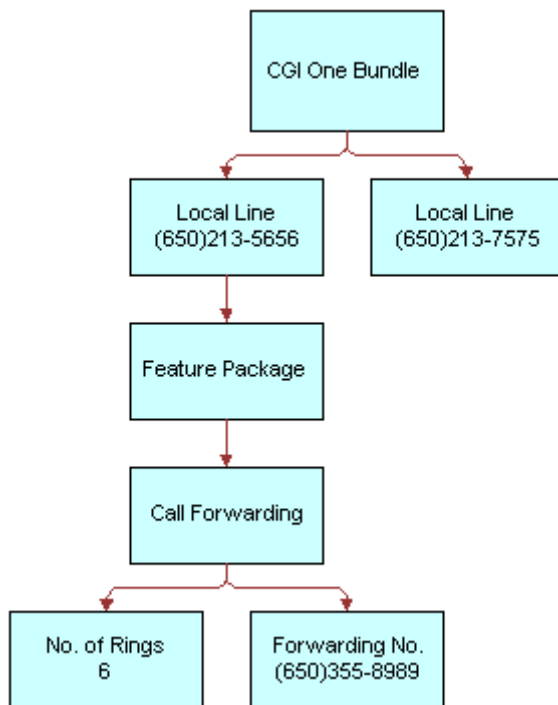
### Identifying Changes in Product Structure

The following example shows how this method is used to change a product structure.

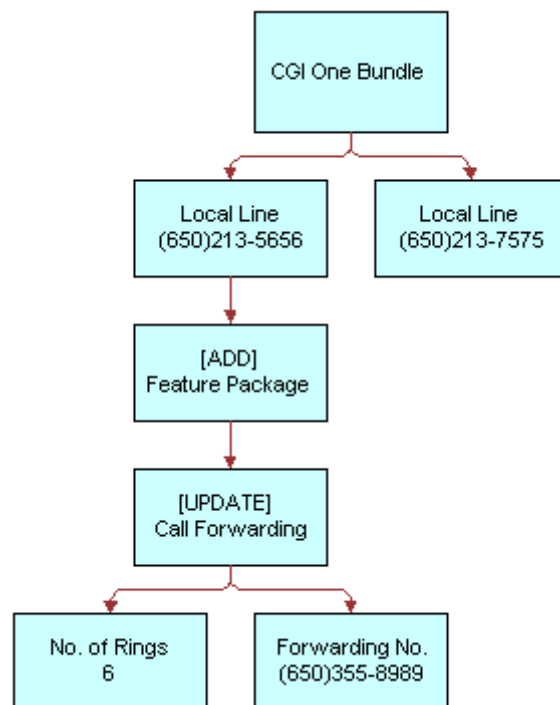
- 11** The user selects a customizable product in the customer profile view.



- 12** Since this asset was created, the customizable product structure has changed to group all features beneath a Feature Package component. When the product is loaded into the Configurator, it is relinked and displayed the following way.



- 13** When the new structure is saved, Delta identifies the new Feature Package component and marks the Call Forwarding feature for update because its parent has changed.



**See Also:**

Methods [“Apply Method”](#) on page 232, [“Trim Method”](#) on page 243, [“Reconfigure Product Instance Method”](#) on page 261, [“Set Output Header Method”](#) on page 267, and [“Set Product Instance Method”](#) on page 268 and workflows [“SIS OM Edit Delta Quote Line Item”](#) on page 61, [“SIS OM Edit Service Order Line Item”](#) on page 65, [“SIS OM Edit Complex Asset Workflow”](#) on page 80, [“SIS OM Disconnect Asset Sub-process”](#) on page 83, [“SIS OM Move Process”](#) on page 85, [“SIS OM Suspend / Resume Asset Sub-process”](#) on page 94.

## Apply Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It applies changes defined by a Sales order line item to a customizable asset. This method uses, as a base, an asset that is cached as a result of a call to set the Product Instance and optionally, a header (asset, quote, or order), passed in during the Set Output Header.



## Arguments

### *OpenOrders*

[in] Output result of a call to Business Service Find Orders. (Optional)

For more information, see [“Remarks” on page 233](#).

**NOTE:** Either *OpenOrders* or *SiebelMessage* is acceptable as input but not both.

### *SiebelMessage*

[in] Contains a single complex Open Order or an Open Quote Line Item. (Optional)

**NOTE:** Either *SiebelMessage* or *OpenOrders* is acceptable as input but not both.

### *SiebelMessage*

[out] Output asset image representing a future configurable asset.

### *Is Apply Result Empty*

[out] Y if all the line items are removed from the result, or if the information supplied to create an asset is insufficient information.

**NOTE:** Either *SiebelMessage* or *Is Apply Result Empty* is returned as output but not both.

## Returns

An asset PropertySet that represents the original input asset plus the changes defined in the input quote or order line item.

## Remarks

### Input Arguments

To meet its requirements as a general-purpose tool for processing throughout the Asset-Quote-Order life cycle, the Apply method can accept a variety of arguments as input. All input parameters are optional to a varying degree, and the combination of parameters will be determined by the data present and the desired operation.

Apply handles four possible input parameters:

- *OpenOrders* [input] PropertySet representing a series of Open Orders

*OpenOrders* can be passed as one of two arguments directly in the Apply method invocation. When a single *OpenOrder* is to be processed, this argument can be supplied through a standard *SiebelMessage* PropertySet, obtained through a call to a standard Siebel Adapter. It can be either an Order or a Quote subtype (Quote only on Modify Quote Workflows).

When more than one Open Order is involved in creating the Output Asset, *OpenOrders* is supplied by a multiple hierarchy *OpenOrders* type, obtained by invoking the Find Orders Business Service method. Apply checks for the presence of *OpenOrders* first, and only looks for the single-order *SiebelMessage* if *OpenOrders* is not supplied. If both are supplied, only *OpenOrders* is processed. If neither is supplied and Input Asset is supplied, the Apply method passes the Input Asset PropertySet back as the Output Asset PropertySet.

■ SiebelMessage [input] PropertySet

This input represents a single Open Order. See the description above.

■ Asset [input] PropertySet

This argument is passed through the Set Product Instance method invocation before Apply is invoked. The Input Asset PropertySet is the base Asset upon which all changes from Open Orders are applied. If no Assets related to the Open Orders are being applied, the call to Set Product Instance is skipped.

■ Header[output] PropertySet

This argument is passed through the method invocations before Apply is invoked. Ordinarily, the Output Header normally is not supplied. However, if it is supplied, it is passed into the Business Service by a separate invocation of Set Output Header immediately before Apply is invoked.

Under most operating conditions, Apply determines the contents of the Output Header from the Input Asset or the Input Orders. However, when the Output Header is supplied, it is passed into the Business Service by a separate invocation of SetOutputHeader immediately before Apply is invoked. The Output Header can be a SiebelMessage PropertySet of type Asset, Order or Quote. It can be either an empty header without subordinate data or a fully formed hierarchy with associated child item data. When child item data is carried with the Output Header, the child item data is removed.

Generally, the Output Header gives the Apply method specific data to create an update Output Header for later synchronization by a Siebel Adapter. It should be used only if the Output Header that results from Input Asset or the Input Open Order processing is insufficient for resynchronization.

It is also possible (and occasionally valid) to invoke Apply without passing any arguments at all. If no input is specified at all, Apply returns a value of Y in the Is Apply Result Empty Process Property. This result is also returned when the resulting Asset contains only a header, but no items.

### **Creating a hybrid asset order**

Apply creates a hybrid asset-order to simulate the future configuration of a complex product. Taking an asset representing a complex product as input, Apply overlays all unprocessed items and attributes of that product from all its open orders onto the asset. Because the asset's items and attributes are already provisioned, their action codes will carry the internationalized equivalent of the \*(blank) value.

### **Service Item Unique Keys**

The Apply and Delta method operations depend upon the unique keys to each service item. For more information, see the description of [Delta Method on page 221](#).

Apply assumes that the asset used as a base on which to apply open orders was set using Set Product Instance. If no asset is supplied, either the first Open Order or the single (SiebelMessage) Open Quote or Order will be used as the basis for creating a new complex asset. If neither asset nor Open Order is supplied, the method returns an Empty result.

## Exception Handling

Apply handles all service quote or sales order actions even if they include possible conflicts. For example, if a service quote line item instructs the method to modify a service item that is already disconnected, Apply logic ignores the service quote line item. The exception conditions handled by Apply are listed below.

Apply is executed in two steps:

### 1 SetProductInstance (Asset PropSet)

This action initializes internal structures and stores the passed PropertySets that are the result of an earlier invocation of Siebel EAI Adapters. Because a business service is limited to a single hierarchy per invocation, the PMT business service is invoked twice to pass both PropertySets.

**NOTE:** The Asset PropertySet is assumed to be a single hierarchy representing a single complex item, keyed by the integration ID for the root of the complex item.

### 2 Apply (OpenOrders PropSet)

This action does the following:

- Retrieves the Asset PropertySet from its internal storage (established by calling Set Product Instance) and instantiates the output complex object from it.
- Instantiates a complex object from the OpenOrders PropertySet input parameter.
- Iterates through the OpenOrder PropertySet, applying each item in turn, repeating for each open order in ascending chronological sequence.
- Whenever the hierarchical structure is altered, Apply fixes the output hierarchy to reflect the OpenOrder.
- Returns the output property set.

**NOTE:** The OpenOrders PropertySet is assumed to be one of a Null hierarchy, a single hierarchy representing one complex item, or a container of iterations of a complex item, each representing a change over time. The integration ID for the root of the complex item is the key for the item.

The Apply method handles the exception conditions listed in the following table.

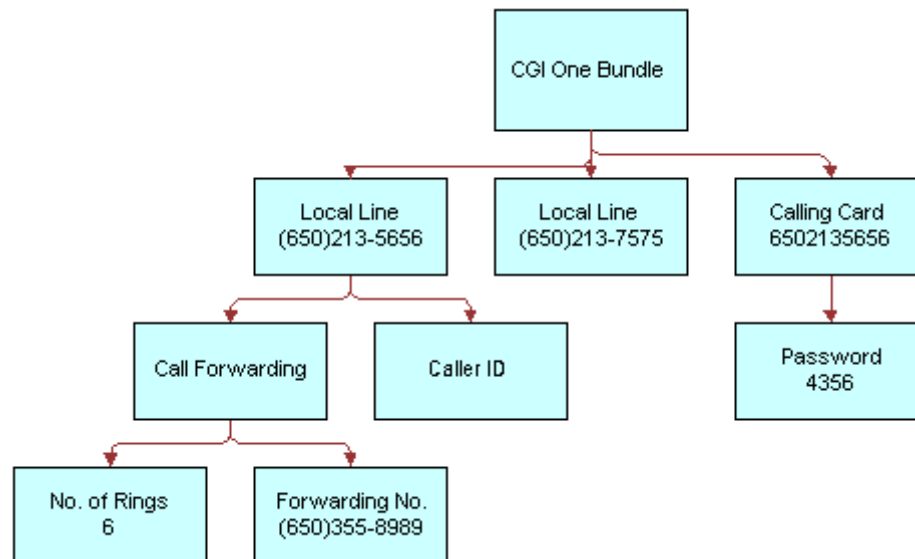
Exception	Action	Reason
Instruction to add an item that already exists.	Ignores the add instruction. Attributes and the price are not updates.	The instruction is outdated. Therefore, the attributes are unreliable.
Instruction to update an item that no longer exists.	Ignores the update instruction.	The instruction is outdated. It cannot be performed.
Instruction to delete an item that no longer exists.	Ignores the delete instruction.	The action has already occurred.
Instruction to do nothing to an item that does not exist.	No action.	A sequencing problem may have occurred.

## Examples

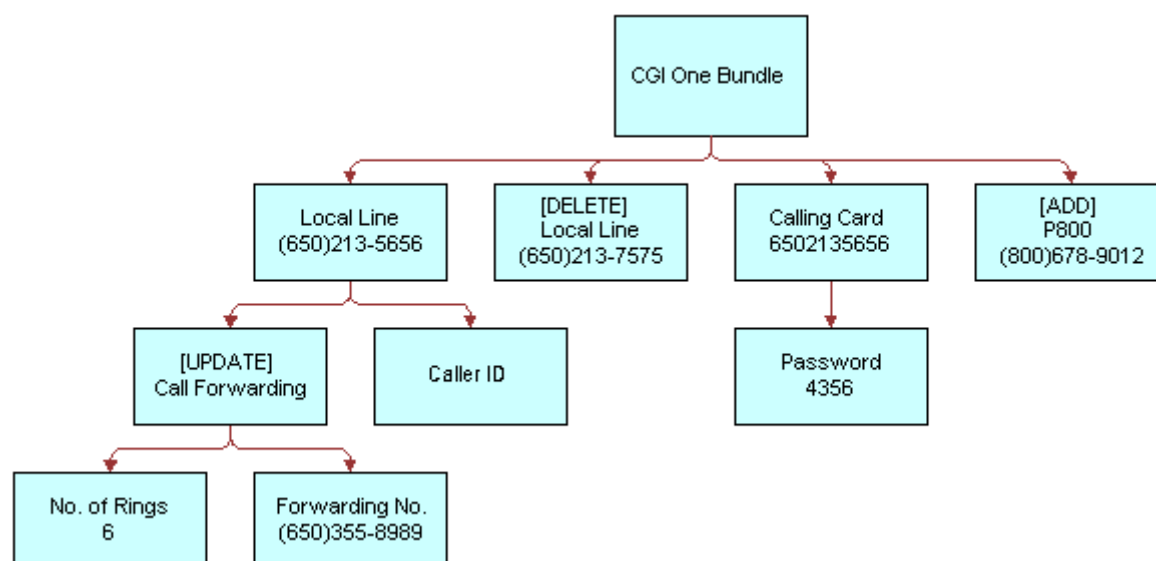
### Add, Update, Delete a Complex Order

The following example shows how this method applies add, update, and delete instructions on an order to an existing asset.

- 1 Start with a customizable asset.

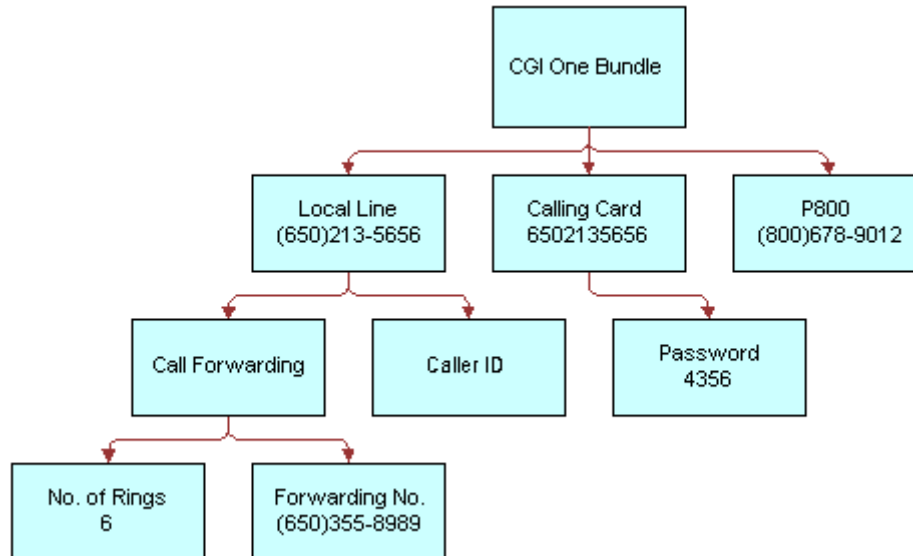


- 2 Apply a delta order.



For more information, see ["Delta Method" on page 221](#).

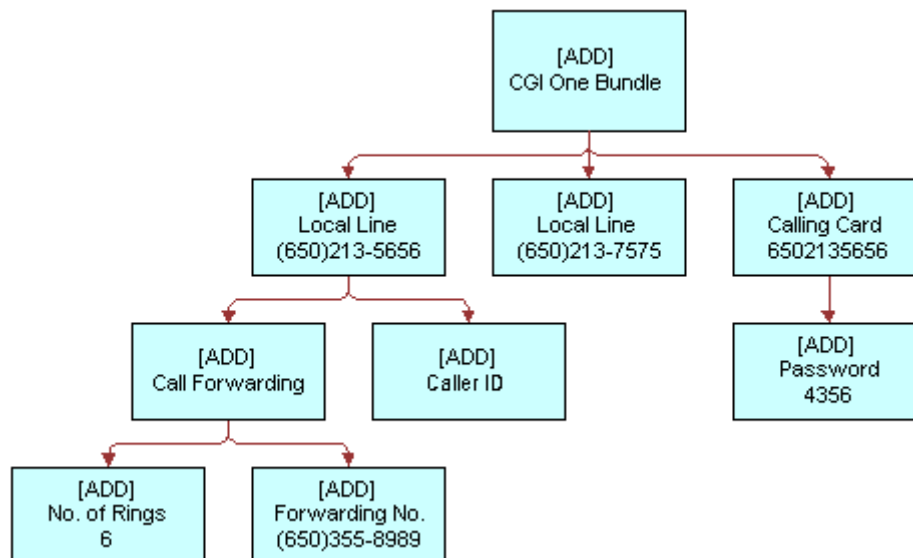
- 3** A new customizable asset is created.



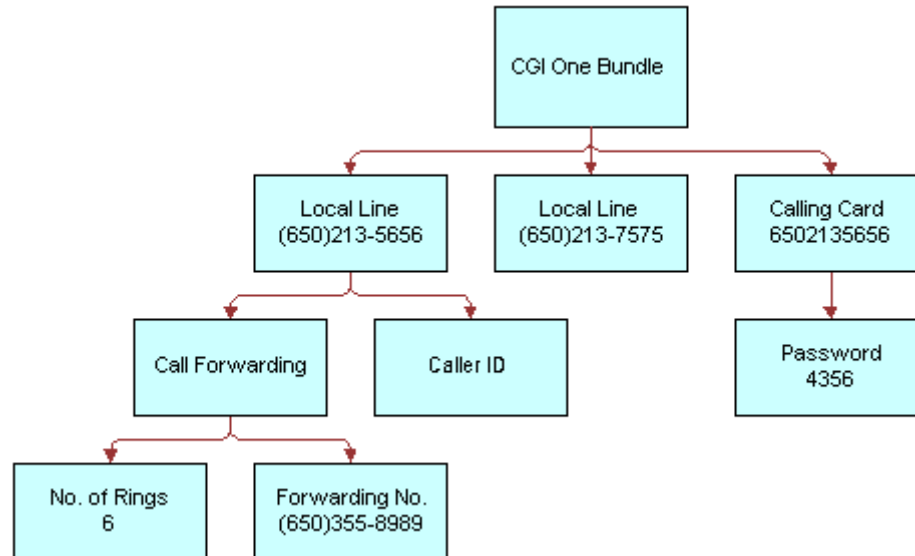
### Process a new installation

The following example shows how this method is used to process a new installation.

- 4** Start with no asset.  
**5** Apply a new installation.



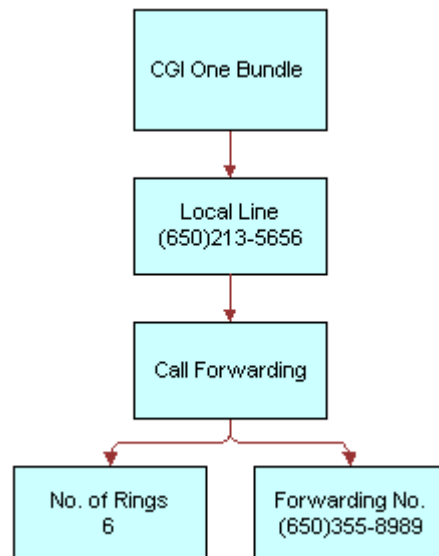
- 6** A new customizable asset is created.



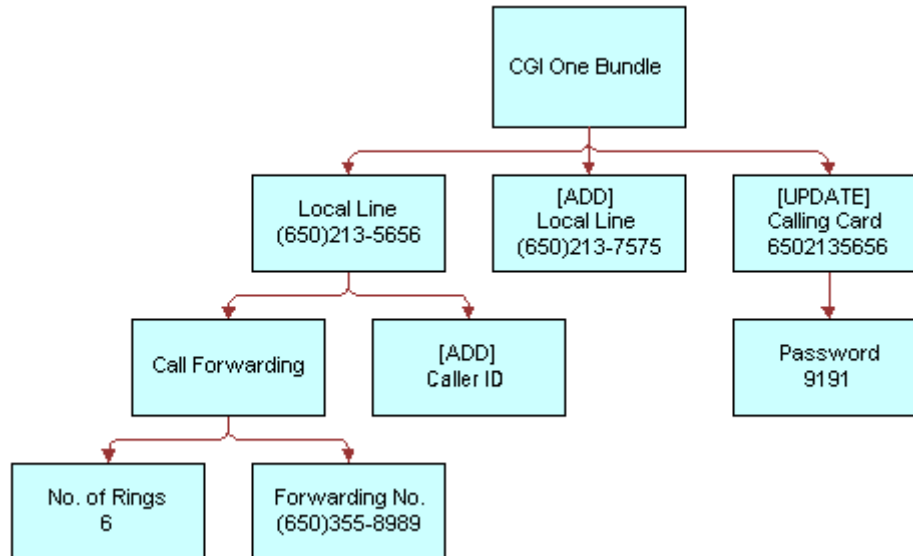
### **Ignores Instructions to Process Absent Items**

The following example shows how this method is used to process a delta quote that includes an update to an absent item.

- 7** Start with a customizable asset from an external profile management system.

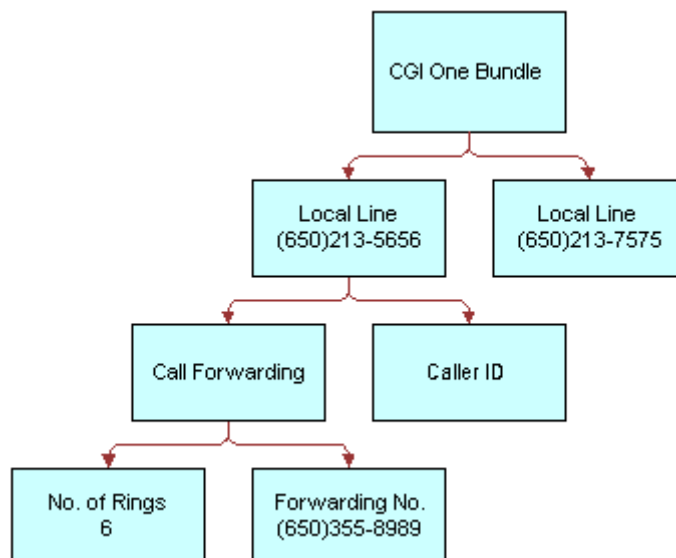


- 8 Apply a delta quote that was generated a week before.



**NOTE:** The calling card referred to in the delta quote was removed from the profile after the quote was created. The [UPDATE] Calling Card branch is ignored.

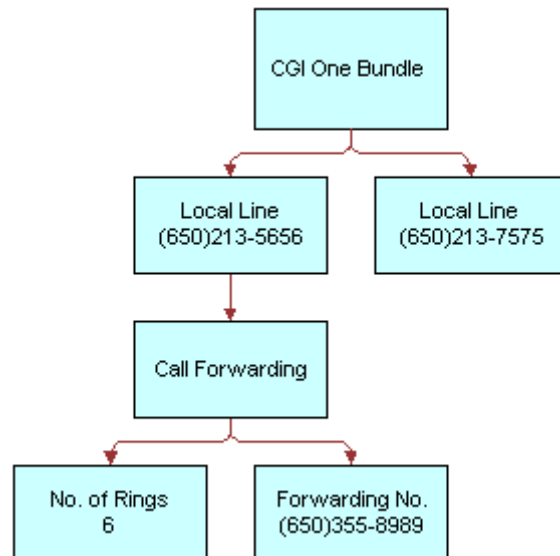
- 9 The Apply method ignores updates to the service item that no longer exists, but successfully executes the remaining changes.



### Ignores Instructions to Add an Already Existing Item

The following example shows how this method is used to process a delta quote that contains an invalid add instruction.

- 10** Start with a customizable asset from an external profile management system.



- 11** Apply a delta quote that was generated a week before.

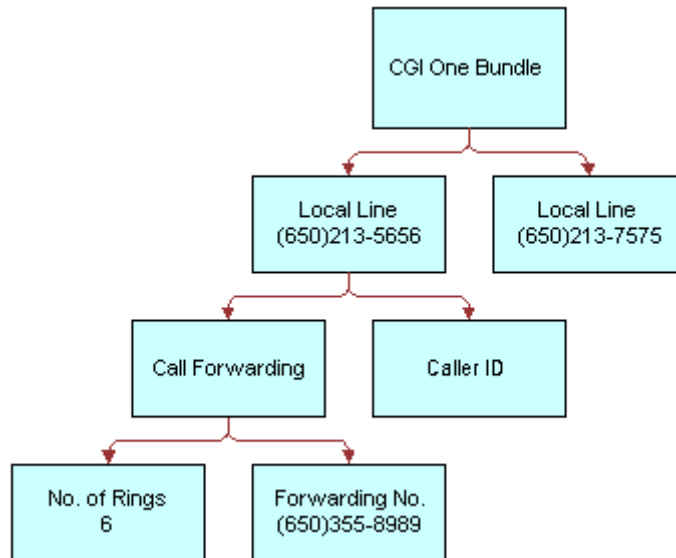
**NOTE:** The second local line, (650) 213-7575, already exists in the service profile. It was provisioned by an external system user.

- 12** Apply ignores add commands where the service item already exists and successfully executes the remaining changes.

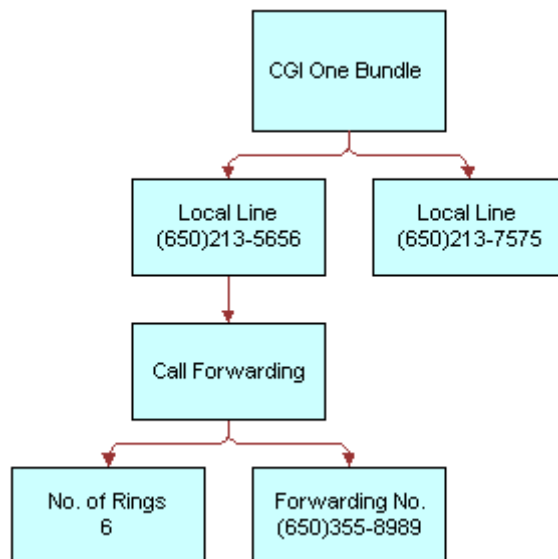
#### Process Instructions to Update the Parent of a Component



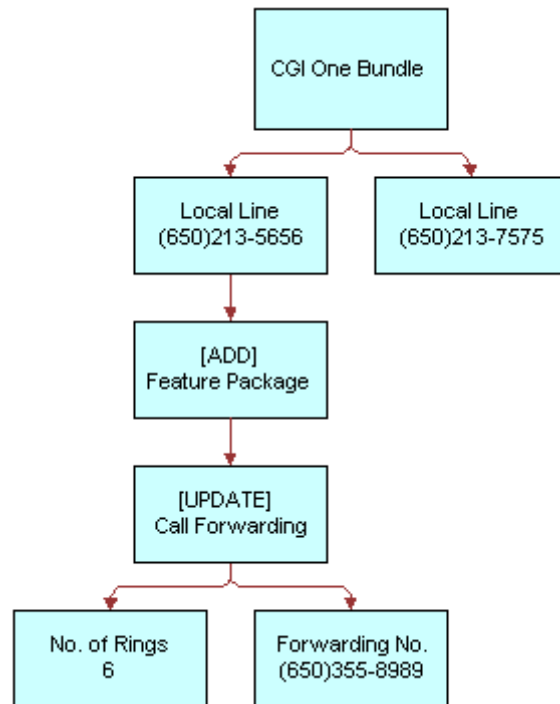
The following example shows how this method is used to process a delta quote that updates the parent component.



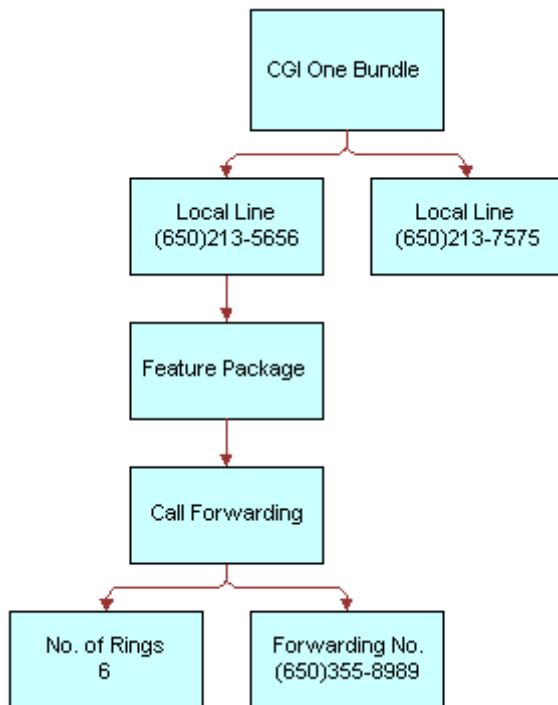
**13** Start with a customizable asset in the old product format.



- 14** Apply a delta order that updates the parent component of the Call Forwarding feature.



- 15** The Apply method adds the Feature Package product beneath the local line and re-attaches the existing Call Forwarding feature to the Feature Package.



#### See Also

Methods ["Delta Method"](#) on page 221, ["Trim Method"](#) on page 243, ["Explode Method"](#) on page 246, and ["Set Product Instance Method"](#) on page 268 and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69, ["SIS OM Edit Complex Asset Workflow"](#) on page 80, ["SIS OM Disconnect Products & Services Process"](#) on page 82, ["SIS OM Disconnect Asset Sub-process"](#) on page 83, ["SIS OM Suspend / Resume Asset Sub-process"](#) on page 94 and ["SIS OM Move Process"](#) on page 85.

## Trim Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It eliminates line items from a delta quote or delta order based on a soft coded rule or Keep Specification. This method is used, in the Order to Asset workflow, to identify changes in an order item that are ready to apply to the service profile stored in Assets.

For a line item to be kept in the product instance hierarchy, KeepSpec must be TRUE for that line item. All children of the line item will also be removed if the parent is removed.

## Arguments

### *KeepSpec*

[in] A Boolean expression based on fields in the current line item. If the line item is to be retained, KeepSpec must return True. (Required)

### *Object Id*

[in] Row Id of the root line item that is used to load the hierarchy if a SiebelMessage is not passed in. (Optional)

### *Input Object Type*

[in] Type of object to which Object Id relates. Must be specified if Object Id is specified. (Optional)

### *SiebelMessage*

[in] Hierarchy to be used if an Object Id is not supplied. (Optional)

### *SiebelMessage*

[out] Resulting product instance.

### *Is Trim Result Empty*

[out] Y or N value. Y if all line items are removed in the result. Otherwise, N.

## Returns

Removes selected line items from the product instance.

## Remarks

If the KeepSpec input is TRUE for a line item, it is kept in the product instance hierarchy. If not, it is eliminated. All children of the line item are removed if the parent is removed.

When Trim is called, the method starts at the top-most item in the product hierarchy and works recursively down through its children. If the KeepSpec evaluates to TRUE for a line item, it is kept in the product instance hierarchy. If not, it and all of its children are eliminated. For example, the KeepSpec for the Order to Asset workflow is:

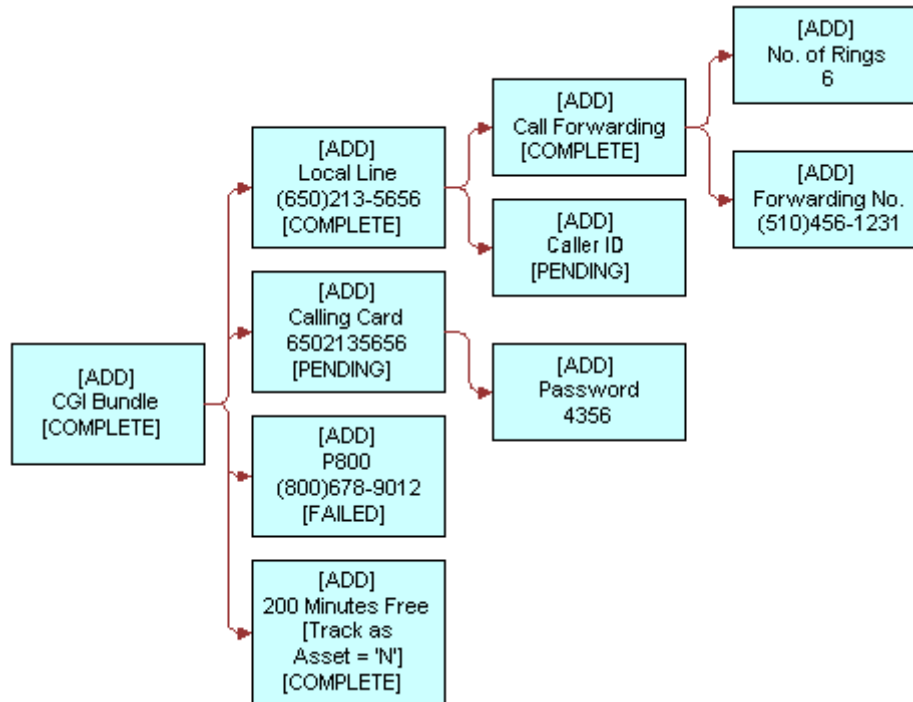
```
(([Status] = LookupValue('FS_ORDER_STATUS', 'Complete')) OR ([Action Code] =  
LookupValue('DELTA_ACTION_CODE', 'Existing')) AND ([Convert To Asset Flag] = 'Y'))
```

## Examples

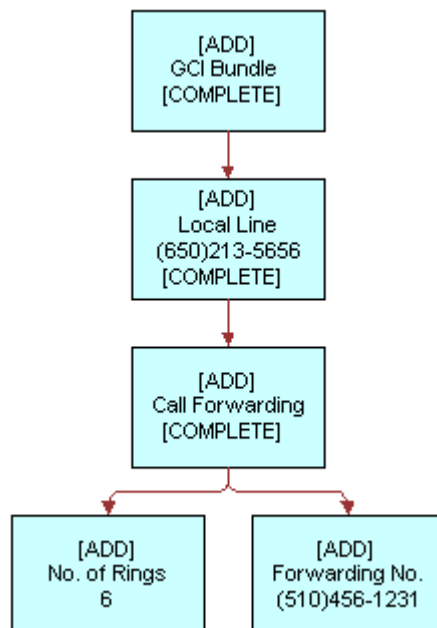
### **Trimming Pending and Failed Items**

The following example shows how this method is used to eliminate pending and failed items.

- 1 A new installation is partially complete.



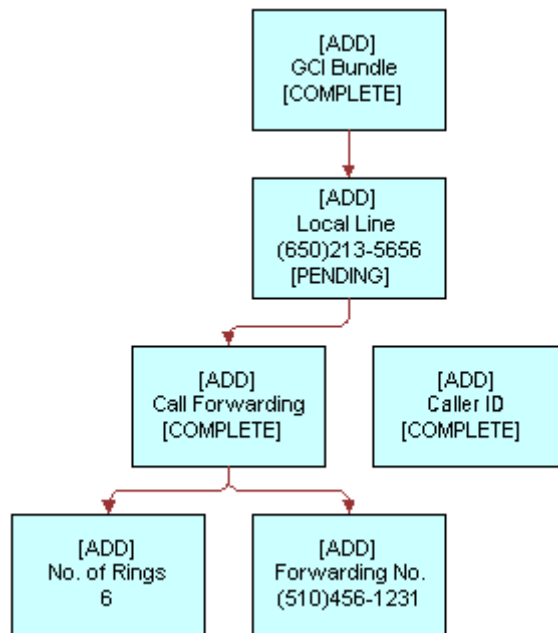
- 2 Trim eliminates all Pending and Failed items. It also eliminates the 200 Minutes Free product because that product has Track As Asset = N.



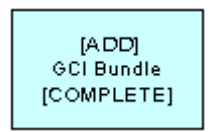
## Trimming Orphaned Items

If an item fails to meet the KeepSpec criteria, this method removes all of its children. The following example shows this situation.

- 3** A user starts a new installation in which a parent item is Pending and a child item is Complete.



- 4** Trim eliminates all Pending or Failed items and their children, Complete or not.



## See Also

Methods ["Delta Method"](#) on page 221 and ["Apply Method"](#) on page 232 and workflows ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69, ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80, ["SIS OM Disconnect Asset Sub-process"](#) on page 83, ["SIS OM Suspend / Resume Asset Sub-process"](#) on page 94.

## Explode Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It creates multiple instances of a product. The number of instances is determined by the value of the field specified by the `ExplodeOnField` argument. For each new instance, the value of `ExplodeOnField` is set to 1. An existing instance is considered for explosion only if it meets the conditions specified by `ConditionFieldNames` and `ConditionValues`.

**NOTE:** Explode works for a quantity set at any level of the product hierarchy.

To exclude fields from being copied from the existing instance to the new instance, add user properties to the SIS OM PMT Business Service. You can use the `ExclusionFieldsUserPropertyTag` input argument to identify the User Properties series used for this purpose.

## Arguments

### *RootItemId*

[in] Root Item Id. Only the subcomponents of the root line item with a Row Id specified by the `RootItemId` are considered for Explode. (Optional)

### *ExplodeOnField*

[in] Value of the field specified by `ExplodeOnField` determines the number of instances created by Explode. For each new instance, the value of the `ExplodeOnField` is set to 1. (Required)

### *ConditionFieldNames*

[in] Comma separated list of component field names. An existing instance is exploded only if the conditions specified by `ConditionFieldNames` and `ConditionValues` are met. (Optional)

### *ConditionValues*

[in] Comma separated list of condition values. Standard Siebel expressions (such as `LookupValue`) are supported. An existing instance is exploded only if the conditions specified by `ConditionFieldNames` and `ConditionValues` are met. (Optional)

### *ExclusionFieldsUserPropertyTag*

[in] Name of the series of user properties that identify fields to exclude when the object instance is copied. The user property name is configurable and specified by `ExclusionFieldsUserPropertyTag`. (Optional)

### *SiebelMessage*

[in] Product instance to be exploded. (Required)

### *SiebelMessage*

[out] Product instance (integration object) representing the exploded business component. (Required)

### *Is Exploded*

[out] Status flag (Y or N) which indicates whether the `SiebelMessage` has been exploded or not. (Optional)

## Returns

Product set containing multiple copies of the original component.

### Remarks

Explode copies any product component whose quantity > 1. It creates multiple copies, each with quantity = 1. By default, products with the Convert to Asset flag set to N are ignored. This method inputs and outputs a property set containing product changes.

A user configurable list identifies fields that are excluded during the copy. For example, a user would not create multiple copies of a unique identifier such as a telephone number.

### Excluded Fields

All fields, including prices, are copied as is into each new instance of the service item except the following columns that can not be copied, by default:

- Asset Integration Id
- Conflict Id
- Created
- Sequence Number
- Updated
- Id
- Integration Id
- Quantity
- Service Point Id
- Extended Quantity

### User Properties

This method uses the default user properties listed below to define a list of integration component fields that are not copied when the parent integration object is exploded.

- Exclude From Explode.SIS OM Order.Line Item 11 to Exclude From Explode.SIS OM Order.Line Item 20
- Exclude From Explode.SIS OM Quote.Line Item 1 to Exclude From Explode.SIS OM Quote.Line Item 10

The general format for all these user properties is:

<User Prop Name>.<Integration Object Name>.<Integration Component Name>#

### Examples

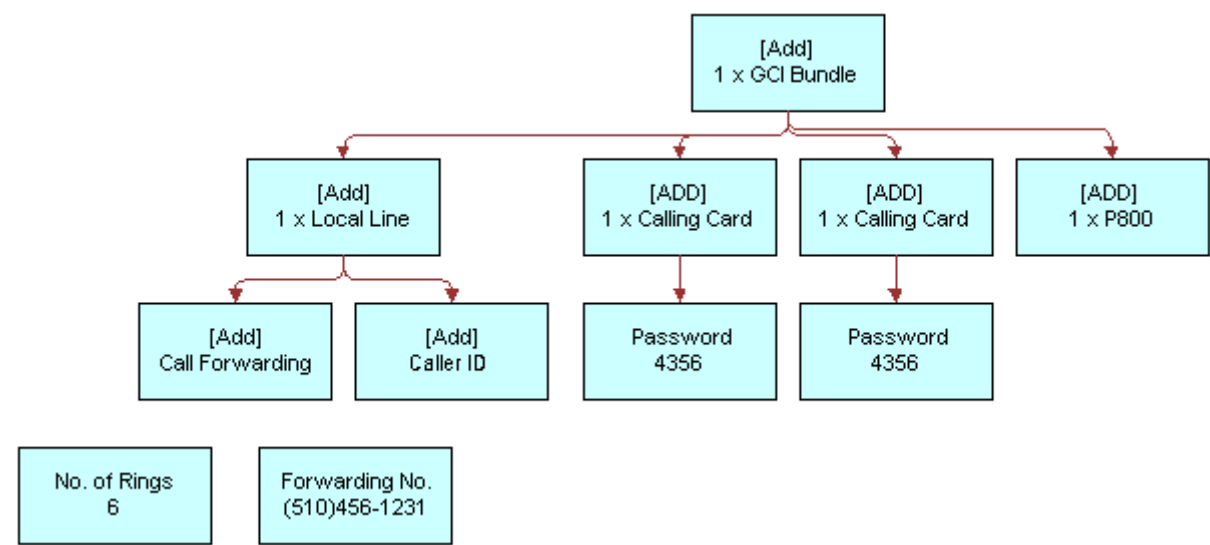
#### Copying Components Whose Quantity Exceeds 1

The following example shows this method creates multiple copies of a component.

- 1** Start with an order to add multiple Calling Cards as part of a GCI One Bundle.



2 Explode copies all components with quantity > 1. For example:



**See Also**  
Methods “Delta Method” on page 221, “Apply Method” on page 232, “Trim Method” on page 243, “Explode Siebel Object Method” on page 249, and “Is Fully Exploded Method” on page 255 and workflow “SIS OM Quote To Order PMT Version” on page 63.

## Explode Siebel Object Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It functions like [Explode Method](#) except that it also loads the SiebelMessage integration object from the Siebel database with a specified business component and synchronizes it back to the database after the explosion.

### Arguments

*IntObjectName*

[in] Name of the integration object representing the business component that will be exploded. (Required)

*PrimaryRowId*

[in] Siebel object row ID of the business component that will be exploded. (Required)

*RootItemId*

[in] Root Item Id. Only the subcomponents of the root line item specified by the RootItemId are considered for Explode. (Optional)

### *ExplodeOnField*

[in] Value of the field specified by ExplodeOnField determines the number of instances created by Explode. For each new instance, the value of the ExplodeOnField is set to 1. (Required)

### *ConditionFieldNames*

[in] Comma separated list of integration field names. An existing instance is exploded only if the conditions specified by ConditionFieldNames and ConditionValues are met.

### *ConditionValues*

[in] Comma separated list of condition values. Standard Siebel expressions (such as LookupValue) are supported in each comma separated value. An existing instance is exploded only if the conditions specified by ConditionFieldNames and ConditionValues are met.

### *ExclusionFieldsUserPropertyTag*

[in] Name of the series of user properties that identify fields to exclude when the object instance is copied. The user property name is configurable and specified by ExclusionFieldsUserPropertyTag. (Optional)

### *SiebelMessage*

[out] Product instance (integration object) representing the exploded business component. (Optional)

### *Is Exploded*

[out] Status flag (Y or N) which indicates whether the SiebelMessage has been exploded or not. (Optional)

## **Remarks**

### **User Properties**

This method has the following default user properties:

- Exclude From Explode.SIS OM Order.Line Item 11 to Exclude From Explode.SIS OM Order.Line Item 20
- Exclude From Explode.SIS OM Quote.Line Item 1 to Exclude From Explode.SIS OM Quote.Line Item 10

## **See Also**

Methods ["Explode Method" on page 246](#) and ["Is Fully Exploded Method" on page 255](#).

# **Find Orders Method**

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

Given the asset integration ID of a root line item, this method finds all instances of order items that have the same integration ID. The order header, matching line item, its child items and attributes are returned as part of the output. Any other line item in the same order header that does not have a matching integration ID will not be returned.

### Arguments

#### *Asset Integration Id*

[in] Root asset integration ID that is used to open order items to an asset. (Required)

#### *Search Spec*

[in] Additional search specification used to look for open orders. This is a business component search spec that will be applied to the 'Order Entry - Line Item (Asset Based) BC. (Optional)

#### *Sort Order Item By*

[in] Comma separated list of field names. Each field name is optionally followed by the string (DESCENDING). For example, Last Name (DESCENDING), First Name. This forces the method to sort the order line item it locates by the given field names. (Optional)

#### *Open Orders*

[out] A single hierarchy of type OpenOrders that has child hierarchies for each open order that is found.

### See Also

Workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80, ["SIS OM Disconnect Asset Sub-process"](#) on page 83, ["SIS OM Suspend / Resume Asset Sub-process"](#) on page 94 and ["SIS OM Move Process"](#) on page 85.

## Logical Delete Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It converts any item of a product instance that has a Deleted action code to an Update action code and an Inactive status. Logical Delete only works with a product instance of the Order type. In other words, the Integration Object passed in the SiebelMessage is based on the Order Entry business object.

### Arguments

#### *ObjectId*

[in] ID of the object to be loaded. If this optional argument is provided, the SiebelMessage argument is ignored. (Optional)

*SiebelMessage*

[in] Primary argument if there is no Object Id. This must be an Order type input. (Required)

*SiebelMessage*

[out] Result of the logical delete.

### Remarks

This method takes a complex object as input. It goes through the hierarchy of the complex object and changes all Deleted action codes to Update. Then, it sets the status of the associated line items to Inactive.

### See Also

Workflow ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69.

## Assign New Service IDs Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It assigns a service point ID, associated with a specified premise, to each item of the input complex product for which the service type of the service point matches the service type of the product.

If a free service point is not available for a product component, a service point is not assigned to it. On the other hand, if multiple service point IDs are available for the same service type, the system will pick one of them randomly.

### Arguments

*Premise AddressId*

[in] Row Id of the address to which services are moving. (Required)

*SiebelMessage*

[in] Service Point Ids are set for this product instance. (Required)

*SiebelMessage*

[out] Product instance with the newly assigned service point IDs. (Required)

### Returns

New service point IDs.

### Remarks

#### User Properties

This method uses the following user properties:

- Line Item Integration Object Service Account Id Field Name
- Line Item Integration Object Service Point Id Field Name
- Line Item Integration Object Service Type Field Name
- Service Point BC Address Id Field Name
- Service Point BC Owner Account Id Field Name
- Service Point BC Service Point Id Field Name
- Service Point BC Service Type Field Name
- Service Point Business Component Name
- Service Point Business Object Name

### See Also

Workflow [“SIS OM Move Process” on page 85.](#)

## Convert Product Instance Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It converts a product instance of one type to another; for example, quote to order.

### Arguments

#### *Output Object Type*

[in] The input product instance to be converted to this type. (Required)

#### *Object Id*

[in] ID of the object to be converted. If Object Id is specified Input, Input Object Type must also be specified. (Optional)

#### *Input Object Type*

[in] Type of the input product instance. (Only required if Object Id is specified)

#### *SiebelMessage*

[in] Product instance to be converted. Not required if Object Id and Input Object Type are specified. (Optional)

#### *Generate New Item Integration Id*

[in] If the line item's action code is Add (Y or N value), this argument forces the system to generate a new unique ID for the Asset Integration Id field. (Optional)

**NOTE:** The Integration Id and the Service Id are not the same thing. The Integration Id is the internal unique identifier. The Service Id is a free text field that the user may use for telephone numbers, and so on.

#### *Upsert Result*

[in] Insert and synchronize the resulting product instance back to the database (Y or N value).  
(Optional)

#### *SiebelMessage*

[out] Product instance to be converted. Not required if the Object Id and Input Object Type are specified.

### **Returns**

Product type change.

### **Remarks**

This method uses the mapping of integration component fields as user properties. The name has the following format:

Source Int Obj Name.Source Int Comp Name:Dest Int Obj Name.Dest Int Comp Name Map #

The user property value format is:

[Src FieldName]:[Dest Field Name]

**NOTE:** Src Field Name must be unique for each group of user property mappings.

### **See Also**

Workflows ["SIS OM Quote To Order PMT Version"](#) on page 63, ["CUT Quote To Order PMT Enhancement"](#) on page 64.

## **Get Instance Method**

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It gets a complex product instance from the Product Configurator.

### **Arguments**

#### *Object Id*

[in] Key used to return the preloaded complex asset. The argument Instance Id returned by the Reconfigure Product Instance method is passed here.

#### *Instance Id*

[out] Passed to this method as output from Reconfigure Product Instance, this key is used to return a complex asset that was loaded into the Product Configurator when Reconfigure Product Instance was invoked.

*SiebelMessage*

[out] Complex product instance returned by the Configurator runtime session.

#### Returns

Complex product instance.

#### See Also

Method ["Reconfigure Product Instance Method"](#) on page 261 and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80.

## Get Profile Attribute Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It returns the value of the specified attribute of the user profile.

#### Arguments

*Profile Attribute Name*

[in] Name of the user profile attribute to be retrieved.(Required)

*Profile Attribute Value*

[out] Value of the profile attribute. This value is NULL if the attribute is not set. (Required)

#### Returns

Value of the user profile attribute.

#### See Also

Method ["Set Profile Attribute Method"](#) on page 268 and workflows ["SIS OM Active Quote Sub-Process"](#) on page 78, ["SIS OM Active Order Sub-Process"](#) on page 79.

## Is Fully Exploded Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It checks a product instance to determine if an explode operation is required, based upon the value specified by ExplodeOnField. If the field value is greater than one for any component of the product instance, the method returns N. Otherwise, the method returns Y.

## Arguments

### *RootItemId*

[in] If supplied, only subcomponents of the root item specified by RootItemId are considered for Explode processing. (Optional)

### *ExplodeOnField*

[in] Field (name) that is checked to determine whether explosion is necessary. (Required)

### *ConditionFieldNames*

[in] Comma separated list of integration component field names. (Optional)

### *ConditionValues*

[in] Comma separated list of values. Standard Siebel expressions (such as LookupValue) are supported in each comma separated value. (Optional)

### *SiebelMessage*

[in] Product instance to be checked for explode processing. (Required)

### *Result*

[out] Y or N flag indicating whether the input SiebelMessage has been exploded or not. (Required)

## Returns

Y or N.

## Remarks

Primarily used in the Apply Completed Service Order Line Item to Service Profile workflow, this method double checks to determine if the service order line items created from the Siebel database (earlier in the workflow) have been fully exploded or not. In other words, it determines whether all line items and the subcomponents were previously processed by the Explode method.

## See Also

Methods ["Explode Method" on page 246](#) and ["Explode Siebel Object Method" on page 249](#).

## Is Module Licensed Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It determines whether or not the specified module is licensed.



### Arguments

*Module Name*

[in] Name of the module being checked. (Required)

*Result*

[out] Y if the module is licensed; otherwise N.

### Returns

Y (module licensed) or N (module not licensed).

### See Also

Method ["ViewCart Method"](#) on page 284.

## Merge Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It merges the components of one integration object (product instance) under the header of another integration object.

**NOTE:** Before this method is called, Set Product Instance must be called to cache the target product instance.

### Arguments

*SiebelMessage*

[in] Source product instance to be merged. (Required)

*SiebelMessage*

[out] Merged product instances. (Required)

### Returns

A single product instance containing the merged assets.

### Remarks

This method receives two property sets as input, each containing a complex object with hierarchical assets, quotes, or order items. It copies all the line items from the source complex object to the target (cached) complex object. The target object's header information (quote or order headers) are retained. The merged complex object is returned in an output argument property set.

### See Also

Method [“Set Product Instance Method”](#) on page 268 and workflows [“SIS OM Suspend / Resume Asset Sub-process”](#) on page 94, [“SIS OM Move Process”](#) on page 85.

## Quote To Revenue Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It generates revenue line items for each line item in a quote that matches the criteria specified by the input conditions. The line items are associated with the opportunity from which the quote was created.

### Arguments

*SiebelMessage*

[in] Contains a product instance hierarchy.

*RootItemId*

[in] Root item ID.

*ConditionFieldNames*

[in] Names of fields whose value must equal that specified by ConditionValues. In these cases, the quote line item will be converted to a revenue line item. In the SIS OM Update Revenue workflow, the condition fields are action code, price type and extended amount.

*ConditionValues*

[in] Values that fields must have to satisfy the condition. In the SIS OM Update Revenue workflow, the action code must be Add or Update, price type must be One-Time or Recurring, and extended amount must be non-zero.

*ExcludedFieldsUserPropertyTag*

[in] User properties tag identifying fields that should not be copied from the quote line item to the revenue line item.

### Returns

Revenue line items.

### Remarks

The following discussions list user properties associated with this method. They also indicate how the method adds revenue and determines: revenue amount, revenue dates, number of revenue items, frequency of revenue line items, annually recurring charges, quarterly recurring charges, monthly recurring charges, weekly recurring charges, and daily recurring charges.

### User Properties

This method used the following user properties:

- **Quote To Revenue.Quote Item.Due Date Field.** Quote Line Item business component field that determine the first date on which revenue will be added. Out of the box, this the quote line item is due date.
- **Quote To Revenue.Quote Item.Amount Field.** Quote Line Item business component field used as the revenue amount. Out of the box this is the extended amount.
- **Quote To Revenue.Quote Item.Item Price Field.** Quote Line Item business component field containing the item price.
- **Quote To Revenue.Quote Item.Price Type Field.** Quote Line Item business component field containing the price type.
- **Quote To Revenue.Quote Item.Unit of Measure Field.** Quote Line Item business component containing the unit of measure.
- **Quote To Revenue.Quote Item.Occurrence Field.** Quote Line Item business component field containing the number of revenue occurrences.
- **Quote To Revenue.Quote Item.Extended Quantity Field.** Quote Line Item business component field containing the extended quantity.
- **Quote To Revenue.Quote Item.Description Field.** Quote Line Item business component field containing the description.
- **Quote To Revenue.Quote Item.Product Id Field.** Quote Line Item business component field containing the product Id.
- **Quote To Revenue.Revenue.Quantity Field.** Revenue business component field containing the quantity.
- **Quote To Revenue.Revenue.Quotable Field.** Revenue business component field indicating whether the revenue is quotable.
- **Quote To Revenue.Revenue.Date Field.** Revenue business component field containing the revenue date.
- **Quote To Revenue.Revenue.Price Field.** Revenue business component field containing the product price.
- **Quote To Revenue.Revenue.Revenue Field.** Revenue business component field containing the revenue.
- **Quote To Revenue.Revenue.Description Field.** Revenue business component field containing the description.
- **Quote To Revenue.Revenue.Product Id Field.** Revenue business component field containing the product Id.

### Adding Revenue

This method:

- Adds revenue only for quote line items with an Add or Update action code. Quote line items '-', and Deleted action codes are ignored.
- Adds revenue only for quote line items that have an extended amount not equal to zero.  
Negative extended amounts are added to revenue.

- Adds revenue only for price types that are one-time and recurring. It is not calculated for usage.
- Adds revenue on a per product component basis (per quote line item).

### **Determining Revenue Amount**

This method:

- Uses a user property to define the Quote Item business component field that is used for the revenue amount. The default is the Extended Amount field.
- Uses the value of this field as the revenue amount for all periods.

### **Determining Revenue Dates**

This method:

- Uses a user property to define the Quote Item business component field that, in turn, is used to calculate the first revenue date. The default is the Due Date field.

### **Determining Number of Revenue Items**

The forecast number of revenue occurrences for a product is defined in product administration. When a quote line item is created the number of forecast revenue occurrences is copied from the product into the quote line item. There, it can be overridden through the UI or by configuration.

This method:

- Adds revenue for products with one time price types once on the due date of the quote line item, regardless of the number of occurrences defined.
- Adds revenue for products with recurring price types as many times as the number of occurrences.

### **Determining Frequency of Revenue Line Items**

This method:

- Adds revenue as it occurs (weekly, monthly, quarterly or annually) instead of grouping it into monthly totals.
- Adds the first revenue, for any quote line item, on the due date plus one UoM.

The following UoMs that are allowed: Per Year, Per Month, Per Quarter, Per Week, and Per Day.

### **Determining Annually Recurring Charges**

This method:

- Adds revenue on the same day every year, starting on the end date of the first period. For example, if the due date is 7/11/01, the default date of the first billing cycle is 7/11/02 and revenue is added for 7/11/02, 7/11/03 and so on, for as many occurrences as the quote line item specifies.

If the end date of the first period falls on the 2/29, the revenue date for non-leap years is 2/28.

### **Determining Quarterly Recurring Charges**

This method:

- Adds revenue on the same day every three months, starting on the date of the first billing cycle, the default value of which is 3 months after the quote line item due date. For example, if the due date is 7/11/01, revenue is added for 10/11/01, 1/11/02, 4/11/02, 7/11/01 and so on, for as many occurrences as product specifies.

If the end date of the first period falls on the 29th, 30th or 31st of a month, the revenue date for months that have fewer days is the last day of the same month.

### Determining Monthly Recurring Charges

This method:

- Adds revenue on the same day every month, starting on the date of the first billing cycle which defaults to one month after the quote line item due date. For example, if the due date is 7/11/01, revenue is added for 8/11/01, 9/11/01 and so on, for as many occurrences as the product specifies.

If the due date falls on the 29th, 30th or 31st of a month, the revenue date for months with fewer days is the last day of the same month.

### Determining Weekly Recurring Charges

This method:

- Adds revenue every 7 days starting on the date of the first billing cycle which defaults to 7 days after the quote line item due date. For example, if the due date is 7/11/01, revenue is added for 7/18/01, 7/25/01, 8/1/01 and so on, for as many occurrences as the product specifies.

### Determining Daily Recurring Charges

The method:

- Adds revenue every day, starting on the date of the first billing cycle which defaults to one day after the quote line item due date. For example, if the due date is 7/11/01, revenue is added for 7/12/01, 7/13/01, 7/14/01 and so on, for as many occurrences as the product specifies.

## Reconfigure Product Instance Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It displays, in the Configurator UI, the asset that was passed to the Product Configurator as input.

**NOTE:** This method does not return the asset updated by Product Configurator. Instead an event occurs for the primary business component when the Done button is clicked. At that time, you can invoke the Get Instance method to obtain the updated asset from the Product Configurator.

### Arguments

*Complex Product*

[in] This product instance, based on Asset, is used as input to the Configurator.

*Row Id*

[in] Row Id of the Asset.

*Event Name*

[in] Name of the event that is triggered when the user clicks the Done button.

*Primary Business Component Name*

[in] Name of the primary business component of the business object associated with the workflow that calls this method. This business component receives the event specified by Event Name.

*Pricing Business object*

[in] Name of the business object to be used for pricing.

*Price List Id*

[in] ID of the price list to be used.

*Currency Code*

[in] Currency code.

*Exchange Date*

[in] Date of the exchange.

*Instance Id*

[out] Returned key. This output can be passed (as input) to the Get Instance method to return a complex asset, loaded into the Product Configurator.

**Returns**

Product Configurator display of the reconfigured complex asset.

**Remarks**

**User Properties**

This method applies the user properties listed below.

**NOTE:** This view must use the same business object as the workflow that invokes the Reconfigure Product Instance method.

- Asset Integration Object Name:  
Name of Integration Object based on Asset business components.
- Complex Product Runtime View Name  
Name of view for Product Configurator UI.

**Getting an Updated Asset**

This method does not return the Asset updated by the Product Configurator. Instead, an event occurs for the primary business components, passed as parameters to this method, when the Product Configurator's Done button is clicked. At that time, the system can call PMT business service method Get Complex Asset to obtain the updated Asset from the Product Configurator.

#### See Also

Method ["Get Instance Method"](#) on page 254 and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, and ["SIS OM Edit Complex Asset Workflow"](#) on page 80.

## Reset Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It clears out all cached product instances.

#### Arguments

None

#### Returns

There are no cached products.

#### Remarks

This method has no input or output arguments.

#### See Also

Methods ["Set Product Instance Method"](#) on page 268, ["Set Output Header Method"](#) on page 267 and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80, ["SIS OM Disconnect Asset Sub-process"](#) on page 83, ["SIS OM Suspend / Resume Asset Sub-process"](#) on page 94, ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69.

## Retrieve Next Object From List Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

Given a hierarchical integration object with multiple root components at the second level (for example, Asset), this method returns an integration object that contains the header, one root component, its children and their attributes.

### Arguments

*SiebelMessage*

[in] Integration object to retrieve the root component from. (Required)

*Integration Id*

[out] Integration Id of the retrieved root integration component. (Optional)

*Object Id*

[out] Row Id of the retrieved root integration component. (Optional)

*Remaining Number of Objects*

[out] Number of root integration components left in the input integration object. (Required)

*SiebelMessage*

[out] New instance of the integration object containing the header and first root component (including its children and attributes) of the object retrieved. (Required)

### Remarks

This method can be called multiple times with the same input argument, each time it returns the next root component. And, it is used in conjunction with Update Multi Object List to form a loop control mechanism.

### See Also

Method ["Update Multi Object List Method" on page 270](#) and workflow ["SIS OM Move Process" on page 85](#).

## Set Action Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It sets the Action Code field of all items in the hierarchy of a given product instance to the specified value.

### Arguments

*Action Code*

[in] Set the action codes of all line items in the hierarchy SiebelMessage to this value. (Required)

*SiebelMessage*

[in] Product instance whose action code will be updated. (Required)

*SiebelMessage*

[out] Updated product instance.



### Returns

Newly set action codes.

### Remarks

This method takes a property set containing a complex item as input along with an action code parameter. It goes through the complex item and sets the action code to the value of the action code argument.

### See Also

Methods ["Set Field Value Method" on page 265](#) and ["Set Multiple Field Values Method" on page 266](#).

## Set Exception Error Message Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It is called from the workflow to get the localized error message text that is associated with the input error code.

### Arguments

*Error Code*

[in] Error code defined in the repository. (Required)

*Error Message*

[out] Localized error message text. (Required)

### Remarks

#### Dependencies

Strings corresponding to the supplied Error Code must be defined in the Siebel Database. The seven predefined error messages are defined in the Siebel repository with the message key prefixed with IDS\_SISOM\_ERR\_MOVEWF.

### See Also

Workflow ["SIS OM Move Process" on page 85](#).

## Set Field Value Method

It is used optionally to configure conditions so that updates are only run on the subset of items in the hierarchy that satisfy the conditions.

## Arguments

### *Field Name*

[in] Name of the field to be changed. (Required)

### *SiebelMessage*

[in] Product instance. (Required)

### *Value*

[in] Literal. (Required)

### *ConditionFieldNames*

[in] Comma separated list of integration component field names. (Optional)

### *ConditionValues*

[in] Comma separated list of values. Standard Siebel expressions (such as LookupValue) are supported. (Optional)

### *Generate new Id*

[In] Y/N flag indicating whether to generate a new Row Id for each item.

### *SiebelMessage*

[out] Updated product instance. (Required)

## Returns

New field values.

## Remarks

As input, this method receives one property set containing a complex object and two strings representing a field name and field value. The method goes through the line items hierarchy of the complex object wrapped by the property set, and for each item that satisfies the optional conditions, locates the named field of each line item, and sets it to the value provided.

## See Also

Methods ["Set Action Method" on page 264](#), ["Set Multiple Field Values Method" on page 266](#), and workflows ["SIS OM Move Process" on page 85](#), ["SIS OM Edit Complex Asset Workflow" on page 80](#). ["SIS OM Disconnect Asset Sub-process" on page 83](#), ["SIS OM Suspend / Resume Asset Sub-process" on page 94](#).

# Set Multiple Field Values Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It sets specified fields to the given values for all items in the product instance.

### Arguments

#### *Field Names*

[in] Comma separated list of names of fields whose values are to be set. (Required)

#### *Values*

[in] Comma separated list of values to which the fields are set. (Required)

#### *SiebelMessage*

[in] Product instance hierarchy whose field values are to be set. (Required)

#### *ConditionFieldNames*

[in] Comma separated list of integration component field names. (Optional)

#### *ConditionValues*

[in] Comma separated list of values. Standard Siebel expressions (such as LookupValue) are supported. (Optional)

#### *SiebelMessage*

[out] Updated product instance. (Required)

### Returns

Product instance with updated field values.

### See Also

Methods ["Set Action Method" on page 264](#) and ["Set Field Value Method" on page 265](#) and workflows ["SIS OM Move Process" on page 85](#) and ["SIS OM Move Exception Handling" on page 91](#).

## Set Output Header Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It caches the output header that will be used by the Delta method.

### Arguments

#### *SiebelMessage*

[in] Product instance containing the header to be used for the Delta method output.

### Returns

Cached output header.

### See Also

Methods "Delta Method" on page 221, "Set Action Method" on page 264, "Set Product Instance Method" on page 268, and workflows "SIS OM Edit Delta Quote Line Item" on page 61, "SIS OM Edit Service Order Line Item" on page 65, "SIS OM Edit Complex Asset Workflow" on page 80, "SIS OM Disconnect Products & Services Process" on page 82, "SIS OM Suspend / Resume Asset Sub-process" on page 94, "SIS OM Move Process" on page 85.

## Set Product Instance Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It caches a product instance that will be used as an input arguments for Apply and Delta methods.

### Arguments

*SiebelMessage*

[in] Product instance being saved. (Required)

### Returns

Cached product instance.

### See Also

Methods "Delta Method" on page 221, "Apply Method" on page 232, "Set Output Header Method" on page 267, and workflows "SIS OM Edit Delta Quote Line Item" on page 61, "SIS OM Edit Service Order Line Item" on page 65, "SIS OM Apply Completed Service Order Line Item to Service Profile" on page 69, "SIS OM Edit Complex Asset Workflow" on page 80, "SIS OM Disconnect Asset Sub-process" on page 83, "SIS OM Suspend / Resume Asset Sub-process" on page 94, "SIS OM Move Process" on page 85.

## Set Profile Attribute Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It assigns values to attributes in a user profile.

### Arguments

*Profile Attribute Name*

[in] Name of the attribute being set.(Required)

*Profile Attribute Value*

[in] Value to which the attribute will be set. A NULL value clears the attribute. (Required)

### Returns

New attribute values.

### See Also

Method ["Get Profile Attribute Method"](#) on page 255.

## Synchronize Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It synchronizes product instance to the database. Optionally, this method also reprices the instance after it is synchronized by calling the Pricing Manager Reprice-RepriceAll. This method calls the EAI Siebel Adapter Upsert method to synchronize.

### Arguments

*Message Id*

[in] Passed through to the EAI Siebel Adapter Upsert method. (Optional)

*PrimaryRowId*

[in] Row Id of the business component to be synchronized. (Required)

*Reprice*

[in] Y/N flag indicating whether to reprice or not. (Optional)

*RootItemId*

[in] If this input is given, only reprice the root line item with a Siebel Object Row Id that corresponds to this RootItemId and any new line items that were created from it after an Explode operation. (Optional)

*SiebelMessage*

[in] Product instance to be synchronized.

*StatusObject*

[in] Passed through to EAI Siebel Adapter Upsert method. (Optional)

*SiebelMessage*

[out] Synchronized product instance.

### Returns

Synchronized product instance.

### Remarks

This method is used when the object to be synchronized has modified quantity or price fields, requiring a repricing. It is primarily used after Explode.

### See Also

Method ["Explode Method"](#) on page 246 and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80, ["SIS OM Disconnect Asset Sub-process"](#) on page 83, ["SIS OM Suspend / Resume Asset Sub-process"](#) on page 94, ["CUT Quote To Order PMT Enhancement"](#) on page 64, ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69.

## Update Multi Object List Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

After a root integration component and its children are stripped from the integration object, this method (in conjunction with Retrieve Next Object From List) returns the resulting integration object.

### Arguments

*SiebelMessage*

[out] Integration object left behind after the first root component is retrieved. (Required)

### Returns

New integration object.

### Remarks

This method is used in conjunction with Retrieve Next Object From List to form a loop control mechanism.

### See Also

Method ["Retrieve Next Object From List Method"](#) on page 263 and workflow ["SIS OM Move Process"](#) on page 85.

## Update Order Line Item Completed Flag Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It sets the Order Item Processed Flag of the root order line item to Y, if its status and that of all its child items is Complete, Rejected, or '-'.

**NOTE:** This method only works with product instance of type Order.

### Arguments

*SiebelMessage*

[in] Product instance being updated. (Required)

*Synchronize*

[in] Defaults to N. (Optional)

*Update Order Items*

[in] Comma separated list of row IDs for line items that were updated by this method.

### Returns

Order Item Processed Flag set to Y or N.

### See Also

Workflow ["SIS OM Apply Completed Service Order Line Item to Service Profile"](#) on page 69.

## Get Cfg Button Click Information Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It is used to identify whether a user clicks on the Cancel or Done button from Complex Product View.

**Business Object:** (Required) Name of business that Business Component belongs to.

### Argument:

*Result*

[Out] Either "Cancel" or "Done" depending on the button clicked by the user. The actual string value returned is specified by the "Cancel Button Return" and "Done Button Return" user properties respectively. (Required).

### See Also

Methods ["Reconfigure Product Instance Method"](#) on page 261, ["Get Instance Method"](#) on page 254, and workflows ["SIS OM Edit Delta Quote Line Item"](#) on page 61, ["SIS OM Edit Service Order Line Item"](#) on page 65, ["SIS OM Edit Complex Asset Workflow"](#) on page 80.

## Refresh Business Component Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It reexecutes all instance of the specific buscomp to get data from the database.

### Arguments

#### *Business Object Name*

[in] Name of business the buscomp belongs to.

#### *Business Component Name*

[in] Name of the buscomp you want to refresh with data from database.

#### *Refresh Result*

[out] Either 'Fail', 'NoRefresh', or 'Succeed'. 'Fail' means the method could not refresh because of insufficient input argument. 'NoRefresh' means the method did not find any instance of the specified buscomp. 'Succeed' means it refreshed at least one instance of the specified buscomp. (Optional)

### See Also

Workflows ["SIS OM Ungroup Quote" on page 59](#), ["SIS OM Ungroup Order" on page 60](#), ["SIS OM Quote To Order PMT Version" on page 63](#), ["CUT Quote To Order PMT Enhancement" on page 64](#).

## Invoke BC Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

This is a generic method that allows one to invoke a Business Component-based method from Workflow. A Business Service method is invoked from a workflow by default. This method acts as a bridge to allow one to pass in the Business Component name and the method name, along with the parameters and return value required from Workflow to the Business Component specified.

### Arguments

#### *BC Name*

[in] A string to specify the name of Business Component on which you want to invoke its method. (Required)

#### *Method Name*

[in] A string to specify the name of the method in the specified Business Component that you want to invoke. (Required)

#### *Param 0*

[in] A string to pass in the first argument to the method. (Optional)

#### *Param 1*

[in] A string to pass in the second argument to the method. (Optional)

#### *Param 2*

[in] A string to pass in the third argument to the method. (Optional)



*Param 3*

[in] A string to pass in the fourth argument to the method. (Optional)

*Return Property Name*

[out] A string to pass out the output of the method. (Optional)

## Iterate Process For Selected Rows Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It loops through all the selected rows in the active business component and invokes the specified workflow for each row. Input arguments to the workflow come from the fixed inputs plus the values of specified field names are transformed into workflow argument names based upon the specified mappings.

### Arguments

*Fields*

[In] Comma separated list of field names in the active business component. (Required)

*Fixed Inputs*

[In] Comma separated list of name-value pairs. (Required)

For example,

'Active Document Id='+[&Active Document Id] '+'Price List Id='+[&Price List Id]

*Mappings*

[In] Comma separated list of field mappings of the form [Bus Comp Field Name]=[Workflow Input Argument]

*Process*

[In] Name of the workflow process to be initiated for each row of the active business component. (Required)

*Delete Connection*

[In] Y / N flag indicating whether to cascade the process to the connections associated with selected nodes in a network scenario. (Optional)

*See Also*

Methods ["Get Selected Row Count Method"](#) on page 274, ["Get First Selected Row Values Method"](#) on page 274, and workflows ["SIS OM Modify Products & Services Process"](#) on page 76, ["SIS OM Disconnect Products & Services Process"](#) on page 82, ["SIS OM Suspend / Resume Products & Services Process"](#) on page 93.

## Get Selected Row Count Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

It returns the number of rows selected in the active business component, that is, the business component that initiated the workflow.

### Argument

*Row Count*

[Out] The number of selected rows. (Required)

*See Also*

["Iterate Process For Selected Rows Method" on page 273](#) and ["Get First Selected Row Values Method" on page 274](#), and workflow ["SIS OM Modify Products & Services Process" on page 76](#).

## Get First Selected Row Values Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

Queries the active business component for a given set of field values for the first selected row. The fields to be retrieved are specified by the Fields argument. If the Mapping input argument is specified the values of the fields in the query are remapped to different field names in the output property set.

### Arguments

*Fields*

[In] Comma separated list of field names in the active business component for which values are to be retrieved.

*Mappings*

[In] Comma separated list of mappings of the form [Bus Comp Field Name]=[Property Set Field Name]

*SiebelMessage*

[Out] Property set containing the requested values.

### See Also

Methods ["Iterate Process For Selected Rows Method" on page 273](#), ["Get Selected Row Count Method" on page 274](#), and workflow ["SIS OM Modify Products & Services Process" on page 76](#).

## Ungroup Method

This is one of the [Product Manipulation Toolkit Business Service Methods](#).

Ungroup is a business component-based version of Explode. It creates multiple instances of a product. The number of instances is determined by the value of the field specified by the Quantity Field argument. For each new instance, the value of the Quantity Field is set to 1. An existing instance is considered for ungrouping only if it meets the conditions specified by the Condition Field Names and Condition Values arguments. The updated business component instances are written to the database.

### **Arguments**

#### *Line Item BC Name*

[In] Name of the line item business component to be ungrouped. (Required)

#### *Extended Attribute BC Name*

[In] Name of the XA business component associated with the line item business component. (Required)

#### *Quantity Field*

[In] Name of field in the line item business component that is used to determine the number of instances to be created. (Required)

#### *Header Id*

[In] Row Id of the header business component instance. (Required)

#### *Header Id Field*

[In] Name of the field in the header business component that stores the Row Id. (Required)

#### *Root Item Id*

[In] Id of the root item in the line item business component. (Required)

#### *Root Item Id Field*

[In] Name of the field in the line item business component that stores the Root Item Id. (Required)

#### *Parent Item Id Field*

[In] Name of the field in the line item business component that stores the Parent Item Id. (Required)

#### *Line Number Field*

[In] Name of the field in the line item business component that stores the Line Number. (Required)

#### *XA Header Id Field*

[In] Name of the field in the XA business component that stores the Header Id. (Required)

#### *XA Parent Root Id Field*

[In] Name of the field in the XA business component that stores the Parent Root Id. (Required)

*XA Line Item Id Field*

[In] Name of the field in the XA business component that stores the Line Item Id. (Required)

*Condition Field Names*

[In] Comma separated list of field names. An existing instance is ungrouped only if the conditions specified by Condition Field Names and Condition Values are met. (Optional)

*Condition Values*

[In] Comma separated list of condition values. Standard Siebel expressions (such as LookupValue) are supported. An existing instance is ungrouped only if the conditions specified by Condition Field Names and Condition Values are met. (Optional)

*Integer Fields to Split*

[In] Comma separated list of fields of type Integer for which the value is to split between the multiple instances. For example, if an instance has a field value of 12 and a quantity of 4, the integer field will have a value of 3 in each of the multiple instances. (Optional)

*Number Fields to Split*

[In] Comma separated list of fields of type Number for which the value is to split between the multiple instances. (Optional)

**See Also**

Methods ["Explode Method" on page 246](#) and ["Explode Siebel Object Method" on page 249](#), and workflows ["SIS OM Ungroup Order" on page 60](#), ["SIS OM Ungroup Order" on page 60](#).

## Order Entry Toolkit Business Service Methods

The Order Entry Toolkit (OET) business service is a set of methods that allow order management processes to be implemented in eSales workflows. The business service includes methods to manipulate the user's account information, validate payment information, and navigate to eSales views. These methods summarized in [Table 14](#).

Table 14. EOT Methods

Method	Comment
<a href="#">CreateAccount Method on page 277</a>	Creates a new account, associates it with the User and associates specified addresses to that account. The method also sets a specified field in the Quote BC, if it is required.
<a href="#">CreateOrder Method on page 278</a>	Converts a quote to an order.

Table 14. EOT Methods

Method	Comment
<a href="#">GetBCCount Method on page 279</a>	Gets the number of rows and first row ID in a BC for the input Search Spec. If Parent and Child BC names are provided, the search spec is applied to the Parent BC. If no Parent BC is provided, the Search Spec is applied to the one input BC.
<a href="#">GotoView Method on page 280</a>	Navigates to the view specified in the input argument.
<a href="#">SelectPrimary Method on page 280</a>	Selects a record in the picklist into a field.
<a href="#">SetLIAccounts Method on page 281</a>	Rolls down the Service and Billing Account field values from the Quote or Order Header to the line items, if the value is NULL.
<a href="#">SubmitOrder Method on page 282</a>	Submits the Pending Order by changing the Order Header and Line Items status to Open. Optionally, sets the Order Id to a defined (user property) Profile Attribute.
<a href="#">ValidatePayment Method on page 283</a>	Validates the payment method, verifying that only one payment method at a time is specified for a quote.
<a href="#">ValidateQuote Method on page 284</a>	Sets the Invalid Flag for all line items that have a base price = 0 except those that have an Action Code = Delete.
<a href="#">ViewCart Method on page 284</a>	Navigates to the CME Shopping Cart if licensed; otherwise, to the standard Shopping Cart.

## CreateAccount Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It creates a new account, associates it to the user and associates specified addresses to that account. The method also sets a specified field in the Quote BC, if it is required.

### Arguments

*Account Name*

[in] Name of the new account. (Required)

*Account Type*

[in] Type of new account. (Required)

*Address Id 1*

[in] ID of an existing address associated with the new account. (Optional)

*Address Id 2*

[in] ID of an existing address associated with the new account. (Optional)

You can add more Address Id's by incrementing the number.

#### *Quote Account Field*

[in] Quote business component field to be populated with the Account Id. (Optional)

#### *New Account Id*

[out] Row Id of the newly created account.

### Returns

Row Id of new account.

### Remarks

#### User Properties

This method uses the following user properties:

- CreateAccount: Account BC Name  
Name of the business component that is used to create the new account. Default = Account.
- CreateAccount: Account and Address Intersection BC Name  
Name of the business component based on the Account-Address Intersection table that is used to associate addresses to the new account. Default = Com Account Address Intersection.
- CreateAccount: Intersection Account Field Name  
Account foreign key field in the intersection business component. Default = Account Id.
- CreateAccount: Intersection Address Field Name  
Address foreign key in the intersection business component. Default = Address Id.

This method invokes AssociateAccountToUser method in the CUT Account Administration Toolkit Service business service.

### See Also

Methods ["GetBCCount Method" on page 279](#) and ["ValidatePayment Method" on page 283](#).

## CreateOrder Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It converts a quote to an order.

### Arguments

#### *Quote Id*

[in] Quote identifier. (Required)

*Return Error Code*

[in] Direction to return an error code. (Optional)

*Order Id*

[out] Order identifier. (Optional)

*Error Message*

[out] Error message. (Optional)

**Returns**

A new Order.

**Remarks****Dependencies**

This method first invokes the Shopping Service's CreateOrder Method, and then it invokes SubmitOrder.

## GetBCCount Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It gets the number of rows and first row ID in a BC for the input Search Spec. If Parent and Child BC names are provided, the search spec is applied to the Parent BC. If no Parent BC is provided, the Search Spec is applied to the one input BC.

**Arguments***BC Name*

[in] Name of the business component whose rows will be counted. (Required)

*BC SearchSpec*

[in] Free text search specification. (Optional)

*BusObj Name*

[in] The business component belongs to this business object. If a BusObj Name is not specified, the business service business object is used. (Optional)

*Parent BC Name*

[in] Name of the parent business component to which the search criteria is applied. (Optional)

*Field Name*

[in] Field name to be used as additional input for the search specification. (Optional)

*Field Value*

[in] Value to be used as additional input for the search specification. (Optional)

*Count*

[out] Number of rows. (Optional)

*First RowId*

[out] First rowId of the rows. (Optional)

**Returns**

Number of rows and first rowId.

**See Also**

Method ["CreateAccount Method" on page 277](#) and workflow ["eSales - Enter Shipping Details Process" on page 129](#).

## **GotoView Method**

This is one of the [Order Entry Toolkit Business Service Methods](#).

It navigates to the View specified in the input argument.

**Arguments**

*View*

[in] Name of the view to navigate to. (Required)

## **SelectPrimary Method**

This is one of the [Order Entry Toolkit Business Service Methods](#).

It selects a record in the picklist into a field.

**Arguments**

*PickList Field*

[in] Name of the picklist field. (Required)

*Primary Row Id*

[in] Primary rowId (Optional)



*Primary ID Field*

[in] Name of the field that stores the primary Id. Not required if Primary Row Id is specified. (Optional)

*Business Component Name*

[in] Name of the business component to which the field belongs. (Optional)

*IntersectionTable Field*

[in] Name of the field in the intersection table that stores the primary Id. (Optional)

*Execute BusComp at Finish*

[in] TRUE if Base BC is executed after this operation; otherwise, FALSE. The default is TRUE (case sensitive). (Optional)

*ReturnVal*

[out] Success or Fail.

**Returns**

Success or Fail.

**See Also**

Workflows ["CUT eSales - Checkout Process"](#) on page 126 and ["CUT eSales - Bill Me Process"](#) on page 133.

## SetLIAccounts Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It rolls down the Service and Billing Account field values from the Quote or Order Header to the line items, if the value is NULL.

**Arguments***Parent BC Name*

[in] Parent BC name. (Required)

*Parent Row Id*

[in] Parent row Id. (Required)

*Line Item BC Name*

[in] Line item BC name. (Required)

### Returns

New line item values.

### See Also

Method [“GetBCCount Method” on page 279](#) and workflows [“SIS OM Auto Select Order Billing and Service Accounts - SIA” on page 68](#).

## SubmitOrder Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It submits the Pending Order by changing the Order Header and Line Items status to Open. Optionally, it sets the Order Id to a defined (user property) Profile Attribute.

### Arguments

#### *Order Id*

[in] Order identifier. (Required)

#### *Parent Fieldmap LHS*

[in] LHS value of the field map used by user properties for field names in the Parent business component. (Optional)

#### *Parent Fieldmap RHS*

[in] RHS value of the field map used by user properties for field values in the Parent business component. (Optional)

#### *Line Item Fieldmap LHS*

[in] LHS value of the field map uses by user properties for field names in the Line Item business component. (Optional)

#### *Line Item Fieldmap RHS*

[in] RHS value of the field map uses by user properties for field names in the Line Item business component. (Optional)

#### *Return Error Code*

[in] Direction to return an error code. (Optional)

#### *Error Message*

[out] Error message. (Optional)

### Remarks

#### **User Properties**

The following user properties are associated with this method:

- Order Field|Value FieldMap X—Field map value. See the next user property definition.
- Order Item Field|Value FieldMap X—Field map value.  
Numbers starting from 1 and increments of 1 should replace X. The last FieldMap should have a value of End.
- SubmitOrder: Order Header Buscomp—Default = Order Entry - Order.
- SubmitOrder: Line Item Buscomp—Default = Order Entry - Line Items.
- SubmitOrder: Line Item Set Field Condition. Default is Status=FS\_ORDER\_STATUS Pending.

## ValidatePayment Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It validates the payment method, verifying that only one payment method at a time is specified for a quote.

### Arguments

#### *Bill To Account*

[in] The account whose payment is being validated. (Required)

#### *Credit Card Number*

[in] Credit card number associated with the account. (Required)

#### *Credit Card Type*

[in] Type of credit card associated with the account. (Required)

#### *Expiration Month*

[in] Expiration month of the credit card. (Required)

#### *Expiration Year*

[in] Expiration year of the credit card. (Required)

#### *PO Number*

[in] PO number for the account. (Optional)

#### *Return Error Code*

[in] Direction to return an error code. (Optional)

#### *Error Message*

[out] Error message. (Required)

### Returns

Error messages.

**See Also**

Method [“CreateAccount Method” on page 277](#) and workflow [“CUT eSales - Checkout Process” on page 126](#).

## ValidateQuote Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It sets the Invalid Flag for all line items that have a base price = 0 except those that have an Action Code = Delete.

**Arguments***Quote Id*

[in] Quote identifier. (Required)

*Return Error Code*

[in] Direction to return an error code. (Optional)

*Invalid*

[out] Indicates an invalid quote. (Optional)

*Error Message*

[out] Error message. (Optional)

*ReturnVal*

[out] Indicates that the quote is valid. (Optional)

**Remarks****Dependency**

Invokes the Shopping Service's ValidateQuote method.

## ViewCart Method

This is one of the [Order Entry Toolkit Business Service Methods](#).

It navigates to the CME Shopping Cart if licensed; otherwise, to the standard Shopping Cart.

**Arguments**

No input or output arguments.

### Remarks

The following user properties may be specified for the Shopping Service:

- **Module Name**  
Licensed Module Name. Default = CME eSales.
- **Default Shopping Cart View**  
Name of the view to display if a module is not specified or if the module is specified but not licensed. Default = Current Quote View (eSales).
- **Licensed Shopping Cart View**  
Name of the view to display if the module identified by module name is licensed. Default = CUT Current Quote View (eSales).

### See Also

Method ["ValidatePayment Method" on page 283](#) and workflows ["CUT eSales - Modify Products and Services Process" on page 144](#) and ["CUT eSales - Disconnect Products and Service Process" on page 147](#).

## Account Administration Toolkit Business Service Methods

The Account Administration Toolkit (AAT) business service is a set of methods that are used to manipulate accounts for eSales workflows.

These methods are summarized in [Table 15](#).

Table 15. AAT Methods

Method	Comment
<a href="#">PickAccount Method on page 285</a>	Sets an Account to current for a user session and sets its price list as the default price list.
<a href="#">SetPrimary Method on page 286</a>	Picks a record from a picklist and puts it into the set of fields specified in the picklist field's pickmap.
<a href="#">AssociateAccountToUser Method on page 287</a>	Associates an Account with a User.
<a href="#">EstablishMtoM Method on page 287</a>	Establishes an Account to Contact M:M relationship.

### PickAccount Method

This is one of the [Account Administration Toolkit Business Service Methods](#).

It sets an account to current status for a user session. It also sets the account's price list as the default price list.

### Arguments

#### *Account Id*

[in] Row Id of the Account that is set to current status. (Optional)

#### *Account Name*

[in] Name of the account. (Optional)

#### *Master Account Id*

[in] Row Id of the ultimate parent of the account. (Optional)

#### *BusComp Name*

[in] Name of the account business component. (Optional)

### Remarks

#### **User Properties**

- SelectCurrent:Login BO/BS—Default = CUT Account Login|CUT Account Login
- SelectCurrent:BusComp Name to Refresh—Default = Account

## SetPrimary Method

This is one of the [Account Administration Toolkit Business Service Methods](#).

It picks a record from a picklist and puts it into the set of fields specified in the picklist field's pickmap.

### Arguments

#### *BusComp Name*

[in] Name of the business component into which the picklist record will be picked. (Required)

#### *PickList Field*

[in] Field name in the business component that has the picklist defined. (Required)

#### *Primary Id*

[in] Row Id of the Picklist record that should be picked. (Required)

#### *Row Id*

[in] Row Id of the business component into which the picklist record should be picked. (Required)

## Remarks

### User Properties

- SelectPrimary: Source Buscomp—Default = User Profile (eApps)
- SelectPrimary: Source Picklist Field Name—Default =Primary Account Name

## AssociateAccountToUser Method

This is one of the [Account Administration Toolkit Business Service Methods](#).

It establishes an Account to Contract M:M relationship.

## Arguments

### *Account Id*

[in] Account identifier. (Required)

### *Contact Id*

[in] Contact identifier. (Required)

### *BusComp Name*

[in] Name of the business component from which this method is to be invoked. (Optional)

### *BusComp ToBe Refreshed*

[in] Name of the business component that is refreshed after the operation in order to show updated data. (Optional)

## Remarks

### User Properties

- AssociateAccountToUser: Account and Contact Intersection BC—Default = Account Contact.
- AssociateAccountToUser: Default BC—Default = Account
- AssociateAccountToUser: Default BD to Re-Execute—Default = Account Id
- AssociateAccountToUser: Intersection BC Contact Field—Default = Contact Id
- AssociateAccountToUser: Intersection BC Date Field—Default =Start Date
- AssociateAccountToUser: Primary Contact Id Field—Default = Primary Contact Id

## EstablishMtoM Method

This is one of the [Account Administration Toolkit Business Service Methods](#).

It establishes an M:M relationship between two entities.

### Arguments

*MtoMIntXBCName*

[in] Intersection business component name. (Required)

*MtoMIntXDestFldName*

[in] Intersection business component destination field value. (Required)

*MtoMIntXDestFldValue*

[in] Intersection business component destination field value. (Required)

*MtoMIntXSrcFldName*

[in] Intersection business component source field name. (Required)

*MtoMIntXSrcFldValue*

[in] Intersection business component source field value. (Required)

## Invoke BC Method

This is one of the [Account Administration Toolkit Business Service Methods](#).

This is a generic method that allows one to invoke a Business Component-based method from Workflow. A Business Service method is invoked from a workflow by default. This method acts as a bridge to allow one to pass in the Business Component name and the method name, along with the parameters and return value required from Workflow to the Business Component specified.

### Arguments

*BC Name*

[in] A string to specify the name of Business Component on which you want to invoke its method. (Required)

*Method Name*

[in] A string to specify the name of the method in the specified Business Component that you want to invoke. (Required)

*Param 0*

[in] A string to pass in the first argument to the method (Optional)

*Param 1*

[in] A string to pass in the second argument to the method (Optional)

*Param 2*

[in] A string to pass in the third argument to the method (Optional)



*Param 3*

[in] A string to pass in the fourth argument to the method (Optional)

*Return Property Name*

[out] A string to pass out the output of the method (Optional)

**NOTE:** Preconfigured, you can find the usage of this method in the SIS OM Quote to Order Workflow

## Complex Product AutoMatch Business Service Method

The Complex Product AutoMatch Business Service includes one method that is used to match components in a quote, order, or asset with components in the current version of the product model, the Auto Match method.

### Auto Match

Auto Match compares the input product instance to the customizable product definition. For each product or class that cannot be located in the definition of the relationship specified by the product instance, Auto Match searches for that product or class in another relationship under the same parent in the product definition hierarchy. If the product or class exists in one or more relationships, the product instance is updated so that the product or class is associated with the first of those relationships. If the product or class cannot be found in any relationship in the customizable product definition, the product or class is removed from the product instance. The details of each change made by Auto Match are added to the AutoMatchReport and returned as the output of the method with the modified product instance.

### Arguments

*SiebelMessage*

[in] Product instance to be transformed by Auto Match.

*AutoMatchReport*

[in] Product instance that has been transformed by Auto Match.

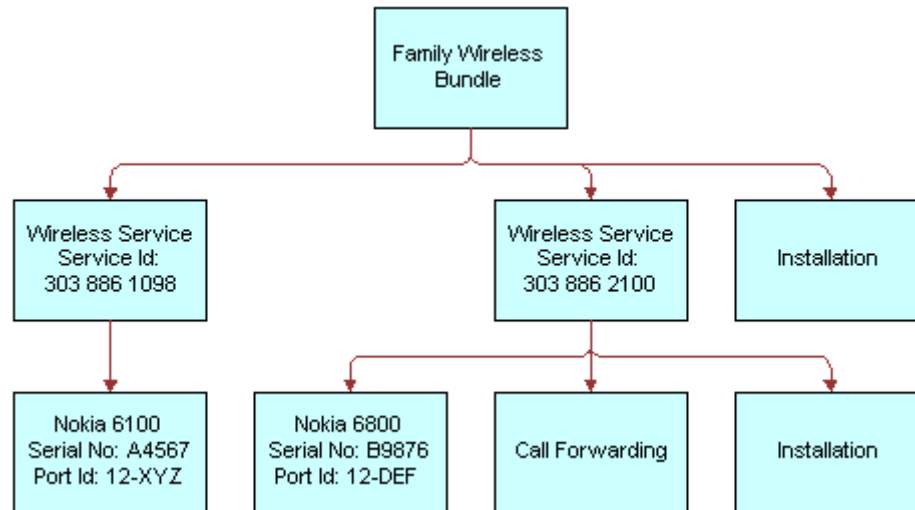
### Examples

#### **Service Profile upgraded from SCE 6.x**

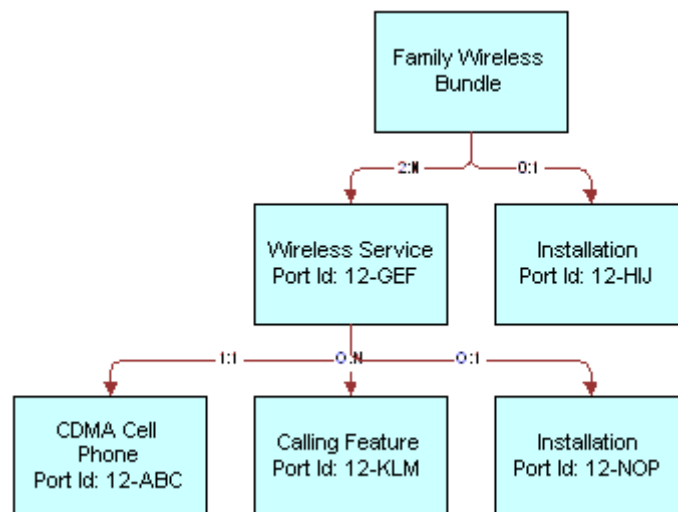
The following example shows how this method is used when a service profile record is upgraded.

**NOTE:** In the following examples, a port is an instance of a relationship.

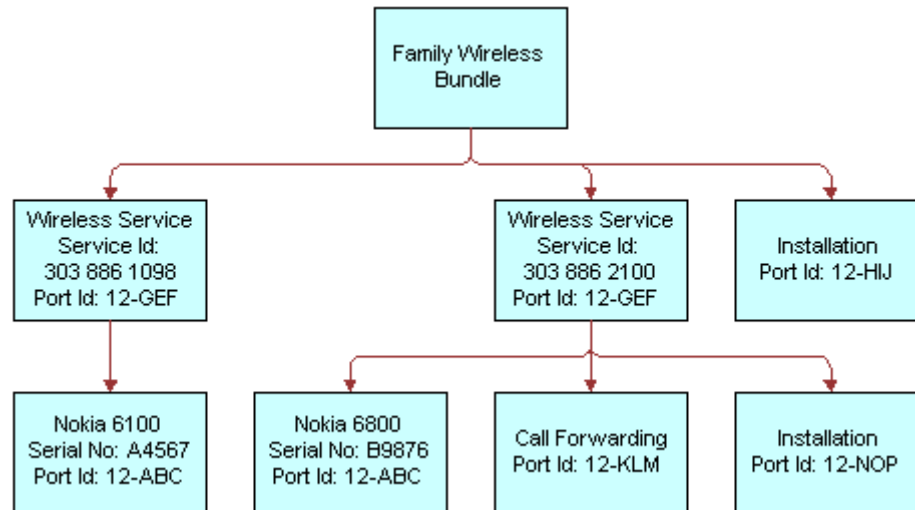
The following service profile record has been upgraded from SCE 6.x:



The customizable product definition was reimplemented as follows (rounded boxes represent a class):



Auto match assigns the following port IDs without error:

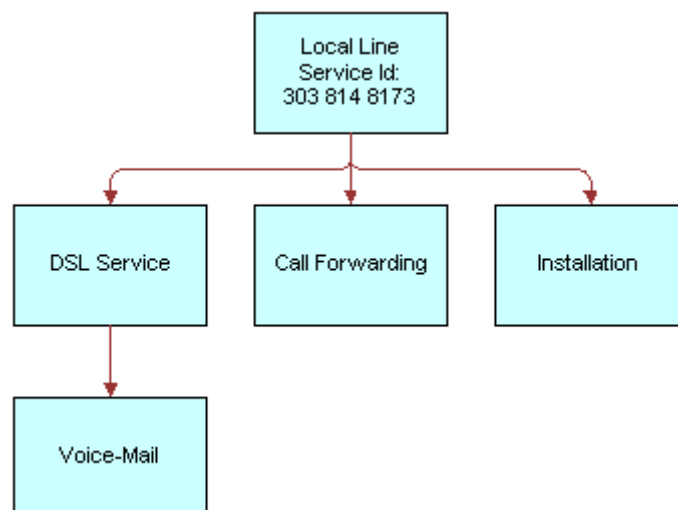


**NOTE:** The Installation component port IDs were assigned without ambiguity because each of their parent components only have one port that supports the Installation product. Also, the erroneous port ID originally assigned to the Nokia cell phones was replaced by the correct port ID without generating an error.

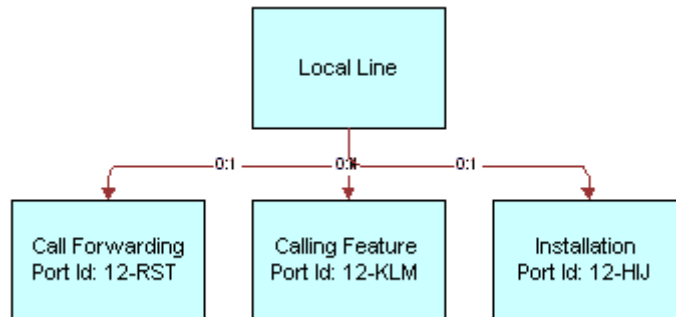
### Service Profile Imported from a Legacy System

The following example shows how this method is used when a service profile is imported from a legacy system.

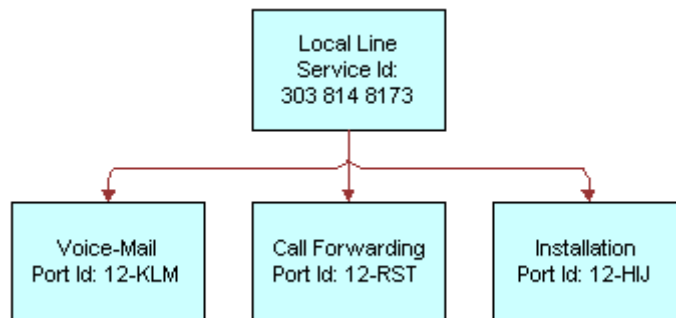
The following service profile record was imported from a legacy system:



The customizable product definition is as follows:



Auto match does its best to assign port IDs:



**NOTE:** The DSL Service component was deleted because it does not exist beneath Local Line. The Voice-Mail component was reparented and associated with the Calling Features class. The Call Forwarding component could have been associated with the product relationship or as a member of the Calling Features class. Hence, it was assigned to the first port found (the product relationship) and a warning message was issued.

## Compound Product Validation Engine Service Methods

The Compound Product Validation Engine business service is a set of methods that allows the Compound Product Validation Engine to be initiated through workflow. The business service includes methods to validate a network and display rules violations.

These methods are summarized in [Table 16](#).

Table 16. Compound Product Validation Engine Service Methods

Method	Comment
<a href="#">"Find Future Date Method" on page 293</a>	Gets the due date of the current line item.
<a href="#">"Validate Method" on page 293</a>	Executes the cross-product validation rules associated with a compound product and returns any rule violations.
<a href="#">"Format Violation Method" on page 294</a>	Formats rules violations in a single string that can be displayed to the user.

## Find Future Date Method

This is one of the ["Compound Product Validation Engine Service Methods."](#)

It gets the value of the field specified by FutureDateFieldName for the business component instance identified by BusinessComponentName and RowId.

### Arguments

*BusinessComponentName*

[in] Name of the business component from which to get the future date. (Required)

*RowId*

[in] Row Id of the business component instance for which to get the future date. (Required)

*FutureDateFieldName*

[in] Name of the field in the business component that stores the date. (Required)

*FutureDate*

[out] Value of the future date. (Required)

*Returns*

The value of the date field to use to validate the network at a date in the future.

### See Also

Workflows ["VORD Validate \(Quote\)" on page 97](#), ["VORD Validate \(Order\)" on page 98](#).

## Validate Method

This is one of the ["Compound Product Validation Engine Service Methods."](#)

It executes the cross-product validation rules associated with a compound product and returns any rule violations. It queries the Business Component VORD Compound Product Rule for all the rules defined for the top level product (network product) of the compound product (network). It then instantiates the business service for each of the rules and asks them for the fields and attributes values they need. It then initializes the Projected Asset Cache by asking it to build a future state of all the root line items within this compound product. This is done by querying the Quote Item, Order Item, Asset and their XAs for the fields and attributes required by all the rules and then applying them to the associated assets. It then invokes the Validate method of each rules checker business service and creates a consolidated list of rules violations.

### Arguments

*CompoundProductNumber*

[in] Compound Product Number (Network Id) associated with the compound product to be validated. (Required)

*FutureDate*

[in] Date at which to validate the compound product. (Optional)

*QuoteId*

[in] Row Id of the current quote. (Optional)

*CompoundProductNumber*

[out] Compound Product Number (Network Id) associated with the compound product. (Required)

*RuleViolationEmpty*

[out] Y / N flag indicating whether there are any violations. (Required)

*RootCompoundProduct*

[out] Name of the compound product. (Required)

*SiebelMessage*

[out] Property set of child property sets of type 'RuleViolation'. (Required)

### See Also

Method ["Format Violation Method"](#) on page 294, and workflows ["VORD Validate \(Quote\)"](#) on page 97, ["VORD Validate \(Order\)"](#) on page 98.

## Format Violation Method

This is one of the ["Compound Product Validation Engine Service Methods."](#)

It takes a property set of rules violations and formats them in a single string that can be displayed to the user.

### Arguments

*RuleViolation*

[in] Property set of child property sets of type 'RuleViolation'. (Required)

*RuleViolationText*

[out] Single string containing the formatted rules violations. (Required)

### See Also

Method ["Validate Method" on page 293](#), and workflows ["VORD Validate \(Quote\)" on page 97](#), ["VORD Validate \(Order\)" on page 98](#).

## VORD Projected Asset Cache Service Methods

The Projected Asset Cache business service comprises a set of methods that allow the projected state of a Compound Product to be constructed and queried. It is used in conjunction with the Compound Product Validation Engine business service and the rules checkers business services to validate a Compound Product.

These methods are summarized in [Table 17](#).

Table 17. VORD Projected Asset Cache Service Methods

Method	Comment
<a href="#">"Initialize Method" on page 295</a>	Loads an instance of a Compound Product into the Projected Asset cache that can be queried.
<a href="#">"Query Method" on page 296</a>	Filters the list of components in the Projected Asset Cache to those that match the Search Expression.
<a href="#">"Reset Method" on page 297</a>	Removes a Compound Product instance from the Projected Asset cache.

### Initialize Method

This is one of the ["VORD Projected Asset Cache Service Methods."](#)

It loads an instance of a Compound Product into the Projected Asset cache, which later can be queried. It does so by loading all assets that satisfy the specified Search Expression. It retrieves only those fields and attributes specified by the Field and Attribute input arguments. If a Future Date is provided, open order lines satisfying the search expression that have a due date prior to the Future Date are applied to the associated assets. If a Quote Id is provided, the quote line items of the specified quote that satisfy the search expression are applied to the associated assets.

### Arguments

#### *Search Expression*

[in] Search Expression with which to initialize the cache. Only Assets, Quote Line Items, Order Line Items and attributes that satisfy the search expression will be loaded into the cache. (Required)

#### *Field*

[in] Property set of fields to be retrieved by the Projected Asset cache. (Optional)

#### *Attribute*

[in] Property set of attributes to be retrieved by the Projected Asset cache. (Optional)

#### *Future Date*

[in] Only orders that have a due date less than the future date will be applied. (Optional)

#### *Quote Id*

[in] Row Id of quote for which line items are to be loaded into the Projected Asset Cache. (Optional)

#### *Asset Cache Key*

[out] Unique key with which to access the Projected Asset Cache which is used by the Query method.

### See Also

Methods ["Query Method" on page 296](#) and ["Validate Method" on page 293](#)

## Query Method

This is one of the ["VORD Projected Asset Cache Service Methods."](#)

It filters the list of components in the Projected Asset Cache to those that match the Search Expression. It then counts the number of components, sums the values of Aggregate Field, or calculates the minimum, maximum or average for each unique combination of group by fields, and sorts the result by the Sort Field. This method is analogous to a SQL SELECT statement of the form:

```
SELECT * | COUNT(*) | SUM([Aggregate Field]) | MAX([Aggregate Field]) | MIN([Aggregate Field]) | AVG([Aggregate Field]), [Calculated Field] WHERE [Search Expression] GROUP BY [Group By Field] HAVING [Having Expression] SORT BY [Sort By Field]"
```



The search expression supports a list of AND clauses and OR clauses with the following operators: =, <>, !=, <, >, >=, <=.

### Arguments

#### *Asset Cache Key*

[in] Unique key with which to query the cache. The unique key is returned by the Initialize method. (Required)

#### *Search Expression*

[in] Expression that must be satisfied to generate an error. (Optional)

#### *Aggregate Function*

[in] The type of query executed against the projected asset cache. Valid values are "Sum", "Count", "Max", "Min", "Avg" or "".

#### *Aggregate Field*

[in] The asset field considered by an aggregate query. (Optional)

#### *Calculated Field*

[in] Unique key with which to query the cache. The unique key is returned by the Initialize method. (Optional)

#### *Group By Field*

[in] Comma separated list of fields used to group an aggregate function. (Optional)

#### *Having Expression*

[in] Expression referencing an aggregate result that must be satisfied to generate an error. (Optional)

#### *Sort By Field*

[in] Comma separated list of fields by which to sort the result set. (Optional)

#### *Result*

[out] Property set of projected asset cache entries that satisfy the search expression.

### See Also

Methods ["Initialize Method" on page 295](#) and ["Validate Method" on page 293](#).

## Reset Method

This is one of the ["VORD Projected Asset Cache Service Methods."](#)

It removes a compound product instance from the Projected Asset Cache.

### **Arguments**

*Asset Cache Key*

[in] Unique key with which to query the cache. The unique key is returned by the Initialize method. (Required)

### **See Also**

Method ["Validate Method" on page 293](#).

# A

## Adding or Removing ABO and MPT User Interfaces

This appendix lists reference information about user interface controls that you can enable or disable in order to add or remove Asset Based Ordering or Multiple Price Types.

The information in this appendix will probably be used if:

- A Siebel Communications, Media, or Energy implementation does not use Asset Based Ordering (ABO) or Multiple Price Types (MPT) and wants to remove it from the application.
- A Siebel Industry Application other than Siebel Communications, Media, or Energy licenses Asset Based Ordering (ABO) or Multiple Price Types (MPT) and wants to add it to the application.

You use Siebel Tools to perform the tasks in this appendix. For information about Siebel Tools, see *Using Siebel Tools*.

For information about enabling and disabling user interface controls through Siebel Tools, see the section about application specific mappings in *Using Siebel Tools*.

To add or remove asset based ordering, see the following sections:

- [“Asset-Based Ordering User Interface Controls” on page 299](#)
- [“Non-Asset Based Ordering User Interface Controls” on page 312](#)

To add or remove multiple price types, see the following sections:

- [“Multiple Price Types User Interface Controls” on page 314](#)
- [“Non-Multiple Price Types User Interface Controls” on page 319](#)

To remove multiple price types from Siebel eSales, also see the following section:

- [“Non-Multiple Price Types eSales Views” on page 324](#)

## Asset-Based Ordering User Interface Controls

To add Asset Based Ordering to or remove Asset Based Ordering from your Siebel application, you must enable or disable the Asset Based Ordering user interface controls listed in this section.

- **Adding Asset Based Ordering.** If your Siebel application did not come with Asset Based Ordering and your company has purchased an additional license for it, [Table 18](#) lists the user interface controls you must enable. You may also need to enable these controls if you previously removed Asset Based Ordering and now want to use it. To enable the controls, for each control in the table, delete the value from the Expression field.
- **Removing Asset Based Ordering.** If your company is removing Asset Based Ordering, [Table 18](#) lists the user interface controls you must disable.

To disable these controls, enter the following value in the Expression field for each control:

NOT Siebel Power Communications

**NOTE:** To add or remove Asset Based Ordering, you must also perform the task in [“Non-Asset Based Ordering User Interface Controls” on page 312.](#)

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Account Address Mvg Applet	Base	Move	Move
	Edit List	Move	Move
Account Admin Address Mvg Applet	Base	Move	Move
	Edit List	Move	Move

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Order Entry - Line Item Form Applet	Edit	Action Code	Action Code
	Edit	ActivityId2	ActivityId
	Edit	Agreement Name2	Agreement Name
	Edit	AsOfDate2	AsOfDate
	Edit	AssetNumber2	AssetNumber
	Edit	BillableFlag2	BillableFlag
	Edit	Billing Account	Billing Account
	Edit	CarrierCode2	CarrierCode
	Edit	CoveredProduct2	CoveredProduct
	Edit	Description2	Description
	Edit	DestinationInventoryLocation2	DestinationInventoryLocation
	Edit	ItemType2	ItemType
	Edit	LoanerFlag2	LoanerFlag
	Edit	Note2	Note
	Edit	PartialShip2	PartialShip
	Edit	PartNumber2	PartNumber
	Edit	ProductStatusCode2	ProductStatusCode
	Edit	ProductTypeCode2	ProductTypeCode
	Edit	QuantityRequested2	QuantityRequested
	Edit	QuantityShipped2	QuantityShipped
	Edit	SalesServiceFlag2	SalesServiceFlag
	Edit	ScheduledShipDate2	ScheduledShipDate
	Edit	SerialNumber2	SerialNumber
	Edit	Service Account	Service Account
	Edit	Service Id	Service Id
	Edit	Service Point	Service Point
	Edit	ShipMethod2	ShipMethod
	Edit	ShipToAddress2	ShipToAddress

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Edit	ShipToCity2	ShipToCity
	Edit	ShipToContact-FirstName2	ShipToContact-FirstName
	Edit	ShipToContact-LastName2	ShipToContact-LastName
	Edit	ShipToCountry2	ShipToCountry
	Edit	ShipToState2	ShipToState
	Edit	ShipToZip2	ShipToZip
	Edit	SourceInventoryLocation2	SourceInventoryLocation
	Edit	Unit of Measure22	Unit of Measure2
	Edit	WarrantyRecoveryFlag2	WarrantyRecoveryFlag
	Edit	Write-InProduct2	Write-InProduct
Order Entry - Line Item List Applet	Base	Action	Action Code
	Base	Agreement Name	Agreement Name
	Base	Billing Account	Billing Account
	Base	Service Account	Service Account
	Base	Service Id	Service Id
	Base	Service Point Id	Service Point Id
	Edit	Agreement Name	Agreement Name
	Edit	Billing Account	Billing Account
	Edit	Service Account	Service Account
	Edit	Unit of Measure2	Unit of Measure
	Edit List	Action Code	Action Code
	Edit List	Action Code	Action Code
	Edit List	Adjusted List Price2	Adjusted List Price

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Edit List	Agreement Name	Agreement Name
	Edit List	Agreement Name	Agreement Name
	Edit List	bAutoAsset	bAutoAsset
	Edit List	Billing Account	Billing Account
	Edit List	Billing Account	Billing Account
	Edit List	Billing Account Site	Billing Account Site
	Edit List	BordertoAsset	BordertoAsset
	Edit List	Due Date2	Due Date
	Edit List	Due Date2	Due Date
	Edit List	Item Price2	Item Price
	Edit List	Line Total2	Line Total
	Edit List	Line Total2	Line Total
	Edit List	Product2	Product
	Edit List	Quantity Requested	Quantity
	Edit List	Quantity Requested2	Quantity Requested
	Edit List	Service Account	Service Account
	Edit List	Service Account	Service Account
	Edit List	Service Account Site	Service Account Site
	Edit List	Service Id	Service Id
	Edit List	Service Id	Service Id
	Edit List	Service Point	Service Point
	Edit List	Service Point	Service Point
	Edit List	Status2	Status
	Edit List	Status2	Status
	Edit List	Unit of Measure	Unit of Measure
	Edit List	Unit of Measure	Unit of Measure

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Order Entry - Order Form Applet (Sales)	Base	Account Address4	Account Address
	Base	Account Location4	Account Location
	Base	Account Order Number4	Account Order Number
	Base	Active4	Active
	Base	Billable4	Billable
	Base	Billing Account	Billing Account
	Base	BRevise	BRevise
	Base	Contact First Name4	Contact First Name
	Base	Contact Last Name4	Contact Last Name
	Base	Requested Ship Date4	Requested Ship Date
	Base	Revision	Revision
	Base	Service Account	Service Account
	Edit	Account Address2	Account Address
	Edit	Account Location2	Account Location
	Edit	Account Order Number2	Account Order Number
	Edit	Account2	Account
	Edit	Active2	Active
	Edit	Agreement Name	Agreement Name
	Edit	Approved By - Emp Login2	Approved By - Emp Login
	Edit	Approved2	Approved
	Edit	As Of Date2	As Of Date
	Edit	Billable2	Billable
	Edit	Billing Account	Billing Account
	Edit	BRevise	BRevise
	Edit	Contact First Name2	Contact First Name
	Edit	Contact Last Name2	Contact Last Name



Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Edit	Created By	Created By
	Edit	Currency Code2	Currency Code
	Edit	Description2	Description
	Edit	Entitlement2	Entitlement
	Edit	Opportunity2	Opportunity
	Edit	Order Date2	Order Date
	Edit	OrderPriority2	OrderPriority
	Edit	Organization2	Organization
	Edit	Price List2	Price List
	Edit	Project2	Project
	Edit	Quote Number2	Quote Number
	Edit	Requested Ship Date2	Requested Ship Date
	Edit	Revision	Revision
	Edit	Sales Team2	Sales Team
	Edit	Service Account	Service Account
	Edit	Service Request Number2	Service Request Number
	Edit	Status2	Status
Order Entry - Order List Applet (Quote)	Edit List	BAutoOrder	BAutoOrder
Order Item XA List Applet	Base	Action Code	Action Code
	Edit List	Action Code	Action Code
Quote Entry Applet	Edit	Billing Account	Billing Account
	Edit	Service Account	Service Account
Quote Form Applet	Base	Discount2	Discount
	Base	PriceList2	PriceList
	Base	Service Account	Service Account
	Edit	Billing Account	Billing Account
	Edit	Service Account	Service Account

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Quote Form Applet - Current (eSales) - Tiny	Base	Account5	Account
	Base	ButtonGotoQuoteDetail4	ButtonGotoQuoteDetail
	Base	ContactLastName5	ContactLastName
	Base	LabelAccount5	LabelAccount
	Base	LabelLastName5	LabelLastName

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Quote Item Form Applet	Edit	Action2	Action2
	Edit	Adjusted List Price2	Adjusted List Price
	Edit	Agreement Name	Agreement Name
	Edit	Billing Account	Billing Account
	Edit	Discount Amount4	Discount Amount
	Edit	Discount Percent2	Discount Percent
	Edit	Exclude Pricing Flag2	Exclude Pricing Flag
	Edit	Item Price2	Item Price
	Edit	Line Total2	Line Total
	Edit	Net Discount Percent2	Net Discount Percent
	Edit	Non-Discounted Line Total2	Non-Discounted Line Total
	Edit	Options4	Options
	Edit	Package Name2	Package Name
	Edit	Part Number2	Part Number
	Edit	Pricing Comments2	Pricing Comments
	Edit	Product Type Code2	Product Type Code
	Edit	Quantity Requested2	Quantity Requested
	Edit	Requested Delivery Date2	Requested Delivery Date
	Edit	Revenue Occurences	Revenue Occurences
	Edit	Sales Service Flag2	Sales Service Flag
	Edit	Service Account	Service Account
	Edit	Service Id2	Service Id
	Edit	Service Point	Service Point
	Edit	Unit of Measure4	Unit of Measure
	Edit	Unit Price2	Unit Price
	Edit	Volume Discount Item2	Volume Discount Item
	Edit	Volume Upsell Item2	Volume Upsell Item
	Edit	Volume Upsell Message2	Volume Upsell Message
	Edit	Write-In Product2	Write-In Product

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Quote Item List Applet	Base	Action Code	Action Code
	Base	Adjusted List Price2	Adjusted List Price
	Base	Agreement Name	Agreement Name
	Base	Billing Account	Billing Account
	Base	Bprofile	Bprofile
	Base	Bungroup	Bungroup
	Base	Item Price2	Item Price
	Base	Line Total2	Extended Price
	Base	Options2	Options
	Base	Part Number2	Part Number
	Base	Quantity Requested2	Quantity Requested
	Base	Service Account	Service Account
	Base	Service Account Id	Service Account Id
	Base	Service Id	Service Id
	Base	Unit of Measure	Unit of Measure
	Edit	Agreement Name	Agreement Name
	Edit	Billing Account	Billing Account
	Edit	Covered Asset Number2	Covered Asset Number
	Edit	Covered Product2	Covered Product
	Edit	Product Type Code2	Product Type Code
	Edit	Service Account	Service Account
	Edit	Unit of Measure2	Unit of Measure
	Edit List	Action Code	Action Code
	Edit List	Adjusted List Price2	Adjusted List Price
	Edit List	Agreement Name	Agreement Name
	Edit List	Billing Account	Billing Account
	Edit List	Billing Account Site	Billing Account Site
	Edit List	Bprofile	Bprofile

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Edit List	Bungroup	Bungroup
	Edit List	Extended Price2	Extended Price
	Edit List	Item Price2	Item Price
	Edit List	Product2	Product
	Edit List	Quantity Requested2	Quantity Requested
	Edit List	Requested Delivery Date	Requested Delivery Date
	Edit List	Service Account	Service Account
	Edit List	Service Account Site	Service Account Site
	Edit List	Service Id	Service Id
	Edit List	Service Point	Service Point
	Edit List	Unit of Measure2	Unit of Measure
	Edit List	Usage Asset Id	Usage Asset Id
	Edit List	Usage Asset Id	Usage Asset Id
Quote Item XA List Applet	Edit	Action Code	Action Code
	Edit List	Action Code	Action Code

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
SIS OM Order Entry - Line Item List Applet (Sales)	Base	Action	Action Code
	Base	Agreement Name	Agreement Name
	Base	Billing Account	Billing Account
	Base	Service Account	Service Account
	Base	Service Id	Service Id
	Base	Service Point Id	Service Point Id
	Edit	Agreement Name	Agreement Name
	Edit	Billing Account	Billing Account
	Edit	Service Account	Service Account
	Edit	Unit of Measure2	Unit of Measure
	Edit List	Action Code	Action Code
	Edit List	Adjusted List Price2	Adjusted List Price
	Edit List	Agreement Name	Agreement Name
	Edit List	Asset Id	Asset Id
	Edit List	Billing Account	Billing Account
	Edit List	Item Price2	Item Price
	Edit List	Line Total2	Line Total
	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal
	Edit List	Product2	Product
	Edit List	Quantity Requested	Quantity Requested
	Edit List	Service Account	Service Account
	Edit List	Service Id	Service Id
	Edit List	Status2	Status
	Edit List	Unit of Measure	Unit of Measure

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
SIS OM Quote Item List Applet	Base	Action Code	Action Code
	Base	Adjusted List Price2	Adjusted List Price
	Base	Agreement Name	Agreement Name
	Base	Billing Account	Billing Account
	Base	Bprofile	Bprofile
	Base	Bungroup	Bungroup
	Base	Item Price2	Item Price
	Base	Line Total2	Extended Price
	Base	Options2	Options
	Base	Part Number2	Part Number
	Base	Quantity Requested2	Quantity Requested
	Base	Service Account	Service Account
	Base	Service Account Id	Service Account Id
	Base	Service Id	Service Id
	Base	Unit of Measure	Unit of Measure
	Edit	Agreement Name	Agreement Name
	Edit	Billing Account	Billing Account
	Edit	Covered Asset Number2	Covered Asset Number
	Edit	Covered Product2	Covered Product
	Edit	Product Type Code2	Product Type Code
	Edit	Service Account	Service Account
	Edit	Unit of Measure2	Unit of Measure
	Edit List	Action Code	Action Code
	Edit List	Adjusted List Price2	Adjusted List Price
	Edit List	Agreement Name	Agreement Name
	Edit List	Billing Account	Billing Account
	Edit List	Bungroup	Bungroup
	Edit List	Extended Price2	Extended Price

Table 18. Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Edit List	Item Price2	Item Price
	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal
	Edit List	Product2	Product
	Edit List	Quantity Requested2	Quantity Requested
	Edit List	Service Account	Service Account
	Edit List	Service Id	Service Id
	Edit List	Unit of Measure2	Unit of Measure
	Edit List	Usage Asset Id	Usage Asset Id

## Non-Asset Based Ordering User Interface Controls

To add or remove Asset-Based Ordering from your Siebel application, you must disable or enable the Asset Based Ordering user interface controls listed in this section.

- **Adding Asset Based Ordering.** If you are adding Asset Based Ordering, you must disable the non-asset-based ordering interface controls listed in [Table 19](#).

To disable the controls, for each control in the table, enter the following value in the Expression field:

NOT <application name>

**NOTE:** The application name you enter must be the name of the application object type in the Siebel repository that corresponds to the name of your Siebel application. For example, if your Siebel application is Siebel Automotive, enter the corresponding application object type, which is Siebel Automotive.



- **Removing Asset Based Ordering.** If you are removing Asset-Based Ordering, you must enable the non-asset-based ordering interface controls listed in [Table 19](#).

To enable the controls, delete the value from the Expression field for each control in the table.

**NOTE:** To add or remove Asset Based Ordering, you must also perform the task in "Asset-Based Ordering User Interface Controls" on page 299.

Table 19. Non-Asset Based Ordering Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Order Entry - Line Item List Applet	Edit List	Item Display Name	Item Display Name
	Edit List	Line Number	Line Number
	Edit List	Net Discount Percent	Net Discount Percent
	Edit List	Pricing Comments	Pricing Comments
	Edit List	Scheduled Ship Date	Scheduled Ship Date
	Edit List	Ship To Address	Ship To Address
Order Entry - Line Item List Applet (Sales)	Edit List	Line Number	Line Number
	Edit List	Net Discount Percent	Net Discount Percent
	Edit List	Pricing Comments	Pricing Comments
	Edit List	Scheduled Ship Date	Scheduled Ship Date
Quote Item List Applet	Edit List	BdeltaQuote	BdeltaQuote
	Edit List	NOT Siebel Power Communications2	
	Edit List	NOT Siebel Power Communications3	
	Edit List	NOT Siebel Power Communications4	
SIS OM Order Entry - Line Item List Applet (Sales)	Edit List	Line Number	Line Number
	Edit List	Net Discount Percent	Net Discount Percent
	Edit List	NOT Siebel Power Communications	
	Edit List	Pricing Comments	Pricing Comments
SIS OM Quote Item List Applet	Edit List	BdeltaQuote	BdeltaQuote

## Multiple Price Types User Interface Controls

To add Multiple Price Types to or remove Multiple Price Types from your Siebel application, you must enable or disable the MPT user interface controls listed in this section.

- **Adding Multiple Price Types.** To add Multiple Price Types, you must enable the user interface controls listed in [Table 20](#).

To enable the controls, delete the value from the Expression field for each control.

- **Removing Multiple Price Types.** To remove Multiple Price Types, you must disable the user interface controls listed in [Table 20](#).

To disable the controls, enter the following value in the Expression field for each control:

NOT Siebel Power Communications

**NOTE:** To add or remove multiple price types, you must also perform the task in “Non-Multiple Price Types User Interface Controls” on page 319. To remove multiple price types from Siebel eSales, you must also perform the task in “Non-Multiple Price Types eSales Views” on page 324.

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Opportunity Quote List Applet	Base	BSISOMquote	BSISOMquote
	Edit List	BSISOMquote	BSISOMquote
Order Entry - Line Item List Applet	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Order Entry - Order SubTotal Form Applet	Base	AdjustmentMRC	AdjustmentMRC
	Base	AdjustmentNRC	AdjustmentNRC
	Base	Discount Reason2	Discount Reason2
	Base	Item Total MRC	Item Total MRC
	Base	Item Total NRC	Item Total NRC
	Base	Net Total MRC	Net Total MRC
	Base	Net Total NRC	Net Total NRC
	Base	Total Item Discount MRC	Total Item Discount MRC
	Base	Total Item Discount NRC	Total Item Discount NRC
	Edit	AdjustmentMRC	AdjustmentMRC
	Edit	AdjustmentNRC	AdjustmentNRC
	Edit	Discount Reason2	Discount Reason2
	Edit	Item Total MRC	Item Total MRC
	Edit	Item Total NRC	Item Total NRC
	Edit	Net Total MRC	Net Total MRC
	Edit	Net Total NRC	Net Total NRC
	Edit	Total Item Discount MRC	Total Item Discount MRC
	Edit	Total Item Discount NRC	Total Item Discount NRC
Order Entry - Order TermsTotal Form Applet	Edit	Adjustment MRC	Adjustment MRC
	Edit	Adjustment NRC	Adjustment NRC
	Edit	DiscountReason2	DiscountReason2
	Edit	Products Total MRC	Products Total MRC
	Edit	Products Total NRC	Products Total NRC
	Edit	Services Total NRC	Services Total NRC
	Edit	Shipping on NRC	Shipping on NRC
	Edit	Tax on NRC	Tax on NRC
	Edit	Total Before Tax NRC	Total Before Tax NRC
	Edit	Total Charges MRC	Total Charges MRC
	Edit	Total Charges NRC	Total Charges NRC

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Pricer Order Entry - Order SubTotal Form Applet	Base	AdjustmentMRC	AdjustmentMRC
	Base	AdjustmentNRC	AdjustmentNRC
	Base	Discount Reason2	Discount Reason2
	Base	Item Total MRC	Item Total MRC
	Base	Item Total NRC	Item Total NRC
	Base	Net Total MRC	Net Total MRC
	Base	Net Total NRC	Net Total NRC
	Base	Total Item Discount MRC	Total Item Discount MRC
	Base	Total Item Discount NRC	Total Item Discount NRC
	Edit	AdjustmentMRC	AdjustmentMRC
	Edit	AdjustmentNRC	AdjustmentNRC
	Edit	Discount Reason2	Discount Reason2
	Edit	Item Total MRC	Item Total MRC
	Edit	Item Total NRC	Item Total NRC
	Edit	Net Total MRC	Net Total MRC
	Edit	Net Total NRC	Net Total NRC
	Edit	Total Item Discount MRC	Total Item Discount MRC
	Edit	Total Item Discount NRC	Total Item Discount NRC
Pricer Quote SubTotal Form Applet	Base	AdjustmentMRC	AdjustmentMRC
	Base	AdjustmentNRC	AdjustmentNRC
	Base	DeleteRecord	DeleteRecord
	Base	DisountReason2	DisountReason2
	Base	EditRecord	EditRecord
	Base	ItemTotalMRC	ItemTotalMRC

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
	Base	ItemTotalNRC	ItemTotalNRC
	Base	NetTotalMRC	NetTotalMRC
	Base	NetTotalNRC	NetTotalNRC
	Base	TotalItemDiscountMRC	TotalItemDiscountMRC
	Base	TotalItemDiscountNRC	TotalItemDiscountNRC
	Edit	AdjustmentMRC	AdjustmentMRC
	Edit	AdjustmentNRC	AdjustmentNRC
	Edit	DisountReason2	DisountReason2
	Edit	ItemTotalMRC	ItemTotalMRC
	Edit	ItemTotalNRC	ItemTotalNRC
	Edit	NetTotalMRC	NetTotalMRC
	Edit	NetTotalNRC	NetTotalNRC
	Edit	TotalItemDiscountMRC	TotalItemDiscountMRC
	Edit	TotalItemDiscountNRC	TotalItemDiscountNRC
Quote Form Applet	Edit	Bsisomoppty	Bsisomoppty
Quote Item List Applet	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal
Quote List Applet	Edit List	Bsisomoppty	Bsisomoppty

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
Quote SubTotal Form Applet	Base	AdjustmentMRC	AdjustmentMRC
	Base	AdjustmentNRC	AdjustmentNRC
	Base	DisountReason2	DisountReason2
	Base	ItemTotalMRC	ItemTotalMRC
	Base	ItemTotalNRC	ItemTotalNRC
	Base	NetTotalMRC	NetTotalMRC
	Base	NetTotalNRC	NetTotalNRC
	Base	TotalItemDiscountMRC	TotalItemDiscountMRC
	Base	TotalItemDiscountNRC	TotalItemDiscountNRC
	Edit	AdjustmentMRC	AdjustmentMRC
	Edit	AdjustmentNRC	AdjustmentNRC
	Edit	DisountReason2	DisountReason2
	Edit	ItemTotalMRC	ItemTotalMRC
	Edit	ItemTotalNRC	ItemTotalNRC
	Edit	NetTotalMRC	NetTotalMRC
	Edit	NetTotalNRC	NetTotalNRC
	Edit	TotalItemDiscountMRC	TotalItemDiscountMRC
	Edit	TotalItemDiscountNRC	TotalItemDiscountNRC
Quote Totals Form Applet	Edit	DiscountAmountMRC	DiscountAmountMRC
	Edit	DiscountAmountNRC	DiscountAmountNRC
	Edit	DisountReason2	DisountReason
	Edit	ProductTotalMRC	ProductTotalMRC
	Edit	ProductTotalNRC	ProductTotalNRC
	Edit	QuoteTotalNRC	QuoteTotalNRC
	Edit	ServiceTotalNRC	ServiceTotalNRC
	Edit	ShippingNRC	ShippingNRC
	Edit	TaxNRC	TaxNRC
	Edit	TotalBeforeTaxNRC	TotalBeforeTaxNRC
	Edit	TotalChargesMRC	TotalChargesMRC

Table 20. Multiple Price Types Controls

Applet	Applet Web Template	Applet Web Template Item	Control
SIS OM Order Entry - Line Item List Applet (Sales)	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal
SIS OM Quote Item List Applet	Edit List	MRC CxTotal	MRC CxTotal
	Edit List	NRC CxTotal	NRC CxTotal

## Non-Multiple Price Types User Interface Controls

To add or remove Multiple Price Types from your Siebel application, you must disable or enable the non-ABO user interface controls listed in this section.

- **Adding Multiple Price Types.** To add Multiple Price Types, you must disable the non-MPT user interface controls listed in [Table 21](#).

To disable the controls, enter the following value in the Expression field for each control in the table:

NOT <application name>

**NOTE:** The application name you enter must be the name of the application object type in the Siebel repository that corresponds to the name of your Siebel application. For example, if your Siebel application is Siebel Automotive, enter the corresponding application object type, which is Siebel Automotive.

- **Removing Multiple Price Types.** To remove Multiple Price Types, you must enable the non-MPT user interface controls listed in [Table 21 on page 320](#) lists the user interface controls you must enable.

To enable the controls, delete the value from the Expression field for each control in the table.

**NOTE:** To add or remove multiple price types, you must also perform the task in [“Multiple Price Types User Interface Controls” on page 314](#). To remove multiple price types from Siebel eSales, you must also perform the task in [“Non-Multiple Price Types eSales Views” on page 324](#).

Table 21. Non-Multiple Price Types Controls to Disable

Applet	Applet Web Template	Applet Web Template Item	Control
Order Entry - Order SubTotal Form Applet	Base	NOT Siebel Power Communications	
	Base	NOT Siebel Power Communications2	
	Base	NOT Siebel Power Communications3	
	Base	NOT Siebel Power Communications4	
	Base	NOT Siebel Power Communications5	
	Base	NOT Siebel Power Communications6	
	Edit	NOT Siebel Power Communications	
	Edit	NOT Siebel Power Communications2	
	Edit	NOT Siebel Power Communications3	
	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	
Order Entry - Order TermsTotal Form Applet	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	



Table 21. Non-Multiple Price Types Controls to Disable

Applet	Applet Web Template	Applet Web Template Item	Control
Pricer Order Entry - Order SubTotal Form Applet	Base	NOT Siebel Power Communications	
	Base	NOT Siebel Power Communications2	
	Base	NOT Siebel Power Communications3	
	Base	NOT Siebel Power Communications4	
	Base	NOT Siebel Power Communications5	
	Base	NOT Siebel Power Communications6	
	Base	NOT Siebel Power Communications7	
	Edit	NOT Siebel Power Communications	
	Edit	NOT Siebel Power Communications2	
	Edit	NOT Siebel Power Communications3	
	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	

Table 21. Non-Multiple Price Types Controls to Disable

Applet	Applet Web Template	Applet Web Template Item	Control
Pricer Quote SubTotal Form Applet	Base	NOT Siebel Power Communications	
	Base	NOT Siebel Power Communications10	
	Base	NOT Siebel Power Communications11	
	Base	NOT Siebel Power Communications12	
	Base	NOT Siebel Power Communications13	
	Base	NOT Siebel Power Communications14	
	Base	NOT Siebel Power Communications2	
	Base	NOT Siebel Power Communications3	
	Base	NOT Siebel Power Communications4	
	Base	NOT Siebel Power Communications5	
	Base	NOT Siebel Power Communications6	
	Base	NOT Siebel Power Communications7	
	Base	NOT Siebel Power Communications8	
	Base	NOT Siebel Power Communications9	
	Edit	NOT Siebel Power Communications	
	Edit	NOT Siebel Power Communications2	
	Edit	NOT Siebel Power Communications3	
	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	
Quote Item List Applet	Edit List	Non-Discounted Line Total	Non-Discounted Line Total
	Edit List	Pricing Comments	Pricing Comments
	Edit List	SumComponents	SumComponents

Table 21. Non-Multiple Price Types Controls to Disable

Applet	Applet Web Template	Applet Web Template Item	Control
Quote SubTotal Form Applet	Base	NOT Siebel Power Communications	
	Base	NOT Siebel Power Communications10	
	Base	NOT Siebel Power Communications11	
	Base	NOT Siebel Power Communications12	
	Base	NOT Siebel Power Communications13	
	Base	NOT Siebel Power Communications14	
	Base	NOT Siebel Power Communications2	
	Base	NOT Siebel Power Communications3	
	Base	NOT Siebel Power Communications4	
	Base	NOT Siebel Power Communications5	
	Base	NOT Siebel Power Communications6	
	Base	NOT Siebel Power Communications7	
	Base	NOT Siebel Power Communications8	
	Base	NOT Siebel Power Communications9	
	Edit	NOT Siebel Power Communications	
	Edit	NOT Siebel Power Communications2	
	Edit	NOT Siebel Power Communications3	
	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	
Quote Totals Form Applet	Edit	NOT Siebel Power Communications4	
	Edit	NOT Siebel Power Communications5	
SIS OM Quote Item List Applet	Edit List	Net Discount Percent	Net Discount Percent
	Edit List	Non-Discounted Line Total	Non-Discounted Line Total
	Edit List	Pricing Comments	Pricing Comments
	Edit List	SumComponents	SumComponents
	Edit List	Unit Price	Unit Price

## Non-Multiple Price Types eSales Views

To remove Multiple Price Types from your Siebel eSales application, you must modify the eSales views listed in this section.

**NOTE:** To remove multiple price types, you must also perform the task in ["Multiple Price Types User Interface Controls"](#) on page 314 and ["Non-Multiple Price Types User Interface Controls"](#) on page 319.

### CUT Current Quote View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Quote Item List Applet (eSales)	Quote Item List Applet (eSales)

### CUT Saved Quote Detail View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Saved Quote Item List Applet (eSales)	Saved Quote Item List Applet (eSales)
CUT Quote Totals Form Applet - Summary (eSales)	Quote Totals Form Applet - Summary (eSales)

### CUT Quote Summary View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Quote Item ReadOnly List Applet (eSales)	Quote Item ReadOnly List Applet (eSales)
CUT Quote Totals Form Applet - Summary (eSales)	Quote Totals Form Applet - Summary (eSales)

### CUT Order Confirmation View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Order Confirmation Item List Applet (eSales)	Order Item List Applet (eSales)
CUT Order Totals Form Applet - Confirmation (eSales)	Order Totals Form Applet - Confirmation (eSales)

## CUT Order History Summary View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Order Item List Applet (eSales)	Order Item List Applet (eSales)
CUT Order Totals Form Applet - Confirmation (eSales)	Order Totals Form Applet - Confirmation (eSales)

## CUT Order Approval View (eSales)

Change this view as specified in the following table.

Replace	With
CUT Order Approval Item List Applet (eSales)	Order Approval Item List Applet (eSales)
CUT Order Totals Form Applet - Confirmation (eSales)	Order Totals Form Applet - Confirmation (eSales)

## CUT Quote Form Applet - Current (eSales)

Change this view as specified in the following lists.

**Applet Web template.** Make the following items inactive:

- ButtonUngroup
- Current Quote Total Base Price
- Current Quote Total Base Price MRC
- Current Quote Total Item Discount
- Current Quote Total Item Discount MRC
- ButtonMyProducts

**Applet Base template.** Expose the following items:

- TotalDiscount
- TotalNetPrice



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