Siebel Order Management Guide Addendum for Communications

Siebel Innovation Pack 2016

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Contents

Chapter 1: What's New in This Release

Chapter 2: Setting Up Order Management for Industry Applications

About Asset-Based Ordering and Network Ordering 19

About Order Management for Industry Applications 20

Activating Workflows for Order Management for Industry Applications 22

About the Workflow for Order-To-Installation Tasks 23

Chapter 3: Telco Subscription Management in Open UI

About Telco Subscription Management in Open UI 25

Tasks for Configuring the Customer Dashboard 26

- Configuring the Navigation Pane of the Customer Dashboard 26
- Configuring the Action Launchpad of the Customer Dashboard 27
- Configuring Customer Analytics 27

Using the Customer Directory 28

Using the Customer Dashboard 29

Tasks Using the Action Launchpad 29

- Changing SIM Cards 29
- Adding and Removing Barring Services 32
- Using Bulk Onboarding of New Subscribers 33

Workflow Reference for Telco Subscription Management in Open UI 34

- TOUI BOB Submit Process Workflow 35
- TOUI BOB Cancel Process Workflow 36
- TOUI QCSIM Generate Order Process Workflow 37
- TOUI AssignBar Select Process Workflow 39
- TOUI AssignBar Cancel Process Workflow 39
- TOUI AssignBar Generate Order Process Workflow 40
- TOUI AssignBar Get Delta Sub Process Workflow 42
- TOUI AssignBar Get Selected Services Sub Process Workflow 44
- TOUI Installed Asset Select Process Workflow 45
- TOUI Generate Order Process Workflow 46

TOUI Get Selected Service Sub Process Workflow 49
TOUI Get Delta Sub Process Workflow 49
TOUI Set Value Sub Process Workflow 50
TOUI CSim Cancel Process Workflow 51
TOUI CSim Delete Process Workflow 52

Chapter 4: Employee Asset-Based Ordering

Updating Opportunities from Quotes 54

Processing a Quote Through the Order-to-Cash Process Integration Pack 55

Comparing Prices with Competitor Prices 56

Setting Up Service Charges for Products 57

About Synchronizing Product Attributes, Product Classes, Products, and Promotions 58
About Synchronizing Product Attributes 60
About Synchronizing Product Classes 61
About Synchronizing Products 62
About Synchronizing Promotions 63

Viewing Synchronized Extensible Product Fields 66

Defining Product Promotions 66
Defining Promotion Component Actions 67
About Defining Promotion Upgrades for a Group of Promotions 68
Upgrading Promotions 71
Upgrading Promotions (In-Memory) 73
Configuring the Pricing Signal Name for In Memory Promotion Upgrade Process Workflow 77
Defining Promotion Upgrade Aggregate 78

About Defining Promotion Merge 81
Example of Defining a Promotion Merge 81

About Defining a Promotion Split 83
Scenario for Defining a Promotion Split 83
Example of Defining a Promotion Split 84

About Dynamic Transform 86
Source Promotions Applet 86
Target Promotions Applet 87
Performing a Promotion Dynamic Transform 88

Configuring the Edit Promotion Product Selection 89
Scenario for Using Edit Promotion Product Selection 90

Defining User Interfaces for Bundled Promotions 91

Editing a Bundled Promotion 92

Processing Order Management Messages 96

About Bundling Components for a Promotion 96

- Scenario for Bundling Components for a Promotion 97
- Example of Bundling Components for a Promotion 97

Defining Bundled Promotion Compatibility Rules 98

About Promotion Components Using Two Nodes Associated with Two Service Accounts 100

Scenario for Using Different Service Account for a Promotion Component 100

About Promotion Component Commitments 101

Defining Component-Level Commitments 101

- Defining Commitments for Promotion Components 102
- Defining Component Commitments for Relationships 103
- Defining Component Commitments and Agreement Items 104
- Disconnecting Component Commitments 105
- Scenario for Deleting a Promotion Containing a Committed Component 105
- About Penalty Component Charges for Commitments 106

Selecting Asset-Based Promotion Recommendations 107

- Ambiguity Detection and Resolution 108

Debundling Component Assets from a Promotion 109

About Visual Indicators for Promotions 110

Configuring the Projected Asset Cache Search Specification 111

- Setting Up the Business Service User Properties 111
- Configuring the Workflows 113
- About Business Service and Workflow Configurations 114

About Promotion Transitions Ambiguity Resolution 114

- Controlling Promotion Ambiguity Resolution 114
- About Manually Resolving Ambiguous Promotion Transitions 115
- Transferring an Ambiguous Component to a Target Promotion Definition 116
- Removing a Promotion Component from the Target Promotion Definition 116

Defining Customizable Product Compatibility Rules 117

Configuring the Workflow for Promotion Penalties 119

Setting Up a Product for Oracle Application Integration Architecture Integration 120

Modifying the Order Priority Mapping 124

Processing a Sales Order Through Oracle Application Integration Architecture Integration 124

Managing Telephone Numbers for an Order 130
Building a Hierarchy of Orders 131
About Order Revisions and As Submitted Orders 133
Submitting an Order for Technical Service Qualification 135
About Time-Based Offerings 136
Process of Setting Up Time-Based Offerings 137
Creating Time-Based Offering Product Attributes (Administrator) 138
Creating a Time-Based Offering Product Class (Administrator) 140
Creating a Time-Based Offering Discount Product (Administrator) 140
Adding a Time-Based Offering Discount to a Bundled Promotion (Administrator) 141
About Managing Time-Based Offerings 142
Time-Based Offerings in New Orders 143
Example of Including a Time-Based Offering in a New Order 143
Time-Based Offerings in Changed Orders and Assets 144
Transferring Service to Another Location (User) 145
About Managing Bulk Requests 146
Roadmap for Configuring Bulk Requests 147
Configuring Cancellation Processing 148
Creating Bulk Import Template Files 149
Process of Adding Custom Fields to Import Template Files 151
Configuring Validation Rules for the Import Process 156
Configuring Bulk Request Validation to Improve Performance 158
Configuring the Import Process 159
Setting Up Bulk Requests on a Mobile Web Client 160
(Optional) Changing Processing for Action Sets 161
Process of Managing Bulk Requests 162
Creating a Bulk Request Header 162
Adding Bulk Request Data Manually 163
Importing Bulk Request Data from a Template File 173
Creating Bulk Requests with a Target List 174
(Optional) Validating a Bulk Request 177
Submitting a Bulk Request 177
Managing Exception Data in a Bulk Request 179
Viewing a Bulk Quote 181
Viewing a Bulk Order 181
About Bulk Request Processing 182
About Bulk Request Processing Logic 182
About Exploding an Action Set Template 183

About Exception Data in Bulk Requests 185
Process of Managing Prepaid Services 187
Designating Prepaid Services for Products and Promotions 187
Setting Up a Billing Profile for Prepaid Services 188
Topping Up a Balance for an Installed Asset 189
Viewing Prepaid Transaction Details 191
Process of Configuring Prepaid Services 191
Creating Outbound Web Services 191
Configuring Virtual Business Components 192
Importing Outbound Web Services into the Siebel Application 194
Adding Special Rating Items to a Quote or Order 194
Adding Special Rating Items to a Quote 195
Adding Special Rating Items to a Sales Order 195
About Managing Order Fallout 196
Viewing Fallout Orders and Order Line Items 198
Upgrading Promotions in Quote and Order Lines 200
Scenario for Working with Promotion Upgrades 201
Upgrading Promotions from a Quote or Order Line Item 201

Chapter 5: Workflows for Employee Asset-Based Ordering

About Workflows for Employee Asset-Based Ordering 204
Workflow That Generates Revenue Line Items for an Opportunity 204
SIS OM Update Revenue Workflow 204
Workflows to Edit Quote Line Items 205
SIS OM Edit Delta Quote Line Item Workflow 205
SIS OM Add Service Charge Quote Sub-Process Workflow 208
Workflows to Edit Order Line Items 209
SIS OM Edit Service Order Line Item Workflow 209
SIS OM Add Service Charge Order Sub-Process Workflow 212
Workflows to Submit an Order 213
Submit Order ASI Workflow 213
SISOMBillingSubmitOrderWebService Workflow 214
SIS OM Submit Order Process Workflow 217
Order Process Workflows Retained for Backward Compatibility 217
Workflows to Update Order Line Items 218
SIS OM Order Line Item Update Main Workflow 218
SIS OM UpdateOrderItem Workflow 219
SIS OM NSB Update Order Line Workflow 220

Workflows to Modify a Service Item 221
SIS OM Edit Complex Asset Workflow 222
SIS OM Add Service Charge Sub-Process Workflow 225
SIS OM Modify Products & Services Process Workflow 226
Workflows to Disconnect a Service Item 228
SIS OM Disconnect Products & Services Process Workflow 228
SIS OM Disconnect Asset Sub-Process Workflow 230
Workflows to Suspend or Resume Service Items 231
SIS OM Suspend / Resume Products & Services Process Workflow 232
SIS OM Suspend / Resume Asset Sub-Process Workflow 233
Workflows to Transfer a Service to Another Location 236
SIS OM Move Process Workflow 237
SIS OM Move Exception Handling Workflow 244
SIS OM Move Service Point Check Workflow 245
SIS OM Move Display Quote Workflow 246
Workflows to Validate a Network 246
VORD Validate (Quote) Workflow 246
VORD Validate (Order) Workflow 248
Workflows for Price Comparison 249
SIS OM PC Price Comparison Process Workflow 250
SIS OM Goto Price Comparison View Process Workflow 251
Workflows for Enrollment 252
SIS OM PC Enrollment Workflow 252
SIS OM PC Create Account Subprocess Workflow 254
SIS OM PC Go To Opportunity View Workflow 255
SIS OM PC Set Opportunity Account Workflow 255
CUT eSales - PC Enrollment Process Workflow 255
CUT eSales - Set Shopping Cart Price List Workflow 257
CUT eSales - PC Prepare Cart Process Workflow 257
SIS OM PC Go to Order Entry - Line Items View (Sales) Workflow 258
Workflows for Bulk Requests 259
ABO Bulk Request Import Workflow 261
ABO Bulk Request - Validate Process Workflow 261
ABO Bulk Request - Submit Driver Process Workflow 262
ABO Bulk Request - Submit Process Workflow 263
ABO Bulk Request - Parallel Sub Process Workflow 265
ABO Bulk Request - Sub Process Workflow 267
ABO Bulk Request - Prepare Action Set Sub-Process Workflow 269
ABO Bulk Request - Inclusive Process Action Sub-Process Workflow 270
ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow 273

ABO Bulk Request - Add Sub-Process Workflow 276
ABO Bulk Request - Modify Sub-Process Workflow 277
ABO Bulk Request - Delete Sub-Process Workflow 280
ABO Bulk Request - Suspend/Resume Sub-Process Workflow 282
ABO Bulk Request - Upgrade Sub-Process Workflow 285
ABO Bulk Request - Notify User Sub-Process Workflow 287
ABO Bulk Request Add Item Customize Process Workflow 288
ABO Bulk Request Add Item Customize SubProcess Workflow 291
ABO Bulk Request - Edit Order Line Item Workflow 293
ABO Bulk Request - Clear Exception Process Workflow 296
ABO Bulk Request - Clear Exception Sub-Process Workflow 297
ABO Bulk Request - Reset Process Workflow 297
ABO Bulk Request - Reset Process Sub-Process Workflow 298
ABO Bulk Request - Cancel Process Workflow 298
ABO Bulk Request - Edit Complex Asset Workflow 299
ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow 302
ABO Bulk Request - ApplyProductPromotion Workflow 304
ABO Bulk Request - ModifyWebService-Order Workflow 306
ABO Bulk Request - Check Eligibility & Compatibility Workflow 307
ABO Bulk Request - Disconnect Products & Services Process Workflow 307
ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow 308
ABO Bulk Request - Promotion Disconnect Sub Process Workflow 311
ABO Bulk Request - Disconnect Asset Sub-process Workflow 315
ABO Bulk Request - Edit Promotion Related Asset Workflow 317
ABO Bulk Request - Promotion - Update Matched Items Sub Process Workflow 319
ABO Bulk Request - Promotion Disconnect Process Workflow 321
ABO Bulk Request - Explode Workflow 323
ABO Bulk Request - Explode Driver Workflow 324
ABO Bulk Request - All Instances Sub Process Workflow 326
ABO Bulk Request Add Item Customize SubProcess Quotes Workflow 327

Workflow for Prepaid Services 330
SIA External Integration Process Workflow 330

Workflows to Calculate Prices for Orders 331
Basic Pricing Procedure Workflow 332
Dynamic Pricing Procedure Workflow 335
Pricing Procedure - Calculate Net Price Workflow 338

Workflows to Process an Order 341
SWI Initial Load Non CP Order Release Workflow 342
SWIOrderUpsert_O2C Workflow 342
SWI Configurator Load Workflow 343
Oracle Configurator Load Workflow 344

SWISendATPCheck Workflow 345
SWISendATPCheckLine Workflow 346
SWISendCalculateShippingCharge Workflow 347
SWISendOrder Workflow 349
SWIReviseOrderValidation Workflow 350
SWICopyOrder Workflow 351
Verify Header (Order) Workflow 352
Verify Item (Order) Workflow 352
SWIValidateDependentOrders Workflow 353
SWIOrderUpsert Workflow 354
SWIOrderUpsertSubProcess Workflow 355
SWI TSQ Order Workflow 358

Workflows to Cancel an Order 359
SWICancel Sales Order Workflow 359
SWI Cancel Sales Order Line Item Workflow 361
SWI Cancel Sales Order_O2C Workflow 361

Workflows to Process a Quote 363
Submit Quote ASI Workflow 363
SWIQuoteUpsert Workflow 364
SWISendQuote Workflow 364

Workflows to Process Time-Based Offerings 366
SWISetTBOEndDate Workflow 366
SWI Asset Status Update Workflow 367

Workflows for Dynamic Transform 367
ISS Promotion Dynamic Transform Process Workflow 368
ISS Promotion Dynamic Transform Quote Sub Process Workflow 369
ISS Promotion Dynamic Transform Quote Reprice Sub Process Workflow 371
ISS Promotion Dynamic Transform Order Sub Process Workflow 371
ISS Promotion Dynamic Transform Order Reprice Sub Process Workflow 374

Workflows for Ambiguity Resolution 374
ISS Promotion Collect Eligible List Workflow 374
ISS Promotion Ambiguity Resolution Process - Upgrade Workflow 376
ISS Promotion Cancel Ambiguity Process Workflow 377

Workflow for User Prompts 378
ISS Promotion Prompt Interactive Sub Process Workflow 378

Workflows for In-Memory Promotion Upgrades 380
ISS Promotion Modify Complex Asset Workflow 381
SIS OM Find Open Order Workflow 382
ISS Promotion Add New Promotion Sub Process 383
ISS Promotion Auto Assignment - In Memory Upgrade 384

. . . . . ISS Promotion Update Matched Items Sub Process 386
ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade 387
ISS Promotion Load Membership Sub Process 388
ISS Promotion Upgrade Penalty Sub Process 388
ISS Promotion Finish Upgrade Sub Process 390
ISS Promotion Add Product Sub Process 391
ISS Promotion Edit Config Line Item 391
Workflows to Process Promotions 393

Chapter 6: Creating Communications Promotion Groups

About Promotion Groups 397
Scenario for Working with Promotion Groups 399
Process of Setting Up Promotion Groups (Administrators) 402
Creating Promotion Group Membership and Reward Products 402
Creating Promotion Group Definitions 403
Adding Membership Definitions to a Promotion Group Definition 405
Adding Reward Definitions to a Promotion Group Definition 409
Mapping Promotion Groups to Oracle Communications Billing and Revenue Management Sharing Groups 410
Adding Promotion Group Definitions, Membership Definitions, and Reward Definitions to Price Lists 414
Setting Pricing Adjustments for Memberships, Rewards, and Assets 414
Adding Commitments to a Promotion Group Definition 422
Creating Eligibility Rules for Promotion Group Definitions 427
Creating Compatibility Rules in Promotion Group Definitions 429
Defining Asset Membership Cardinality Rules 433
Applying Validation Rules to Promotion Group Definitions 434
Defining Access Control Rules for Promotion Group Members 438
Associating Promotion Group Definitions with Catalog Categories 439
Setting Up Notifications to Promotion Group Members 440
Releasing a Promotion Group Definition 441
Deactivating a Promotion Group Definition 442
About Managing Promotion Groups 443
Roadmap for Managing Promotion Groups (Users) 443
Process of Creating Promotion Groups 443
Creating New Promotion Group Instances 444
Adding Memberships to a Promotion Group 446
Associating Assets with a Promotion Group Membership 447
Defining Promotion Group Membership Attribute Values 449
Process of Managing Promotion Groups 450

Viewing the Details of a Promotion Group 450
Accessing the Promotion Group Components 451
Adding Memberships to a Promotion Group 452
Modifying Promotion Group Memberships 452
Disconnecting Promotion Groups 453
Disconnecting Promotion Group Memberships 454
Process of Managing Promotion Group Members 454
Viewing Membership Information for an Asset 454
Adding Members to a Promotion Group 455
Disconnecting Promotion Group Members 455
About Promotion Group Memberships in Upgraded and Downgraded Promotions 456
Promotion Group Disconnect Reference 458
Promotion Group Access Control Reference 460

Chapter 7: Task UI Flows

About the Task UI 465
Creating a New Promotion Group Instance 465
About Creating a Promotion Group Instance with the Task UI 465
Scenario for Creating a Promotion Group Instance with the Task UI 466
Creating a Promotion Group Instance with the Task UI 467
Resuming a Paused Task UI Operation 469

Chapter 8: Workflows for Promotion Groups

About Workflows for Promotion Groups 471
Workflows That Process Promotion Group Assets 471
ISS Promotion Group Asset List Sub Process Workflow 472
ISS Promotion Group Associate Member Sub Process Workflow 472
ISS Promotion Group Associated Member Sub Process Workflow 474
ISS Promotion Group Membership Disconnect Process Workflow 475
ISS Promotion Group Disconnect Process Workflow 479
Workflow That Modifies the Promotion Group 484
ISS Modify Promotion Group Workflow 484
Workflows That Verify Product Compatibility 485
Product Compatibility - Default Workflow 485
Product Compatibility - Exclude Rules SubProcess Workflow 487
Product Compatibility - Require Rules SubProcess Workflow 490
Workflows That Process Compatibility Rules 493

ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow 493
ISS Promotion Group Compatibility - Require Rules SubProcess Workflow 496
ISS Promotion Asset Membership Compatibility Workflow 498

Workflows That Process Agreements 499
Configurator Product Info Lookup Workflow 500
ISS Promotion Agreement Management Sub Process Workflow 501
ISS Promotion Create Agreement Details Workflow 503

Workflows That Validate Quotes and Orders 504
ISS Promotion Verify SubProcess Workflow 505
ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow 506
ISS Promotion Group Check Commitment Sub Process Workflow 508
ISS Promotion Group Validate (Order) Workflow 508
ISS Promotion Group Validate (Quote) Workflow 509

Workflows That Calculate Promotion Group Pricing 510
PSP Driver Workflow Process Workflow 511
Pricing Promotion Group - Asset Membership Sub Process Workflow 512
Pricing Procedure - Promotion Group Discount Workflow 513

Chapter 9: Partner Asset-Based Ordering

About Order Management in Siebel Partner Relationship Management 515

Scenario for Partner Asset-Based Ordering 515

Order Management with Standard Partner Commerce 517
Adding Items to a Shopping Cart (Standard Partner Commerce) 518
Customizing an Item (Standard Partner Commerce) 519
Revising Shopping Cart Contents (Standard Partner Commerce) 520
Adding Bulk Items to the Shopping Cart (Standard Partner Commerce) 521
Saving a Shopping Cart as a Quote or Quote Template (Standard Partner Commerce) 521
Converting a Quote to an Order (Standard Partner Commerce) 522
Processing an Order Checkout (Standard Partner Commerce) 523
Adding Quote Template Items to the Shopping Cart (Standard Partner Commerce) 523
Entering Shipping Information (Standard Partner Commerce) 524
Using the Credit Card Payment Method (Standard Partner Commerce) 524
Using the Bill Me Payment Method (Standard Partner Commerce) 525
Using the Billing Account Payment Method (Standard Partner Commerce) 525
Using the Purchase Order Method (Standard Partner Commerce) 525
Reviewing and Submitting an Order (Standard Partner Commerce) 526
Revising an Order (Standard Partner Commerce) 526
Selecting Billing and Service Accounts (Standard Partner Commerce) 526
Modifying an Order (Standard Partner Commerce) 527

Disconnecting an Order (Standard Partner Commerce) 527
Order Management with Power Partner Commerce 528

Chapter 10: Workflows for Partner Asset-Based Ordering

CUT eChannel - New Products & Services Process Workflow 529
CUT eChannel - Goto Product Catalog View Workflow 531

Chapter 11: Customer Asset-Based Ordering

About Customer Asset-Based Ordering 533
Scenarios for Customer Asset-Based Ordering 534
Adding Bulk Items to the Shopping Cart 535
Modifying a Service Item 535
Disconnecting a Service Item 536

Chapter 12: Workflows for Customer Asset-Based Ordering

About Workflows for Customer Ordering 537
Workflows That Process an Order Checkout 538
CUT eSales - Checkout Process Workflow 538
CUT eSales - Set Quote Account Info Workflow 539
eSales - Complete Checkout Process Workflow 541
eSales - Enter Shipping Details Process Workflow 542
eSales - Set Primary Account Address Workflow 544
eSales - Save Shipping Address Workflow 544
eSales - Enter Payment Details Process Workflow 545
CUT eSales - Bill Me Process Workflow 547
CUT eSales - Prepare Quote Process Workflow 548
eSales - Authorize Order Process Workflow 549
Workflow That Ungroups Quotes 550
CUT eSales - Ungroup Quote Workflow 550
Workflow That Creates an Order for a Quote 551
CUT eSales - Order Quote Process Workflow 551
Workflow That Edits a Delta Quote Line Item 552
CUT eSales - Edit Delta Quote Line Item Workflow 552
Workflows That Revise an Order 552
CUT eSales - Revise Order Process Workflow 553
CUT eSales - Goto Revise Order View Workflow 553
Workflow That Rejects an Order 553

eSales - Reject Order Process Workflow 554

Workflows That Modify Products and Installed Assets 554
CUT eSales - Modify Products and Services Process Workflow 555
CUT eSales - Prepare Shopping Cart Process - Interactive Workflow 555

Workflows That Disconnect Products and Services 557
CUT eSales - Disconnect Products and Service Process Workflow 557
CUT eSales - Prepare Shopping Cart Process Workflow 558

Chapter 13: Setting Up Network Ordering

About Network Ordering 559

About Cross-Network Validation 560

Process of Defining Compound Products for a Network 562
Defining Products for the Network 562
Defining Business Services for Rule Checkers 564
Defining Maximum and Minimum Quantities for Network Components 565
Defining Error Messages for Compound Product Rules 565
Defining Simple Expression Rules for Compound Products 566

Setting Up Premises 567

About the Compound Product Validation Engine 568

Example of Defining Compound Products for a Network 571

About Configuring Network Ordering 577

Enabling and Disabling Cross-Network Validation 578

User Property Reference for Cross-Network Validation 579
ValidateOtherNetwork 579
ValidateFieldName 580
NestedValidationQuoteSearchSpec 580
VORDConnectionToNodeSearchSpec 581

Configuring Cascade Deletion for a Disconnected Network 581

About Creating Custom Rule Checkers 582

Chapter 14: Using Network Ordering

Process of Ordering New Networks 583
Creating an Account and Locations for a New Network 583
Creating a Quote for a New Network 584
Adding Nodes to a New Network 585
Adding Connections to a New Network 586
Validating a Quote for a Network 587

Creating an Order for a New Network 587
Converting a Completed Network Order to Assets 588
Viewing a Network as a Billing or Service Item 588
Process of Ordering New Sites in Existing Networks 589
Adding a Location for a New Network Site 589
Creating a Quote for a New Network Site 590
Adding a Node for a New Network Site 590
Adding a Connection for a New Network Site 591
Validating a Quote for a New Network Site 591
Creating an Order for a New Network Site 592
Converting an Order for a New Network Site to Assets 592
Process of Upgrading Bandwidth at Network Sites 593
Displaying a Network to Upgrade 593
Upgrading Bandwidth at a Network Site 594
Upgrading Bandwidth of a Network Connection 594
Validating a Network After Bandwidth Upgrade 595
Creating an Order to Upgrade Bandwidth 595
Converting a Completed Order to Upgrade Bandwidth to Assets 595
Process of Disconnecting a Site from a Network 596
Disconnecting a Network Node and Connections 596
Validating a Network After Site Disconnection 597
Creating an Order to Disconnect a Network Site 597
Updating Assets After Network Site Disconnection 597

Appendix A: Ambiguity Resolution

Sum of Assets Greater Than MAX Cardinality 599
Same Product Component Twice 601
Multiple Assets of the Same Product 602

Index

1 What's New in This Release

What's New in Siebel Order Management Guide Addendum for Communications, Siebel Innovation Pack 2016

No new features have been added to this guide for this release. This guide has been updated to reflect only product name changes.

What's New in Siebel Order Management Guide Addendum for Communications, Siebel Innovation Pack 2015, Rev. A

Table 1 lists the changes in this revision of the documentation to support this release of the software.

Table 1. What's New in Siebel Order Management Guide Addendum for Communications, Siebel Innovation Pack 2015, Rev. A

Topic	Description
"Using Bulk Onboarding of New Subscribers" on page 33	Modified topic. It contains updated information about bulk onboarding, including a new step for applying products to phone numbers.
"Upgrading Promotions" on page 71	Modified topic. It contains updated information about an alternative promotions upgrade process available in Siebel Innovation Pack 2015, Patchset 5 and later.
"Upgrading Promotions (In-Memory)" on page 73	New topic. Describes the in-memory promotions upgrade process.
"Configuring the Pricing Signal Name for In Memory Promotion Upgrade Process Workflow" on page 77	New topic. Describes how to configure the Pricing Signal Name for the In Memory Promotion Upgrade Process workflow.
"Example of Bundling Components for a Promotion" on page 97	Modified topic. A new step describes how to select a promotion from the Pick Promotion dialog box, and information related to record eligibility.
"Debundling Component Assets from a Promotion" on page 109	Modified topic. A new note provides additional information about an error message that is returned if an attempt is made to debundle a mandatory component.
"ABO Bulk Request - Add Sub-Process Workflow" on page 276	Modified topic. It contains updated information about workflow actions and decisions.
"ABO Bulk Request - Modify Sub-Process Workflow" on page 277	Modified topic. It contains updated information about workflow actions and decisions.
"ABO Bulk Request - Upgrade Sub-Process Workflow" on page 285	Modified topic. It contains updated information about workflow actions and decisions.

Table 1. What's New in Siebel Order Management Guide Addendum for Communications, Siebel Innovation Pack 2015, Rev. A

Topic	Description
"ABO Bulk Request - Edit Complex Asset Workflow" on page 299	Modified topic. It contains updated information about workflow actions and decisions.
"ABO Bulk Request - Promotion Disconnect Sub Process Workflow" on page 311	Modified topic. It contains updated information about workflow actions and decisions.
"ABO Bulk Request - Edit Promotion Related Asset Workflow" on page 317	Modified topic. It contains updated information about workflow actions and decisions.
"Workflows for In-Memory Promotion Upgrades" on page 380	New topic. It contains new information about workflows related to in-memory promotion upgrades.
"Disconnecting an Order (Standard Partner Commerce)" on page 527	Modified topic. It contains updated information about accepting or rejecting violations when disconnecting an order.

2 Setting Up Order Management for Industry Applications

This chapter provides an overview of customer order management for the communications, media, and energy industries. It includes the following topics:

- "About Asset-Based Ordering and Network Ordering" on page 19
- "About Order Management for Industry Applications" on page 20
- "Activating Workflows for Order Management for Industry Applications" on page 22
- "About the Workflow for Order-To-Installation Tasks" on page 23

NOTE: The procedures in this guide assume that you do not use left-hand navigation. However, you can set up left-hand navigation. For more information about left-hand navigation and about implementing it, see *Siebel Fundamentals for Siebel Open UI*.

About Asset-Based Ordering and Network Ordering

This guide contains information you use in combination with *Siebel Order Management Guide*. For more background information about order management, and for information about setting up order management, see *Siebel Order Management Guide*.

In addition to the functionality described in *Siebel Order Management Guide*, Siebel Order Management for Industry Applications supports the functionality in this guide.

Employee, Customer, and Partner Asset-Based Ordering

Asset-based ordering allows users to create assets based on orders and to create new orders to modify these assets. For example, if a customer orders telephone service, then the Siebel application generates an asset record representing that service. Then the customer can place subsequent orders to modify the service (for example, adding call waiting and automatic message forwarding) or to disconnect the service.

The following documents and topics cover asset-based ordering:

- **General Background.** The topics about asset-based ordering in *Siebel Order Management Guide* contain general background information.
- **Employee Asset-Based Ordering.** Most asset-based ordering for employees is available in Siebel Industry Applications and in Siebel Business Applications. The topics about asset-based ordering in *Siebel Order Management Guide* contain information about employee asset-based ordering. Chapter 4, "Employee Asset-Based Ordering" and Chapter 5, "Workflows for Employee Asset-Based Ordering" in this guide contain information about additional functionality for employee asset-based ordering.

- **Partner Asset-Based Ordering.** Asset-based ordering for partners is available only in Siebel Industry Applications. Chapter 9, "Partner Asset-Based Ordering" and Chapter 10, "Workflows for Partner Asset-Based Ordering" in this guide contain information about partner asset-based ordering.
- **Customer Asset-Based Ordering.** Asset-based ordering for customers is available only in Siebel Industry Applications. Chapter 11, "Customer Asset-Based Ordering" and Chapter 12, "Workflows for Customer Asset-Based Ordering" in this guide contain information about customer asset-based ordering.

Network Ordering

Network Ordering allows companies to configure orders for large networks, such as computer networks and telecommunications networks. Chapter 13, "Setting Up Network Ordering" and Chapter 14, "Using Network Ordering" in this guide contain information about network ordering.

About Order Management for Industry Applications

Siebel Order Management for Industry Applications is based on the same concepts as asset-based ordering. The topic about asset-based ordering in *Siebel Order Management Guide* describes these concepts. This topic describes some additional concepts specific to industry applications.

Terminology for Order Management

Some terminology in Siebel Order Management for Industry Applications differs from the terminology in Oracle's Siebel Order Management as shown in Table 2.

Table 2. Terminology Differences for Order Management

Term in Siebel Order Management	Term in Siebel Order Management for Industry Applications
Deactivate	Disconnect

Installed Assets and Billing Items

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

Billing items are the services that are billed to an account.

Sometimes users install assets at one account location, but bill for the assets to another account location. For example, a company might have 150 phone lines installed at two locations, but receive the bill for all 150 phone lines at one of those locations. In this example, the location that receives the bill has 150 billing items, but might have only 50 installed assets.

Users specify the service account and billing account for each line item in the quote-to-order process. For customer users creating quotes and orders in Oracle's Siebel eSales, the service account and billing account automatically default for every line item. Employee users might want to select the service account and billing account.

Billing, Service, and Master Accounts

The master account is the primary, or parent, account for a customer. You can set up separate billing and service accounts that are associated with the higher-level master account.

Service ID

A *service ID* is a unique identifier for a service item, such as the phone number for a phone line. The asset management system of a company typically populates the service ID text field.

When a customer orders a quantity of a product or service, such as a dozen phone lines, each product becomes an individual line item with a separate service ID. Users can explicitly ungroup the items to assign service IDs, or the items are automatically ungrouped when users convert the quote to an order.

Service Point

A *service point* represents a network delivery point, such as a phone jack and a gas pipe, for an asset at a service location. You select a service point, based on the product type, in a field on Quote and Order forms. You need the Siebel Premises module to use service points. For more information, see *Siebel Applications Administration Guide*.

Additional Fields for Quote Line Items

When you create a line item for a quote in Order Management for Industry Applications, the fields in Table 3 are available, in addition to the fields described in the topic about adding a quote line item in *Siebel Order Management Guide*.

Table 3. Additional Fields for Quote Line Items in Order Management for Industry Applications

Field	Description
Tier Price	Information about the pricing tiers applicable for the product.
Service Point	Serial number of the asset at the service point for the item, for example, a phone jack.
Service Id	Text that identifies the service item, for example, a phone number.
Billing Account	Account to which you bill the service.
Service Account	Account to which you provide the service.

Additional Fields for Quote and Order Line Item Change Histories

When you create a line item for a quote or an order in Order Management for Industry Applications, the fields in Table 4 are available, in addition to the fields described in the topics about viewing change history for a quote line item and viewing change history for an order line item in *Siebel Order Management Guide*.

Table 4. Additional Fields for Quote and Order Line Item Change Histories in Order Management for Industry Applications

Field	Description
Service ID	Unique identifier for a service item
Net Price	Final price arrived at after applying all discounts to the start price
Billing Profile	The profile used to specify invoice and payment preferences

When Order Management for Industry Applications is integrated with an application for managing billing and revenue, the Siebel application provides values for these fields to the billing and revenue application. The integration process reviews these fields to determine changed data. Users can view these fields in a read-only view.

Activating Workflows for Order Management for Industry Applications

Asset-based ordering is based on Siebel workflows and business services that you can configure. You can customize asset-based ordering to meet the order management requirements of your company. For more information about Business Process Manager, see *Siebel Business Process Framework: Workflow Guide*.

For details about these workflows, see the topic about workflows for asset-based ordering in *Siebel Order Management Guide* and the following chapters in this guide:

- Chapter 5, “Workflows for Employee Asset-Based Ordering”
- Chapter 10, “Workflows for Partner Asset-Based Ordering”
- Chapter 12, “Workflows for Customer Asset-Based Ordering”

In addition to the setup described in *Siebel Order Management Guide*, you must activate workflows specific to asset-based ordering for industry applications. Activate the following workflows:

- **Siebel eSales**
  - All workflows that begin with *CUT eSales.*
  - All workflows that begin with *eSales.*
  - All workflows that begin with *SIS OM.*
- **Siebel Partner Portal**
  - All workflows that begin with *CUT eChannel.*

- All workflows that begin with *SIS OM* (7.5 only).

- **Employee applications**
  - The workflows listed in the topic about setting up asset-based ordering in *Siebel Order Management Guide*.
  - CUT Order Profile Process.
  - CUT Quote Portal Process.
  - CUT Order Portal Process.
  - CUT Go To Customer Portal Subprocess.
  - All workflows that begin with VORD Validate.

For information about how to activate workflows, see *Siebel Business Process Framework: Workflow Guide.*

About the Workflow for Order-To-Installation Tasks

Oracle's Siebel Communications includes an order-to-installation task interface that contains all of the tasks that a call center agent performs to sell a communications product. The task interface is included in Siebel Communications. You can configure this interface using Oracle's Siebel Tools the same way that you configure other Siebel Business Applications.

After finishing these tasks, the call center agent clicks a button that calls a workflow that performs longer-term tasks after the sale, such as waiting for shipping confirmation, calling the customer to conduct a survey after the product ships, and sending the customer a thank you note for completing the survey. The workflow that performs these long-term tasks is not included in Siebel Communications. You create this workflow to satisfy your business requirements.

Order-To-Installation Task Interface

The call center agent uses the order-to-installation task interface by navigating in a Task pane that lists all the tasks that a call center agent typically performs to sell a communications product. The call center agent clicks the tasks in list order, from top to bottom, to display the screens that the agent needs to perform each task. Some of these tasks include:

- Create the order.
- Create a new account with the order for a new customer.
- Get customer information.
- Assign phone numbers to the customer.
- Get shipping information.
- Get one-time payment information.
- Get billing information.
- Set up an appointment for installation of the product.

Call center agents typically perform these tasks while they are talking to the customer who places the order. These tasks include scripts that tell agents what to say to the customer while performing the task.

Workflow for Follow-Up Tasks

Typically, companies perform follow-up tasks after the product installation. When a call-center agent completes all the order-to-installation tasks and clicks Done, a workflow starts that performs longer-term tasks connected with the order.

You can set up the workflow to schedule and perform the follow-up tasks that your company performs after installation. As an example of how to set up the workflow for your company, the Siebel application contains a sample workflow.

3 Telco Subscription Management in Open UI

This chapter covers Telco Subscription Management in Open UI. It includes the following topics:

- "About Telco Subscription Management in Open UI" on page 25
- "Tasks for Configuring the Customer Dashboard" on page 26
- "Using the Customer Directory" on page 28
- "Using the Customer Dashboard" on page 29
- "Tasks Using the Action Launchpad" on page 29
- "Workflow Reference for Telco Subscription Management in Open UI" on page 34

About Telco Subscription Management in Open UI

Telco Subscription Management in Open UI is a product that simplifies common operations for managing telecommunications customer subscription processes by minimizing the number of clicks, reducing data entry, and simplifying views. It provides a user interface that:

- Requires minimum user navigation.
- Guides the user through operations.
- Includes a touch-screen-friendly user interface.

The user interface is aimed primarily at encouraging partners and resellers to use Siebel Communications. It is also available to employees.

Telco Subscription Management in Open UI includes the following key features:

- **Customer Directory.** Provides a list of customers, which you can query and can use as a starting point for customer interactions.
- **Customer Dashboard.** Provides a snapshot of key attributes, installed services and products, and interactions for each customer.
- **Billing Analytics.** Provides bill summary, billing trends, unbilled usage, and anomalies in usage and costs for each customer. This feature requires integration with Oracle E-Billing.
- **Action Launch-pad.** Starts guided tasks.
- **Specialized UIs.** Support common processes, such as SIM Swap and adding or removing barring services, with simpler data entry.

Tasks for Configuring the Customer Dashboard

You can configure the customer dashboard in the following ways:

- "Configuring the Navigation Pane of the Customer Dashboard" on page 26
- "Configuring the Action Launchpad of the Customer Dashboard" on page 27
- "Configuring Customer Analytics" on page 27

Configuring the Navigation Pane of the Customer Dashboard

The following procedure shows you how to add a new icon to the customer dashboard. You can modify existing icons in similar ways.

To configure the navigation pane of the customer dashboard

1. Navigate to Administration Application, then Navigation Links.
2. In the Navigation Links list, add a new record and complete the necessary fields, described in the following table.

Field	Comments
Navigation Link Name	Enter a name for the link.
Image Source	Select an image file to be displayed in the customer dashboard.
Action	Select View Drilldown
View Name	Select the name of the view that is displayed when the user clicks this icon in the customer dashboard.
Display Name	Enter text to be displayed as the name of this icon in the customer dashboard.
Active	Select this check box to activate the icon, making it available to customers.
Description	Enter a description of this icon. This description is displayed in the Navigation Administration screen for administrators, but it is not displayed to users.

3 In the Applets applet, complete the necessary fields, described in the following table.

Field	Comments
TOUI CustDash Navigation Links	Enter the name of the navigation applet.
Language	Enter the language code for the language this icon name is being translated into.
Display Name	Enter the translation for the name of the icon.

Configuring the Action Launchpad of the Customer Dashboard

The following procedure provides the high-level steps that you can use to configure the Action launchpad in Siebel Tools.

To configure the Action launchpad

1 In Siebel Tools, navigate to the applet TOUI CustDash Action Launchpad.

2 Add a new control of type Button, which invokes the method GotoView.

3 For the new control, add the following user properties:

- KeepContext: TRUE
- View: <Target View>

Configuring Customer Analytics

You must integrate Telco Subscription Management in Open UI with Oracle E-Billing to display the billing analytics information in the Customer Dashboard, including the Account Summary, Account Billing Trend and Current Usage. This information is retrieved from Oracle E-Billing and is displayed as an iFrame portlet using a Symbolic URL. For more information about configuring Symbolic URL, see the section about integrating external content in *Siebel Portal Framework Guide*.

Table 5 lists the Symbolic URL parameters required to integrate with Oracle E-Billing.

Table 5. Symbolic URL Parameters to Integrate with Oracle E-Billing

Sequence	Name	Required Argument	Argument Type	Argument Value
1	PostRequest	Y	Constant	PostRequest
2	Username	Y	Constant	<username>
3	Password	Y	Constant	<password>

Table 5. Symbolic URL Parameters to Integrate with Oracle E-Billing

Sequence	Name	Required Argument	Argument Type	Argument Value
4	AccountNumber	Y	Field	Billing Account Id
5	Frame	Y	Command	iFrame width="100%" height="100%"frameBorder="0px"

Using the Customer Directory

Navigation typically begins from the customer directory, where you can click the name of the customer you want in order to go to the customer dashboard for that customer.

When users go to the customer directory, they see a list of all the accounts that they can access, with the Account Name, Account Number, Account Type, and Status fields of each.

Users can also expand the list to view the Address, City, State, Zip Code, Country, Main Phone#, Primary Contact, and Price List fields. This is useful, for example, if two accounts have similar names, so the user wants to view the address to distinguish between the accounts.

Customer directory is read-only. You can customize the application to make it possible to modify account information through customer directory.

To use the customer directory

1. Navigate to the Customer Directory screen.
2. If you want to work with a customer or activity that you have worked with in the last 30 days, then use the Recent Activity pane:
   - Click on an account name in the Recent Activity pane to display the Customer Dashboard for that account.
   - Click on an order number in the Recent Activity pane to display the Order Line Item view for that order.
3. If necessary, query to find the customer you want.

   You can search for an account by name, account number or its service identifier such as a mobile phone number.
4. If the query result includes multiple accounts, then expand the accounts to see more information (such as address, main phone number, primary contact, and price list), so you know which is the account you want.
5. Click the name of the customer you want in order to display the dashboard for that customer.

   For more information about the dashboard, see “Using the Customer Dashboard” on page 29.

Using the Customer Dashboard

The customer dashboard gives you information about the customer and lets you perform common tasks for the customer. Icons support touch screens.

The dashboard includes the information shown in the following areas:

- **Action Launchpad.** Click this button to initiate guided processes that enable you to perform guided tasks. For more information, see "Tasks Using the Action Launchpad" on page 29.
- **Account Information.** The customer's name and account number is displayed in the upper right. Click the More arrow in this area to view more account information.
- **Installed Assets.** This area provides information about this customer's assets. You can display the information in a grid or tile format. You can click the Show All button to view the details of all the assets in a single page, displaying the service ID, description, and status for each.
- **Key Customer Attributes.** This area provides information about the customer's status, value, churn, open trouble tickets, and open orders.
- **Last Customer Interaction.** You can browse the list of activities or interactions with the customer to see recent customer interactions, and you can create new customer interactions.
- **Account Summary.** This area provides billing information for the account, such as its previous balance, balance forward, monthly charge, total amount due, and payment due date. This feature requires integration with Oracle E-Billing.
- **Account Billing Trend.** This area provides a graph showing the customer's spending during recent months. This feature requires integration with Oracle E-Billing.
- **Current Usage Since.** This area shows the customer's use of your services during the current billing period. For example, it might show that the customer has used 34% of the allowed 2,500 minutes of voice service for this month, and the customer has used all of the data service for this month. This feature requires Oracle eBilling.

You can use the customer dashboard through the customer directory by following the procedure in "Using the Customer Directory" on page 28.

Tasks Using the Action Launchpad

You use the Action Launchpad to perform the following tasks:

- "Changing SIM Cards" on page 29
- "Adding and Removing Barring Services" on page 32
- "Using Bulk Onboarding of New Subscribers" on page 33

Changing SIM Cards

Subscriber Identity Module (SIM) cards are used to identify and authorize subscribers on mobile devices, such as cell phones or tablet computers. The SIM Number is a unique serial number used to identify each SIM card.

Businesses generally have many SIM cards on hand, and the Change SIM view allows a subscriber to associate the SIM card with the mobile device. The business swaps the physical SIM card, and you use Telco Subscription Management in Open UI to associate this device with the serial number of the SIM card.

Businesses might want to swap SIM cards for the following reasons:

- An employee's phone is lost or stolen.
- An employee has upgraded service, and the SIM card is no longer working.
- An employee has gotten a new phone that needs a different size SIM.
- An employee's SIM does not work for some other reason.

A user cannot change SIM cards on a service that has a stolen bar or an admin bar enabled. If one of these bars is enabled, then you must remove it before you can change the SIM card. For more information about bars, see "Adding and Removing Barring Services" on page 32.

This validation, and similar rules, can be configured by modifying the underlying workflows. For more information, see "Workflow Reference for Telco Subscription Management in Open UI" on page 34.

There are two methods of changing SIM Cards:

- "Changing Multiple SIM Cards" on page 30
- "Changing One SIM Card" on page 31

Changing Multiple SIM Cards

The following procedure allows you to change multiple SIM cards.

To change Multiple SIM cards

1. From the Action Launchpad menu of the Customer Dashboard, select Change SIM.
2. In the Select Services pane, find a number whose SIM you want to change, and click the triangle icon next to it to display more information about it.
3. In the Select Services pane, select multiple services.

4 Click Select to add these selected services to the Enter New SIM# pane on the right.

When you click Select, the application checks for bars and, if necessary, it might display one of the messages shown in the following table.

Error or Warning Message	Action
Unable to complete SIM Swap. There is a stolen or admin bar for the selected service.	Remove the stolen or admin bar. The selected service is not added until the error is corrected.
Warning! There is a roaming bar for the selected service. Note that the roaming bar will be migrated to the new SIM#.	No action is required. This warning message informs you that the roaming bar is included. The selected service is added.

Selected services with no errors are added to Enter New SIM# pane to the right.

5 In the Enter New SIM# pane, enter the necessary information about the new SIM cards that you want to associate with these phone numbers. Some fields are described in the following table.

Field	Comments
MSISDN	This read-only field displays the phone number.
New SIM #	Enter the identification number of the new SIM card associated with this phone.
New SIM Type	Select the type of the new SIM card.
Due Date	Select the date when the change becomes effective.

6 Click Submit.

Changing One SIM Card

If you are changing only one SIM card, then you can use this simplified method.

To change one SIM card

1 From the Action Launchpad menu of the Customer Dashboard, hover over the caption Change SIM.

2 In the box that appears when you hover, use the drop-down list to select the telephone number.

This drop-down list can display a large number of telephone numbers sorted in ascending order, because some customer accounts can have one thousand phone numbers or more.

3 If necessary, search for the telephone number you want by entering its last few numbers.

4 In the text box for the telephone number you want, enter the new SIM number for this telephone number.

5 Click Submit.

6 Click x to close the Change SIM pane.

Adding and Removing Barring Services

A barring service is a service that restricts a phone's usage. For example, commonly used barring services are:

- **Roaming Bar.** To avoid additional charges when you travel outside your mobile service network, you can add the roaming bar option, which prevents you from using the phone when it is in roaming mode.
- **Stolen Bar.** If you lose your phone, or if your phone is stolen, then you can call the mobile service provider to add the stolen bar option, which prevents unauthorized use of your phone and stops any charges being added to your account.

When you add or remove barring services, the Siebel application displays all the barring services that are available based on the definition of this mobile phone as a customizable product.

Barring services are products with a special product type of Bar Type, Roaming Bar, Stolen Bar or Admin Bar.

Scenario for Adding Barring Services

A communications service provider offers mobile services to both residential and business customers. A business-to-business sales representative gets a request from a customer with a mobile contract for 300 employees to block roaming charges for five of their employees.

The sales representative:

- Launches the Siebel application.
- Queries for the customer.
- Selects the five employees whose roaming changes needs to be blocked.
- Applies the relevant barring options.
- Submits the request.

The Siebel application displays an order number, which the sales representative can use for tracking purposes. The generated order has line items for barring products with action codes of Add and Delete, based on the bars that were selected or removed.

Procedure for Adding or Removing Barring Services

Use the following procedure to add or remove barring services.

To add and remove barring services

1 From the Action Launchpad menu of the Customer Dashboard, select Add/Remove Bar.

The Select Service form appears, listing all of the phone lines for the account and the services available for each phone line, including its SIM card and bars.

2. Optionally, click the triangle icons to expose or hide details for phone lines.
3. Click the check box of all the phone lines that you want to add or remove bars for.
4. Click Select.

   All the phone lines whose check boxes were selected appear in the Selected Services pane.
5. To add or remove the same bars for a number of phone lines:
   a. Click the check box in the Selected Services Pane and enter a due date for all the phone lines you want.
   b. Click the Add/Remove Bar button that is near the top of the form.

      In either case, the Assign Bar dialog box appears, listing all the possible bars that can be added or removed.
   c. Select Add or Remove to the right of the bars that you want to add or remove.
   d. Click Update.
6. Click Submit to validate compatible rule violations for all these changes.
7. If there is an error message, then correct the errors.

   You might see the following error messages:

   - If a telephone number is missing, then there is a message telling the user to select the service.
   - If a new SIM card number is missing, then there is a message telling the user to enter a new SIM number.
   - If a telephone number has a Stolen bar or Admin bar, then there is a message telling the user to remove the bar to continue.

   If there is not an error, then the Siebel business application generates the order needed to make these changes, and displays a message with the order number.

Using Bulk Onboarding of New Subscribers

Bulk onboarding allows communication service providers (CSPs) and their partners to add phone lines, in batch, for a number of their customers. For large corporations, batch size can be very large. Typical batch size is around 200. Without this bulk onboarding process, CSPs and their partners would have to spend time going through multiple clicks to onboard their customers.

For more technical information about bulk onboarding, see “TOUI BOB Submit Process Workflow” on page 35 and “TOUI BOB Cancel Process Workflow” on page 36.

The drag-and-drop method of bulk onboarding described in the following procedure is enabled by default. It is enabled by the following Applet user properties, and it can be disabled by changing these user properties: ClientPMUserProp = EnableDragAndDropInList and EnableDragAndDropInList = FALSE.

NOTE: Accounts and contacts are not created by the bulk onboarding process. Accounts and contacts must exist before phone numbers can be assigned to them.

To use bulk onboarding

1 From the Action Launchpad menu of the Customer Dashboard, select Bulk Onboarding.

The Enter Phone # view appears.

2 If you want to enter the phone lines directly in this form, then click the + icon and add the order lines here.

3 If you want to drag and drop the phone lines into the form, then:

a Open the Excel spreadsheet that contains the order.

b Select the rows and columns that contain the order.

NOTE: You must select the column heads as well as the data in the columns, and the names of the column heads must be the same as the names of the fields in the Siebel application. You must have columns labeled Phone Number, SIM#, Contact First Name, Contact Last Name, and Due Date.

c Hover over the edge of the selection until you see the cursor change to a symbol with four arrows.

d Drag the rows from the Excel spreadsheet into the Bulk Onboarding form.

When you release the mouse button, the contents of the cells are moved to the Siebel application. If you want to retain the data in Excel, select Undo or use the shortcut Ctrl+U.

4 Apply products to phone numbers:

a In the Enter Phone # list, click check boxes to select rows.

b In the Products list, select the product that applies to these phone numbers.

c To apply the product to the phone numbers, click Apply to Selected.

d If necessary, repeat Step a through Step c to apply different products to different phone numbers.

5 To generate the order, click Submit.

The Siebel application generates a single order for all the selected phone numbers including all the changes you have made.

6 If there are any errors, correct them and resubmit the order.

If there are errors, such as a missing SIM# or Tariff, then the Siebel application displays an error message.

7 When a page appears summarizing this order, you can click View Order to view the order.

Workflow Reference for Telco Subscription Management in Open UI

Telco Subscription Management in Open UI uses the following workflows:

■ "TOUI BOB Submit Process Workflow" on page 35

- "TOUI BOB Cancel Process Workflow" on page 36
- "TOUI QCSIM Generate Order Process Workflow" on page 37
- "TOUI AssignBar Select Process Workflow" on page 39
- "TOUI AssignBar Cancel Process Workflow" on page 39
- "TOUI AssignBar Generate Order Process Workflow" on page 40
- "TOUI AssignBar Get Delta Sub Process Workflow" on page 42
- "TOUI AssignBar Get Selected Services Sub Process Workflow" on page 44
- "TOUI Installed Asset Select Process Workflow" on page 45
- "TOUI Generate Order Process Workflow" on page 46
- "TOUI Get Selected Service Sub Process Workflow" on page 49
- "TOUI Get Delta Sub Process Workflow" on page 49
- "TOUI Set Value Sub Process Workflow" on page 50
- "TOUI CSim Cancel Process Workflow" on page 51
- "TOUI CSim Delete Process Workflow" on page 52

TOUI BOB Submit Process Workflow

TOUI BOB Submit Process Workflow, shown in Figure 1, is invoked when the user clicks the Select button in the TOUI Bulk Onboarding view. It is the driver workflow, which creates new sales order with lines items populated with user provided information and then navigates to the TOUI BOB Order Summary View.

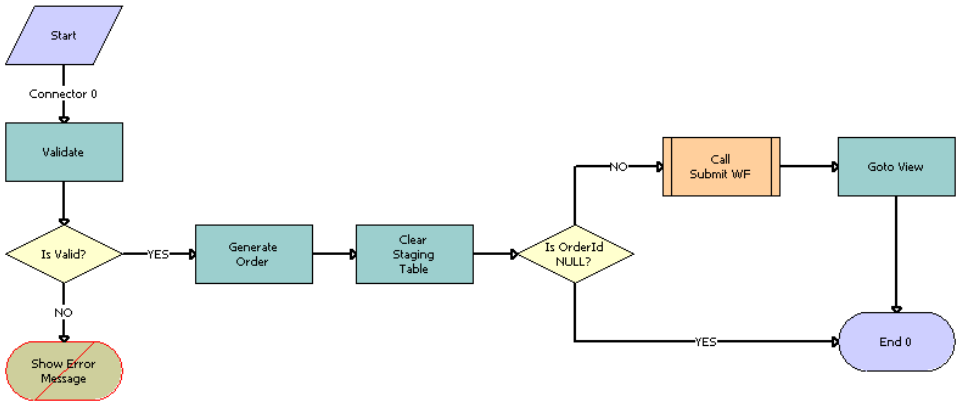


Figure 1. TOUI BOB Submit Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Validate.** This step calls the Validate method of the Data Validation Manager business service, which validates the all input arguments of the TOUI BOB Phone Number Applet based on the TOUI BOB Validation rule set.
2. **IsValid?** If any of the input fields is blank, then this step aborts the process and the next step displays an error message. Otherwise, it goes to the GenerateOrder step.
3. **GenerateOrder.** This step calls the GenerateOrder method of the TOUI Service business service, which generates the new sales order based on user input. If the user wants to add any input parameter to the TOUI BOB PhoneNumber business component, it must be added as an input parameter of this method in the following format.

   - Input Argument Name: FieldToFieldMap1
   - Type: Literal
   - Value: Activation Date:Due Date
   - FieldToFieldMapCount: 1

   The Activation Date is the business component field, and the Due Date is the IO field. This format gives the user the flexibility to map the fields. The value of FieldToFieldMapCount must be based the number of input parameters (FieldToFieldMap1).
4. **Clear Staging Table.** This Step calls the ClearStagingTable method of the TOUI Service business service, which clears the staging table s_stg_bob.
5. **Is OrderId NULL?** If the order id is null, then this step aborts the process. Otherwise, it goes to the Call Submit WF step.
6. **Call Submit WF.** This step calls the existing sub-process SISOMBillingSubmitOrderWebService.
7. **Goto View.** This step calls the GotoView method of the Shopping Service business service, which navigates to the specified view.

TOUI BOB Cancel Process Workflow

TOUI BOB Cancel Process Workflow, shown in Figure 2, is invoked when the user clicks the Cancel button in the TOUI Bulk Onboarding view. It removes all the line items in TOUI BOB Phone Number Applet and navigates back to the dashboard view.

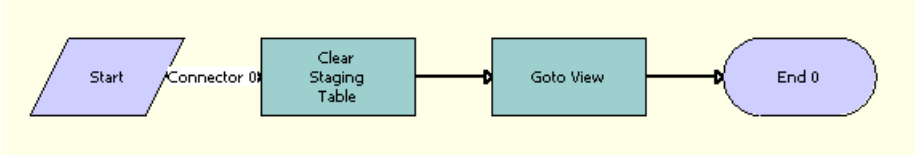


Figure 2. TOUI BOB Cancel Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Clear Staging Table.** This Step calls the ClearStagingTable method of the TOUI Service business service, which Clears the staging table s_stg_bob

2 **Goto View.** This step calls the GotoView method of the Shopping Service business service, which navigates to the specified view.

TOUI QCSIM Generate Order Process Workflow

TOUI QCSIM Generate Order Process Workflow, shown in Figure 3, is invoked when the user clicks the Submit button on the TOUI Quick Change SIM applet. It is the driver workflow that creates a new sales order to change the SIM number from old value to new value.

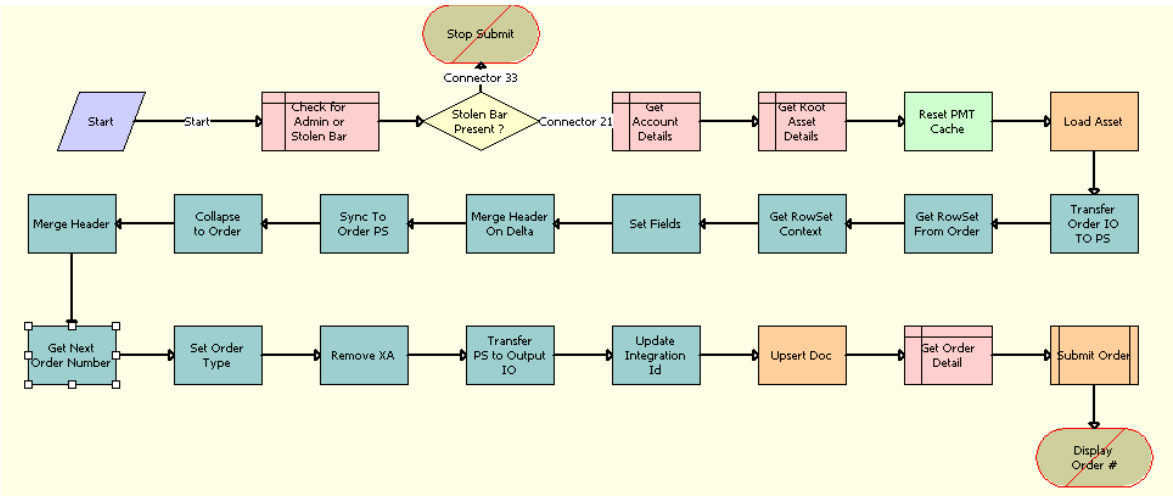


Figure 3. TOUI Generate Order Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Check for Admin or Stolen Bar.** This step queries to find one or more installed assets with the product types Admin Bar or Stolen Bar.

2 **Stolen Bar Present?** This step checks whether this asset is the Stolen Bar type. If it is not, then it ends the process and an error message is displayed.

3 **Get Account Details.** This step queries the Account business component to get a list of fields from the parent Account.

4 **Get Root Asset Details.** This step Queries the TOUI Installed Asset QCS business component to get details about the root asset.

5 **Reset PMT Cache.** This step calls the Reset method of the SIS OM PMT Service business service, which resets the PMT Cache to prevent an incomplete workflow from polluting the PMT cache.

6 **Load Asset.** This step calls the Query method of the EAI Siebel Adapter business service, which loads active assets from the database.

7 **Transfer IO to PS.** This step calls the IntObjHierToPSHier method of the EAI Integration Object to XML Hierarchy Converter business service, which converts Siebel Message type into regular property set.

8 **Get Rowset from Order.** This step calls the GetRowSetData method of the Context Service business service to get all the required Order Line details based on the variable map provided in the input property set.

9 **Get RowSet Context.** This step calls the GetRowSetData method of the Context Service business service to retrieve the Order Header details based on the variable map provided in the input property set.

10 **Set Fields.** This step calls the Conditional Action Transform method of the Row Set Transformation Toolkit business service, which returns the rowset as output

11 **Merge Header On Delta.** This step calls the MergePropertySet method of the TOUI Row Transform Service business service, which merges the header property set with the child property set by taking all the children from the row property set and keeping the header's properties.

12 **Sync To Order PS.** This step calls the SyncRowSetData method of the Context Service business service, which synchronizes the rowset information.

13 **Collapse To Order.** This step calls the Collapse method of the TOUI Row Transform Service business service, which collapses the incoming flat property set into hierarchical property set.

14 **Merge Header.** This step calls the MergePropertySet method of the TOUI Row Transform Service business service, which merges the header property set with the child property set by taking all the children from the row property set and keeping the header's properties.

15 **Get Next Order Number.** This step calls the GetNextNumber method of the TOUI Row Transform Service business service, which generates a new order number.

16 **Set Order Type.** This step calls the SetPropValue method of the TOUI Row Transform Service business service, which applies the input values to the current property set.

17 **Remove XA.** This step calls the RemoveType method of the TOUI Row Transform Service business service, which removes one level of the property set with the provided type name (XA).

18 **Transfer PS to Output IO.** This step calls the PSHierToIntObjHier method of the EAI Integration Object to XML Hierarchy Converter business service, which converts property set to integration object hierarchy.

19 **Update Integration Id.** This step calls the Set Field Value method of the SIS OM PMT Service business service, which applies a single field value used as integration Id across the complex object hierarchy.

20 **Upsert Doc.** This step calls the Upsert method of the EAI Siebel Adapter business service, to insert the order.

21 **Get Order Detail.** This step queries for the sales order generated in the previous step.

22 **Submit Order.** This step calls the existing subprocess SISOMBillingSubmitOrderWebService, which submits the order.

TOUI AssignBar Select Process Workflow

TOUI AssignBar Select Process Workflow, shown in Figure 4, is invoked when user clicks the Select button on the Available Service applet of the Add/Remove Bar view to select the services (assets) for which user wants add or remove a bar from the list of available services for the account.

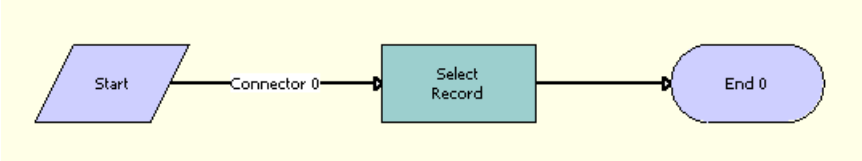


Figure 4. TOUI AssignBar Select Process Workflow

Workflow Description. This workflow performs the following action:

- **Select Record.** This step calls the Select Record method of the TOUI Row Transform Service business service, which copies the products of type Mobile Phone Service, Bar Type, Admin Bar, Stolen Bar and Roaming Bar from the available services (assets) to the selected services which the user is updating with products of the type bar.

TOUI AssignBar Cancel Process Workflow

TOUI AssignBar Cancel Process Workflow, shown in Figure 5, is invoked when the user clicks the Cancel button on the Add/Remove Bar view to cancel the Add/Remove Bar process, delete the selected services if any, and navigate back to the Customer DashBoard View.

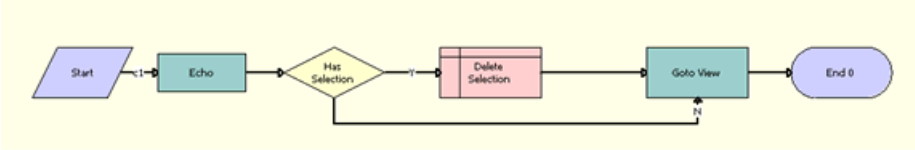


Figure 5. TOUI AssignBar Cancel Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Echo.** This step calls the Echo method of the Workflow Utilities business service to retrieve the details of the account for which the Add/Remove Bar flow has been initiated.
2. **Has Selection.** This step checks whether the user has selected services based on the Account Id field in the Selected Service applet.
3. **Delete Selection.** This step calls the Delete method of the TOUI AssignBar Selected Services business service to delete the selected services from the database.
4. **Goto View.** This step calls GotoView method of the Shopping Service business service to navigate to Customer DashBoard View for the selected account.

TOUI AssignBar Generate Order Process Workflow

TOUI AssignBar Generate Order Process Workflow, shown in Figure 6, is invoked when the user clicks the Submit button on the Add/Remove Bar view after updating the action code details for the selected services to generate an order based on the selected services and Add/Remove option selected for child products for the mobile phone services. This workflow also validates the request, validates eligibility and compatibility, and generates and submits the order. If there is any invalid selection, an error message is displayed.

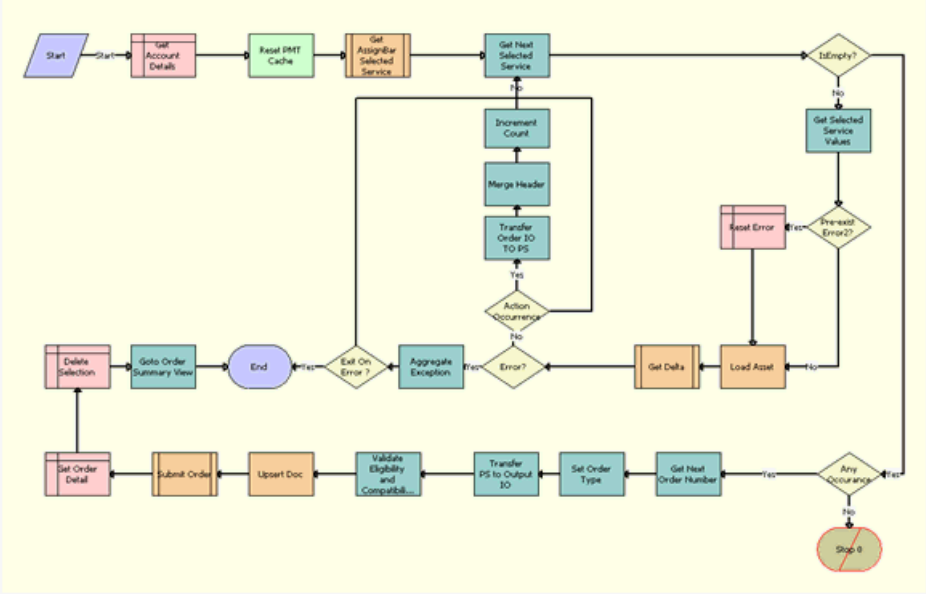


Figure 6. TOUI AssignBar Generate Order Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Account Details.** This step queries the Account business component based on the Account Id, and it returns the Currency Code, Price List id, Document Type (Order or Quote), Primary Billing Profile Id and Exchange Date properties.
2. **Reset PMT Cache.** This step resets the cache, clearing the product instance from the cache, to prevent an incomplete workflow from polluting the Product Manipulation Toolkit (PMT) cache.
3. **Get AssignBar Selected Service.** This step calls the child workflow TOUI AssignBar Get Selected Services Sub Process. This workflow returns all the root selected services in the Selected Services applet. For example, if the Selected Services applet has ten root product services selected of the type mobile phone service, and if each of the mobile phone services has multiple child products of the type Bar, then this returns only the details related to the mobile phone services that are the root products.
4. **Get Next Selected Service.** This step extracts one of the root selected services from the selected list returned by the last step. This step is called for each of the selected services in a loop.

5 **IsEmpty?** This step checks if there are any further service available to be processed. If so, it repeats the Get Selected Service Values step. If not, it synchronizes order details to the database.

6 **Get Selected Service Values.** This step reads the values related to selected services from the hierarchical property set and stores them in the process property, which is used in the later steps.

7 **Pre-exist Error2?** This step checks whether there is an existing error.

8 **Reset Error.** If there is an existing error, this step clears that error.

9 **Load Asset.** This step performs an EAI Siebel Adapter query on the SIS OM Asset IO based on the Integration Id to get the Asset Document. The output of this step is a hierarchical property set of the asset details.

10 **Get Delta.** This step calls the TOUI AssignBar Get Delta Sub Process child workflow, which updated the Order document based on the Action Code.

11 **Error?** This step checks whether there was an error during execution of the child workflow. If there is no error, then it processes the order document.

12 **Action Occurrence.** This step checks whether any action was processed in the child workflow. If so, then a later step converts the IO document to a property set, so that the property set document can be merged to the final order document.

13 **Aggregate Exception.** This step checks whether any exception occurred in any of the Delta Sub process calls, and it sets a flag accordingly.

14 **Exit On Error?** This step checks whether the processing needs to be terminated immediately once the exception has occurred.

15 **Transfer Order IO TO PS.** This step converts the IO document into a property set document. Because the Batchvalidate output document is in IO form, this processing is required before merging the document into the Order document.

16 **Merge Header.** This step merges the currently selected services document with Order Header details, creating an aggregate document used for synchronizing the document.

17 **Increment Count.** This step increments the counter, indicating that one available service has been successfully processed. This counter is also used in deciding whether any request has been processed.

18 **Any Occurance.** This step checks whether any available service has been processed successfully to generate an order. If so, execution of the workflow continues. If not, the workflow is terminated and an error message is displayed.

19 **Stop 0.** This step displays a pop-up error message saying, “Error occurred while generating the order. Please select a valid option.”

20 **Get Next Order Number.** This step sets the order number for the order document.

21 **Set Order Type.** This step sets the Order Type field for the order document.

22 **Transfer PS to Output IO.** This step takes the aggregate order document in property set format and converts it into IO format.

23 **Validate Eligibility and Compatibility.** This step calls the EligCompValidation method of the ABO Bulk Request Processing Service business service. This method prepares the payload and calls eligibility and compatibility validation of the order document.

24 **Upsert Doc.** This inserts the order document into the database.

25 **Submit Order.** This step calls the SISOMBillingSubmitOrderWebService workflow, which submits the order document.

26 **Get Order Detail.** This step queries the order based on the integration id to retrieve the values of the Order Number, Order Status and Revision fields.

27 **Delete Selection.** This step deletes all the line items from the Selected Services list, because they have already been submitted as an order.

28 **Goto Order Summary View.** This step navigates to the Order Summary view.

TOUI AssignBar Get Delta Sub Process Workflow

TOUI AssignBar Get Delta Sub Process Workflow, shown in Figure 7, is called by the TOUI AssignBar Generate Order Process Workflow. It updates the order document based on the action code.

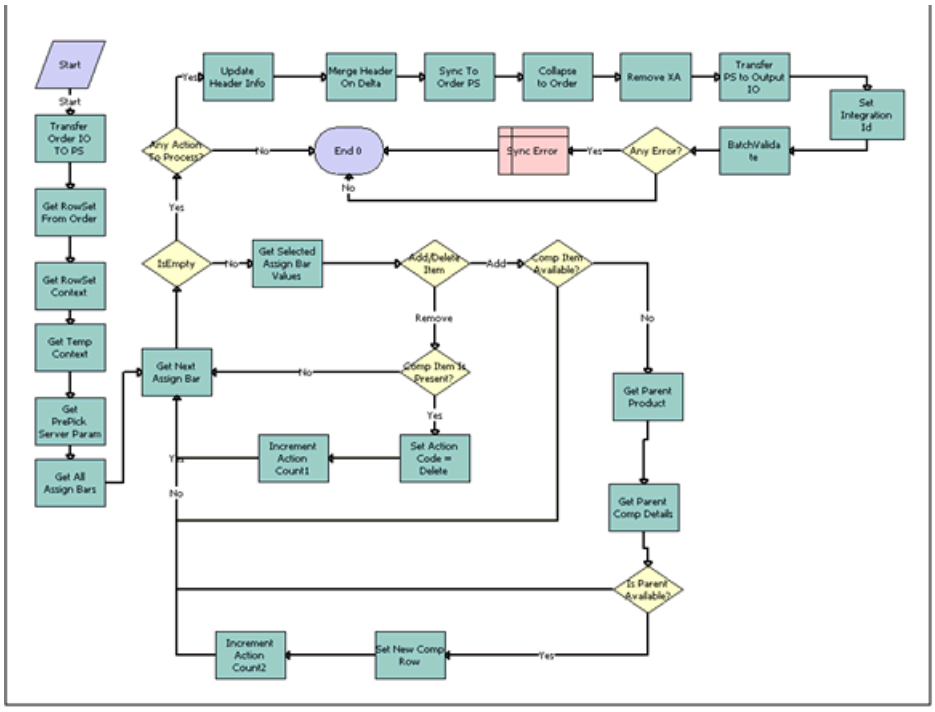


Figure 7. TOUI AssignBar Get Delta Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Transfer Order IO TO PS.** This step converts the hierarchical property set into a rowset property set, which is necessary because subsequent steps will call operations of the Row Set Transformation Toolkit (RSTT) business service.

2 **Get RowSet From Order.** This step gets the line item row set document from the property set payload based on the variable map TOUI Default Variable Map - Row Set.

3 **Get RowSet Context.** This step gets the context document (equivalent to the header) from the property set payload based on the variable map TOUI Default Variable Map - Header.

4 **Get Temp Context.** This step creates a duplicate copy of the context document for future use.

5 **Get PrePick Server Param.** This step calls the PrePickServerParam method of the ABO Bulk Processing Service business service, which returns the value of PrePickCompatibilityEnabled flag from the server configuration.

6 **Get All Assign Bars.** This step retrieves all the child bar details for a single selected service that has the action code Add or Delete.

7 **Get Next Assign Bar.** This step gets the properties of a single assign bar line item for further processing.

8 **IsEmpty.** This step checks whether there is any assign bar line item available for processing.

9 **Get Selected Assign Bar Values.** If there are assign bar line items available for processing, this step retrieves the values of the line item properties Root Asset Integration Id, Root Product Id, New Comp Prod Id, Comp Integration Id, New Comp Id, New Comp Name, Root Product Name, Action Code, Root Asset Id, Comp Asset Id, New Comp Port Id, Original Component Port Id, Product Path, Id, and Service Id.

10 **Add/Delete Item.** This step checks whether the action code for the line item is Add or Delete.

11 **Comp Item Available?** If the action code is Add, then this step checks whether the bar is already available. If the assign bar is already available as part of asset, then there is no need to process this line item. If it is not part of the asset then this line item must be processed.

12 **Get Parent Product.** This step gets the parent product name from the product path.

13 **Get Parent Comp Details.** This step get all the details related to the parent product, so that they can be used while adding the line item to the correct node in the row set. It also sets the flag IsParentPresent.

14 **Is Parent Available?** This step checks whether the parent item is available.

15 **Set New Comp Row.** If the parent item is available, this step adds a new line item for the newly added assign bar. This step creates a new row with all the necessary details like Id, Name, Product Type Code, Root Product Id, Account Id, Status, Action Code, Root Id, Parent Id, Product Id, Port Item Id, Quantity, Price List Id, Service Account Id, Price List Id, Price List Id, Price List Id, Currency Code, Account Id, Service Id, and Pre Pick CD.

16 **Increment Action Count2.** This step increments the action count, indicating the line item has been processed.

17 **Any Action To Process?** This step checks whether any line item has been processed. If not, then the workflow skips Batchvalidate.

18 **Comp Item Is Present?** If the action code is Delete, then this step checks whether this line item is present as an asset. If it is not present as an asset then there no need to delete it.

19 **Set Action Code = Delete.** This step finds the line item in the row set and sets its action code to delete.

20 **Increment Action Count1.** This step increments the count by 1, because the flow has processed one line item with action code = Delete.

21 **Update Header Info.** This step updates the Id in the header before this is merged with the row set.

22 **Merge Header On Delta.** This step merges the row set and the header document into single document. Now we have the complete payload including header and line items.

23 **Sync To Order PS.** This step converts the row set format into the property set document.

24 **Collapse to Order.** This step converts the property set into the parent-child hierarchy in hierarchical format.

25 **Remove XA.** This step removes attribute details from the line item details.

26 **Transfer PS to Output IO.** This step converts the property set document into the IO document.

27 **Set Integration Id.** This step sets the Integration id in the whole document.

28 **BatchValidate.** This step calls method TelcoBatchValidate method of the ABO Bulk Request Processing Service business service, which internally calls Configurator's batch validate functionality to validate eligibility and compatibility.

29 **Any Error?** This step checks whether any error occurred in the BatchValidate call.

30 **Sync Error.** This step synchronizes the error message in the database.

TOUI AssignBar Get Selected Services Sub Process Workflow

TOUI AssignBar Get Selected Services Sub Process Workflow, shown in Figure 8, is called by the TOUI AssignBar Generate Order Process Workflow. It returns all the root selected services in the Selected Services applet. For example, if the Selected Services applet has ten root product services selected of the type mobile phone service, and if each of the mobile phone services has multiple child products of the type Bar, then this returns only the details related to the mobile phone services that are the root products.

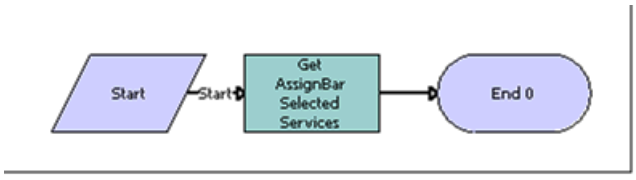


Figure 8. TOUI AssignBar Get Selected Services Sub Process Workflow

Workflow Description. This workflow performs the following action:

- **Get AssignBar Selected Services.** This step retrieves all the selected services whose bar details user has selected for updating (adding or removing).

TOUI Installed Asset Select Process Workflow

TOUI Installed Asset Select Process Workflow, shown in Figure 9, is invoked when the user clicks the Select button in the TOUI Change Sim Request View, in order to add an existing installed asset that will get a new SIM Card, a different Service Id, or a different due date.

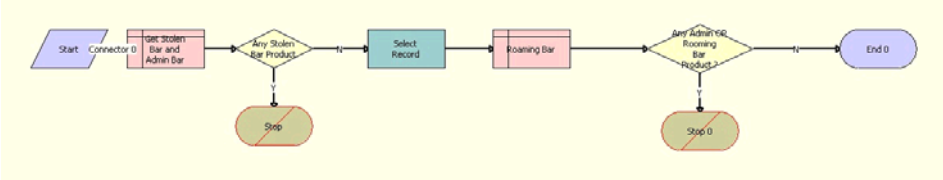


Figure 9. TOUI Installed Asset Select Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Stolen Bar and Admin Bar.** This step queries the installed asset to find the Admin Bar or Stolen Bar product type
2. **Any Stolen Bar Product.** This step checks whether this is a Stolen Bar product.
3. **Stop.** If it is a stolen bar, then this step displays the default error message and aborts the workflow process.
4. **Select Record.** This step calls the method Select of the TOUI Row Transform Service Business Service, which invokes the data map transfer service to move an existing installed asset to the Select Service business component.
5. **Roaming Bar.** This step queries the installed asset to find the Roaming Bar product type.
6. **Any Admin OR Roaming Bar Product.** This step checks whether this is an Admin Bar or Roaming Bar product.
7. **Stop.** If it is a roaming bar, then this step displays the default error message and aborts the workflow process.

TOUI Generate Order Process Workflow

TOUI Generate Order Process Workflow, shown in Figure 10, is invoked when the user clicks the Submit button of the TOUI Change Sim Request View. It is the driver workflow that creates a new sales order, based on the users selection, with line items populated with information that the user provides. If the user is changing SIM Card, then it populates the order line items with the new Service Id and Due Date. If the user is adding a new SIM Card, then it disconnects the existing SIM card and adds the new SIM Card.

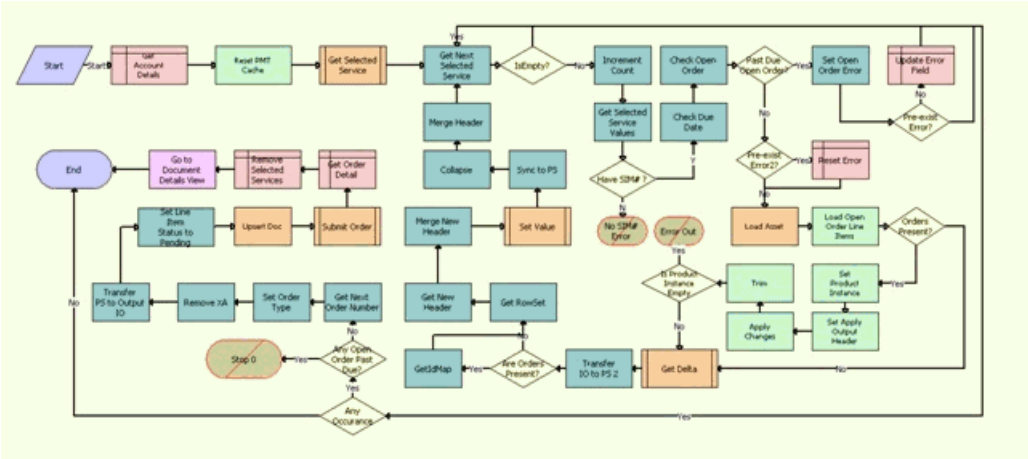


Figure 10. TOUI Generate Order Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Account Details.** This step queries the Account business component to get a list of fields from the parent Account.
2. **Reset PMT Cache.** This step calls the method Reset of the SIS OM PMT Business Service, which resets the PMT Cache to prevent an incomplete workflow from polluting the PMT cache.
3. **Get Selected Service.** This step invokes the TOUI Get Selected Service Sub Process workflow.
4. **Get Next Selected Service.** This step calls the method GetNextChild of the TOUI Row Transform Business Service, which gets the next child property set of the current property set, if one exists.
5. **IsEmpty?** This step checks whether there are any remaining selected service records.
6. **Increment Count.** This step calls the method Echo of the Workflow Utilities Business Service, which calculates the value for some of the workflow process properties.
7. **Get Selected Service Values.** This step calls the method GetPropValue of the TOUI Row Transform Business Service, which returns the property value of the current property set.
8. **Have SIM#.** This decision step checks whether the SIM# is given or not.
9. **No SIM# Error.** If the SIM# is not given, this step displays an error message.
10. **Check Due Date.** If the SIM# is given, this step calls the method Echo of the Workflow Utilities Business Service, which calculates values for some of the workflow process properties.

11 **Check Open Order.** This step calls the method ValidateFollowOnOrders of the CMU External Integration Business Service, which retrieves any future dated open orders for the current asset.

12 **Past Due Open Order?** This step is a decision point to determine whether there is any future-dated order that is beyond the currently specified due date.

13 **Set Open Order Error.** This step calls the method Echo of the Workflow Utilities Business Service, which calculates values for some of the workflow process properties.

14 **Pre-exist Error?** This step is a decision point to determine whether the Error field of the selected service record is currently empty.

15 **Update Error Field.** This step updates the selected service records with any applicable error message.

16 **Pre-exist Error2?** This step is a decision point to determine whether the Error field of the selected service record is currently empty.

17 **Reset Error.** This step removes any error message from the selected service records.

18 **Load Asset.** This step calls the method Query of the EAI Siebel Adapter Business Service, which loads active assets from the database.

19 **Load Open Order Line Items.** This step calls the method Find Orders of the SIS OM PMT Service Business Service, which retrieves Orders with a status of Open or Pending that are related to the selected asset.

20 **Orders Present?** This step is a decision point to check whether there are any open orders.

21 **Set Product Instance.** This step calls the method Set Product Instance of the SIS OM PMT Service Business Service, which sets the current asset into the PMT cache.

22 **Set Apply Output Header.** This step calls the method Set Output Header of the SIS OM PMT Service Business Service, which applies the proper header type for the current asset.

23 **Apply Changes.** This step calls the method Apply of the SIS OM PMT Service Business Service, which applies the changes that the open orders specify to re-create the state of the service product as the user requests it.

24 **Trim.** This step calls the method Trim of the SIS OM PMT Service Business Service, which removes any components from the asset that do not have the Track As Asset flag set.

25 **Is Product Instance Empty.** This step is a decision point to check whether the result from previous steps is empty. If the asset is empty, then it displays an error message. If an open or pending order disconnects the root component, or if no components have the Track As Asset flag set, then the result is an empty asset, and the workflow displays an error message.

26 **Error Out.** This step displays the error message to indicate there is some abnormal behavior and aborts the workflow process.

27 **Get Delta.** This step invokes TOUI Get Delta Sub Process workflow.

28 **Transfer IO to PS 2.** This step calls the method IntObjHierToPSHier of the EAI Integration Object to XML Hierarchy Converter Business Service, which converts the Siebel Message type into a standard property set.

29 **Are Orders Present?** This step is a decision point to check whether there's any open order.

30 **GetIdMap.** This step calls the method GetIdMap of the TOUI Row Transform Service Business Service, which collects the IDs of the hierarchical property set and stores them in an internal map.

31 **Get RowSet.** This step calls the method GetRowSetData of the Context Service Business Service, which get the row set indicated by the specified variable map.

32 **Get New Header.** This step calls the method GetRowSetData of the Context Service Business Service, which get the row set with the specified variable map.

33 **Merge New Header.** This step calls the method MergePropertySet of the TOUI Row Transform Service Business Service, which merges the header property set with the child property set by taking all the children from the row property set and keeping the header's properties.

34 **Set Value.** This step invokes TOUI Set Value Sub Process workflow.

35 **Sync to PS.** This step calls the method SyncRowSetData of the Context Service Business Service, which synchronizes the row set with the specified variable map.

36 **Collapse.** This step calls the method Collapse of the TOUI Row Transform Service Business Service, which collapses the incoming flat property set into a hierarchical property set.

37 **Merge Header.** This step calls the method MergePropertySet of the TOUI Row Transform Service Business Service, which merges the header property set with the child property set by taking all the children from the row property set and keeping the header's properties.

38 **Any Occurance.** This step is a decision point to determine whether there is any selected service record.

39 **Any Open Order Past Due?** This step is a decision point. If there is any future dated order that is beyond the currently specified due date, then the workflow stops.

40 **Stop 0.** This step displays the default error message and aborts the workflow process.

41 **Get Next Order Number.** This step calls the method GetNextNumber of the TOUI Row Transform Service Business Service, which generates a new Order Number.

42 **Set Order Type.** This step calls the method SetPropValue of the TOUI Row Transform Service Business Service, which sets the input values for the current property set.

43 **Remove XA.** This step calls the method RemoveType of the TOUI Row Transform Service Business Service, which removes one level of the property set with the provided type name.

44 **Transfer PS to Output IO.** This step calls the method PSHierToIntObjHier of the EAI Integration Object to XML Hierarchy Converter Business Service, which converts the standard property set into a Siebel Message.

45 **Set Line Item Status to Pending.** This step changes the status of all the line items from active to pending.

46 **Upsert Doc.** This step calls the method Upsert of the EAI Siebel Adapter Business Service, which upserts the new order data into the database.

47 **Submit Order.** This step invokes SISOMBillingSubmitOrderWebService workflow to submit the order and update the order status to Open.

48 **Get Order Detail.** This step queries the newly created sales order and retrieves the order number, status and revision number.

49 **Remove Selected Services.** This step deletes the existing selected service records, so the process always starts with a fresh one.

50 **Go to Document Details View.** This step calls the method GotoView of the Shopping Service Business Service, which navigates to the specified view.

TOUI Get Selected Service Sub Process Workflow

TOUI Get Selected Service Sub Process Workflow, shown in Figure 11, is a subprocess invoked by the driver workflow, TOUI Generate Order Process, to gather information from the selected Service records. If the user is changing SIM card, then the workflow gets this information from the records on the right side of the TOUI Change Sim Request View.

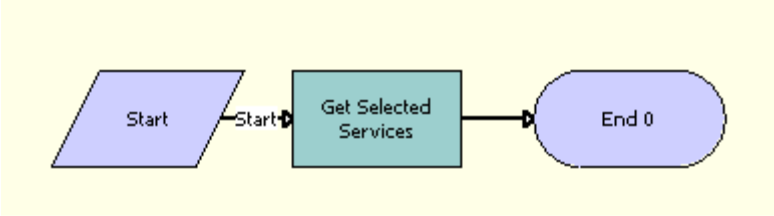


Figure 11. TOUI Get Selected Service Sub Process Workflow

Workflow Description. This workflow performs the following actions:

- **Get Selected Services.** This step calls the method Query Transform of the Row Set Transformation Toolkit Business Service, which queries the TOUI Selected Services BC business component using the parent Account Id and constructs a new property set.

TOUI Get Delta Sub Process Workflow

TOUI Get Delta Sub Process Workflow, shown in Figure 12, is a subprocess invoked by the driver workflow, TOUI Generate Order Process. If the user is changing SIM card scenario and is adding a new SIM card, then this workflow invokes Siebel Configurator to allow the user to replace the existing SIM Card with the new SIM card and to set the cached instance.

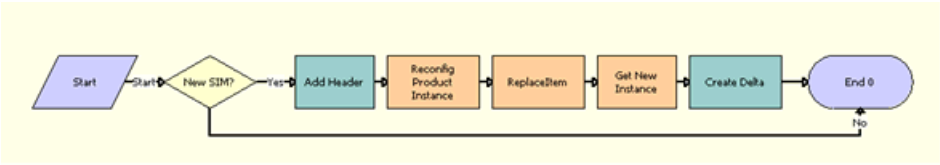


Figure 12. TOUI Get Delta Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Add Header.** This step calls the method AddHeader of the TOUI Row Transform Service Business Service to create a Cx Object from of the input argument and to add an extra Siebel Message header so that the is recognizable by the SetInstance method of the Configurator service.
2. **Create Delta.** This step calls the method Delta of the TOUI Row Transform Service Business Service, which merges two property sets of the same header type and returns the delta. The line items missing from the current property set have the Delete action code. The new line items present in the delta document have the Add action code.
3. **Get New Instance.** This step calls the method GetInstance of the Remote Complex Object Instance Service Business Service, which retrieves the current instance of the sales order that is cached in the configurator service.
4. **New SIM?** This step is a decision point to determine whether this change involves creating a new SIM card.
5. **Reconfig Product Instance.** This step calls the method SetInstance of the Remote Complex Object Instance Service Business Service, which sets the cached instance of the Configurator service with the input property set.
6. **ReplaceItem.** This step calls the method ReplaceItem of the Remote Complex Object Instance Service Business Service, which replace the existing product (the old SIM Card) with another product (the new SIM Card) and sets the cached instance.

TOUI Set Value Sub Process Workflow

TOUI Set Value Sub Process Workflow, shown in Figure 13, is a subprocess invoked by the driver workflow TOUI Generate Order Process. If the user is changing SIM card, then it sets the new values of the Service Id and Due Date in the property set. If the user is getting a new SIM card, then it sets the values of the Service Id and Due Date for the new SIM card and all its child items.

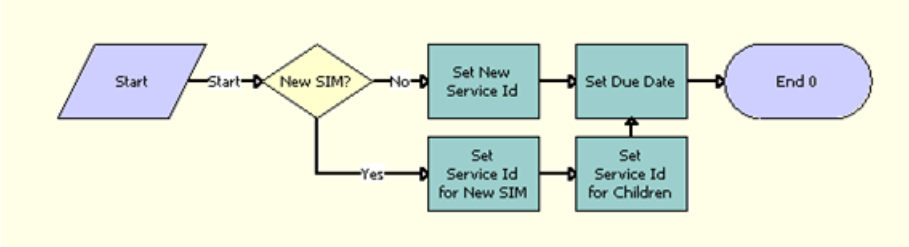


Figure 13. TOUI Set Value Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **New SIM?** This step is a decision point to determine whether this change involves creating a new SIM card.
2. **Set Due Date.** This step calls the method Row Set Look-Up Transform of the Row Set Transformation Toolkit Business Service, which sets the Due Date field.

3 **Set New Service Id.** This step calls the method Row Set Look-Up Transform of the Row Set Transformation Toolkit Business Service, which sets the New Service Id field.

4 **Set Service Id for Children.** This step calls the method Row Set Look-Up Transform of the Row Set Transformation Toolkit Business Service, which set the Service Id field for all child items associated with the new SIM Card.

5 **Set Service Id for New SIM.** This step calls the method Row Set Look-Up Transform of the Row Set Transformation Toolkit Business Service, which sets the Service Id for the new SIM Card.

TOUI CSim Cancel Process Workflow

TOUI CSim Cancel Process Workflow, shown in Figure 14, is invoked when the user clicks the Cancel button of the TOUI Change Sim Request View. It removes any selected services and navigates back to the dashboard view.

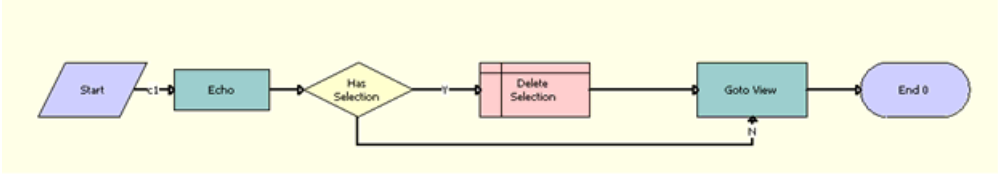


Figure 14. TOUI CSim Cancel Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Delete Selection.** This step deletes the selected existing service records, so the process always starts with a fresh service record.

2 **Echo.** This step calls the method Echo of the Workflow Utilities Business Service, which calculates values for some of the workflow process properties.

3 **Goto View.** This step calls the method GotoView of the Shopping Service Business Service, which navigates to the specified view.

4 **Has Selection.** This step is a decision point to decide whether there is any existing selected service record.

TOUI CSim Delete Process Workflow

TOUI CSim Delete Process Workflow, shown in Figure 15, is a stand-alone workflow process that deletes the selected service records in the TOUI Change Sim Request View. It is invoked when the user clicks the Delete button in this view.

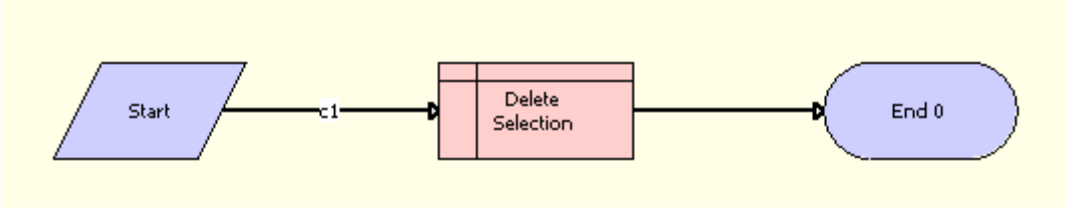


Figure 15. TOUI CSim Delete Process Workflow

Workflow Description. This workflow performs the following actions:

- **Delete Selection.** This step deletes the selected existing service records, so the process always starts with a fresh one.

4 Employee Asset-Based Ordering

This chapter provides information about employee user tasks in asset-based ordering for industry applications and supplements the information about asset-based ordering in *Siebel Order Management Guide*. This chapter includes the following topics:

- Updating Opportunities from Quotes on page 54
- Processing a Quote Through the Order-to-Cash Process Integration Pack on page 55
- Comparing Prices with Competitor Prices on page 56
- Setting Up Service Charges for Products on page 57
- About Synchronizing Product Attributes, Product Classes, Products, and Promotions on page 58
- Viewing Synchronized Extensible Product Fields on page 66
- Defining Product Promotions on page 66
- About Defining Promotion Merge on page 81
- About Defining a Promotion Split on page 83
- About Dynamic Transform on page 86
- Configuring the Edit Promotion Product Selection on page 89
- Defining User Interfaces for Bundled Promotions on page 91
- Editing a Bundled Promotion on page 92
- Processing Order Management Messages on page 96
- About Bundling Components for a Promotion on page 96
- Defining Bundled Promotion Compatibility Rules on page 98
- About Promotion Components Using Two Nodes Associated with Two Service Accounts on page 100
- Scenario for Using Different Service Account for a Promotion Component on page 100
- About Promotion Component Commitments on page 101
- Defining Component-Level Commitments on page 101
- Selecting Asset-Based Promotion Recommendations on page 107
- Debundling Component Assets from a Promotion on page 109
- About Visual Indicators for Promotions on page 110
- Configuring the Projected Asset Cache Search Specification on page 111
- About Promotion Transitions Ambiguity Resolution on page 114
- Defining Customizable Product Compatibility Rules on page 117
- Configuring the Workflow for Promotion Penalties on page 119

- Setting Up a Product for Oracle Application Integration Architecture Integration on page 120
- Modifying the Order Priority Mapping on page 124
- Processing a Sales Order Through Oracle Application Integration Architecture Integration on page 124
- Managing Telephone Numbers for an Order on page 130
- Building a Hierarchy of Orders on page 131
- About Order Revisions and As Submitted Orders on page 133
- Submitting an Order for Technical Service Qualification on page 135
- About Time-Based Offerings on page 136
- Process of Setting Up Time-Based Offerings on page 137
- About Managing Time-Based Offerings on page 142
- Transferring Service to Another Location (User) on page 145
- About Managing Bulk Requests on page 146
- Roadmap for Configuring Bulk Requests on page 147
- Process of Managing Bulk Requests on page 162
- About Bulk Request Processing on page 182
- Process of Managing Prepaid Services on page 187
- Process of Configuring Prepaid Services on page 191
- Adding Special Rating Items to a Quote or Order on page 194
- About Managing Order Fallout on page 196
- Viewing Fallout Orders and Order Line Items on page 198
- Upgrading Promotions in Quote and Order Lines on page 200
- Scenario for Working with Promotion Upgrades on page 201

Updating Opportunities from Quotes

When the user updates an opportunity from a quote, the revenue associated with the quote is transferred to the opportunity in the Opportunity field of the quote. The user can display the opportunity and view the total revenue transferred from the quote and the individual line items contributing to total revenue. For information about how to update an opportunity from a quote, see *Siebel Order Management Guide*.

In Order Management for Industry Applications, revenue from a quote is calculated as follows:

1. Items with the One-Time price type are added. Each item is then displayed separately in the Opportunities screen, Revenues view.

2 The price of each item with the Recurring price type is multiplied by a designated number of periods (occurrences). For example, if an item is priced at $10 for each month and is typically purchased for one year, then the number of occurrences for that item is 12, and the revenue for that item is $120.

   You can change the number of occurrences used to compute revenue for an item in either of the following ways:

   - Enter a number in the # of Occurrences field in the product record for the item in the Product Administration screen, Products view. This method is useful when a company changes the way in which it sells a product—for example, when a company changes the default length of a contract from one to two years.
   - Enter a number in the # of Revenue Occurrences field in the Quotes screen, Line Item Detail view. This method is useful when a customer purchases a different number of periods than usual.

3 Items with the Recurring price type are added. Each item is then displayed separately in the Opportunities screen, Revenues view.

4 The One-Time and Recurring price type subtotals are added. When the user selects Update Opportunity in the Opportunities screen, Revenues view drop-down menu, the total appears in the Revenue field in the Opportunities screen, Opportunities view.

   The amount of revenue contributed by each item appears in the Opportunities screen, Revenues view. Items with the One-Time price type appear only once. Items with the Recurring price type appear once for each unit of measurement (for each week, month, and so on.). For example, if revenue of an item is computed using a period of 12 months, then each month has a separate line item.

Processing a Quote Through the Order-to-Cash Process Integration Pack

This procedure describes quote functionality that is specific to the Order-to-Cash PIP. For more information about processing quotes, see the chapter on working with quotes in *Siebel Order Management Guide*.

NOTE: This functionality is active if the Order-to-Cash PIP is enabled by the Enable AIA OrderToCash system preference being set to TRUE. For more information about the Enable AIA OrderToCash system preference, see the overview chapter in the *Siebel Communications Guide*.

To process a quote through the Order-to-Cash PIP, follow this procedure.

To process a quote through the Order-to-Cash PIP

1 Follow the steps for creating a quote and adding line items, as described in the chapter on creating a quote or sales order in *Siebel Order Management Guide*.

2 To customize a quote, in the Line Items view, select a quote line item and click Customize.

   If the Enable AIA OrderToCash PIP is enabled, then either Oracle's Siebel Configurator or Oracle® Configurator is launched, depending on the origin of the product.

- If the product was synchronized from Oracle® E-Business Suite, then Oracle Configurator is launched.
- If the product was created in Siebel CRM, then Siebel Configurator is launched.

A configuration screen appears in a separate window.

3. Enter and save your configurations.

   Siebel CRM redisplays the Quote screen, where you can continue entering details of the quote.

4. When finished entering the quote, click Submit.

   Siebel CRM sends the quote to the external application for processing by way of Oracle Application Integration Architecture. When the external application finishes processing the quote, the integration updates the quote record in Siebel CRM.

Comparing Prices with Competitor Prices

A user can compare the prices of products the company offers with the prices of similar products that competitors offer. For example, a user can compare competing rate plans for utilities. The products are similar based on factors such as location, payment method, and meter type.

The process for price comparison follows:

1. The Siebel application asks the user questions about the region in which the user is located, the current supplier, the current rate plan, usage details (such as the number of units or dollar amount), and the period of usage (such as summer month or winter quarter).
2. The Siebel application uses this information to determine the average number of units the customer uses in a year.
3. The Siebel application calculates an annual total cost for the same number of units for each of the company's products that matches the specified criteria.
4. The Siebel application displays a list of quotes for the company products that specifies how much the customer can save by switching to each of the products.
5. The user selects a quote and clicks Enroll to create an order and an account for the user.

For more information about setting up and using price comparisons, see the topic about price comparison in *Siebel Energy Guide*.

Setting Up Service Charges for Products

Service charges are onetime charges that the customer incurs when the customer suspends, resumes, moves, or cancels service. Products that represent service charges can originate in the billing and revenue application. Product managers can add a service charge product to the catalog, and then associate this service charge product with another product and an order type. When a user creates an order or quote for that other product and that order type, the service charge product is automatically included in the order or quote. Product managers can add service charge products to price lists in the same way that they add other products to price lists. They can also use pricing policies to determine the price of a service charge product based on the data in an order or quote.

For example, if customers are charged a service fee for suspending DSL service, then the product manager can add a DSL-Suspend Service Charge product to the catalog, and then associate this new product with the DSL product and a Suspend order type. The product manager can then add this new product to the price lists. When a user suspends the DSL asset for the customer and consequently creates a Suspend order for the DSL product, the DSL-Suspend Service Charge product is automatically included as a line item in the order. The Related Service field of this line item has the DSL product to indicate that the DSL - Suspend Service Charge product is related to the DSL product.

Before you complete the procedure in this topic, you must add the service charge product to the catalog. For information about adding products to the catalog, see *Siebel Order Management Guide*.

To set up service charges for products

1. Navigate to the Administration - Product screen, then the Products view.
2. Click the Name field of the product for which you want to set up a service charge product.

   The form for the Product displays.
3. Click the Recommendations tab to display the Related Products list.
4. Add the service charge product to the Related Products list and complete the necessary fields. Some fields are described in the following table.

Field	Comments
Product	The name of the service charge product.
Relation	The relation of the service charge product to the product. Select Service Charge in this field.
Description	A description of the service charge product.
Effective Start Date	The date on and after which users can include the service charge product in an order or quote.

Field	Comments
Effective End Date	The date after which users cannot include the service charge product in an order or quote.
Order Type	The type of order to which the service charge product applies. Values include: ■ **Suspend**. These orders suspend service for an asset. The order line items have an Action field of Suspend. ■ **Resume**. These orders resume service for an asset after suspension. The order line items have an Action field of Resume. ■ **Move**. These orders transfer service for an asset from one location to another location. The order line items for the asset at the new location have an Action field of Add, and the order line items for the asset at the previous location have an Action field of Delete. ■ **Cancellation**. These orders disconnect service for an asset. The order line items have an Action field of Delete. Order types for activation and installation are not available because these services are generally component products for the service products to which they apply.

About Synchronizing Product Attributes, Product Classes, Products, and Promotions

This topic describes the synchronization of product attributes, product classes, products, and promotions (hereafter referred to collectively as *product objects*) with Oracle Product Information Management Data Hub. This topic includes the following topics:

- About Synchronizing Product Attributes on page 60
- About Synchronizing Product Classes on page 61
- About Synchronizing Products on page 62
- About Synchronizing Promotions on page 63

When Siebel CRM is integrated with Oracle Product Information Management Data Hub, and new product objects are defined in Oracle Product Information Management Data Hub, Oracle Application Integration Architecture integration publishes those objects to Siebel CRM. Additionally, when existing product objects are modified, Oracle Application Integration Architecture integration publishes the modifications to Siebel CRM.

One or more product objects can be synchronized at a time. For example, you can define 20 product attributes at once in Oracle Product Information Management Data Hub and release them all at the same time to Siebel CRM.

Because of the relationships among product objects, they must be synchronized in a certain order. For example, if you synchronize certain attributes that are items of a product and the product itself, then the attributes must be synchronized first. The order of synchronization is as follows:

1. Product Attributes
2. Product Classes (parent)
3. Products (parent)
4. Product Classes (child)
5. Products (child)
6. Promotions

When a product object is published from Oracle Product Information Management Data Hub to Siebel CRM, the information from Oracle Product Information Management Data Hub can include content in more than one language, or it can include content in only one language (not necessarily ENU). Any field value that belongs to translatable content (for example, definition name or display name), is mapped to the corresponding field in Siebel CRM. The input from Oracle Application Integration Architecture specifies the default language code.

A new product object that is synchronized from Oracle Product Information Management Data Hub is a workspace version, that is, a test version, in Siebel CRM. Oracle Application Integration Architecture passes the Auto Release parameter with one of the following settings:

- **N**. Siebel CRM does not automatically release the definition.
- **Y**. Siebel CRM automatically releases the definition.
- **Default**. The system setting within Siebel CRM determines whether or not to automatically release the definition. This is the value of the Workspace Release Flag system preference. For more information about the Workspace Release Flag system preference, see the overview chapter of *Siebel Communications Guide*.

When a product is released, the product cache in Siebel CRM is automatically refreshed, regardless of the Auto Release parameter setting.

If a product object is not automatically released in Siebel CRM, then that product object is released in Siebel CRM when it is released in Oracle Product Information Management Data Hub through Oracle Application Integration Architecture.

CAUTION: Automatically releasing product objects at once without testing in Siebel CRM might cause unpredictable and undesired results. It is recommended that you first test the product objects in the workspace environment, then release them when you determine it is safe to do so.

When a product object is updated in Oracle Product Information Management Data Hub, in Siebel CRM the workspace version of that object receives the update. The Auto Release parameter setting determines whether the changes are released at once in Siebel CRM.

For more information about workspace projects, see the chapter on testing products and using workspace projects in *Siebel Product Administration Guide*.

About Addressing Synchronization Errors

In the case of a synchronization error, the error message describes the problem. However, if multiple objects are synchronized in the same payload, then the error message does not indicate in which product, class, attribute, or promotion the problem occurs.

For example, if ten products are synchronized to Siebel CRM, and the ninth product does not have a value for the required field ABC, then an error message will indicate that the value for the required field ABC is missing, but will not identify the product in which the field value does not appear. In this case, you must manually find the product from which the field value is missing, and enter a value in the field.

To help identify the sources of synchronization errors, you can increase the log level in Siebel CRM to 3 and check the details in the log files.

About Synchronizing Product Attributes

A *product attribute* is a characteristic of a product that contains two parts, the definition of the attribute including the name of the attribute, and the possible values of the attribute.

One or more attributes can be synchronized at a time. For example, you can define twenty attributes at once in Oracle Product Information Management Data Hub and release them all at the same time to Siebel CRM.

The parameters of a product attribute in Oracle Product Information Management Data Hub that are synchronized with Siebel CRM are as follows:

- Header fields
- Default Language Code
- Attribute values (name, effective date, Id)
- Display Name (if any)
- Description (if any)
- Domain
- Data Type
- Unit of Measure
- Values
- Auto Release flag

The specific fields that are synchronized are visible in the Administration - Product screen, Attribute Definitions view.

NOTE: The Domain Type field value of FreeForm is not supported by the integration.

About Synchronizing Product Classes

A *product class* is a mechanism by which products and services are organized in a logical classification system. In Oracle Product Information Management Data Hub, this mechanism is called an *item catalog category* (ICC).

When a hierarchical structure of classes is synchronized through the integration, parent classes must be synchronized first, then child classes.

When a product class is synchronized, the information transmitted to Siebel CRM includes the following types of information:

- Class definition
- Properties
- Class header
- Attributes. This information includes Default Value, Rejected Value, and so on.
- Local structure of the class. This information includes any structure that is not inherited from a parent class.
- Hierarchical structure of the class. This information includes the name of the parent class, if any, child classes, if any, and parent-child class relationships.
- Class domain
- Multi-lingual content
- Product domain relationship

The information transmitted to Siebel CRM does *not* include user interface information, constraint rules, scripts, or resources. These items must be added manually in Siebel CRM.

The parameters of a product class in Oracle Product Information Management Data Hub that are synchronized with Siebel CRM are as follows:

- Default Language Code
- Class header:
  - Product Class Name
  - Parent Class ID
  - Display Name (if any)
- Associated attributes:
  - Attribute Ids (local and inherited)
  - Domain
  - Data Type
  - Values
- Structure:
  - Relationship Name

- Domain Type (Product, Class)
- Cardinality
- Domain entity (Class Id, product Id)
- Relationship Domain (in the case of a Class domain type):
  - Product 1 Id
  - Product 2 Id…

The specific fields that are synchronized are visible in the Administration - Product screen, Product Classes view.

NOTE: The Domain Type field value of Dynamic Class is not supported by the integration.

About Synchronizing Products

You can synchronize simple products with one price type and simple products with multiple price types through the integration. A simple product with, for example, two price types in Oracle Product Information Management Data Hub becomes two products in Siebel CRM. You can also synchronize complex products, that is, customizable products, through the integration.

The parameters of a product in Oracle Product Information Management Data Hub that are synchronized with Siebel CRM are as follows:

- Default Language Code
- Basic Product Information:
  - Product Name
  - Product line
  - Product Description
  - Structure type
- Associated Product Line (m:m):
  - Product Line ID 1
  - Product Line ID 2…
- Price lists:
  - Multiple price types
  - Same price list with different effective dates
- Price List line items (one-to-many):
  - Default Price List (configurable in Siebel CRM and Oracle Application Integration Architecture)
  - Effective Date
  - Discount fields
- Rules (one-to-many). Includes compatibility rules and recommendation messages.

- Effective Date
- Subject product Id, product line Id, class Id

- Associated Class:
  - Class ID
  - Local Specific Attributes Value from inheritance (if any). This information includes Attribute Id, value sets, flags, and so on.
  - Local specific domain entity from inheritance (if any). Users can add specific products for Domain Type of Class.
- Local Structure:
  - Relationship Name
  - Domain Type (Product, Class)
  - Cardinality (maximum, minimum, and default quantities)
  - Domain entity (class name, product name)
  - Relationship Domain (in the case of a Class domain type):
    - Product 1 Id
    - Product 2 Id…
- Child products with relationships (for complex products):
  - Structure of parent-child relationships
  - Structure inherited from class
  - BOM

The integration does not support the synchronization of eligibility rules, or of collateral items such as image files and key features. Additionally, synchronization does not override certain product parameters. These parameters include user interface setup, configurator rules, and scripts defined in Siebel CRM. These parameters must be entered and maintained in Siebel CRM.

Most fields that are synchronized are visible in the Administration - Product screen, Detail view and the Administration - Product screen, Product Definitions view.

NOTE: The Domain Type field value of Dynamic Class is not supported by the integration.

About Synchronizing Promotions

A *promotion* represents the marketing definition of a product. Promotions are time-sensitive, and they state discounted prices and contractual terms. A promotion is different from a generic product, because of characteristic fields, such as Upgrade Path, Commitment Plan, Aggregated Product, Aggregated Pricing, and so on.

The parameters of a promotion in Oracle Product Information Management Data Hub that are synchronized with Siebel CRM are as follows:

- Default Language Code

- Basic promotion information (header information):
  - Name
  - Description
  - Promotion Structure Type
  - Effective Dates
  - Message, Score, and so on
- Local component products structure (one-to-many):
  - Product ID (complex product or simple product)
  - Cardinality and other flags (Recommendable and so on)
  - Specific setup for the promotion (complex product):
    - Product 1 Id
    - Product 2 Id …
- Local component products pricing (one-to-many):
  - Product ID (complex product or simple product)
  - Discount type, value, and effective dates
  - Specific setup for the promotion (complex product):
    - Product 1 Id, Discount type, value, effective dates
    - Product 2 Id, Discount type, value, effective dates …
- Upgrade Paths:
  - Original Promotion ID
  - Effective Date
  - Other fields
- Commitment Plan:
  - NRC/RC set up
  - Charge/Credit
- Compatibility rules (one-to-many):
  - Effective Date
  - Subject product Id, product line Id, and class Id

Multiple upgrade paths for a promotion can be defined in Oracle Product Information Management Data Hub and published to Siebel CRM. The integration creates or updates the upgrade paths. The specific upgrade paths depend on the value of the original Promotion Id field, which has been previously synchronized.

Multiple instances of the same product cannot be associated with a promotion.

A promotion can be updated in Siebel CRM through the integration when an Oracle Product Information Management Data Hub user changes the promotion definition in one or more of the scenarios that follow:

- The header information is changed. For example, the value of the Score field or the Instances field might be modified.
- The structure is changed, for example, component products are removed or added, cardinality is changed with existing component products, a default product selection is changed, or an exclusive rule of product selection is modified.
- The component pricing is changed. Pricing changes might involve modifications to child component product pricing discount type, value, effective dates, and so on.
- The rules are updated.
- The upgrade path is changed. Changes to the upgrade path might involve an existing rule being assigned a different term, a new rule being added, an old rule being removed, and so on.
- The commitment plan is changed.

The integration does *not* support aggregate products, aggregate pricing, multi-value group fields such as Campaign, or multi-value group fields in Commitment. Additionally, no synchronization occurs between Oracle Product Information Management Data Hub and Siebel CRM for the following parameters, which must be entered and maintained in Siebel CRM:

- **Schedule fields**. No schedule fields (for example, RC Schedule or NRC Schedule) are synchronized.
- **Plan field**. The Plan name is manually synchronized between Siebel CRM and Oracle Product Information Management Data Hub. In other words, an Oracle Product Information Management Data Hub user copies the Plan name from Siebel CRM.
- **Charge/Credit field**. Charge/Credit is not synchronized from Siebel CRM back to Oracle Product Information Management Data Hub. When Siebel CRM receives an update from Oracle Product Information Management Data Hub for the promotion, the integration completely overrides the value of Charge/Credit (that is, the integration deletes the existing value in Siebel CRM and adds the new content from Oracle Product Information Management Data Hub).
- **Promotion Term field**. Promotion Term is not synchronized from Siebel CRM back to Oracle Product Information Management Data Hub. When Siebel CRM receives an update from Oracle Product Information Management Data Hub for the promotion, the integration completely overrides the value of Promotion Term (that is, the integration deletes the existing value in Siebel CRM and adds the new content from Oracle Product Information Management Data Hub).
- **Pro-Rate Plan field**. The Pro-Rate Plan field is not defined in Oracle Product Information Management Data Hub and appears blank in Siebel CRM. Siebel CRM users can complete this field manually.

The specific fields that are synchronized are visible in the Administration - Product screen, Product Promotions view. Component products are visible in the Administration- Product screen, Components view.

Viewing Synchronized Extensible Product Fields

Your company might want to extend the data schema of Siebel CRM to support its business policy or product-specific requirements. Extending the Siebel CRM data schema involves the use of *extensible fields,* which exist in product definitions in Oracle Product Information Management Data Hub but not in the default Siebel application, and which are added to Siebel CRM through the integration. An extensible field definition includes the name, data type, and value set for the field.

At synchronization time, Oracle Product Information Management Data Hub sends the product information including extensible fields (that include a field name and a single value for a particular product) to Siebel CRM through Oracle Application Integration Architecture. The default language code of the name and value is also specified. For example, a product named, Consumer IPTV STB, might include extensible field named, T2RappointmentRequired, with a value of Y. Siebel CRM stores this field and value in the Siebel database.

Siebel CRM product administrators can view these extensible fields in a read-only view.

To view the extensible fields passed by the integration for a selected product, follow this procedure.

To view synchronized extensible product fields

1. Navigate to Administration - Product, then the Products view.
2. Query for and select the product for which you want to view the extensible fields.
3. Click the User Defined Attributes view tab.

   The User Defined Attributes list displays the names and values of the extensible fields that have been added to the current product record from Oracle Product Information Management Data Hub through the integration.

Defining Product Promotions

By keeping technical definition of the product in a customizable product structure, and keeping pricing or marketing definitions in promotions, marketers can rapidly define new offers to meet market requirements without having to revise customizable products and underlying technical definitions. Administrators can use product promotions to re-use the same customizable product in different promotion contexts. This topic describes how to do the following promotion actions:

- "Defining Promotion Component Actions" on page 67
- "About Defining Promotion Upgrades for a Group of Promotions" on page 68
- "Upgrading Promotions" on page 71
- "Upgrading Promotions (In-Memory)" on page 73
- "Defining Promotion Upgrade Aggregate" on page 78

Defining Promotion Component Actions

Product administrators can define which action a promotion component gets when it is debundled from a promotion. A component can be debundled from a promotion as a result of one of the following events:

- A promotion disconnect. When this occurs, all the promotion components are debundled.
- A promotion upgrade to a target promotion to which the component can be transferred.
- A promotion split into two or more target promotions to which the component cannot be transferred.
- A promotion merge into a target promotion to which the component cannot be transferred.

Administrators can define the action assigned to a product when it is debundled from a promotion. The actions are as follows:

- **Disconnect.** When the component action is Disconnect, if the component is debundled, then it will have an action code of Delete.
- **Modify.** When the component action is Modify, if the component is debundled, then it will have an action code of Update.
- **Prompt.** When the component action is Prompt, if the component is debundled, then the CSR will be prompted to choose between Disconnect and Modify.

Scenario for Defining Promotion Disconnect Actions

This scenario gives one example of how promotion disconnections might be used. You might use this function differently, depending on your business model. A product administrator defines promotion Millennium Max 500 Package. In the Products tab (in both the Components and Aggregate views), the product administrator can a Disconnect Action option for each component.

- **Disconnect.** When Disconnect is specified in the Disconnect Action field, the instances associated with the relationship are disconnected when the promotion is disconnected. This action is useful for products or services that the client receives as a benefit of accepting a promotion. For example, when a customer signs up for a two-year contract, the customer might get 100 free SMS messages for each month. If the promotion is disconnected, then the benefit of 100 free SMS messages must also be removed.
- **Modify.** When Modify is specified in the Disconnect Action field and when the CSR disconnects the promotion, the promotion component is disassociated from the promotion and effectively gets a Update action code. This action is useful if the service provider wants to allow promotions to be debundled but services in the promotion to be retained.
- **Prompt.** When Prompt is specified in the Disconnect Action field and the instance of the component is debundled from the promotion, the CSR is prompted to choose whether to keep or disconnect the component.

To define promotion component actions

1. Navigate to Administration - Product, Product Promotions, and then the Products view.
2. Select the Product Name.

3 Select an option from the Action drop-down list.

Specifying the Prompt Action for Debundled Promotion Components

At run time, whenever a prompt case is detected as part of a promotion disconnect, the De-bundled Component Instances applet is displayed. This applet lists all of the debundled components. Each component requiring an action will have an exclamation point (!) in the exclamation point (!) column. Before continuing with the disconnect, users must select an action for all rows with exclamation points.

To specify actions in the De-bundled Component Instances applet

1 Select a row that has an exclamation point (!) in the ! column.

2 In the Action column, select Modify or Disconnect.

3 Repeat Step 1 and Step 2 for each row with an exclamation point in the exclamation point (!) column.

4 Click Done.

About Defining Promotion Upgrades for a Group of Promotions

Product administrators can design promotions so that an upgrade offer can be made to customers who have existing commitments due to their acceptance of other, earlier promotions. For example, a product administrator can apply an early termination penalty to a disconnect order if customers choose to terminate a package or promotion early. Alternatively, a customer can downgrade or upgrade the existing package or promotion to a different promotion.

Example of Defining Promotion Upgrades for a Group of Promotions

This scenario gives one example of how a promotion upgrade might be used. You might use promotion upgrades differently, depending on your business model.

In this scenario, a product administrator defines a promotion called Double Play - Silver with Broadband and VoIP Phone. The promotion can be upgraded to Triple Play – Gold, which has Broadband, VoIP, and IPTV. Similarly, Triple Play – Gold can be downgraded to Double Play – Silver with a penalty if the administrator decides to do so. Optionally, the product administrator can define eligibility rules for Double Play – Silver or Triple Play – Gold that govern the availability of the package based on the subscriber location.

A subscriber of the Double Play - Silver promotion is not satisfied with the services offered and calls into the call center to request a plan upgrade. The call is routed to the customer service representative (CSR), who reads the account information in a screen-pop. The CSR sees that the customer currently has Double Play - Silver. The CSR then highlights the existing promotion and clicks Upgrade Promotion in the Menu. A screen-pop shows the CSR a list of upgrades and downgrades.

The upgrade promotion shows promotions for which the customer is eligible. Promotion eligibility can be defined using customer account attributes like type, state, country, or zip code. The pop-up shows the eligibility status and eligibility reason.

To define promotion upgrade scenarios

1. Navigate to Administration - Product, Product Promotions, and then Upgrade.
2. The Upgrade From applet shows the list of promotions from which customers can upgrade (or downgrade) to the promotion in the header. In the Upgrade From view, select the promotion to upgrade (or downgrade).
3. The Upgrade To applet shows the list of promotions to which customers can upgrade (or downgrade) from the promotion in the header. In the Upgrade To view, enter the promotion upgrade requirements. The following table describes the fields.

Column	Description
Original Promotion	Select the name of the original promotion from the list. The Original Promotion can be selected only in the Upgrade From applet.
Target Promotion	Name of the promotion to which this product is upgrading. Target Promotion can only be selected in the Upgrade To applet.
Commitment Start	Choose one option: ■ **Original Start.** Starts on the date of the original promotion. ■ **Now.** Starts today. ■ **Original End.** Starts on the end date of the original promotion.
Duration	Choose one option: ■ **Original Duration.** Uses the duration fields that are defined for the original promotion, that is, the promotion from which it is upgraded. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are at the Administration screen, Product, Product Promotions, and then the Commitment view. ■ **New Duration.** Uses the duration fields that are defined for the new promotion, that is, the promotion to which it is upgraded. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are in the Administration screen, Product, Product Promotions, and then the Commitment view.
Penalty	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.

Column	Description
Prorate Plan	Choose a prorate plan from the list. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
Prorated Penalty	The proportional amount, in currency, to charge if the customer terminates the promotion before the specified end date. To populate this field, the Display Prorate Charge field must be checked in the Promotion Upgrade definition. This field is in the Upgrade Promotion pop-up form. Navigate to Accounts, then Account Summary, under the Installed Asset applet, highlight a promotion and select Upgrade Promotion from the applet menu. The Upgrade Promotion pop-up form appears. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.
Adjusted Duration	The duration of the commitment adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Adjusted Duration equals 24 months. This field is in the Upgrade Promotion pop-up form. Navigate to Accounts, then Account Summary, under the Installed Asset applet, highlight a promotion and select Upgrade Promotion from the applet menu. The Upgrade Promotion pop-up form appears. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.

Column	Description
Commitment End Date	The date the customer has agreed to end the commitment to the offer adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Commitment End Date equals Today plus 24 months. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule. This field is in the Upgrade Promotion pop-up form. Navigate to Accounts, then Account Summary, under the Installed Asset applet, highlight a promotion and select Upgrade Promotion from the applet menu. The Upgrade Promotion pop-up form appears. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.
Reason	A description of the upgrade offer, for example: Upgrade and receive an additional 200 minutes each month for an additional $2.00 each month.

4 Optionally, the product administrator can define eligibility rules, that govern the availability of the package based on the subscriber location, in Administration - Product, Product Promotions, and then the Eligibility and Compatibility Rules view. If eligibility is defined for a promotion, then it is honored when the CSR performs an Upgrade Promotion. For information on upgrading a promotion, see "Upgrading Promotions" on page 71.

Upgrading Promotions

CSRs can upgrade or downgrade a customer's existing promotions to a new promotions based on upgrade definitions that have been defined by an administrator. This procedure describes how to upgrade promotions using the ISS Promotion Upgrade Process.

In Siebel Innovation Pack 2015, Patchset 5 and later, CSRs can upgrade or downgrade a customer's existing promotions using in-memory promotions upgrade. For information about in memory promotions upgrades, see "Upgrading Promotions (In-Memory)" on page 73.

To upgrade a promotion

1 Navigate to Accounts, then use the vertical navigation buttons or search for the relevant account.

2 In the Installed Assets view, select the Product to upgrade.

3 Click Menu, then Upgrade Promotion. If the product is not eligible to upgrade, then this option is not available.

The Promotion Upgrades window opens. The following table describes the fields.

Column	Description
Promotion Name	The name of the Promotion associated with the Product.
Penalty	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.
Prorate Plan	Choose a prorate plan from the list. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
Commitment Start	Choose one option: ■ **Original Start.** Starts on the date of the original promotion. ■ **Now.** Starts today. ■ **Original End.** Starts on the end date of the original promotion.
Duration	Choose one option: ■ **Original Duration.** Uses the duration fields that are defined for the original promotion, that is, the promotion from which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are at the Administration screen, Product, Product Promotions, and then the Commitment view. ■ **New Duration.** Uses the duration fields that are defined for the new promotion, that is, the promotion to which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are in the Administration screen, Product, Product Promotions, and then the Commitment view.
Eligibility Status	Status of the eligibility for promotion.
Eligibility Reason	A descriptive reason of the eligibility for promotion.
Reason	A description of the upgrade offer, for example: Upgrade and receive an additional 200 minutes each month for an additional $2.00 each month.

Column	Description
Prorated Penalty	The proportional amount, in currency, to charge if the customer terminates the promotion before the specified end date. To populate this field, the Display Prorate Charge field must be checked in the Promotion Upgrade definition.
Adjusted Duration	The duration of the commitment adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Adjusted Duration equals 24 months. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.
Commitment End Date	The date the customer has agreed to end the commitment to the offer adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Commitment End Date equals Today plus 24 months. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.

Upgrading Promotions (In-Memory)

In Siebel Innovation Pack 2015, Patchset 5 and later, CSRs can upgrade or downgrade existing customer promotions using in-memory promotions upgrade. The in-memory computation for promotion upgrade improves performance and is streamlined to allow users to make changes to a target promotion using a staging view.

NOTE: The Promotion Upgrade window that is available in this procedure is based on the ISS Promotion Upgrade Aggregate VBC business component. The In Memory Promotion Upgrade Workflow Name user property is added to the business component. If the value of this user property is set to In Memory Promotion Upgrade Process, follow the steps in this topic.

Alternatively, you can configure the property to ISS Promotion Upgrade Process, in which case, you should follow the instructions for upgrading promotions in previous releases. For information about upgrading promotions in previous releases, see "Upgrading Promotions" on page 71.

To upgrade a promotion (in-memory)

1. Navigate to Accounts, then use the vertical navigation buttons or search for the relevant account.
2. In the Installed Assets view, select the Product to upgrade.

3 Click the cogwheel icon, then Upgrade Promotion. If the product is not eligible for upgrade, then this option is not available.

The Promotion Upgrades window opens. The following table describes the fields.

Column	Description
Promotion Name	The name of the Promotion associated with the Product.
Penalty	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.
Prorate Plan	Choose a prorate plan from the list. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
Commitment Start	Choose one option: ■ **Original Start.** Starts on the date of the original promotion. ■ **Now.** Starts today. ■ **Original End.** Starts on the end date of the original promotion.
Duration	Choose one option: ■ **Original Duration.** Uses the duration fields that are defined for the original promotion, that is, the promotion from which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are at the Administration screen, Product, Product Promotions, and then the Commitment view. ■ **New Duration.** Uses the duration fields that are defined for the new promotion, that is, the promotion to which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are in the Administration screen, Product, Product Promotions, and then the Commitment view.
Eligibility Status	Status of the eligibility for promotion.
Eligibility Reason	A descriptive reason of the eligibility for promotion.
Reason	A description of the upgrade offer, for example: Upgrade and receive an additional 200 minutes each month for an additional $2.00 each month.

Column	Description
Prorated Penalty	The proportional amount, in currency, to charge if the customer terminates the promotion before the specified end date. To populate this field, the Display Prorate Charge field must be checked in the Promotion Upgrade definition.
Adjusted Duration	The duration of the commitment adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Adjusted Duration equals 24 months. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.
Commitment End Date	The date the customer has agreed to end the commitment to the offer adjusted for the new commitment period in the promotion upgrade. For example, Millennium Max 500 Package has a commitment of 12 months and Millennium Max 200 Package a commitment of 24 months. If the upgrade rule specifies Now as the Commitment Start and New Duration as Duration, then the Commitment End Date equals Today plus 24 months. To populate this field, the Display Commitment field must be checked in the Promotion Upgrade rule.

4 Select the promotion to which you want to upgrade, then click OK.

The In-Memory Staging view is displayed.

The Source Promotion Components Applet lists components that are auto-transferred (with no ambiguity) and have a Transfer Status of Transferred. Additionally, it lists components that are not auto-transferred (with ambiguity) and have a Transfer Status of De-Bundled.

The Target Promotion applet lists the components that are auto-transferred. Separate icons differentiate between manually added components and auto transferred components. Visual indicators are provided to show the current cardinality status:

- An X mark denotes a cardinality violation.
- A check mark indicates that there is no cardinality violation.

NOTE: The In-Memory Staging view can be disabled. By default, it is enabled. To disable the In-Memory Staging view while still using in-memory promotion upgrades, set the UIOption user property to N in the In Memory Promotion Upgrade Process workflow.

5 (Optional) To transfer a promotion:

NOTE: These steps are required only when ambiguity is detected during the upgrade.

a If you want to transfer a component that is not already transferred, whose Transfer Status is set to Debundled, from the Source Promotion Components applet, select an asset that you want to transfer.

NOTE: Components with Action Code set to Prompt will contain an exclamation mark (!). To resolve this, you must select Modify or Disconnect from the Action Code drop-down menu. In situations where no action is required, the Action Code field will be read-only.

b From the Target Promotion applet, select the relationship for the item chosen in Step a.

c Click Transfer.

The asset is moved to the Target Promotion Components applet, and the Transfer Status for the asset in the Source Promotion Components applet is set to Transferred.

NOTE: The Transfer button is disabled when transfers are forbidden. Additionally, the button is available only if the Transfer Status is set to De-bundled in the Source Promotion Components applet.

6 (Optional) To remove a transferred asset, click the Remove button in the Target Promotion Components applet.

The removed asset will be moved to the Source Promotion Components applet, and the Transfer status will be set to De-bundled.

7 (Optional) To add a new products to the target promotion, click the Add button beside the relationship of the promotion component.

8 (Optional) To delete products that were added manually, from the Target Promotions applet, click the Delete link beside the product.

9 (Optional) To update the quantity of the asset in the Target Promotions applet:

a Enter a number in the Item Quantity text box.

NOTE: The Quantity text box is read-only for transferred assets.

b Click the Update link next to the Item Quantity text box.

The quantity will be updated and the new prices will be reflected.

10 (Optional) To customize an asset from the Target Promotions applet, click the Customize link beside the asset.

The asset is displayed in the Product Configurator view.

NOTE: The complete product structure can be viewed inline by clicking the Expand/Collapse button.

11 (Optional) To verify that assets adhere to the promotion eligibility and compatibility rules, click the Verify E&C button.

If violations exist, then they will be shown inline in the Target Promotion Components applet.

NOTE: The Verify E&C button does not perform any promotion integrity validations.

12 Click Done to submit the promotion upgrade.

Line items with action codes are added to the document (quote or sales order).

13 (Optional) To cancel all of the changes that you applied in Step 4 through Step 11, click the Cancel button.

The Account Summary view is displayed.

NOTE: In-Memory Promotion Upgrade is an optional feature to enhance the performance of bundle upgrades for promotions. Test results show significant improvement in response time for upgrading promotions, reducing call handling time and improving customer satisfaction, as well as enhancements of Siebel and database server CPU usage. The in-memory functionality maps data into memory to process upgrading a promotion entirely in memory. Hence, this functionality requires more memory on the Siebel Server. The size of the additional memory varies depending on the use case. Therefore, before deploying the In-Memory Promotion Upgrade feature, it is recommended that you estimate the feature performance gains, measure the required additional memory, and increase as needed the Siebel Server memory running this optional feature.

Configuring the Pricing Signal Name for In Memory Promotion Upgrade Process Workflow

By default, the In Memory Upgrade Promotion Process workflow triggers the CalculatePrice signal to call the Dynamic Pricing Workflow. However, using the In Memory Promotion Upgrade Process, administrators can configure the Pricing Signal Name to call a custom signal to calculate prices. Administrators can change the Pricing Signal name by passing a custom signal name as a value to the PricingSignal input property to the Call Pricer step of the In Memory Promotion Upgrade Process workflow.

To configure the pricing signal name for the In Memory Promotion Upgrade Process workflow

1 Open Siebel Tools.

2 Navigate to the Object Explorer, then the Workflow Process.

3 Query for the following workflow:

In Memory Promotion Upgrade Process

4 From the View menu, under Toolbars, select the WF/Task Editor Toolbar.

5 Click the Revise icon on the WF/Task Editor Toolbar.

6 Right-click on Edit Workflow Process.

7 Go to the Call Pricer step and add inputArgs with the following specifications:

Input Argument	Type	Value
PricingSignal	Literal	CustomPricingSignal

8 Publish or Activate the In Memory Promotion Upgrade Process workflow.

Defining Promotion Upgrade Aggregate

Product administrators can use Upgrade Aggregate to define upgrades to a group of promotions by using Product Line and Product Class. In this way, administrators do not need to list all promotions when defining upgrade scenarios.

Product administrators can define commitment and the charge proration rules as part of the promotion upgrade definition. During the promotion upgrade process, it is important that the user or customer is informed about the commitment and charge associated with the upgrade offers so that the customer can make a well-informed decision.

Scenario for Promotion Upgrade Aggregate

This scenario gives one example of how promotion upgrade aggregate might be used. You might use this function differently, depending on your business model.

A product administrator defines the promotion Plan with Handset. In the promotion upgrade definition, the Aggregate view includes a list of the product lines or product classes to which this promotion can upgrade or downgrade.

In Scenario 1, the product administrator can specify in the header the promotions that can be upgraded. The Target Promotion is read-only and is defaulted based on the promotion in the header.

For example, the promotion Product Line “Plan with Handset” might include the following promotions:

- 1-year individual plan
- 2-year individual plan

The product administrator can specify that all promotions in the Product Line “Plan with Handset” might upgrade to the Voice and DSL Bundle promotion by making the following specifications:

- Voice and DSL bundle in the header.
- In Upgrade From, Target Promotion displays a default value of Voice and DSL Bundle. Product Line is set to Plan with Handset.

In Scenario 2, the product administrator can specify in the header the promotions to which the active promotion can be upgraded. The Original Promotion is read-only and is defaulted based on the promotion in the header.

For example, the promotion Product Line “Plan with Handset” might include the following promotions:

- 1-year individual plan
- 2-year individual plan

A product administrator can specify that the Voice and DSL Bundle promotion can be downgraded to any product in the Product Line “Plan with Handset” by making the following specifications:

- Voice and DSL bundle are in the header.
- In Upgrade To, the original promotion displays a default value of Voice and DSL Bundle. Product Line is set to Plan with Handset.

The customer service representative (CSR) can view and accept any upgrade or downgrade promotions in the employee-facing applications.

In this scenario, after the product administrator defines the promotion, a subscriber of the promotion Millennium Max 500 Package is not satisfied with the usage charges and calls into the call center to request a plan upgrade. The call is routed to the CSR, who sees the account information in a screen-pop.

The CSR recognizes that the customer currently has the Millennium Max 500 Package, highlights the existing promotion, and clicks Upgrade Promotion in the Menu. The CSR reads the available upgrades and downgrades in a screen-pop. The promotion list includes all promotions derived in the Component (Original) and Aggregate (Target) definition.

To define promotion upgrade aggregate

1. Navigate to Administration - Product, then Product Promotions.
2. Select the Name of the promotion that you want to upgrade.
3. Click the Upgrade tab, then Aggregate.
4. If not already associated, then associate one or more promotions with the product line.
   a. Navigate either to Administration - Product, then the Product Lines view or navigate to Administration - Product, then the Products view.
   b. In the Product Line field, click the multiple select button to open the Product Lines dialog box.
   c. In the Product Lines dialog box, click Show Available.
   d. In the Available list, add one or more product lines to the Selected list and click OK.
5. Release the promotion. Navigate to Product Promotions, Versions, and click Release New Version.
6. Navigate to Product Promotions, Upgrade, and then the Aggregate view. The Aggregate view includes a list of the product lines to which this promotion can upgrade. You can define multiple product lines.
7. Optionally, instead of a product line you can use a product class in the Aggregate view. Product Line and Product Class are mutually exclusive. To use a product class with a promotion, associate Promotion with Product Class in the Product Definition view. For information about product classes, see *Siebel Order Management Guide*.
8. In the Upgrade From view, select the promotion to upgrade. You can use any promotion within the Product Line. Any promotion in the product line can be upgraded to the parent promotion.

   NOTE: You cannot specify aggregate in both the original and target promotions.

9 In the Upgrade To view, enter the promotion upgrade requirements. The following table describes the fields.

Column	Description
Product Line	Include all products of the selected product line in the promotion.
Class	Include all products of the selected product class in the promotion.
Commitment Start	Choose one option: ■ Original Start: Starts on the date of the original promotion, that is, the promotion from which it is split. ■ Now: Starts today. ■ Original End: Ends on the end date of the original promotion from which the new promotion is split.
Duration	Choose one option: ■ Original Duration: Uses the duration fields that are defined for the original promotion, that is, the promotion from which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are at the Administration screen, Product, Product Promotions, and then the Commitment view. ■ New Duration: Uses the duration fields that are defined for the new promotion, that is, the promotion to which it is split. The duration fields include Period, Period UOM, Grace Period, and Grace UOM, and are in the Administration screen, Product, Product Promotions, and then the Commitment view.
Penalty	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.
Prorate Plan	Optionally, choose a prorate plan from the list. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
Reason	A description of the upgrade offer, for example: Upgrade and receive an additional 200 minutes each month for an additional $2.00 each month.

About Defining Promotion Merge

Product administrators can define multiple merge scenarios in which promotions in the grandchild list are merged into the promotion defined in the header list. Administrators can merge promotion scenarios, for example, by merging an individual mobile bundle into a family plan bundle.

Example of Defining a Promotion Merge

This topic gives one example of how merged promotions might be used. You might use merged promotions differently, depending on your business model.

In this scenario a product administrator wants to offer customers bundled promotions at a discount. The administrator merges three promotions: Mobile Bundle, Broadband Offer, and IPTV Offer into the Triple Play Offer promotion that includes Mobile, Broadband, and IPTV. Figure 16 illustrates the merging of these promotions.

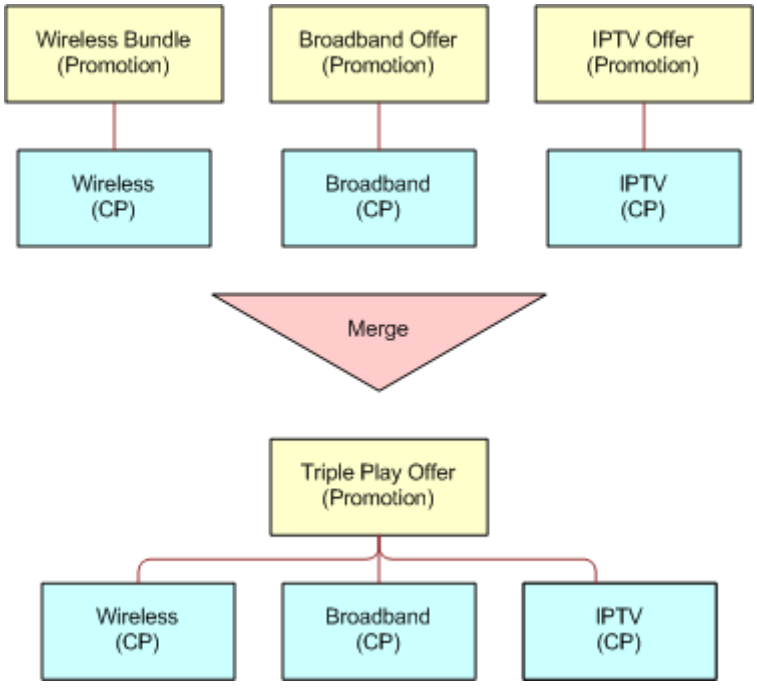


Figure 16. Merged Promotion

The merger of promotions shown in Figure 16 uses the following logic:

1. Merge Promotion 1 to n to Promotion A.
2. Disconnect Promotion 1.
3. Disconnect Promotion n.
4. Apply Promotion A.

Commitment must be included in the merge definition.

To define a promotion merge

1. Navigate to Administration - Product, Product Promotions, then Merge.
2. In the Merge list, click New.
3. Enter a name for this scenario, for example, Family Plan Bundle.
4. Enter a description.

   NOTE: If the Track As Agreement flag for the promotion is checked, then the use of Aggregate Commitment Start and Aggregate Duration are related to the creation of agreement for the new promotion.

5. In the Aggregate Commitment Start field, select a time to start this merged promotion.

   The start date for any agreement item of the new promotion, that is, the promotion into which it is merged, is determined by the value in the Aggregate Commitment Start field:

   - **Earliest Start.** Starts on the earliest date among all the start dates of the original promotions from which they are merged.
   - **Earliest End.** Ends on the earliest date among all the end dates of the original promotions from which they are merged.
   - **Latest Start.** Starts on the latest date among all the start dates of the original promotions from which they are merged.
   - **Latest End.** Ends on the latest date among all the end dates of the original promotions from which they are merged.

6. In the Aggregate Duration field, choose a duration to run this merged promotion.

   The duration for any agreement item of the new promotion, to which it is merged, is determined by the value in the Aggregate Duration field:

   - **New Duration.** Uses the duration fields that are defined for the new promotion to which it is merged.
   - **Original - Maximum.** Uses the maximum duration among all the durations of the original promotions from which they are merged, according to the duration fields that are defined for the original promotions. For example, if merging three promotions that have durations of two years, one year, and six months respectively, then the maximum duration would be two years.
   - **Original - Minimum.** Uses the minimum duration among all the durations of the original promotions from which they are merged, according to the duration fields that are defined for the original promotions. For example, if merging three promotions that have durations of two years, one year, and six months respectively, then the minimum duration would be six months.

   For more information on defining duration, see “Defining Promotion Component Actions” on page 67.

7. In the Component list below the Merge list, click New and select a promotion in the Promotion field.
8. In the Min and Max fields, enter the minimum cardinality and maximum cardinality.
9. In the Penalty field, enter an amount, in currency, to charge if the customer cancels the promotion before its designated end.

   You can change the national currency and date of exchange rate in the dialog box.
10. Select a Prorate Plan.

    Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For more information about prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
11. To activate, do the following:
    a. Navigate to Administration - Application, then System Preferences.
    b. Set All Assets to Y or Yes.

       Customers can selectively activate or deactivate this behavior in specific scenarios (for example, to modify or upgrade, and so on) by toggling the value of All Assets in the workflow steps used in that particular scenario. By default, the value of the All Assets system preference is passed to each workflow step.

About Defining a Promotion Split

Product administrators can define a promotion split to split a single promotion into separate promotions, for example, by splitting the promotion Triple Play Offer (broadband, VoIP, and mobile) into three individual promotions.

Scenario for Defining a Promotion Split

This topic gives one example of how defining promotion split might be used. You might use defining promotion split differently, depending on your business model.

In this scenario, a communications service provider (CSP) offers the Triple Play Offer promotion, which contains three promotions: Mobile, Broadband, and IPTV. The CSP defines a promotion split for Triple Play Offer. After splitting, Triple Play Offer becomes three individual promotions: Mobile Bundle, Broadband Offer, and IPTV Offer. This split is illustrated in Figure 17.

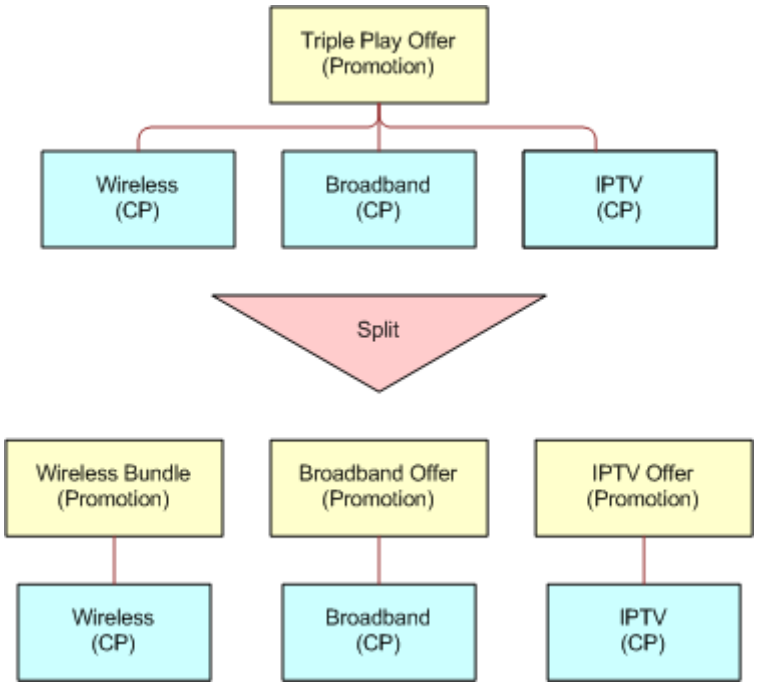


Figure 17. Promotion Split

The promotion split uses the following logic:

1. Split Promotion A to Promotion 1, 2…N.
2. Disconnect Promotion A.
3. Apply Promotion 1.
4. Apply Promotion 2…
5. Apply Promotion N.

One promotion can be split using different scenarios. For example, the Triple Play Offer can be split into three individual promotions, or into a dual play promotion and an individual promotion. Within a split scenario, the sequence determines the order in which original promotions are assigned to split promotions.

Split scenarios include the penalties. Within a split scenario, individual promotions provide the ability to define commitments.

Example of Defining a Promotion Split

This topic gives one example of defining a promotion split. You might use this feature differently, depending on your business model.

To define a promotion split

1. Navigate to Administration - Product, Product Promotions, and then the Split view.
2. In the Split list, create a new record and complete the necessary fields.
3. In the Name field, enter a meaningful name for the split promotion, for example, VoIP Promotion.
4. Optionally, enter a Description.
5. In the Penalty field, enter an amount in currency to charge if the customer cancels the promotion before its designated end.

   You can change the national currency and date of exchange rate in the dialog box.
6. In the Prorate Plan field, select a prorate plan from the list.

   Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For more information on prorated plans, see the topic about setting up conditional charge plans in *Siebel Field Service Guide*.
7. In the Component list below the Split list, click New and enter a sequence number in the Sequence Number field.
8. In the Promotion field, select a promotion from the list.

   NOTE: When the Track As Agreement check box for the promotion is selected, the use of Commitment Start and Duration are related to the creation of agreements for the new promotion.
9. In the Commitment Start field, select a time to start this individual promotion from one of the following options:

   - **Original Start.** Starts on the date of the original promotion from which it is split.
   - **Now.** Starts today.
   - **Original End.** Starts on the end date of the original promotion from which it is split.

   The start date for the new split promotion is determined by the value in the Commitment Start field.
10. In the Duration field, select a duration from the following options:

    - **Original Duration.** Uses the duration fields that are defined for the original promotion from which it is split.
    - **New Duration.** Uses the duration fields that are defined for the new promotion to which it is split.

    The duration for any agreement item of the new promotion (the promotion to which it is split) is determined by the selected option in the Duration field.
11. Optionally, in the Reason field, enter a descriptive reason for creating this split promotion.

About Dynamic Transform

Siebel Order Management for Industry Applications allows users to dynamically transform promotion components without a product administrator having to explicitly define all split and merge paths between promotions. This feature enables users to dynamically split and dynamically merge existing bundled promotion assets without any pre-defined scenario, provided that an upgrade path exists between the source and target promotions. By eliminating the need to define split and merge transitions, the dynamic transform feature can reduce the time-to-market of new offerings.

For a given account, users can use the dynamic transform feature to do the following:

- View existing bundled promotion assets and associated components
- Select one or more target promotions to which existing promotion components can be transferred
- Transfer existing promotion components to target promotions
- Add new component instances to target promotions
- Generate the modified quote or order

You can access the dynamic transform feature contextually when viewing installed assets for an account. For more information about the dynamic transform feature, see "Performing a Promotion Dynamic Transform" on page 88.

Source Promotions Applet

While performing a dynamic transform, the Source Promotions applet is displayed. Table 6 describes some of columns in the Source Promotions applet.

Table 6. Source Promotions Applet Descriptions

Column Header	Description
Line #	The line item number.
Product	The name of the product, the promotion, or promotion component.
Description	A description of the product, promotion, or promotion component.
Service ID	The service ID of the product, promotion, or promotion component.

Table 6. Source Promotions Applet Descriptions

Column Header	Description
Quantity	The quantity of the asset.
Status	The status of the line item with respect to the promotion dynamic transform operation. The possible values are described as follows: ■ **Disconnected.** A transfer occurred from the source promotion to the target promotion that generated a minimum cardinality violation, which in turn caused a disconnection of the source promotion. ■ **De-bundled**. A disconnection of the source promotion caused a debundling of the sibling components. ■ **Transferred**. The line item is transferred from the source promotion to the target promotion. ■ **-.** No action has been taken on this line item.

Target Promotions Applet

While performing a dynamic transform, the Target Promotions applet is displayed. The applet lists the definition of the target promotion. Table 7 describes some of the columns in the Target Promotions applet.

Table 7. Target Promotions Applet Descriptions

Column Header	Description
Line #	The line item number.
Product	The promotion header or promotion component definition when the line item is non aggregated product.
Aggregate Type	The aggregate type when the line item is an aggregated product.
Aggregate Name	The aggregate name when the line item is an aggregated product.
Description	A description of the product or aggregated product.
Min	The minimum cardinality value.
Max	The maximum cardinality value.
Cardinality	Indicates whether the line item adheres to the cardinality rules: ■ An X is displayed when the cardinality rules are not respected. ■ A check mark is displayed when the cardinality rules are respected.
Quantity	Quantity of the asset.

Performing a Promotion Dynamic Transform

This topic describes how to perform a promotion dynamic transform. It includes information about adding promotion components, and about transferring promotion components to resolve cardinality issues.

To perform a promotion dynamic transform

1. Navigate to the Accounts screen, then the Accounts List view.
2. Drill down on an account.
3. Click the Account Summary view tab.
4. In the Installed Assets applet, select an asset.
5. Select Dynamic Transform from the menu.

   The Source Promotions applet and the Target Promotions applet are displayed. For more information about the Source Promotions and Target Promotions applets, see "Source Promotions Applet" and "Target Promotions Applet."
6. To add a target promotion, perform the following steps:
   a. Click Add Promotion in the Target Promotions applet.

      The Promotions Upgrades dialog box appears, displaying only promotions having an eligible upgrade path with at least one of the selected source promotions for the account.
   b. Select a promotion.
   c. Click OK.

      The promotion definition appears in the Target Promotions applet.
7. To resolve minimum cardinality issues, you must transfer a promotion component from the source to the target until the Cardinality column in the Target Promotions applet displays a check mark for every line item. To transfer a promotion component, perform the following steps:
   a. In the Source Promotions applet, select the promotion component that you want to transfer.
   b. In the Target Promotions applet, select the target promotion component.
   c. Click Transfer.

   The Quantity field for the promotion component that you transferred increases by the quantity transferred from the source. For more information about the Target Promotions applet and the Cardinality column, see "Target Promotions Applet."

   d. Repeat Step a through Step c for the promotion compounding until the value specified in the Quantity field falls between the values specified in the Min and Max fields.

      NOTE: The Transfer button will be disabled when the Quantity field is equal to the value in the Max field for the line item.
8. Repeat Step 7 until all line items in the Target Promotions applet display a check mark.
9. If you want to remove a promotion component, then perform the following steps:

a In the Target Promotion Component applet, select a promotion component.

b Click Remove.

The component that you remove is transferred back to the Source Promotions applet, but is not rebundled into the existing promotion. In the Source Promotions applet, the status of components that are transferred back changes from Transferred to De-bundled.

NOTE: The Remove operation does not undo any penalty charges. This is because removing components breaks the promotion.

Alternatively, you can click Cancel to start over from the original promotion definition.

10 Click Done.

NOTE: In cases where source promotions have been debundled or disconnected, and have an Action code of Prompt, Siebel Order Management for Industry Applications will prompt you for an action. For more information, see "Specifying the Prompt Action for Debundled Promotion Components."

11 An order summary screen is displayed.

The Action Code field for each promotion component summarizes the action: add, update, or delete.

12 Click Next.

NOTE: In cases where a commitment has been broken, Siebel Order Management for Industry Applications will apply a penalty to the account.

Configuring the Edit Promotion Product Selection

The behavior described in this topic applies to components of a bundled promotion that are defined as aggregates. When a user selects a promotion in the Sales Order screen, Line Items view, then clicks the Line Items list Menu button and chooses Edit Promotion, your Siebel application displays a view in which you can edit the promotion. In this Edit Promotion view, by default, users can select nonprimary product line products. However, queries involving nonprimary product lines can adversely affect performance for product lines that involve large quantities of data. You therefore have the option of disabling this behavior.

To disable Edit Promotion product selection, follow this procedure.

To disable Edit Promotion product selection

1 Log in to Siebel Tools.

2 Query for the ISS Promotion Related Product VBC business component.

3 Navigate to the Business Component user properties.

NOTE: By default, not all object types are visible in the Object Explorer. For information on how to show and hide object types, see the topic on showing and hiding object types in the Object Explorer in *Using Siebel Tools*.

4 Select the CompProdLn Multi Value Search user property.

   The default value of this user property is Y. This value enables nonprimary product line product selection in the Edit Promotion user interface.

5 To disable nonprimary product line product selection in the Edit Promotion user interface, change the value of the CompProdLn Multi Value Search user property to N.

6 Compile the changes.

7 Copy the compiled SRF to the Siebel Server and restart your Siebel application.

For more information about changing user property values, see *Using Siebel Tools*.

Scenario for Using Edit Promotion Product Selection

This topic gives one example of how Edit Promotion product selection might be used. You might use Edit Promotion product selection differently, depending on your business model.

At design time, a product administrator creates one product line named Blackberry and another product line named Smartphones. Next, the administrator creates a new product named Blackberry Bold. The administrator adds the Blackberry Bold product to the Blackberry product line as the primary product line. The administrator then adds the Blackberry Bold product to the Smartphones product line.

Next, the administrator creates a bundled promotion named Blackberry Promotion Primary. To this bundled promotion, the administrator adds the Blackberry product line as an aggregate component. Then the administrator creates another bundled promotion named Blackberry Promotion Nonprimary. To this bundled promotion, the administrator adds the Smartphones product line as an aggregate component.

At run time, a sales representative creates a sales order or quote and adds the Blackberry Promotion Primary bundled promotion as a line item. With the Blackberry Promotion Primary line selected, the sales representative clicks Edit Promotion. In the Edit Promotion view, the sales representative clicks Add. Because Blackberry is the primary product line for the Blackberry Bold product, Blackberry Bold is selectable.

The sales representative then creates another sales order or quote and adds the Blackberry Promotion Nonprimary bundled promotion as a line item. With the Blackberry Promotion Nonprimary line selected, the sales representative clicks Edit Promotion. In the Edit Promotion view, the sales representative clicks Add. Depending on the setting of the CompProdLn Multi Value Search user property, one of the following behaviors occurs:

- If the value of the CompProdLn Multi Value Search user property is set to N, then the Blackberry Bold product is not selectable in the Edit Promotion view when configuring the bundled promotion. This is because Smartphones is not the primary product line for the Blackberry Bold product.
- If the value of the CompProdLn Multi Value Search user property is set to Y, then the Blackberry Bold product is selectable in the Edit Promotion view when configuring the bundled promotion, even though Smartphones is not the primary product line for the Blackberry Bold product. This is because the selection is not limited to primary product line products.

Defining User Interfaces for Bundled Promotions

You can define how a promotion is rendered on screen at run time and what controls are available to users by defining user interfaces for individual bundled promotions.

To define the user interface for a bundled promotion

1. Navigate to the Administration - Product screen, then the Product Promotions view.
2. In the Product Promotions list, query for records with the Type field values set to Bundled Promotions.
3. Select a bundled promotion for which you want to define data content.
4. Click the User Interface view tab.
5. In the Components list, which is the unlabeled list under the User Interface view tab, complete the fields that control the display of the current bundled promotion components.

   The Components list contains one row for each component or aggregate product that was added as part of the promotion definition. You cannot add any rows to the list in this view. Some fields are described in the following table.

Field	Comments
Type	Read only. Specifies the composition of the promotion component product. Values are as follows: ■ **Components.** Identifies a product that is a single unit. This relationship is defined in the Components view. ■ **Aggregate.** Identifies a product that is composed of multiple units. This relationship is defined in the Aggregates view.
Product Name	Read only. Specifies the product that comprises the promotion component.
Sequence	Integer used to control the component display order at run time. The components are displayed in ascending order of their Sequence values. Components with no Sequence value are displayed at the bottom of the list. Components with the same Sequence value are not displayed in any specific order. To control the exact display order, you must assign a different numeric Sequence value to each component.
Hide	Select to hide the component in the Edit Promotion view at run time. Deselect to display the component in the Edit Promotion view at run time. Hiding a component is useful if the component is mandatory in a bundled promotion and cannot be modified. Hiding these components saves space on the view and helps users to focus on the components that require their attention.

Field	Comments
Read Only	Select to display the component as read-only at run time. Deselect to display the component as editable at run time. Designating a read-only status is useful for components with quantities that cannot be modified, for example, a component with minimum and maximum cardinality values of one. When the Read-only check box is selected, the Add, Delete, and Update buttons of the component are hidden so that a user cannot change the quantity of that component.
Hide Image	Select this check box to hide the graphic image of the component at run time. This action collapses the space that the image would have occupied, thus saving screen space and reducing the need for users to use the vertical navigation buttons in the Edit Promotion view. Deselect this check box to display the graphic image of the component at run time.
Display Control	Specifies the control with which each listed component is selected in the Add Product dialog box at run time. The appropriate control is indicated by the type and cardinality of the component. The values are as follows: ■ **Quantity Box.** Adds a numeric field to enable users to enter a quantity for the component. A quantity box is for an aggregate component with a maximum cardinality greater than one and for which the quantity can be greater than one for each product. ■ **Check Box.** Adds a check box to enable users to specify whether the component is included in (check box is selected) or excluded from (check box is deselected) the bundled promotion. A check box is for an aggregate component with a maximum cardinality greater than one, but for which users can pick no more than one of each individual product. ■ **No Control.** Does not add any control so that users can select only one item from the list. No control is for an aggregate component with a maximum cardinality of one so that users can select only one product.

Editing a Bundled Promotion

You can edit the details of a bundled promotion that has been added to a quote or order as a line item. A single view displays both the administration-time information (the promotion definition) and the run-time information (the promotion instance component line item) of a promotion. This view enables you to perform the following operations:

- Add more products as allowed by the existing promotion to the customer
- Update the quantity of a product that is already associated with the customer
- Configure a product that is already attached to the customer
- Show pricing information
- Delete a product
- Validate a promotion definition

To edit a bundled promotion

1 Do one of the following:

- Navigate to the Quotes screen, and then the List view.
- Navigate to the Sales Orders screen, and then the List view.

CAUTION: These are the *only* valid ways to navigate to the view where you can edit a bundled promotion. Accessing an editable promotion record requires the context of an associated quote or order. Consequently, navigating to the Edit Promotion view by any other route, for example, by using the History functionality or the Back and Forward buttons of the Web browser, might cause a malfunction or data loss.

2 Select a quote or order with a bundled promotion line item that you want to edit, and do one of the following:

- If the record is a quote, then in the Quotes list, click the link in the Name field.
- If the record is a sales order, then in the Sales Orders list, click the link in the Order # field.

3 Click the Line Items view tab, and in the Line Items list, select the bundled promotion you want to edit.

4 From the Line Items list menu, choose Edit Promotion.

The Edit Promotion view displays several regions, as follows:

- The Edit Promotion list region displays a header followed by one or more areas for each component of the promotion. The sort order of the components is set in "Defining User Interfaces for Bundled Promotions" on page 91. Each component area defines a promotion instance component line item. Each component area includes a rule record and a component record.
- For reference, a Line Items list region displays all the line items of the quote or order. Below it, a Messages list region displays generated messages, if any, from editing activities on the current promotion.

5 In the header area of the Edit Promotion list, view and edit aggregate information for the promotion.

This region shows the name of the promotion and the fields described in the following table.

Field	Comments
Total NRC	Read only. Shows the rolled-up total of nonrecurring (one-time) prices for this promotion instance.
Total MRC	Read only. Shows the rolled-up total price for all components of this promotion instance that will be billed each month.
Promotion Qty	Accept the current value, or enter a new number of one (1) or greater to change how many instances of this promotion are associated with the current quote or order. **NOTE:** A zero (0) value is not valid in this field. If you click Save, then an error message appears. If you click Done, then no error message is generated, but the quantity change is ignored.

6 In each rule record, perform the following actions:

a View the setup information for this component.

The rule record shows the name of the promotion component and the read-only fields described in the following table.

Field	Comments
Min	Minimum quantity of this component that can be included in the promotion instance.
Max	Maximum quantity of this component that can be included in the promotion instance.
Default	Default quantity of this component that is included in the promotion instance when it is added to the quote or order.
cardinality icon	A visual indicator of whether the quantities in the associated component records are valid (indicated by a check mark icon) or invalid (indicated by an x icon) according to the promotion definition. For more information about these indicators, see Step c on page 94.

CAUTION: If you submit a quote or order that includes a promotion with a cardinality violation, then the quote or order is processed. An error message is generated *only* when you validate the promotion. Therefore, before submitting an order to the fulfillment system, validate each associated promotion, and fix any cardinality errors.

b To add another component record, click Add in the rule record.

For a single component, the Add Product dialog box displays a list of products that you can add as components according to the current rule. For an aggregate component, the selection of records is defined by the Display Control settings in the user interface definition of the bundled promotion. For more information, see "Defining User Interfaces for Bundled Promotions" on page 91.

c In the Add Product list, specify the quantities of the products you want to add, and then click Add.

The Edit Promotion view reappears with the specified products added to the component region as additional component records under the rule record. Cardinality validation occurs automatically. In the Edit Promotion view header, the values in the Total MRC and Total NRC fields are automatically increased or decreased by the changes you made to the components.

7 In each component record, perform the following actions:

a Complete the fields as required.

The component record is identified by the name of the component product, with a link that enables you to drill down to the product record. Some fields of the component record are described in the following table.

Field	Comments
MRC Price	Read only. Price of this component that will be billed monthly. If the form contains multiple items (that is, if the Item Quantity field is set to more than 1), then this field shows the rolled-up price for all items.
NRC Price	Read only. Nonrecurring or one-time price of this component. If the form contains multiple items (that is, if the Item Quantity field is set to more than 1), then this field shows the rolled-up price for all items.
Item Quantity	Optionally, to add or remove promotion line items that are the same as the current one, change the number in the this field. Depending on component cardinality, the Item Quantity field might be displayed or hidden.

b Complete the action by clicking one or more of the links described in the following table.

Button	Action
Update	Confirms the change you specified in Step a.
Delete	Deletes the component from the promotion instance.
Customize	Visible only if the component is customizable. This link starts a Siebel Configurator session to customize the component. For information about customizing products with Siebel Configurator, see *Siebel Product Administration Guide*.

In the Edit Promotion view header, the values in the Total MRC and Total NRC fields are automatically increased or decreased by the changes you make to the components.

8 To process any messages generated by editing this promotion, do one of the following:

- To view messages for the entire promotion, in the Sales Order or Quote header form, click the Menu button and choose Verify.

  All messages that apply to the promotion appear in the Messages list. In the Messages list, select a message, read it, and take the appropriate action. If a cardinality icon indicates a violation but no corresponding message appears in the list, then click Validate to generate the message. After taking corrective action, click Validate again to clear the message.

- To view messages for a single line item of the promotion, in the Line Items list, select an item, click the Menu button, and choose Verify.

  Any message that applies to the selected promotion line item appears in a Messages pop-up window. Read the message, click Close, and take the appropriate action.

9 In the Edit Promotion view header, perform the following actions:

- To save the changes you made in the Edit Promotion view, click Save.
- Optionally, to double-check that the cardinality quantities of the components are valid according to the promotion definition, click Validate.
- To commit the changes you made in the Edit Promotion view and return to the Line Items list, click Done.

Processing Order Management Messages

Messages appear in various places in Siebel Communications Order Management. The messages are generated by a variety of user actions. To view and process these messages, follow this procedure.

To process an order management message

1. Do one of the following:
   - Navigate to the Quotes screen, and then the List view.
   - Navigate to the Sales Orders screen, and then the List view.
2. Select a quote or order, and do one of the following:
   - If the record is a quote, then in the Quotes list, click the link in the Name field.
   - If the record is a sales order, then in the Sales Orders list, click the link in the Order # field.
3. Click the Line Items view tab.
4. In the Line Items list, select an item for which you want to view messages.
5. Click the Menu button of the Line Items list, and choose Verify.

   Any message that applies to the selected promotion line item appears in a Messages pop-up window.
6. In the Messages pop-up window, read the message, and click Close.
7. Take appropriate action to address the message, if needed.

About Bundling Components for a Promotion

If the promotion definition allows bundling, then the customer service representatives (CSRs) can bundle customer assets that do not belong to a promotion into a customer's existing promotion. For example, a CSR can add DSL to a PSTN promotion or a customer who has a broadband promotion. Also IPTV as a separate service could have IPTV included in an existing broadband promotion.

Scenario for Bundling Components for a Promotion

This topic gives one example of how bundling components for a promotion might be used. You might use bundling components into a promotion differently, depending on your business model.

In this scenario, a customer subscribes to a promotion bundle, which includes Broadband Service and IPTV Service. The customer also has the pre-existing asset or stand-alone asset Mobile Service that is not associated with any promotion. To maximize the value of the bundle, the customer calls into the call center and requests to move the existing Mobile Service to the bundle. The call is routed to the customer service representative (CSR), who sees the account information in a screen-pop. The CSR highlights the Mobile Service and clicks Add to Promotion in the Menu. A screen-pop lists all the promotions that meet both of the following conditions:

- Owned by the customer
- Mobile Service is one of the promotion components

After the CSR selects a promotion, a quote or sales order is created, based on the existing active quote or sales order logic that contains the standalone service and the full promotion instance. For example, in this case the promotions Mobile Service, Triple Play Offer, Broadband Service, and IPTV Service are added.

Adding a new component to the existing promotion does not change the existing agreement commitment. A customer can configure and recompute the conditional charge plan definition, if necessary. The CSR can also select Add to Promotion in the Menu of Quote or Sales Order.

Example of Bundling Components for a Promotion

This topic gives one example of bundling components for a promotion. You might use this feature differently, depending on your business model.

To bundle components for a promotion

1. Navigate to the Billing Items view, or the Installed Assets view, or the Quote Item, or the Order Item view.
2. Select Menu and then Add to Promotion.
3. In the Pick Promotion dialog box, select the promotion to add.

   NOTE: The OK button is disabled if the selected record is ineligible. The record is ineligible if it violates the maximum cardinality of the promotion component, which is computed by adding the projected asset cache for the component with the quantity.

Defining Bundled Promotion Compatibility Rules

Compatibility rules state that products require or exclude other products. There are two kinds of compatibility rules. A *subject compatibility rule* identifies the product that requires or excludes another product. An *object compatibility rule* identifies the product that is required or excluded. For more information about product compatibility rules, see the topic about compatibility rules in *Siebel Product Administration Guide*.

You can define compatibility rules for bundled promotions and for components of bundled promotions. These rules allow you to enforce compatibilities between a bundled promotion and other products in the same quote or order.

To define bundled promotion compatibility rules

1. Navigate to the Administration - Product screen, then the Product Promotions view.
2. In the Product Promotions list, query for records with Type field values of Bundled Promotions.
3. Select a bundled promotion for which you want to define compatibility rules.
4. Click the Eligibility and Compatibility Rules view tab.
5. In the view link bar, click the Compatibility link.
6. For each rule you want to create that has the current promotion record as the subject, add a new record to the Subject Compatibility Rules list, and complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Subject - Promotion	Read only. This field displays the subject promotion. By default, the field value is the name of the current promotion.
Subject - Base Product	Select the subject base product.
Subject - Component Product	If the selection in the Subject - Base Product field is a customizable product, then you can select a subject product component.
Subject - Product Path	If a value exists in the Subject - Component Product field, then this field displays the path in the base product structure to the subject component. You can change this path or enter a path manually.
Type	Select the type of this compatibility rule. Options are as follows: ■ **Requires**. If the subject product is purchased, then the object product must be purchased. ■ **Excludes**. If the subject product is purchased, then the object product must not be purchased.

Field	Comments
Scope	Select the scope of the rule, which defines the set of products to which the rule applies. ■ **Projected Asset Cache**. If you use asset-based ordering, then select this option to apply the rule to the Account Projected Assets. For more information about projected asset cache, see *Siebel Order Management Infrastructure Guide*. ■ **Bundled Promotion**. Select this option to apply the rule to bundled promotion products. ■ **All**. Select this option to apply the rule to all products.
Object - Promotion	This field displays the object promotion. By default, the field value is the name of the current promotion.
Object - Base Product	Select the object base product.
Object - Component Product	If the selection in the Object - Base Product field is a customizable product, then you can select an object product component.
Object - Product Path	If a value exists in the Object - Component Product field, then this field displays the path in the base product structure to the subject component. You can change this path or enter a path manually.
Object - Product Line	Select the object product line.
Object - Product Class	Select the object product class.
Matrix Name	Select the compatibility group used for grouping this rule. For more information about compatibility groups, see the topic on defining compatibility groups in *Siebel Product Administration Guide*.

7 For each rule you want to create that has the current promotion record as the object, add a new record to the Object Compatibility Rules list and complete the necessary fields.

The fields in this list are similar to those in the Subject Compatibility Rules list described in the table under Step 6. However, the Object - Product Line and Object - Product Class fields do not exist in the Object Compatibility Rules list. Additional fields are described in the following table.

Field	Comments
Subject - Product Line	Select the subject product line.
Subject - Product Class	Select the subject product class.

8 Click Clear Cache to clear the cache.

About Promotion Components Using Two Nodes Associated with Two Service Accounts

This feature is turned on when the System Preference “All Assets” is set to Y. To activate, set System Preference “All Assets” to Y or Yes. Customers might choose to selectively activate or deactivate this behavior in specific scenarios (for example, to modify or upgrade, and so on) by toggling the value of All Assets in the workflow steps used in that particular scenario. By default, the value of the All Assets system preference is passed into each workflow step.

For example, if a customer has a large frame relay network in which nodes of the network are tracked at each service account, and if a promotion containing Frame Relay Port and PVC is purchased in an order, then two nodes can be associated with two service accounts. If such a promotion is modified later, then all assets affected by the promotion (irrespective of the service accounts to which the assets belong) must be considered when modifying the promotion.

Handling promotion components across service accounts involves working with multiple service accounts while modifying, disconnecting, and upgrading promotions, by using the following functions:

- **Modify Promotion:** Bring all component assets, irrespective of account, covered by the promotion instance into the quote or order.
- **Disconnect Promotion:** Bring all component assets, irrespective of account, covered by the promotion instance into the quote or order and disconnect (delete) the promotion.
- **Upgrade Promotion:** Considers all component assets, irrespective of account, covered by the original promotion instance when upgrading to a new promotion. Matching assets must be updated with new promotion IDs. Assets not covered by the new promotion must be disconnected from the original promotion.
- **Promotion Integrity Check:** Verifies that the promotion works across all accounts. Promotion components might be disconnected from a promotion by modifying the component asset and updating the Promotion field. Before committing the change to a promotion, the integrity of the promotion is verified across all component assets regardless of account. If integrity is violated, then an appropriate message is presented.

Scenario for Using Different Service Account for a Promotion Component

This topic gives a scenario of how different service account for a promotion component might be used. You might use different service account for a promotion component differently, depending on your business model.

Mobile Family Plan is modeled as a promotion. It might contain up to five Mobile Service instances within the promotion. Each Mobile Service can be used by a different family member, that is, different users or service accounts. It is important that the promotion integrity is enforced during the modification and verification process.

A customer is a subscriber of the promotion Mobile Family Plan that entitles the customer to have additional lines at the price of $19.99 for each month. The customer adds the spouse and one child to the family plan and allows them to manage their own subscriptions. Two service accounts are created, one in the name of the spouse and the other in the name of the child. Those service accounts are associated with the assets.

When the customer calls in to the call center and asks the CSR to modify the family plan, the CSR sees in the Installed Assets that the Product “Mobile Family Plan” has the Asset Description “Great savings for up to five lines in a household.” When the CSR tries to add a new member line to the promotion by modifying the promotion, Modify Order brings all promotion components associated with the Mobile Family Plan promotion irrespective of the service accounts with which the promotion components are associated.

About Promotion Component Commitments

The promotion component commitment functionality allows product administrators to define component-level commitments. This gives administrators the flexibility to define different commitment durations for various services within a promotion. In addition to applying a commitment to the entire promotion, product administrators can also define commitments for component levels of a promotion. Different commitment enforcement and charge generation rules can be applied to promotion components. For example, a promotion that includes VOIP and DSL could have a commitment of one year for the DSL component and another commitment of six months for the VOIP component.

Disconnecting the promotion prompts the user with aggregate penalty charges of the promotion and all its components. If set at the component level, then the charge for the component is applied when the promotion is disconnected. If set at the component relationship level, then the charge for the relationship is applied when the promotion or products that are higher in the hierarchy than this component are disconnected.

At run time, if a commitment violation occurs when a committed component is disconnected, then a message notifies the user that the disconnection violates a customer commitment. Your Siebel application offers the choice either to keep the product for the specified commitment period or to pay a penalty fee. The user can determine whether to proceed or to cancel the disconnection.

NOTE: This functionality is enabled if the Promotion Component Commitment system preference is set to Yes.

Defining Component-Level Commitments

This topic describes how to set up and manage promotion component-level commitments. This topic covers the following subjects:

- Defining Commitments for Promotion Components on page 102
- Defining Component Commitments for Relationships on page 103

- Defining Component Commitments and Agreement Items on page 104
- Disconnecting Component Commitments on page 105
- Scenario for Deleting a Promotion Containing a Committed Component on page 105
- About Penalty Component Charges for Commitments on page 106

Defining Commitments for Promotion Components

You can define commitments for components of a promotion.

To define commitments for promotion components

1. Navigate to the Administration - Product tab, then Product Promotions.
2. Select the relevant promotion and click the Products view tab.
3. If necessary, click Components in the view link bar.
4. In the Components list, select the promotion component for which you want to define a commitment.
5. In the component record, complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Commitment Period Commitment Period UOM	These fields define the number and unit of measure for the duration of the commitment. For example, entering 6 in the Commitment Period field and selecting Months in the Commitment Period UOM field specifies a duration of six months for the commitment.
Termination Charge	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.
Prorate Plan	Select a prorate plan from the list. If a prorate plan is not selected, then the entire termination charge is added to the penalty for early termination. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.

Field	Comments
Commitment	When selected, indicates that disconnecting the component will also disconnect the promotion.
Apply Component Charge	When selected, adds the penalty for this component when the promotion is disconnected. When a promotion is disconnected, the penalty from all of its components and component relationships that have the Apply Component Charge flag set to Y are aggregated. When a promotion component or subcomponent is disconnected, the penalty from all the subcomponents that come under it that have the Apply Component Charge flag set to Y are aggregated.

According to their respective settings in the promotion component records, the Commitment flag and the Apply Component Charge flag interact to generate penalty charge amounts when promotion components are disconnected. For more information, see "About Penalty Component Charges for Commitments" on page 106.

Defining Component Commitments for Relationships

You can define commitments for components of a customizable product that is in turn a component of a promotion.

To define component commitments for relationships

1. Navigate to the Administration - Product tab, then Product Promotions.
2. Select the relevant promotion and click the Products view tab.
3. If necessary, click Components in the view link bar.
4. In the Components list, select a customizable promotion product with a component for which you want to define a commitment, and click the link in the Product Name field.

   Only products that have Structure Type set to Customizable are linked.
5. In the Relationships list, select the promotion component for which you want to define a commitment.

6 In the Commitment form, complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Commitment Period Commitment Period UOM	These fields define the number and unit of measure for the duration of the commitment. For example, entering 6 in the Commitment Period field and selecting Months in the Commitment Period UOM field specifies a duration of six months for the commitment.
Termination Charge	The amount, in currency, to charge if the customer terminates the promotion before the specified end date. The national currency and date of exchange rate can be set in the dialog box.
Prorate Plan	Select a prorate plan from the list. If a prorate plan is not selected, then the entire termination charge is added to the penalty for early termination. Prorate plans are defined in the Administration screen, Contracts, and then the Conditional Charge Plans view. For information on prorated plans, see the topic on setting up conditional charge plans in *Siebel Field Service Guide*.
Apply Component Charge	When selected, adds the penalty for this component when the parent component is disconnected.

Defining Component Commitments and Agreement Items

Agreements can be created when a user auto-assets a promotion. Agreements are used to calculate the penalty when the assets are disconnected. Agreement items with charges are generated for each commitment period and commitment period item. Administrators can define and modify the terms of agreements.

To define component commitments and agreement items

1 Navigate to the relevant promotion and component product records, for example, through the Administration - Product screen.

2 In the promotion record, do the following:

   a Set the Track As Agreement flag to Y.

   b Enter the appropriate values in the Penalty and Duration fields.

3 In each component product record, set the Apply Component Charge flag to Y.

At run time, an agreement line is created during the auto-asset process. One agreement is created for each promotion, promotion component, and subcomponent. Users can modify the terms of these agreements by setting or changing the agreement terms, including Start Date, End Date, Effective Date, a Plan, the Amount, and descriptive Reason.

Disconnecting Component Commitments

A user can disconnect promotion components and accept or reject any prorated penalty.

To disconnect component commitments

1 Navigate to the Accounts tab, then Accounts List view.

2 Select the relevant account.

3 Find the account for which you want to disconnect a promotion component, and click the link in the Name field.

The Account Summary view appears.

4 In the Installed Assets list, select the component to disconnect and click Disconnect.

The disconnect process checks the following conditions:

- Checks whether the component is associated with a promotion.
- If the component is associated with a promotion, then checks whether the promotion and the asset generate a promotion violation. A promotion violation can be caused by commitment and cardinality.

If a violation is generated, then a message notifies the user of any penalty and asks whether the user wants to accept or reject the penalty. If the user clicks Reject, then the disconnection is canceled. If the user clicks Accept, then the penalty charges are applied. For more information on configuring penalty charges, see "Configuring the Workflow for Promotion Penalties" on page 119.

NOTE: By default, when promotion components are disconnected, your Siebel application detects any commitment violations. This behavior can be disabled by setting the Enable Component Commitment Check process property to any value other than Y in the ISS Promotion Disconnect Integration SubProcess workflow.

Scenario for Deleting a Promotion Containing a Committed Component

This scenario gives one example of how promotion component commitment check might be used. You might use this feature differently, depending on your business model.

A product administrator defines a promotion called Triple Play - Gold, with Broadband, VoIP Phone, and IPTV as component products. Broadband has a commitment period of twelve months, whereas VoIP Phone has a commitment period of six months.

To enforce the commitment, the administrator selects the following check boxes:

- Track as Agreement in the promotion header
- Commitment field for each component in the Components list
- Apply Component Charge field for each component in the Components list

A subscriber to the Triple Play - Gold promotion is not satisfied with the usage charges and phones the call center to request to be disconnected from VoIP Phone. The call is routed to the customer service representative (CSR), who sees the account information in a pop-up window. The CSR selects VoIP Phone and clicks Disconnect.

The disconnect process verifies that the component is associated with a promotion, and that the promotion and the asset each trigger a promotion violation (Commitment flag is set to Yes). The disconnect process also verifies that penalty charges are applied for both the promotion disconnection and the component disconnection (Apply Component Charge flag is set to Yes). Disconnecting the component triggers an alert to the CSR, warning of the penalty for early disconnection. If the customer accepts the penalty, then the promotion and the component are disconnected.

About Penalty Component Charges for Commitments

This topic shows the interactions of Commitment flag settings and Apply Component Charge flag settings when promotion components are disconnected.

When the Commitment check box is selected, it indicates that disconnecting the component also disconnects the promotion. When the Apply Component Charge check box is selected, it adds the penalty for this component when the promotion is disconnected.

The following tables illustrate the effects of the various combinations of settings for these check boxes for a promotion with components. Table 8 shows the promotion, its components, the Commitment flag and Apply Component Charge flag settings for each component, and the penalty disconnect charges for the promotion and each component.

Table 8. Flag Settings and Penalties

Promotion and Components		Commitment	Apply Component Charge	Penalty
1	Dual Play Promotion	Yes	Not applicable.	160.00
2	High-Speed Internet Service Bundle	Yes	Yes	80.00
3	High-Speed Internet Modem	Yes	No	40.00
4	IPTV Set-Top Box	No	Yes	20.00
5	IPTV Service	No	No	10.00

Table 9 shows the itemized penalty amounts and the total penalty amount for disconnecting each component, resulting from the Commitment flag and Apply Component Charge flag settings for those components. The columns numbered 1 through 5 represent the penalties from Table 8.

Table 9. Disconnect Penalty Charges

Penalty Amounts Disconnect Component	1	2	3	4	5	TOTALS
High-Speed Internet Service Bundle	160.00	80.00	0.00	20.00	0.00	**260.00**
High-Speed Internet Modem	160.00	80.00	0.00	20.00	0.00	**260.00**
IPTV Set-Top Box	0.00	0.00	0.00	20.00	0.00	**20.00**
IPTV Service	0.00	0.00	0.00	0.00	10.00	**10.00**

Selecting Asset-Based Promotion Recommendations

Users can effectively up-sell a promotion by recommending a promotion based on installed assets. The recommendation is based on active assets that are not associated to any promotions.

For example, an account has the following assets:

- Broadband Service Promotion
- Broadband Service (tied to Broadband Service Promotion)
- IPTV Service (no promotion association)
- Product A and Product B, Broadband and IPTV Promotion has both Broadband Promotion Service and IPTV Service

If the customer accepts a recommendation for Promotion C, then an order is created with the following line items:

- Broadband and IPTV Promotion has both Broadband Promotion Service and IPTV Service.
- IPTV Service (no promotion association).
- Broadband Service (tied to Broadband Service Promotion). A new instance of Broadband Service is added because the existing instance is associated to Broadband Service Promotion.

To select asset-based promotion recommendations

1. Navigate to Accounts, then Accounts List.
2. Use the vertical navigation buttons or perform a query to find the relevant account.

3 Click Menu and select Recommendations.

A message window opens listing any available recommendations or notifies you that no recommendations are available for the product.

4 Click to Accept or Reject the recommendation.

If you Accept the promotion, then the Line Items, Totals view is displayed. The Action field displays Update and the Promotion field displays the name of the added promotion.

Ambiguity Detection and Resolution

Ambiguity among promotions can occur while upgrading, merging, or splitting a promotion. If there is no ambiguity among the promotions to accept, then the promotion is applied to the asset form. For example, if a customer has one Mobile Service promotion in the Installed Assets view and accepts the Millennium Max 500 Package, then the resulting generated line items are as listed in Table 10.

Table 10. No Ambiguity Among Generated Order Line Items

Product	Action Code	Promotion
Mobile Service	Update	Millennium Max 500 Package
Millennium Max 500 Package	Add	None

If ambiguity exists, then the assets are carried to the document so that the user can manually remove or associate the promotions. For example, if a customer has two of Mobile Service in the Installed Assets view and accepts the Millennium Max 500 Package (with Min, Max, and Default cardinalities of 1), then clicking OK does not result in distinguishing which Mobile Service will be included. Also, the Recommended Promotion is available in the document in this scenario (the UMF form) without having to re-execute the recommendation. The user manually selects the promotion in the list, as defined in Table 11.

Table 11. Resolving Ambiguity Manually Using Promotion Relationship

Product	Promotion	Promotion Relationship
Mobile Service	Family Plan	Primary Line
Mobile Service	Family Plan	Secondary Line

Promotion Relationship can be used to resolve ambiguity. Promotion relationship is a drop-down list derived from rules IDs in promotion components that are defined in the Administration – Product screen, Promotions, Components view. For more information about resolving ambiguity, see Appendix A, “Ambiguity Resolution.”

Debundling Component Assets from a Promotion

Siebel Product Administration Guide has a one-click solution to debundle a promotion component. For example, you can remove the Mobile Service component from the Triple-Play offer promotion.

The De-Bundle function checks for commitment violations.

If no commitment violations occur, then all the selected components are debundled.

If only one commitment violation occurs, then the user has the following options:

- If debundling the components violates a promotion, then a warning message advises the user to disconnect the promotion.
- If debundling the component does not violate the promotion but it violates its own commitment, then a warning message gives the user the following options:
  - ACCEPT: Debundle both the violating and non-violating components and add the penalty charges.
  - SKIP: Debundle the non-violating components alone.
  - CANCEL: Terminate the entire workflow.

If multiple commitment violations occur, then a warning message gives the user the following options:

- SKIP: Debundle the non-violating components alone.
- CANCEL: Terminate the entire flow.

Debundle supports multi-select.

To debundle component assets from a promotion

1. Navigate to Accounts, then Accounts List.
2. Use the vertical navigation buttons or perform a query to find the relevant account.
3. In the Installed Assets view, select the Product to debundle.
4. Click Menu and select De-Bundle Promotion. Only the assets that belong to a promotion can be debundled.

   The Line Items, Totals view is displayed. For the debundled product, the Action field displays Update and the Promotion field is empty. In the resulting document (quote or sales order), debundling results in an Update action on the asset being debundled. The promotion association is removed.

   NOTE: An error message is returned if an attempt is made to debundle a mandatory component. A mandatory component in a bundled promotion will has minimum cardinality value higher than 0.

About Visual Indicators for Promotions

Visual indicators for promotions are graphical icons that enable users to quickly identify the relationship between a quote or order line and a bundled promotion or promotion group. Visual indicators appear in views displaying quotes, order lines, and assets.

When viewing an asset list, visual indicators allow you to differentiate between the following objects:

- Promotions
- Promotion components
- Promotion groups
- Promotion group memberships
- Promotion group members
- Promotion group rewards

In all views where quote or order lines are displayed, a Promotion Role column appears. Within the column, visual indicators are displayed. Each cell displays one or two visual indicators, representing the item relationship with the promotion and the promotion group, in that order.

Table 12 displays and describes the visual indicators.

Table 12. Visual Indicator Descriptions

Visual Indicator	Promotion Role
	Bundled promotion component
	Bundled promotion
	Promotion group
	Promotion group member
	Promotion group membership
	Promotion group reward

Configuring the Projected Asset Cache Search Specification

In past releases of Siebel Order Management for Industry Applications, when the Compound Product Validation Engine was triggered, the default search specification for retrieving the Projected Asset Cache was always used. The Projected Asset Cache is an object that is used by the Compound Product Validation Engine. For more information about the Compound Product Validation Engine, see "About the Compound Product Validation Engine" on page 568.

Using Siebel Order Management for Industry Applications Version 8.1.1.6 and subsequent releases, administrators can configure the Projected Asset Cache search specification. Business service user properties must be set up in order to change the Projected Asset Cache search specification.

This procedure provides a means to change the Projected Asset Cache search specification that is appended to the current search specification when assets, quote items, and order line items are queried.

This procedure covers the following tasks:

- Setting Up the Business Service User Properties on page 111
- Configuring the Workflows on page 113

Setting Up the Business Service User Properties

To set up business service user properties that change the Projected Asset Cache search specification, follow this procedure.

To set up the business service user properties

1. Launch Siebel Tools.
2. In Siebel Tools, select the VORD Projected Asset Cache business service, and lock it.

3 Create new records in the Business Service User Property.

The additional user properties are described in the following table.

Name	Example Value	Comments
Asset Search Spec	[Status] <> LookupValue('IMPL_PHASE','Inactive')	Existing search specification that is appended in code, as follows: [Product Name] IS NOT NULL This specification queries the Asset Mgmt - Asset and Asset Mgmt - Asset XA business components.
Order Search Spec	[Order Status] <> LookupValue('FS_ORDER_STATUS','Cancelled') AND [Processed Flag] = 'N' AND [Order Active Flag] = 'Y'	Existing search specification that is appended in code, as follows: [Product Name] IS NOT NULL AND [Action Code] <> '-' AND [Due Date] <= <Future date> AND [Processed Flag] = 'N' AND [Order Active Flag] = 'Y' This specification queries the Order Entry - Line Items and Order Item XA business components. If the user property is provided, then [Processed Flag] = 'N' AND [Order Active Flag] = 'Y' is mandatory. These fields are not automatically restored to the final query in the Order Entry - Line Items and Order Item XA business components.
Quote Search Spec	[Quote Status] <> LookupValue('QUOTE_STATUS','Order Placed')	Existing search specification that is appended in code, as follows: [Product] IS NOT NULL AND [Action Code] <> '-' AND [Quote Id] = <Quote Id> This specification queries the Quote Item and Quote Item XA business components.

NOTE: The user property values in the table are examples. The search specification can contain static data, for example, Status <> 'Cancelled'. The syntax must be as shown in the table, without enclosing the entire search specification in double or single quotation marks.

For more information about the business service user property configurations, see "About Business Service and Workflow Configurations" on page 114.

4 Compile the business service object.

VORD Projected Asset Cache business service user properties are global, and are applied in all the calls to the Retrieve or Initialize business service methods.

Configuring the Workflows

Multiple workflows that require the Projected Asset Cache call the Retrieve or Initialize business service methods of the VORD Projected Asset Cache business service. While retrieving the Projected Asset Cache, these workflows might be required to pass search specifications using values available in the workflow. To provide the ability to perform these operations, the Retrieve and Initialize business service methods can read and operate on the following additional input arguments:

- **Optional Asset Search Expression.** This input argument queries the Asset Mgmt - Asset and Asset Mgmt - Asset XA business components.
- **Optional Order Search Expression.** This input argument queries the Order Entry - Line Items and Order Item XA business components.
- **Optional Quote Search Expression.** This input argument queries the Quote Item and Quote Item XA business components.

To set up workflows to change the Projected Asset Cache search specification, follow this procedure.

To configure the workflows

1. Identify the workflows that call the Retrieve or Initialize business service methods.
2. Launch Siebel Tools.
3. In Siebel Tools, select a workflow.
4. In the workflow, select the target step that calls the Retrieve or Initialize business service method.
5. Optionally, add input arguments to the workflow step, if needed to meet the customer business requirements.

   The additional input arguments are described in the following table.

Input Argument	Type	Example Value
Optional Asset Search Expression	Expression	'[Asset Id] <> ' + '"' + [&<Name of the parameter in the workflow>] + '"'
Optional Order Search Expression	Expression	'[Account Id] <> ' + '"' + [&<Name of the parameter in the workflow>] + '"'
Optional Quote Search Expression	Expression	'[Account Id] <> ' + '"' + [&<Name of the parameter in the workflow>] + '"'

   NOTE: The input argument values in the table are examples. Typically, the Optional Search specification can contain run-time data, for example, Account Id, Quote Id, and so on.

   For more information about the workflow input argument configurations, see "About Business Service and Workflow Configurations" on page 114.

6. Repeat Step 3 through Step 5 for each additional workflow that calls the Retrieve or Initialize business service method.

7 Publish and activate the workflows.

Workflow changes are local. These changes are reflected only when the Retrieve or Initialize business service method is called from that workflow.

About Business Service and Workflow Configurations

The following rules apply to both the new business service user properties and the additional workflow input arguments:

- Any field that is added in the search specification must be present in both the Asset Mgmt - Asset and Asset Mgmt - Asset XA business components.
- Any field that is added in the search specification must be present in both the Order Entry - Line Items and Order Item XA business components.
- Any field that is added in the search specification must be present in both the Quote Item and Quote Item XA business components.

User property and workflow changes are optional. If these changes are present, then they are appended. Otherwise, they are ignored.

About Promotion Transitions Ambiguity Resolution

Administrators can use Siebel Order Management for Industry Applications to define whether ambiguous promotion transition cases will be resolved automatically or manually. Depending on the promotion, administrators might prefer to enable users to resolve ambiguous transitions manually.

Controlling Promotion Ambiguity Resolution

Every product promotion has a check box that allows administrators to determine whether ambiguity resolution will be manual or automatic. Depending on the case, the expected behavior is as follows:

- When the check box is deselected, Siebel Order Management for Industry Applications handles the ambiguity resolution
- When the check box is selected, the user handles the ambiguity resolution

Defining Automatic Promotion Ambiguity Resolution

This topic describes how to define automatic promotion ambiguity resolution for a promotion product.

To define automatic promotion ambiguity resolution for a promotion product

1 Navigate to the Administration - Product screen, then the Product Promotions view.

2 Select a product promotion.

3 Deselect the Manual Ambiguity Resolution Flag check box.

Defining Manual Promotion Ambiguity Resolution

This topic describes how to define manual promotion ambiguity resolution for a promotion product.

To define manual promotion ambiguity resolution for a promotion product

1 Navigate to the Administration - Product screen, then the Product Promotions view.

2 Select a product promotion.

3 Select the Manual Ambiguity Resolution Flag check box.

About Manually Resolving Ambiguous Promotion Transitions

Any promotion transition in which there are several possible outcomes for one or more components can cause an ambiguity. Ambiguity can occur during the following flows:

- Promotion Transition:
  - **Upgrade.** Upgrades from a source to a target promotion
  - **Merge.** Merges from source promotions to a target promotion
  - **Split.** Splits from a source promotion to target promotions
- Promotion Application:
  - **Add to Promotion.** Adds an existing source asset to a target promotion asset
  - **Promotion Recommendation.** Applies Promotion Recommendations to source assets or order lines

Ambiguity is caused by the following promotion definition cases:

- **Multiple Component Definitions.** There are at least two similar component definitions in the pool of target promotions
- **Over Max Cardinality.** A component definition is unique in the target promotion, but its maximum cardinality is less than the total number of matching items in the pool of source items

When an ambiguity occurs during a promotion transition for which the administrator has enabled manual promotion ambiguity resolution, the user is presented with a dialog box to resolve the ambiguity. The dialog box displays a list of ambiguous component instances and a target promotion definition.

Transferring an Ambiguous Component to a Target Promotion Definition

This topic describes how to transfer ambiguous components to target promotions using the Transfer button. These instructions presume that an ambiguity has been detected, and the user has been presented with the dialog box to resolve the ambiguity.

To transfer an ambiguous component to a component definition

1. Select the promotion component that you want to transfer in the Ambiguous Component Instances applet.
2. Select the target promotion component in the Target Promotion applet.
3. Click Transfer.

   The Target Promotion applet lists the transferred component. Also, the line item for the transferred promotion component has an increased Quantity field.
4. To transfer an additional ambiguous component to a component definition, repeat Step 1 through Step 3.
5. If you want to cancel the transfer at any time, then click Cancel.

   The status of the generated quote or order is modified to Cancel, and then the Installed Assets view appears.
6. Click Done.

Removing a Promotion Component from the Target Promotion Definition

This topic describes how to send component instances back to the pool of ambiguous components using the Remove button. The Remove button allows users to remove a promotion component after it has been transferred while resolving an ambiguous promotion transition. These instructions presume that an ambiguity has been detected, and the user has been presented with the dialog box to resolve the ambiguity.

To remove a promotion component from the target promotion definition

1. In the Selected Component Instances applet, select a promotion component.

2 Click Remove.

The component that you remove is transferred back to the Source Promotions applet, but is not rebundled into the existing promotion. In the Source Promotions applet, the status of components that are transferred back changes from Transferred to De-bundled.

NOTE: The Remove operation does not undo any penalty charges. This is because removing components breaks the promotion.

Alternatively, you can click Cancel to start over from the original promotion definition.

Defining Customizable Product Compatibility Rules

Compatibility rules state that products require or exclude other products. There are two kinds of compatibility rules. A *subject compatibility rule* identifies the product that requires or excludes another product. An *object compatibility rule* identifies the product that is required or excluded. For more information about product compatibility rules, see the topic about compatibility rules in *Siebel Product Administration Guide*.

You can define compatibility rules for customizable products and for components of customizable products. These rules allow you to enforce compatibilities between a customizable product or component and other products or components in the same quote or order.

To define customizable product compatibility rules

1 Navigate to the Administration - Product screen, then the Products view.

2 In the Products list, query for records with the Customizable field check box selected.

3 Select a customizable product and click the Eligibility and Compatibility Rules view tab.

4 If necessary, in the view link bar, click the Product Compatibility link.

5 For each rule you want to create that has the current product record as the subject, add a new record to the Subject Compatibility Rules list and complete the necessary fields.

Field	Comments
Scope	Select the scope of the rule, which defines the set of products to which the rule applies. For a customizable product, select Customizable Product.
Subject - Product	Read only. This field displays the subject base product. By default, the field value is the name of the current product.
Subject - Component Product	Select a subject product component.

Field	Comments
Subject - Product Path	If a value exists in the Subject - Component Product field, then this field displays the path in the base product structure to the subject component. You can change this path or enter a path manually.
Type	Select the type of this compatibility rule. Options are as follows: ■ **Requires**. If the subject product is purchased, then the object product must be purchased. ■ **Excludes**. If the subject product is purchased, then the object product must not be purchased.
Object - Product	Select the object base product. You can make an entry in only one of the fields Object - Product, Object - Product Line, or Object - Product Class.
Object - Component Product	If the selection in the Object - Base Product field is a customizable product, then you can select an object product component.
Object - Product Path	If a value exists in the Object - Component Product field, then this field displays the path in the base product structure to the subject component. You can change this path or enter a path manually.
Object - Product Line	Select the object product line.
Object - Product Class	Select the object product class.
Matrix Name	Select the compatibility group used for grouping this rule. For more information about compatibility groups, see the topic on defining compatibility groups in *Siebel Product Administration Guide*.

6 For each rule you want to create that has the current product record as the object, add a new record to the Object Compatibility Rules list and complete the necessary fields.

The fields in this list are similar to those in the Subject Compatibility Rules list described in the table under Step 5. However, the Object - Product Line and Object - Product Class fields do not exist in the Object Compatibility Rules list. Other differences are described in the following table.

Field	Comments
Subject - Product	Select the subject base product. You can make an entry in only one of the fields Subject - Product, Subject - Product Line, or Subject - Product Class.
Subject - Product Line	Select the subject product line.
Subject - Product Class	Select the subject product class.
Object - Product	Read only. This field displays the object base product. By default, the field value is the name of the current product.

7 Click Clear Cache to clear the cache.

Configuring the Workflow for Promotion Penalties

One type of service charge product is a penalty associated with a promotion. For example, a company gives a customer free minutes of phone time as part of a promotion. However, the customer must maintain phone service with the company for two years as a condition of the free minutes. If the customer prematurely terminates phone service, then the company charges the customer a penalty. This penalty charge appears on the customer invoice.

A penalty charge product is created in the billing application. After the products in the billing application are synchronized with the products in the Siebel CRM application, the penalty charge product is available in the Siebel CRM application. After the penalty charge product is available in Siebel CRM, administrators must configure the ISS Promotion Disconnect Process workflow to use this penalty charge product.

Siebel Communications can be integrated with third-party billing and revenue systems through Oracle Application Integration Architecture. In the context of Oracle Application Integration Architecture, the penalty charge product is originated in Oracle® Communications Billing and Revenue Management. However, if Oracle Application Integration Architecture integration is not active, then the penalty charge product can be originated in a CRM application.

For more information about Oracle Application Integration Architecture, see the overview chapter in *Siebel Communications Guide*.

To configure a promotion penalty

1 Navigate to the Administration - Product screen, then the Products view.

2 Select the service charge product for the promotion penalty.

3 Click Menu, select About Record, and note the value in the Row # field.

NOTE: If the Row # field contains no value, then the products in the billing application are not yet synchronized with the products in the Siebel CRM application.

4 Start Siebel Tools and log in as the administrator.

5 Select Workflow Process in the Object Explorer, right click the ISS Promotion Disconnect Process workflow, and select Edit Workflow Process.

The workflow diagram and the Multi Value Property Window display.

6 Edit the Create Penalty step:

a In the workflow diagram, select the icon for this step to display its multi value properties.

b In the Multi Value Property Window, change the value for the Product Id field to the value that you noted in Step 3.

7 Edit the Create Penalty Order step:

a In the workflow diagram, select the icon for this step to display its multi value properties.

b In the Multi Value Property Window, change the value for the Product Id field to the value that you noted in Step 3.

8 Deploy the configured workflow.

For information about deploying workflows, see *Siebel Business Process Framework: Workflow Guide*.

Setting Up a Product for Oracle Application Integration Architecture Integration

When you set up a product in Siebel CRM, you have several options that are specific to Oracle Application Integration Architecture integration. Among these are fields for setting up discounts that will propagate to the external Oracle Communications Billing and Revenue Management system, and fields for instructing the external fulfillment system how to process the product in an order.

The following procedure describes product setup details that are specific to Oracle Application Integration Architecture integration fulfillment.

To set up a product for Oracle Application Integration Architecture integration

1 Navigate to the Administration - Product screen, then the Products view.

2 In the Products list, add a new record or select an existing record and complete the necessary fields.

Some fields are described in the table that follows.

Field	Comments
Pricing Commit Type	Specifies a method for price override. Indicates whether pricing for this product is committed or dynamic. Possible values are as follows: ■ **Committed**. An adjusted price is not affected by mass price change. Consequently, an adjustment is processed by Oracle Communications Billing and Revenue Management as a price override. ■ **Dynamic**. An adjusted price is not committed and can be affected by mass price changes. Consequently, an adjustment is processed in Oracle Communications Billing and Revenue Management as a discount override, and the discount can be tracked against a separate GL code in Oracle Communications Billing and Revenue Management. The discount override in Oracle Communications Billing and Revenue Management can be an amount or a percentage, depending on the value in the Dynamic Discount Method field. This field interacts with other fields under different conditions. For more information about these interactions, see "About Mapping Discounts and Price Overrides to Oracle Communications Billing and Revenue Management" on page 122.
Dynamic Discount Method	Specifies a method for a discount override. When Pricing Commit Type is set to Dynamic, this field defines how to apply a discount in Oracle Communications Billing and Revenue Management. Possible values are as follows: ■ **Amount**. Applies the discount as a monetary amount. ■ **Percentage**. Applies the discount as a percentage of the price. This field interacts with other fields under different conditions. For more information about these interactions, see "About Mapping Discounts and Price Overrides to Oracle Communications Billing and Revenue Management" on page 122.

Field	Comments
Fulfillment Item Code	List of available selections is populated by the selection in the Product Class field, and includes all the classes in the hierarchy of the selected product class. If this product is a child product inherited from a class, then you can select the class specified in the Product Class field, or any of its parents up the hierarchy. By associating the product with a class, the value in this field tells the fulfillment system how to fulfill the product in the order. The value is passed to the fulfillment system from the product definition by way of the order line that specifies the product.
Composition Type	Describes the composition of the product. Used by the integration to define fulfillment rules. Passed to the fulfillment system by way of the order line that specifies the product. Includes the following values: ■ **Partial Item**. This product cannot be fulfilled on its own and must be fulfilled in the context of something else; for example, a one-time charge product. ■ **Whole Item**. This product is self-contained can be fulfilled on its own. Cannot contain another Whole Item product; can only contain Partial Item products.

3 Complete the other fields, as needed.

For general information about setting up a product, see the chapter on basic product administration in *Siebel Product Administration Guide*.

NOTE: For a special rating product such as a friends and family calling plan, the Composition Type value must be Partial Item. Additional product setup options are available for special rating products. For more information about setting up a special rating product, see the chapter on profiles in *Siebel Communications Guide*.

About Mapping Discounts and Price Overrides to Oracle Communications Billing and Revenue Management

A one-time or recurring discount defined in Siebel CRM and sent to Oracle Communications Billing and Revenue Management through the integration is identified in Oracle Communications Billing and Revenue Management as either a price override or a discount override, depending on the values of the Pricing Commit Type and Dynamic Discount Method fields of the product record.

Pricing Commit Type can be Committed (the adjusted price is not affected by price change, so the adjustment is a price override in Oracle Communications Billing and Revenue Management) or Dynamic (the adjusted price can be affected by mass price changes, so the adjustment is a discount override in Oracle Communications Billing and Revenue Management). Dynamic Discount Method defines whether the discount is applied as an amount or percent in Oracle Communications Billing and Revenue Management when the Pricing Commit Type is set to Dynamic.

Table 13 summarizes the net effects in Oracle Communications Billing and Revenue Management based on the settings in Siebel CRM.

Table 13. Siebel CRM Settings and Oracle Communications Billing and Revenue Management Results

Pricing	Dynamic with Amount	Dynamic with Percent	Committed
List Price	$20	$20	$20
Discount	$5	25%	$5
Net Price	$15	$15	$15
Adjusted Net Price **NOTE:** Mass change in Oracle Communications Billing and Revenue Management increases the list price to $25. That is, the original list price, plus $5.	$20 [25-5]	$18.75 [25*(1-0.25)]	$15

These fields are definable in the product definition and the promotion definition. These fields are also exposed in the quote line items, order line items, and assets.

Table 14 summarizes how the Pricing Commit Type value is derived based on the design-time (product setup) and run-time (quote or order line generation) definitions.

Table 14. Pricing Commit Type Values

Pricing Commit Type Design-Time Definition	Pricing Commit Type Run-Time Adjustment	Net Value Applied in Order Line
Dynamic	Dynamic or no change	Dynamic
Dynamic	Committed	Committed
Committed	Dynamic or no change	Committed
Committed	Committed	Committed

In the sales order line items, selecting the Skip Re-price field allows users to exclude a line item from the pricing procedure, and therefore prevent any further changes based on the effects of the Pricing Commit Type and Dynamic Discount Method field values.

Modifying the Order Priority Mapping

When an order is submitted, the message posted to the Java Message Service (JMS) queue includes the order priority that a user selects in Siebel CRM. A mapping of this order priority selection to a language-independent code recognized by JMS allows the order to be processed through the JMS queue according to the priority specified in Siebel CRM. You must change the default order priority mapping from Siebel CRM to JMS, as described in this topic.

To change the order priority mapping from Siebel CRM to JMS, follow this procedure.

To modify the order priority mapping

1. Navigate to the Administration - Data screen, then the List Of Values view.
2. Query for Type equals FS_INVLOC_ORDPRI

   The List of Values list displays a value for each order priority. The value in the Display Value column corresponds to an order priority value in Siebel CRM, while the value in the Language-Independent Code column represents the JMS priority.
3. Change the values in the Language-Independent Code column to define the new mapping, from the default values to the values shown in the following table.

Order Priority In Siebel CRM	JMS Priority
Low	6
Medium	4
High	2
Urgent	0

4. Click Clear Cache to clear the cache.

For more information about configuring lists of values, see the chapter on working with lists of values in *Siebel Applications Administration Guide*.

Processing a Sales Order Through Oracle Application Integration Architecture Integration

When you process orders in Siebel CRM through Oracle Application Integration Architecture integration, you have several options that are specific to the integration.

This procedure describes order and order line item functionality that is specific to Oracle Application Integration Architecture integration of Siebel CRM. For more information about viewing orders, editing orders, and submitting order revisions, see the chapter on asset-based ordering in *Siebel Order Management Guide*.

To process a sales order through Oracle Application Integration Architecture integration, follow this procedure.

To process an order through Oracle Application Integration Architecture integration

1. Follow the steps for creating an order as described in the chapter on asset-based ordering in *Siebel Order Management Guide*.
2. In the order header, view or complete the additional fields as needed. Some fields are described in the table that follows.

Field	Comments
Success Dependency	■ **All or None.** All order items must be fulfilled successfully, or the whole order fails. When the order header-level Success Dependency field is set to All or None, it overrides the order line item Success Dependency field settings. ■ **Default.** For the order to succeed, it is not necessary that the order line items must succeed. Set this value when the line items are not interdependent and can be fulfilled separately.
Status	Some values pertaining to Oracle Application Integration Architecture integration are as follows: ■ **In Progress.** Order is being processed in the external fulfillment system. ■ **As Submitted.** Identifies this order as a reference copy of a submitted order that was subsequently modified during its fulfillment. For more information about "As Submitted" order records, see "About As Submitted Orders" on page 135.
Copied To Order	Stores the Row Id of the backup order that was copied from the current order.
Parent Order #	To construct an order hierarchy by designating another order as parent to the current order, specify a parent order in this field. For more information about parent and child orders, see "Building a Hierarchy of Orders" on page 131.

Field	Comments
Priority	Priority of the order. Determines the place of this order in the processing sequence in the JMS queue when the order is submitted. Values, and their JMS mappings, are as follows: ■ **Low**. JMS priority 3 ■ **Medium**. JMS priority 5 ■ **High**. JMS priority 7 ■ **Urgent**. JMS priority 9 These mappings are configurable. For information about changing the order priority mappings, see "Modifying the Order Priority Mapping" on page 124.
Change Reason	When preparing to submit a revision of an already-submitted order, select a reason for the change. Default value is No Reason. For more information about order revisions, see "About Order Revisions" on page 133.
Original Qty	Read only. After an order is revised, the previous value of the Quantity field is copied to the Original Quantity field. This allows you to perform an order line quantity change and resubmit the changed order. For more information about order revisions, see "About Order Revisions" on page 133.

3 In the More Info view, view or complete the additional fields as needed. Some fields are described in the table that follows.

Field	Comments
Job Id	Bulk Order Id. Assigned when an order is created as a part of a bulk request submission.
Job Type	Bulk order type. Values are as follows: ■ **Homogeneous**. All the orders in the job are similar to each other. ■ **Heterogeneous**. Different types of orders exist in the same job. ■ **3rd Party Homogeneous**. Like Homogeneous, but originating from an external source (for example, a partner). ■ **3rd Party Heterogeneous**. Like Heterogeneous, but originating from an external source (for example, a partner). ■ **Correlated**. The job contains interdependent orders.

4 In each of the order line items, view or complete the additional fields as needed. Some fields are described in the table that follows.

Field	Comments
Success Dependency	Read-only, carried in from the definition of the product associated with the order line item. ■ **All or None.** All order items must be fulfilled successfully, or the whole order fails. When the order header-level Success Dependency field is set to All or None, it overrides the order line item Success Dependency field settings. ■ **Default.** For the order to succeed, it is not necessary that the order line items must succeed. The product administrator sets this value when the line item can be fulfilled on its own and is not dependent on any other line item, such as for a partial item.
Change Cost	Read-only. Cost to change this line item. Values include High, Medium, Low, and PONR (signifying Point of No Return, the point at which it is technically unfeasible to make changes to the line item). When a line item reaches Point of No Return, that line item becomes read-only, and remains read-only in subsequent order revisions.
Status	Some values pertaining to Oracle Application Integration Architecture integration are as follows: ■ **In Progress.** Order line is being processed in the external fulfillment system. ■ **As Submitted.** Identifies this order line as a reference copy of a submitted order line that was subsequently modified during its fulfillment. For more information about "As Submitted" order records, see "About As Submitted Orders" on page 135.
Fulfillment Status	Last fulfillment status reached. Updated by the integration as part of the Status update. This field is updated when the order status changes to Complete or Canceled, removing the dependency between the order status in the back-office application and the order status in Siebel CRM.
Status Context	Additional information about the status of this order, provided by the external order fulfillment system.
Revised Line Item Id	Line Item ID of the previous order line item revised by this line item. For more information about the fields that track order revisions, see "About Revised Order Line Item IDs" on page 134.
Milestone	Last fulfillment milestone reached. Updated by the integration as part of the Status update.

Field	Comments
Pricing Commit Type	Read-only. Specifies a method for price override. Computed in the pricing procedure based on the product or promotion definition established by the administrator, and on the application of either policy or manual discounts. Possible values are as follows: ■ **Committed**. An adjusted price is not affected by mass price changes. Consequently, an adjustment is processed by Oracle Communications Billing and Revenue Management as a price override. ■ **Dynamic**. An adjusted price is not committed and can be affected by mass price changes. Consequently, an adjustment is processed in Oracle Communications Billing and Revenue Management as a discount override, and the discount can be tracked against a separate GL code in Oracle Communications Billing and Revenue Management. The discount override in Oracle Communications Billing and Revenue Management can be an amount or a percentage, depending on the value in the Dynamic Discount Method field. A manual adjustment to the order sets the Pricing Commit Type of each order line to Committed. If a pricing adjustment to this line item has a Pricing Commit Type of Committed, then the Pricing Commit Type of the line item is set to Committed. This field interacts with other fields under different conditions. For more information about these interactions, see "About Mapping Discounts and Price Overrides to Oracle Communications Billing and Revenue Management" on page 122.
Dynamic Discount Method	Read-only. Specifies a method for a discount override. Computed in the pricing procedure based on the product or promotion definition established by the administrator, and on the application of either policy or manual discounts. When Pricing Commit Type is set to Dynamic, this field defines how to apply a discount in Oracle Communications Billing and Revenue Management. Possible values are as follows: Computed in the pricing procedure based on the admin-time definition of the product or promotion and application of either policy or manual discounts. ■ **Amount**. Applies the discount as a monetary amount. ■ **Percentage**. Applies the discount as a percentage of the price. This field interacts with other fields under different conditions. For more information about these interactions, see "About Mapping Discounts and Price Overrides to Oracle Communications Billing and Revenue Management" on page 122.

Field	Comments
Skip Re-price	Select to exclude this line item from the pricing procedure. Clear to apply the pricing procedure to this line item. Clearing this field triggers a pricing update, which might involve calculated updates to the values of the Net Price, Pricing Commit Type, and Dynamic Discount Method fields.
Change Reason	When preparing to submit a revision of an already-submitted order line item, select a reason for the change. Default value is No Reason. For more information about order revisions, see "About Order Revisions" on page 133.
Due Date	Customer-requested start date for a service.
Service Start Date	Actual service start date for a time-based offering. By default, the field value is the date in the Due Date field, but this value can be changed manually. For more information about time-based offerings, see "About Time-Based Offerings" on page 136 and "About Managing Time-Based Offerings" on page 142.
Service End Date	Service end date for a time-based offering. Your Siebel application calculates this date from the attribute values of the component discount product. For more information about time-based offerings, see "About Time-Based Offerings" on page 136 and "About Managing Time-Based Offerings" on page 142.

5 To customize an order, in the Line Items view, perform the following steps:

a Select an order line item and click Customize.

Siebel Configurator is launched and a configuration screen appears in a separate window. For more information about Siebel Configurator, see *Siebel Product Administration Guide*.

NOTE: This functionality is active if the Order-to-Cash PIP is enabled by the Enable AIA OrderToCash system preference being set to TRUE. For more information about the Enable AIA OrderToCash system preference, see the overview chapter in the *Siebel Communications Guide*.

b Enter and save your configurations.

Siebel CRM redisplays the Sales Order screen, where you can continue entering details of the order.

6 Add payment information to the order by doing the following:

a Click the Payments view tab.

b In the Payment Lines list, add a line for each payment to associate with the order.

c Associate each payment line with a billing profile of the order's billing account by making the appropriate selection in the Billing Profile field.

d Complete the other fields as required.

Performing these steps allows the order submission process to send payment information for the order through Oracle Application Integration Architecture to the Oracle Communications Billing and Revenue Management back-office billing system. For more information about Oracle Communications Billing and Revenue Management integration with Siebel Communications, see *Siebel Communications Guide*.

7 Submit the order for technical service qualification, if any order line items require it.

For more information on technical service qualification, see "Submitting an Order for Technical Service Qualification" on page 135.

8 When finished entering the order, click Submit.

NOTE: Once submitted, an order cannot be deleted.

Managing Telephone Numbers for an Order

You can capture customers' telephone number requirements, check telephone number availability, and assign telephone numbers to an order as line items. To manage telephone numbers for an order, follow this procedure.

To manage telephone numbers for an order

1 Follow the steps for processing an order in "Processing a Sales Order Through Oracle Application Integration Architecture Integration" on page 124.

2 After completing the order header, click the Phone Number view tab.

3 In the Phone Number view, click Query.

A Phone Number view appears with a list of phone number records on the left, under the Port Number heading.

4 Under the Port Number form, click Query.

5 Enter parameters in the search fields as needed to find the phone numbers that meet your customer's requirements.

Some fields are described in the following table.

Field	Comments
Market	Market designation for the phone service
Phone Category	Type of phone service
Phone #	Partial or complete phone number, if requested by the customer
Subscriber CSA	Telephone service provider
Phone Region	Geographic region of phone service
Usage Area	Geographic area of phone service
Port in Date	Date phone service port was installed
Status	Available

A list of phone numbers appear that match your search criteria.

6 From the displayed list, select a phone number and click Select.

The first Phone Number view reappears. The phone number record you selected appears in the Phone Number list as a line item of the current order, with the phone number displayed in the Service Id field.

Building a Hierarchy of Orders

You can define a dependency between orders in Siebel CRM by pointing an order to another order as a parent order. In the order fulfillment system, a parent order must be processed before the child orders of that parent. This allows you to build a hierarchy of related orders, so an order that you designate as a parent order is fulfilled before orders you designate as child orders of that parent.

For example, suppose a company with a headquarters office and three branch offices wants to order the equipment for a new computer network. Some of the equipment must be installed at the company headquarters, while other equipment must go to the branch offices. The equipment must be up and running at headquarters in order for the equipment at the branch offices to function. In Siebel Communications, you can distribute the equipment into four orders: a parent order for the company headquarters and three associated child orders, one for each of the branch offices. Fulfillment of the parent order must predate fulfillment of the child orders. This functionality helps to make sure that the headquarters office receives its allotment of network equipment first, so this equipment can be installed before the equipment destined for the branch offices.

You can build a multilevel hierarchy by selecting child orders as parent orders of other (grandchild) orders.

NOTE: Certain validations and limits apply to which orders can be child orders and parent orders. For more information, see "Restrictions and Requirements for a Parent-Child Order Relationship" on page 132.

Designating a Parent Order for an Order

To designate a parent order for an order, follow this procedure.

To designate a parent order for an order

1. Navigate to the Sales Orders screen, then the List view.
2. In the Sales Orders list, find the order you want to be the child order; in other words, the order for which you want to designate a parent order.
3. Drill down on the link in the Order # field, and click the Line Items view tab.
4. In the Parent Order # field of the order header, select the parent order for this order, and click OK.

   The drop-down list of the Parent Order # field shows only the orders that do not violate any restrictions on parent orders.

   For more information about restrictions on parent orders, see "Restrictions and Requirements for a Parent-Child Order Relationship" on page 132.
5. When finished preparing the order, click Submit.

   Along with the order, the integration passes the parent-child order relationship to the fulfillment system.

Restrictions and Requirements for a Parent-Child Order Relationship

The following validations and limits apply to parent orders and child orders:

- The Status field of a parent order can have any value *except* Complete, Canceled, Rejected, or As Submitted.
- An order cannot be a parent order if the order is inactive and the value of the Status field is Complete, Canceled, Rejected, or As Submitted. Orders with these status values are not available for selection in the Parent Order # field.

  NOTE: Only the Status values of Pending, Submitted, Complete, Canceled, Rejected, and Inactive are used in Siebel Communications. You can hide other Status values by changing the pick applet search specification of the Status field.
- A child order cannot be its own parent.
- A child order cannot be submitted before its parent order is submitted.
- The latest due date of the parent order line items must be earlier than the earliest due date of the child order line items. In other words, all parent order line items must be completed before processing of any child order line items can begin.
- The parent order line item with the latest due date of any of the parent order line items must have an earlier due date than the earliest due date of any of the child order line items. In other words, all parent order line items must be completed before processing of any child order line items can begin.

- In the case of a multilevel order hierarchy, Siebel CRM validates the dates of each child order level only against the dates of its immediate parent.

  For example, in the case of a three-level order hierarchy with one parent, one child, and one grandchild, the dates of the grandchild order line items are validated against the dates of the child order (parent of the grandchild) line items, but not against the dates of the ultimate parent order line items.

- A child order cannot be submitted if the parent order has not been submitted.
- After a parent order has been selected for a child order, you can select a different parent order for that child order.
- If a parent order is revised after it is linked to a child order, then child order references are not automatically updated.

  For example, if you submit a revision of a parent order, then a child order of that parent order remains associated with the original version of the order (Revision 1). To maintain the parent-child order relationship with the currently active version of the parent order, you must manually change the parent order to Revision 2 in the Parent Order # field of the child order.

About Order Revisions and As Submitted Orders

This topic describes some characteristics of order modification functionality in the context of Oracle Application Integration Architecture integration. These characteristics include order revisions and “as submitted” order records.

About Order Revisions

You can revise an original order, which creates a new version of the same order. The Revise feature allows you to revise the original order by creating a new order record with the same order number. The versions are distinguished by a revision number.

When you submit order revisions in Siebel CRM through Oracle Application Integration Architecture integration, you have several options that are specific to the integration. This topic describes features that are specific to Oracle Application Integration Architecture integration of Siebel CRM.

The following restrictions apply to order revisions:

- You cannot delete a revised order, you can only cancel it with the Cancel Revision menu option.
- An order becomes Inactive after it is revised.
- Only one revision for an order can be Active or Pending.
- You cannot cancel or delete an order revision that has been submitted.
- You cannot change a product in an order revision line item. You can only delete the line item and then add a line for the new product.
- You cannot change the value of the Order # field in an order revision.
- You cannot revise an unsubmitted order.

- If an order line item reaches Point of No Return, and that order is revised, then the Customize button is disabled for that entire order revision.

For more information about revising an order, see the chapter on working with sales orders in *Siebel Order Management Guide*.

About Revised Order Line Item IDs

Siebel CRM and the external fulfillment system track revisions to order line items with the Row Id and Revised Line Item Id fields in Siebel CRM, and the Base Order Item Id field in the fulfillment system.

When a new order is created, and when a new line is added to an existing order, the value of the Row Id, Revised Line Item Id, and Base Order Item Id fields in the order line are the same. When a revision is created for the order, the following changes occur in existing order lines:

- If a line changes, then the Row Id of the original order item is copied into Revised Line Item Id of the revised order item.
- The value of the Base Order Item Id field remains the same as the original version of the order line.

Table 15 lists the order versions, order actions, and IDs.

Table 15. Revised Order Line Item IDs

Order Version	Order Action	Row Id	Revised Line Item Id	Base Order Item Id
O.1	Create an order with one line (L-1); submit the order.	L-1	L-1	L-1
O.2	Revise the order and add a line (L-4); submit the order.	L-2	L-1	L-1
		L-4	L-4	L-4
O.3	Revise the order and modify a line (original L-4); submit the order.	L-3	L-2	L-1
		L-5	L-4	L-4
O.4	Revise the order and delete a line (original L-1); submit the order.	L-7	L-5	L-4

The correlation of the Row Id, Revised Line Item Id, and Base Order Item Id fields allows the fulfillment system to track which order lines are revised.

It is especially important for the fulfillment system to access previous values in case of a cancellation. For example, suppose an order is modified by a change to its Service Id (phone number). The revised order has been submitted, but is not yet fulfilled. Before fulfillment occurs, a cancellation is requested. This generates a revised order with no line items. The fulfillment system must know the original Row Id value of the former line item to identify what item to cancel. This information is provided using the Row Id, Revised Line Item Id, and Base Order Item Id.

About As Submitted Orders

An order submitted from Siebel CRM can only be changed by creating an order revision or a follow-on order while the order is in flight. However the fulfillment system can change the order. Changes made by the fulfillment system might include, for example, adding reserved resources to the original order, or updating the status of the order, or replacing the existing products as they were captured with equivalent products.

When an order is modified during its fulfillment by replacing products or changing product attributes, if configured, Siebel CRM makes a copy of the order in “As Submitted” form for user reference. Changes to the status of the order, or changes to record reserved resources, do not trigger the creation of an “As Submitted” copy.

The “As Submitted” copy of the order is identified by a Status field value of As Submitted. The “As Submitted” copy of the order has a new Order ID, and its line items have new Order Line Item IDs. This is because the fulfillment system still has to reference the original Order ID and Order Line Item IDs.

Siebel CRM creates an “As Submitted” copy of the order *only* when the order is first changed. Siebel CRM applies any additional changes to the products in the order, or the attributes of those products, to the original order and does not create additional copies of the order.

Submitting an Order for Technical Service Qualification

During order capture, some services might require technical service qualification before those services can be offered to a customer. Which services require technical service qualification depends partly on the services your company offers, and partly on the business practices of your company.

Siebel CRM allows you to send an order to the fulfillment system to check whether or not the service is technically qualified before the order itself is submitted for fulfillment. The fulfillment system verifies whether that service is technically qualified to be available to that order or to that customer.

For example, a sales order containing an order line item to add DSL access might require a technical service qualification. In this case, before submitting the order for provisioning, you submit the order to the external provisioning system to check the technical availability of a DSL access service for the specified address.

To submit an order for technical service qualification, follow this procedure.

To submit an order for technical service qualification

1. Follow the steps for creating an order as described in the chapter on asset-based ordering in *Siebel Order Management Guide*.
2. Complete the fields of the order header, add order line items, and complete the fields of the order line items.

   For more information about completing the order and the order line items, see “Processing a Sales Order Through Oracle Application Integration Architecture Integration” on page 124.
3. Do one of the following:

- On the Sales Order screen, click the Catalog view tab, and then click TSQ in the order header.
- On the Sales Order screen, click the Line Items view tab, click Menu in the order header, and choose TSQ.

The order is submitted to the external fulfillment system for technical service qualification. The fulfillment system returns periodic updates. Your Siebel application displays the updates in the fields described in the table that follows.

Field	Comments
Fulfillment Status	This field appears in the order header and in the order line items. This field displays the status of the technical service qualification request. Possible values are as follows: ■ **Pending TSQ**. Technical service qualification is in progress. ■ **Passed TSQ**. The order has passed technical service qualification. ■ **Failed TSQ**. The order has failed technical service qualification.
Status Context	This field appears in the Sales Order screen, Line Items view, Line Details list. If the Fulfillment Status field of a line item acquires a value of Failed TSQ, then this field displays an explanation of why the line item failed technical service qualification. This information comes from Oracle Application Integration Architecture.

4 Submit the order.

For more information about submitting orders, see "Processing a Sales Order Through Oracle Application Integration Architecture Integration" on page 124.

NOTE: You can submit the order regardless of the Fulfillment Status value. In other words, you can submit the order whether or not the order has passed the technical service qualification.

About Time-Based Offerings

A *time-based offering* is a promotion product component that offers a discount with a fixed, limited duration. The Time-Based Offering feature allows product administrators to define commitments at the promotion product component level. Different commitment enforcement and charge generation guidelines can be applied to different promotion components. This feature thus helps reduce product and discount proliferation by allowing you to specify different discount durations for components of the same promotion product, rather than defining a different promotion product for each discount duration.

For example, suppose a discount product called 10% Discount is synchronized from Oracle Communications Billing and Revenue Management. You designate this discount product as a time-based offering. You then define a bundled promotion, Mobile Silver Plan, which includes Mobile Service, Headset, and 10% Discount as component products. For this particular bundled promotion, you define 10% Discount as having a duration of three months, beginning at the order Due Date. (You can also add the 10% Discount product to other bundled promotions, specifying different durations and beginning points.) Later, a user adds the Mobile Silver Plan to an order with a Due Date of February 15, 2010. When this order is processed, the Mobile Silver Plan service, which is discounted 10%, begins for the ordering customer on February 15, 2010, and ends on Might 15, 2010.

The Time-Based Offering feature also allows you to define discount validity in Siebel Order Management for Industry Applications and communicate that discount validity definition to Oracle Communications Billing and Revenue Management as part of an order.

The Oracle Communications Billing and Revenue Management rating engine calculates and applies specific discount to customers' services. Oracle® Communications Order and Service Management passes the end dates through Oracle Application Integration Architecture to the Oracle Communications Billing and Revenue Management API to set the end dates.

The Time-Based Offering feature includes the following capabilities:

- Create products and discounts in Siebel Order Management for Industry Applications, synchronized from Oracle Communications Billing and Revenue Management as customizable products.
- Calculate the validity of the actual start date from provisioning; and calculate the duration, unit, and validity start attributes in the product and discount.
- Pass the start date and end date values to Oracle Application Integration Architecture in a new order, and pass previous and new values for product attributes and dates during a change order.
- Update an order line item with start and end dates from Oracle Application Integration Architecture.
- Update the asset status in Siebel Order Management for Industry Applications when the discount product expires.

Process of Setting Up Time-Based Offerings

To set up time-based offerings, administrators perform the following tasks:

1. "Creating Time-Based Offering Product Attributes (Administrator)" on page 138
2. "Creating a Time-Based Offering Product Class (Administrator)" on page 140
3. "Creating a Time-Based Offering Discount Product (Administrator)" on page 140
4. "Adding a Time-Based Offering Discount to a Bundled Promotion (Administrator)" on page 141

Creating Time-Based Offering Product Attributes (Administrator)

Product attributes are characteristics of a product that a user can select. A product attribute has two parts: the name of the attribute, and the possible values of the attribute. For more information about product attributes, see the chapter on products with attributes in *Siebel Product Administration Guide*.

To define time-based discounts as discount products, you must create several product attributes. To create the time-based offering product attributes, follow this procedure.

CAUTION: The values for all attributes must match the values used by Oracle Application Integration Architecture. If the values do not match, then the integration will fail.

This task is a step in "Process of Setting Up Time-Based Offerings" on page 137.

To create time-based offering class attributes

1. Navigate to the Administration - Product screen, then the Attribute Definitions view.
2. Follow the steps for creating attribute definitions, as described in the chapter on products with attributes in *Siebel Product Administration Guide*.
3. In the Attribute Definitions list, add a record, enter Duration in the Attribute field, and perform the following steps.
   a. In the Versions list, click the link in the Version field of the selected row.
   b. In the Version view, click the Details view tab and complete the fields listed in the following table.

Field	Value
Data Type	Number
Domain Type	Enumerated **NOTE:** You must configure this attribute value as Enumerated so that the value is included in promotion constraints.

   c. In the Attribute Values list, add 31 records with values as shown in the table that follows.

Value	Sequence
1	1
2	2
3	3
. . .	. . .
31	31

4 In the Attribute Definitions list, add a record, enter DurationUnitOfMeasure in the Attribute field, and perform the following steps.

a In the Versions list, click the link in the Version field of the selected row.

b In the Version view, click the Details view tab and complete the fields listed in the following table.

Field	Value
Data Type	Text
Domain Type	Enumerated **NOTE:** You must configure this attribute value as Enumerated so that the value is included in promotion constraints.

c In the Attribute Values list, add records with values as shown in the table that follows.

Value	Sequence
Days	1
Months	2
Years	3

5 In the Attribute Definitions list, add a record, enter DurationValidityStart in the Attribute field, and perform the following steps.

a In the Versions list, click the link in the Version field of the selected row.

b In the Version view, click the Details view tab and complete the fields listed in the following table.

Field	Value
Data Type	Text
Domain Type	Enumerated **NOTE:** You must configure this attribute value as Enumerated so that the value is included in promotion constraints.

c In the Attribute Values list, add records with values as shown in the table that follows.

Value	Sequence
Now	1
Original Start	2
Original End	3

Creating a Time-Based Offering Product Class (Administrator)

Product classes provide a way to organize and administer product attributes. When you assign a product to a product class, that product inherits all the attributes defined for that product class. For more information about product classes, see the chapter on products with attributes in *Siebel Product Administration Guide*.

To define time-based discounts as discount products, you must create a product class that has the attributes you set up in "Creating Time-Based Offering Product Attributes (Administrator)" on page 138. This product class will be reusable for any time-based product and discount.

To create a time-based offering product class, follow this procedure.

This task is a step in "Process of Setting Up Time-Based Offerings" on page 137.

To create a time-based offering product class

1. Navigate to the Administration - Product screen, then the Product Classes view.
2. Follow the steps for creating product classes, as described in the chapter on products with attributes in *Siebel Product Administration Guide*.
3. In the Product Classes list, add a record.
4. In the Product Class field, enter a name for this class; for example, Time-Based Offering.
5. In the Versions list, click the link in the Version field of the selected row.
6. In the Version view, click the Attributes subview tab.
7. In the Attributes list, add records for the following attributes:
   - Duration
   - DurationUnitOfMeasure
   - DurationValidityStart

Creating a Time-Based Offering Discount Product (Administrator)

To associate the time-based offering attributes with a discount product, you assign the product to the time-based offering product class. A product inherits all the attributes of the product class to which it is assigned.

For more information about associating product classes with products, see the chapter on designing products with components in *Siebel Product Administration Guide*.

To associate the time-based offering product class with a discount product, follow this procedure.

This task is a step in "Process of Setting Up Time-Based Offerings" on page 137.

To create a time-based offering discount product

1 Navigate to Administration - Product, then the Products view.

2 In the Products list, select a discount product synchronized from Oracle Communications Billing and Revenue Management from which you want to create a time-based offering.

NOTE: Other products besides discount products can be associated with the time-based offering product class.

3 In the selected product record, select field values as shown in the table that follows.

Field	Value
Product Class	Name of the time-based offering product class; for example, Time-Based Offering
Product Type	Time Based Offer
Structure Type	Customizable

Adding a Time-Based Offering Discount to a Bundled Promotion (Administrator)

To add a time-based offering discount product to a bundled promotion, follow this procedure.

For more information about setting up bundled promotions, see the chapter on creating product promotions in *Siebel Pricing Administration Guide*.

This task is a step in "Process of Setting Up Time-Based Offerings" on page 137.

To add a time-based offering discount to a bundled promotion

1 Navigate to Administration - Product, then the Product Promotions view.

2 In the Product Promotions list, create a new record and select Bundled Promotions in the Type field.

3 Complete the other fields, as required.

4 Click the Products view tab under the Product Promotions list, then the Components link.

5 In the Components list, add a new record.

6 In the Product Name field, select a time-based offering discount product, and complete the other fields as needed.

7 Define the attributes for the discount component product by performing the following steps.

a Click the link in the Product Name field.

The Promotion subview appears.

b Click the Attributes link.

c In the Attributes list, create and define new product attribute records as shown in the following table.

Attribute	Condition
Duration	Include
DurationUnitOfMeasure	Include
DurationValidityStart	Include

d Define the duration and start date of the promotion by selecting each attribute record in turn and adding a value in the Values list below the Attributes list, as shown in the following table.

Attribute	Value
Duration	Numeric value for the duration of the offer. Select a number from 1 to 31.
DurationUnitOfMeasure	Unit of measure for the duration of the offer. Select Days, Months, or Years.
DurationValidityStart	Beginning point for the duration of the offer. Select one of the following values: ■ **Now**. The offer begins at the Due Date. The Service End Date value is calculated as Due Date plus Duration multiplied by Unit of Measure. ■ **Original Start**. The offer begins at the Service Start Date. The Service End Date value is calculated as Service Start Date plus Duration multiplied by Unit of Measure. ■ **Original End**. The offer starts at the Original End Date. For a change order, the Service End Date is calculated as Original End Date plus Duration multiplied by Unit of Measure. A new order has no Original End Date, so the Service End Date value is calculated as Due Date plus Duration multiplied by Unit of Measure.

8 Continue adding component products to the bundled promotion product, as needed.

The terms defined in the time-based discount component product will apply to the bundled promotion product of which the time-based offering is a component.

About Managing Time-Based Offerings

When users process time-based offerings in new and changed orders, the effects are as described in the following topics:

- "Time-Based Offerings in New Orders" on page 143
- "Example of Including a Time-Based Offering in a New Order" on page 143
- "Time-Based Offerings in Changed Orders and Assets" on page 144

Time-Based Offerings in New Orders

In the case of a new order, your Siebel application calculates the Service End Date of a time-based offering according to the value of the DurationValidityStart attribute of the time-based offering discount product.

Your Siebel application also sends the DurationValidityStart attribute values and Service End Dates for the discount products on the sales order to Oracle Application Integration Architecture and OSM. When the order is submitted, the Service Start Date and calculated Service End Date of the order are passed to Oracle Application Integration Architecture and Oracle Communications Order and Service Management. During the Fulfillment to Billing process, Oracle Application Integration Architecture passes the Service End Date to the Oracle Communications Billing and Revenue Management API to create products and discounts.

In the case of time-based offering products, Oracle Communications Order and Service Management sends the Service Start Date, the Service End Date, and the actual delivery date back to your Siebel application by way of Oracle Application Integration Architecture, so that the Siebel application can update the order line items with the new calculated dates. The actual delivery date is mapped to the Completed Date in Siebel CRM. These values are carried over to the asset during the Auto–Asset process. If the Action Code is Add, then the Completed Date value is carried over to the Effective From fields of the asset line items. If the Action Code is Delete, then the Completed Date value is carried over to the Service End Date fields of the asset line items.

Example of Including a Time-Based Offering in a New Order

This topic gives one example of including a time-based offering in a new order. You might use this feature differently, depending on your business model.

As an example of a time-based offering in a new order, consider a bundled promotion, Mobile Silver Plan. This bundled promotion includes a component discount product, 10% Discount. The 10% Discount component product has attributes with values as described in Table 16.

Table 16. 10% Discount Product Attribute Values

Attribute	Value
Duration	3
DurationUnitOfMeasure	Months
DurationValidityStart	Now

To include a time-based offering, in this case the Mobile Silver Plan bundled promotion, in a new order, you would follow this procedure.

To include a time-based offering in a new order

1 Select the Mobile Silver Plan bundled promotion as a line item in a new order.

For information about creating and processing an order, see "Processing a Sales Order Through Oracle Application Integration Architecture Integration" on page 124.

This bundled promotion includes the component discount product, 10% Discount, which therefore becomes part of the order.

2 Set the date field values of the promotion as shown in the following table.

Field	Value	Comments
Due Date	11/19/2009	None.
Service Start Date	11/24/2009	By default, this field displays the value in the Due Date field, but this value can be changed manually by users.
Original End Date	None.	None.

The Service End Date field value of the promotion is calculated from the DurationValidityStart attribute value of the 10% Discount component, as follows:

- **Now**. If the DurationValidityStart attribute value is Now, then the Service End Date value is calculated as Due Date plus Duration multiplied by Unit of Measure. The Service End Date is three months after the Due Date of 11/19/2009, or 02/19/2010.
- **Original Start**. If the DurationValidityStart attribute value is Original Start, then the Service End Date value is calculated as Service Start Date plus Duration multiplied by Unit of Measure. In this case, the Service Start Date has been specified as 11/24/09. Therefore, the Service End Date is three months after the Service Start Date of 11/24/2009, or 02/24/2010.
- **Original End**. For a new order, there is no Original End Date. Consequently, if the DurationValidityStart attribute value is Original End, then the Service End Date value is calculated as Due Date plus Duration multiplied by Unit of Measure. The Service End Date is three months after the Due Date of 11/19/2009, or 02/19/2010.

Time-Based Offerings in Changed Orders and Assets

This topic describes the behaviors of time-based offerings when changes occur to an order or an existing service.

- **Inactive asset**. If an asset has Service End Date earlier than today's date, then that asset is an Inactive asset. No actions such as Modify, Suspend, Resume, or Delete are allowed on such an asset. If an Inactive asset is referenced in the Upgrade Promotion process, then it either gets an action code of Delete in the Modify quote or order, or is ignored and appears in the asset with an end date.
- **Upgrade or downgrade promotion**. During the upgrade or downgrade of a promotion, your Siebel application calculates the Service End Date for line items in which the Action Code is Add, based on the defined validity attributes. For line items in which the Action Code is Update, the Service End Date is carried over from the Asset, because no extended attribute (XA) has changed. In this case, users must customize the promotion to update the values.
- **Modify asset**. Your Siebel application calculates the new End Date based on the validity attributes defined for the discount product *only* when those attributes have been updated. Otherwise, your Siebel application carries over the Start Date and End Date values from the asset to the new modified order.

  Likewise, during the customization of a move, add, change, and delete (MACD) order, your Siebel application calculates the End Date based on the attribute definition only if the attributes have been updated.
- **Disconnect service**. During the disconnection of an asset, your Siebel application populates the End Date with the Due Date. If you manually update the Due Date in the new modified order, then the End Date is updated automatically.
- **Revise order**. During order revision, the Due Date, Service Start Date, and Service End Date field values are copied from the base order.

Transferring Service to Another Location (User)

With asset-based ordering, employee users can use the procedure in this topic to disconnect services at one address (the move-out address) and install the same services at another address (the move-in address). If the correct service points exist at the new address for the transferred services, then the services are automatically assigned to these service points. For more information about service points, see the chapters on premises and assets in *Siebel Communications Guide*.

In the procedure in this topic, you create a quote that shows the service 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 in open orders.

NOTE: Users can transfer a service only if the service is provisioned at a service point. The Workflow does not recognize services that are not associated with a service point.

To transfer a service to another location

1. Navigate to the Accounts screen, then the Accounts List view.
2. Click the name of the appropriate account.

3 In the Account form, in the Address field, click the select button.

The Account Addresses dialog box displays.

4 In the Account Addresses dialog box, perform the following actions:

a Click Show Available.

b In the Available list, find the move-in address.

If necessary, click New and add the move-in address to the Available list.

c Select the move-in address and click Add to move it from the Available list to the Selected list.

d In the Selected list, in the record for the move-in address, in the Start Date field, enter the date on which the new address is active for invoicing purposes.

e In the Selected list, in the record for the move-out address, in the End Date field, enter the date on which the old address is inactive for invoicing purposes.

f In the Selected list, select the record for the move-in address, and click Transfer Service.

The Line Items view displays listing two copies of the service. The line items in one copy have an action code of Delete as well as a sub-action code of Move-Delete and are associated with the move-out address. The line items in the other copy have an action code of Add as well as a sub-action code of Move-Add and are associated with the move-in address.

5 For each service item, verify that the Service Point field displays a service item.

If the Service Point field displays a service item, then a service point is available at the move-in address.

6 If a service item does not display a service point, then delete the item from the quote.

7 Convert the quote to an order and submit the order.

The action codes and sub-action codes in the quote lines also display in the order lines. For more information about converting a quote to an order and submitting an order, see *Siebel Order Management Guide*.

About Managing Bulk Requests

Frequently, companies in the communications and media industries must manage bulk (large quantity) quotes and orders for the products and services that they provide to customers. These companies work with bulk quotes and orders because they serve a large number of customers who can, over an extended period of time, add new products and services, change existing products and services, and remove obsolete products and services. To automatically generate a bulk quote or a bulk order, a user can submit a bulk request.

When you create a bulk request, you first create a bulk request header, which acts as the envelope for the bulk request. Next, you create one or more action sets. Each action set specifies one account for which to run the bulk request. Then you associate one or more instances with each action set. Each instance specifies a contact, asset, or service for which to apply the bulk request. Finally, you associate one or more actions with each action set. Actions specify the actions to perform on the instances. You can associate each action with a base product or promotion and, if applicable, a component product of a customizable product or promotion. You can also upgrade base products and promotions.

Each action set in a bulk request generates one quote or order. The bulk request generates one or more line items for each quote or order from the instances and actions defined for the action set, provided that no exceptions are triggered.

You can add action sets, instances, and actions by several methods, depending on your needs:

- **Manual entry**. If you have a small set of bulk request data, then you can add action sets, instances, and actions manually.
- **XML file import**. If your bulk request data comes from an external source such as a partner or a large business customer, then you can prepare an XML file and import it. The action sets, instances, and actions of the bulk request are populated from the information in the file.
- **List association**. If your bulk request data resides in your Siebel application and can be filtered and added to a list with a Siebel query, then you can associate the resulting list with the bulk request. An Explode operation in the bulk request template creates the action sets and instances of the bulk request from the records in the list.

Roadmap for Configuring Bulk Requests

To configure bulk requests, administrators perform the following tasks and process:

- “Configuring Cancellation Processing” on page 148
- “Creating Bulk Import Template Files” on page 149
- “Process of Adding Custom Fields to Import Template Files” on page 151
- “Configuring Validation Rules for the Import Process” on page 156
- “Configuring Bulk Request Validation to Improve Performance” on page 158
- “Configuring the Import Process” on page 159
- “Setting Up Bulk Requests on a Mobile Web Client” on page 160
- “(Optional) Changing Processing for Action Sets” on page 161

Configuring Cancellation Processing

A user clicks the Submit button to submit a bulk request and automatically generate bulk quotes or bulk orders for that bulk request. Before this processing is complete, the user can click the Cancel Request button to stop this processing. When the user clicks the Cancel Request button, by default, processing completes for the action set that is currently processing. Remaining action sets in the bulk request are not processed. An administrator can configure this default behavior for cancellation processing to one of the following behaviors:

- Processing completes for the instance (contact or service) in the action set that is currently processing. In this behavior:
  - Remaining actions for the instance in the action set are processed.
  - Remaining instances in the action set are not processed.
  - Remaining action sets in the bulk request are not processed.
- Processing completes for the action in the action set that is currently processing. In this behavior:
  - Remaining actions for the instance in the action set are not processed.
  - Remaining instances in the action set are not processed.
  - Remaining action sets in the bulk request are not processed.

To configure these behaviors, the administrator defines an input argument for a step in a workflow process. This step is associated with the NextObject method in the ABO Bulk Request Processing Service. Then the administrator deploys the changed workflow process. For information about defining an input argument and about deploying a changed workflow process, see *Siebel Business Process Framework: Workflow Guide*.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To configure cancellation processing

1. Log in to Siebel Tools.
2. In the Object Explorer, click Workflow Process.
3. If you want processing to be completed at the instance level, then perform the following steps:
   a. In the Workflow Processes list, select ABO Bulk Request - Inclusive Process Action Sub-Process Workflow.
   b. For the Next Instance step in the workflow process, define a Cancel Granularity Type input argument and assign this argument a value of Instance.
4. If you want processing to be completed at the action level, then perform the following steps:
   a. In the Workflow Processes list, select ABO Bulk Request - Inclusive Process Action Sub-Process Workflow.
   b. For Next Consolidated Action step in the workflow process, define a Cancel Granularity Type input argument and assign this argument a value of Action.

c In the Workflow Processes list, select ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow.

d For Next Consolidated Action step in the workflow process, define a Cancel Granularity Type input argument and assign this argument a value of Action.

Creating Bulk Import Template Files

To save time when creating a bulk request, users can import the data from a template XML file to populate the action set, contact, service, and action fields for the bulk request. For more information, see "Importing Bulk Request Data from a Template File" on page 173.

To create import template files for bulk requests, administrators can use the BulkRequest.xls source file, a Microsoft Excel file, that is provided with your Siebel application. BulkRequest.xls is supported in Excel 2003 and Excel 2007. You use this source file in conjunction with a schema file. Each action set worksheet in this source file results in one XML import template file. The only supported data format for import template files is XML. A BulkRequestTemplate.xsd schema file is also provided with the software.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To create a bulk import template file

1 On the installation media for your Siebel application, locate the Siebel Tools Installation Directory\REPPATCH folder.

2 From the ZIP file in the REPPATCH folder, extract the BulkRequest.xls source file and BulkRequestTemplate.xsd schema file to the `D:\BulkRequestTemplate` directory.

3 Copy, rename, and save the BulkRequest.xls source file.

4 Open the copied BulkRequest.xls source file in Excel.

5 In the copied BulkRequest.xls source file, enter the version number for the import template files in the Version Number field of the Meta Data worksheet.

6 To create Action Set worksheets in the source file:

a Click Create Worksheet in the Meta Data worksheet.

A new worksheet named Action Set 1 is created in the source file, the VersionNumber field in the new worksheet is populated with the version number from the Meta Data worksheet, and the cells in the new worksheet are populated with the field names from the schema file in the Schema File Name field of the Meta Data worksheet.

b In the Action Set 1 worksheet, enter data in the cells under the field names.

For some fields, empty cell values are acceptable. For more information, see "About Required XLS Source File Fields" on page 150.

c Repeat Step a and Step b for each new worksheet that you want to create in the source file.

Subsequent worksheets are named Action Set 2, Action Set 3, and so on.

7 Click Export to XML in the Meta Data worksheet.

Each worksheet in the source file results in one XML import template file in the folder specified in the last leg of the Export File variable path in the Meta Data worksheet.

About XLS Source File Macros

The macros in the BulkRequest.xls source file contain the following procedures:

- **ReadMetaData.** Reads the cell values for the variables in the Meta Data worksheet. You must update this procedure if you change the location of the cell values for existing variables in the Meta Data worksheet or if you add new variables to the Meta Data worksheet.
- **SetupMapping.** Inserts a new worksheet after the last worksheet in the source file, populates the VersionNumber field of the new worksheet with the version number from the Meta Data worksheet, loads the schema file from the location specified in the Schema File Name variable in the Meta Data worksheet, and calls the HeaderMap, ActionMap, and UserMap procedures to map each field name in the schema file to a cell in the new worksheet. When you click the Create Worksheet button in the Meta Data worksheet, you call this procedure.
  - **HeaderMap.** Maps the field names from the schema file to the action set section of the new worksheet. The SetupMapping procedure calls this procedure.
  - **ActionMap.** Maps the field names from the schema file to the action section of the new worksheet. The SetupMapping procedure calls this procedure.
  - **UserMap.** Maps the field names from the schema file to the instances section of the new worksheet. The SetupMapping procedure calls this procedure.
- **ExportXML.** Iterates through the worksheets in the source file, and exports each exportable action set worksheet to an XML file. Each XML filename begins with the filename specified in the last leg of the Export File variable path in the Meta Data worksheet. Each XML filename ends with an index number (for example, 1, 2, 3, and so on) that corresponds to the action set number for the worksheet from which the XML file is generated. When you click the Export to XML button in the Meta Data worksheet, you call this procedure.

About Required XLS Source File Fields

The XLS source file must contain the fields listed in the following sections:

- **First Section.** Include the following field: VersionNumber. The version number of the import template files.
- **Second Section.** At a minimum, include the following fields:
  - Sequence. The sequence number for the action set.
  - Type. The type of action set, for example, New, Modify, or Update.
  - CustomerAccount. The name of the customer account for the action set.

- ChildInstanceType. The type of instance for the action set, for example, Contact Id, Service Id, Agreement Id, or Network Id. You must include this field only if you include the Service Id field in the fourth section. Otherwise, this field displays a default value of the Contact Id for the records that you import into the Siebel application.

  This field maps to the ChildType field in the Siebel application user interface.

- **Third Section.** At a minimum, include the following fields:
  - ActionSequence. The sequence number for the action.
  - ActionName. The name of the action, for example, Add, Update, Suspend, Resume, Delete, or Upgrade.
  - BaseProduct. The base product for the action.

  Additional fields apply to some actions. For more information about the following fields to include, see "Adding Actions to a Bulk Request Action Set" on page 169:
  - Component. The component product for the base product.
  - Attribute. The attribute for the base product or component product.
  - Field. The field for the base product or component product.
  - AttributeValue. The value of the attribute.
  - FieldValue. The value of the field.
  - UpgradeProduct. The product to which the base product is upgraded.
- **Fourth Section.** At a minimum, include one of the following fields:
  - Email. The email address of the contact who is associated with an asset. You must include this field if the ChildType field is Contact Id or if the source file has no ChildType field.
  - ServiceId. The service ID of an asset. You must include this field if the ChildType field is Service Id.
  - Component Product Number. The number that identifies the component product associated with an asset. You must include this field if the ChildType field is Network Id.
  - Agreement Id. The agreement ID associated with an asset. You must include this field if the ChildType field is Agreement Id.

Process of Adding Custom Fields to Import Template Files

To add custom fields to import template files, administrators perform the following tasks:

1. "Adding Custom Fields to Business Components" on page 152.
2. "Adding Custom Fields to Integration Components" on page 153.
3. Generate the schema for the integration object for importing bulk requests. For more information, see *Integration Platform Technologies: Siebel Enterprise Application Integration*.
4. "Setting Up the Version Number for Import Template Files" on page 153.

5 "Updating the XLS Source File" on page 154.

Then, use the new XLS source file and the new schema file and to create the new import template files that contain the custom fields. For more information, see "Creating Bulk Import Template Files" on page 149.

This process is a step in "Roadmap for Configuring Bulk Requests" on page 147.

Adding Custom Fields to Business Components

A developer can add new fields to bulk requests to accommodate business needs. The developer must add the new fields to the appropriate business components. The business components to which you might want to add fields include:

- ABO Bulk Request - Orders
- ABO Bulk Request - Quotes
- ABO Bulk Request Action Field Names
- ABO Bulk Request Action Set
- ABO Bulk Request Action Set - Simple
- ABO Bulk Request Action Set Orders
- ABO Bulk Request Action Set Quotes
- ABO Bulk Request Actions
- ABO Bulk Request Actions - Simple
- ABO Bulk Request Exceptions
- ABO Bulk Request Header
- ABO Bulk Request Header - Simple
- ABO Bulk Request Instance
- ABO Bulk Request Instance - Simple

This task is a step in "Process of Adding Custom Fields to Import Template Files" on page 151.

To add custom fields to business components

1 Log in to Siebel Tools.

2 In the Object Explorer, click Business Component.

3 In the Business Components list, select the business component to which you want to add the new field.

4 Lock this business component so that you can change it.

5 In Object Explorer, navigate to Business Component, then the Field, and in the Fields list, add the new field to the business component.

6 Compile the object for your changes into the Siebel Repository File (SRF).

7 Unlock the business component.

Adding Custom Fields to Integration Components

After you add custom fields to business components, you must add those fields to the appropriate integration components on the integration object for the import template file. You can add fields to the following integration components:

- ABO Bulk Request Action Set
- ABO Bulk Request Instance
- ABO Bulk Request Actions

This task is a step in "Process of Adding Custom Fields to Import Template Files" on page 151.

To add custom fields to integration components

1 Log in to Siebel Tools.

2 In the Object Explorer, click Integration Object.

3 In the Integration Objects list, select ABO Bulk Request Import integration object.

4 Lock this integration object so that you can change it.

5 In Object Explorer, navigate to Integration Object, then the Integration Component.

6 In the Integration Components list, select the integration component to which you want to add new fields.

7 In Object Explorer, navigate to Integration Object, then the Integration Component, then the Integration Component Field.

8 In the Integration Component Fields list, add the custom fields to the integration component.

9 Compile the object for your changes into the Siebel Repository File (SRF).

10 Unlock the integration object.

Setting Up the Version Number for Import Template Files

Each set of import template files that the administrator creates must have the same version number. Though any prior template versions are still available, you set the version number for the new templates to make sure that users can access only the new import template files to create bulk requests.

This task is a step in "Process of Adding Custom Fields to Import Template Files" on page 151.

To set the version number for import template files

1 Navigate to the Administration - Application screen, then the System Preferences view.

2 Query for Bulk Request Template Version in the System Preference Name field.

3 Change the version number in the System Preference Value field to the version number for the new import template files.

Updating the XLS Source File

If an administrator changes bulk requests to include new custom fields, then the administrator must also change the XLS source file that creates the XML import template files that users complete to import data into those bulk requests. To update the XLS source file, you update the Meta Data worksheet and the macro procedures in that file.

This task is a step in "Process of Adding Custom Fields to Import Template Files" on page 151.

To update the XLS source file

1 Open the XLS source file.

2 Update the meta data for the file. In the Meta Data worksheet:

   a Change the number in the Version Number field to the new version number for the import template files.

   b If you change the name or location of the schema file, then change the Schema File Name variable.

   c If you change the name or location of the export file, then change the Export File variable.

3 Update the macro procedures by navigating to Tools, then Macro, then Macros, selecting any macro name, and clicking Edit.

4 If you add a field to a bulk request action set business component, then update the HeaderMap procedure by adding the following code:

```
Range("<title cell reference>").Select
ActiveCell.FormulaR1C1 = "<field name>"
ActiveCell.Font.Bold = True
Set xp = ActiveSheet.Range("<value cell reference>").XPath
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet/<field name>"
xp.SetValue myMap, strXPath
```

   where:

   - *title cell reference* is the reference of the worksheet cell that will contain the name of the new action set field.
   - *value cell reference* is the reference for the worksheet cell that will contain the value of the new action set field.

- *field name* is the name of the new action set field.

For example, to add a new action set field named Custom, the code is as follows:

```
Range("E4").Select
ActiveCell.FormulaR1C1 = "Custom"
ActiveCell.Font.Bold = True
Set xp = ActiveSheet.Range("E5").XPath
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet/Custom"
xp.SetValue myMap, strXPath
```

5 If you add a field to a bulk request action business component, then update the ActionMap procedure as follows:

a Update the range of worksheet cells that will contain the action fields in the following code:

```
Range("<first cell title reference>:<last cell title reference>").Select
Set myMap = ActiveWorkbook.XmlMaps(mapName)
Set actionList = ActiveSheet.ListObjects.Add
```

where:

- *first cell title reference* is the reference for the worksheet cell that will contain the name of the first action field.
- *last cell title reference* is the reference for the worksheet cell that will contain the name of the last action field.

For example, if 10 fields exist in the action set, then the first line of code might be:

```
Range("A7:J7").Select
```

b Add the following code for the new action field:

```
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet
/ListOfAboBulkRequestActions/AboBulkRequestActions/<field name>"
actionList.ListColumns(<column number>).XPath.SetValue myMap, strXPath
Range("<title cell reference>").Value = "<field name>"
```

where:

- *field name* is the name of the new action field.
- *column number* is the number of the worksheet column for the new action field.
- *title cell reference* is the reference of the worksheet cell that will contain the name of the new action field.

For example, to add a new field named Custom, the code is as follows:

```
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet
/ListOfAboBulkRequestActions/AboBulkRequestActions/Custom"
actionList.ListColumns(10).XPath.SetValue myMap, strXPath
Range("J7").Value = "Custom"
```

6 If you add a field to a bulk request instance business component, then update the UserMap procedure as follows:

a Update the range of worksheet cells that will contain the instance fields in the following code:

```
Range("<first cell title reference>:<last cell title reference>").Select
Set myMap = ActiveWorkbook.XmlMaps(mapName)
Set userList = ActiveSheet.ListObjects.Add
```

where:

- *first cell title reference* is the reference for the worksheet cell that will contain the name of the first instance field.
- *last cell title reference* is the reference for the worksheet cell that will contain the name of the last instance field.

For example, if three fields exist in the action set, then the first line of code might be:

```
Range("K7:M7").Select
```

b Add the following code for the new instance field:

```
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet
/ListOfAboBulkRequestInstance/AboBulkRequestInstance/<field name>"
userList.ListColumns(<column number>).XPath.SetValue myMap, strXPath
Range("<title cell reference>").Value = "<field name>"
```

where:

- *field name* is the name of the new instance field.
- *column number* is the number of the worksheet column for the new instance field.
- *title cell reference* is the reference of the worksheet cell that will contain the name of the new instance field.

For example, to add a new field named Custom, the code is as follows:

```
strXPath = "/SiebelMessage/ListOfAboBulkRequest/AboBulkRequestHeader
/ListOfAboBulkRequestActionSet/AboBulkRequestActionSet
/ListOfAboBulkRequestInstance/AboBulkRequestInstance/Custom"
userList.ListColumns(4).XPath.SetValue myMap, strXPath
Range("N7").Value = "Custom"
```

Configuring Validation Rules for the Import Process

Validation rules for the import process ensure that the data imported from a template file to the bulk request fields meets certain criteria. An administrator might set up a new validation rule if the administrator creates an new instance type. The available instance types are contact and service. An administrator might change an existing validation rule if the administrator changes the business component name that the rule uses.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To configure a validation rule for the import process

1. Log in to Siebel Tools as an administrator.
2. In the Object Explorer, click Integration Object.
3. In the Integration Objects list, select the ABO Bulk Request Import integration object.
4. Lock this integration object so that you can change it.
5. In Object Explorer, navigate to Integration Object, then Integration Object User Prop.
6. If you change the name of the business component for an existing validation rule, then change the business component name in the Value field of the appropriate ABO BR Validate BC user property for the existing rule.
7. To add a new validation rule:
   a. Add an ABO BR Validate BC # user property, where # is the next available number for a new validation rule.
   b. Enter the applicable business component name in the Value field for the user property.
   c. In Object Explorer, click Business Component.
   d. In the Business Components list, select the business component that you entered in the new validation rule.
   e. Lock this business component so that you can change it.
   f. In Object Explorer, navigate the Business Component, then Business Component User Prop.
   g. In the Business Component User Properties list, add the user properties in the following table to define the details of the validation rule.

User Property	Value
ABO BR Validation Rule #: Criteria	The search specifications used to query the business component. The query must return only one record.
ABO BR Validation Rule #: Error Code	The error code for the error text to append to the following standard message: [Field Name] [Field Value] is not valid.
ABO BR Validation Rule #: Return Field	The field to populate with the ROW_ID of the returned record.
ABO BR Validation Rule #: Validate Fields	The fields in the business component to validate.

8. Compile the objects for your changes into the Siebel Repository File (SRF).
9. Unlock the integration object and the business component.

Configuring Bulk Request Validation to Improve Performance

By default, when Bulk Requests validates records, information from those records is stored in a cache in case the information is needed later. If the number of records to validate is very large, then searching through the cache can degrade performance. In this case, you can improve performance by configuring Bulk Requests to get the validation information by querying the table every time instead of searching the cache.

To store bulk request information in a cache, the following arguments are defined in the Validate method of ABO Bulk Request Validation Service business service:

- **Cache Instance**. Stores bulk request instances in the cache.
- **Cache Action Set**. Stores bulk request action sets in the cache.
- **Cache Action**. Stores bulk request actions in the cache.

To configure Bulk Requests to query the table every time instead of searching the cache, you can reset the values of one or more of these arguments in workflow steps.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To configure bulk request validation to improve performance

1. Log in to Siebel Tools as an administrator.
2. In the Object Explorer, click Revise Workflow.
3. In the Workflow Processes list, select ABO Bulk Request - Validate Process, and click the Validate Bulk Request step.

   The ABO Bulk Request - Validate Process workflow is called when a user clicks the Validate button to validate the bulk request information before submission. In this case, the Validate Bulk Request workflow step validates the bulk request explicitly.

4 In the Validate Bulk Request step, modify or accept the values of the parameters that are listed in the following table.

Parameter	Values
Cache Instance	Accept the default Y to store bulk request instances in the cache. Change the value to N to not store bulk request instances in the cache.
Cache Action Set	Accept the default Y to store bulk request action sets in the cache. Change the value to N to not store bulk request action sets in the cache.
Cache Action	Accept the default Y to store bulk request actions in the cache. Change the value to N to not store bulk request actions in the cache.

You can use any combination of Y and N values for these parameters, and then check the performance results. If the instances, action sets, or actions are unique across the bulk request, then setting these parameters to N can be advantageous. Otherwise, you can use your judgment to store, or not store, each of these types of items in the cache.

5 In the Workflow Processes list, select ABO Bulk Request - Submit Process Workflow, and click the Validate Bulk Request step.

The ABO Bulk Request - Submit Process Workflow is called when a user clicks the Submit button to submit the bulk request for processing. In this case, the Validate Bulk Request workflow step validates the bulk request implicitly during submission.

6 Repeat Step 4 for the ABO Bulk Request - Submit Process Workflow.

NOTE: You can set the parameters to different values in each workflow. For maximum performance advantage, however, it is recommended that you set these parameters to the same values in both workflows.

Suppose, for example, you leave Cache Instance set to Y in the ABO Bulk Request - Validate Process workflow, but reset Cache Instance to N in the ABO Bulk Request - Submit Process Workflow. In this case, some instances are stored in the cache and some are not, depending on which bulk requests are validated explicitly and which ones are not.

7 Save and reactivate the workflows.

For more information about the workflows in this procedure, see "ABO Bulk Request - Validate Process Workflow" on page 261 and "ABO Bulk Request - Submit Process Workflow" on page 263.

Configuring the Import Process

An administrator can configure the import process to:

- Validate the data in the import file.

  By default, the data in the import file is not validated.

- Not allow users to click the name of the template in the File Name field for an action set to access an imported template file.

  By default, users can click the name of the template to access the imported template file. If users import multiple template files for the action sets in a bulk request, then they can access only the template file that was last imported.

- Recognize a new name for the import workflow process that an administrator creates.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To configure the import process

1. Log in to Siebel Tools as an administrator.
2. In the Object Explorer, click Workflow Process.
3. In the Workflow Processes list, select ABO Bulk Request Import Workflow.
4. To validate the data in the import file, configure the process properties for this workflow process:
   a. For the To Validate Flag process property, change the Default String field in the Multi Value Property Window to Y.
   b. For the Log File process property, change the Default String field in the Multi Value Property Window to the path to the import log file.

      For information about changing a process property and about deploying a changed workflow process, see *Siebel Business Process Framework: Workflow Guide*.
5. In the Object Explorer, click Applet.
6. In the Applets list, select ABO Bulk Request List Applet.
7. Select Tools, then Lock Project so that you can change the applet.
8. Navigate to Applet, then Applet User Prop in Object Explorer, and configure the user properties for this applet:
   a. To not allow users to click the name of the template in the File Name field for an action set to access the imported template file, change the Value field to N for the Attach File user property.
   b. To recognize a new name for an import workflow process that you create, change the Value field to the new name of the import workflow process in the Import Workflow user property.
9. Compile the object for your changes into the Siebel Repository File (SRF).
10. Select Tools, then Unlock Project.

Setting Up Bulk Requests on a Mobile Web Client

Some configuration is required for running Bulk Requests on Oracle's Siebel Mobile Web Client.

NOTE: Bulk requests run in synchronous mode when performed from Oracle's Siebel Mobile Web Client.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To set up Bulk Requests on a Mobile Web Client

1. Start Siebel Tools.
2. Query for the ABO Bulk Request Header business component and search for the Named Method 5 user property.
3. In the business component, change the value of the Named Method 5 user property to the following value.

   "Submit", "INVOKESVC", "ABO Bulk Request Header", "Workflow Process Manager", "RunProcess", "'ProcessName'", "'ABO Bulk Request - Submit Process Workflow'", "'Bulk Request Id'", "[Id]", "'Mode'", "[Mode]"

   You can copy this value from the Comments of the user property.
4. Query for the ABO Bulk Request - Submit Process Workflow and search for the Parallel Process Flag.
5. In the workflow, set the Parallel Process Flag to N, if this flag has not been set already.
6. Query for the ABO Bulk Request - Explode Driver Workflow and search for the Asyn Flag.
7. In the workflow, set the Asyn Flag to N, if this flag has not been set already.
8. Compile the SRF file used by your Siebel application.

   For more information about changing the values of objects in Siebel Tools, see the chapter on working with objects in *Using Siebel Tools*.
9. If Asset-Based Ordering has not been enabled, then enable this functionality by performing the following steps.
   a. Open the uagent.cfg/scomm.cfg file.
   b. In the [InfraObjMgr] section of the file, set the following value:

      AssetBasedOrderingEnabled = TRUE

   c. Save and close the scomm.cfg file.
10. Restart your Siebel application.

(Optional) Changing Processing for Action Sets

This procedure can be used for debugging operations such as running bulk requests on a local database or a sample database.

By default, all action sets for a submitted bulk request are processed at the same time (asynchronously). However, a developer can disable this parallel action set processing so that action sets for a submitted bulk request are processed sequentially (synchronously). A developer might disable parallel action set processing if hardware resources are limited.

To change processing for action sets, the administrator changes a process property in a workflow process. Then the administrator deploys the changed workflow process. For information about changing a process property and about deploying a changed workflow process, see *Siebel Business Process Framework: Workflow Guide*.

This task is a step in "Roadmap for Configuring Bulk Requests" on page 147.

To change processing for action sets

1. Log in to Siebel Tools as an administrator.
2. In the Object Explorer, click Revise Workflow.
3. In the Workflow Processes list, select ABO Bulk Request - Submit Process Workflow.
4. For the Parallel Process Flag process property in this workflow process, change the Default String field in the Multi Value Property Window to N to disable parallel processing for action sets or to Y to enable parallel processing of action sets.
5. Redeploy the workflow.

Process of Managing Bulk Requests

To manage bulk requests, perform the following tasks.

1. "Creating a Bulk Request Header" on page 162
2. Enter or import the bulk request details by using one of the following methods:
   - "Adding Bulk Request Data Manually" on page 163
   - "Importing Bulk Request Data from a Template File" on page 173
   - "Creating Bulk Requests with a Target List" on page 174
3. "(Optional) Validating a Bulk Request" on page 177
4. "Submitting a Bulk Request" on page 177
5. "Managing Exception Data in a Bulk Request" on page 179
6. "Viewing a Bulk Quote" on page 181
7. "Viewing a Bulk Order" on page 181

Creating a Bulk Request Header

When you create a bulk request, you first create the bulk request header, which acts as the envelope for the bulk request. To create a bulk request header, follow this procedure.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To create a bulk request header

1. Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 Add a new record, and complete the fields as required.

Some fields are described in the following table

Field	Comments
Request #	Automatically populated with a unique number for the bulk request.
Notify User	User ID of the person to automatically notify through email when this bulk request is submitted for processing. By default, the value of this field is the user ID of the bulk request creator. If any change is required, then the administrator can modify the ABO Bulk Request - Notify User Sub-Process Workflow.
Status	Read only. Processing status of the bulk request. When the bulk request header is first created, the default value is New. This value changes as bulk request processing continues. Other values are described in subsequent procedures.
Request Name	Enter a descriptive name for the bulk request. If this field is blank when you step off the record, then the field is automatically populated with the bulk request number.
Mode	Specify whether to generate a bulk quote or a bulk order. This field appears only in the Bulk Request form below the list.

Adding Bulk Request Data Manually

To add action sets, instances, and actions to a bulk request manually, follow the procedures in this topic.

NOTE: When you copy a bulk request record to create a new bulk request, the action sets, contacts, services, and actions for the original bulk request are copied to the new bulk request, if your company has enabled this functionality by setting the value of the Enable ACR499 BulkRequest system preference to Y.

This process is a step in "Process of Managing Bulk Requests" on page 162.

Adding Action Sets to a Bulk Request

An action set identifies an account for which to run the bulk request. To add action sets to a bulk request, follow this procedure.

NOTE: If you copy an action set to create a new action set, then the instances and actions for the old action set are copied to the new action set.

To add action sets to a bulk request

1 Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 Find a bulk request for which to add action sets, instances, and actions.

3 Click the link in the Request Name field.

The Action Sets view, Users & Actions subview appears. The Bulk Request form appears at the top of the screen. Below the Bulk Request form, lists of action sets, instances, and actions appear.

4 In the Action Sets list, add an action set for the new bulk request and complete the necessary fields.

Some fields are described in the following table.

Field	Description
Sequence	The order in which the action set is processed. The sequence number is automatically generated, and you cannot change this field. By default, action sets for a bulk request are processed asynchronously by available workflow process managers when you submit the bulk request to create a bulk quote or a bulk order. The sequence number is used in processing to pass action sets to available workflow process managers or if you process action sets sequentially (synchronously). For more information about processing action sets synchronously, see "(Optional) Changing Processing for Action Sets" on page 161.
Type	The type of action set. Select one of the following values: ■ **New.** Creates line items with Add actions. Select this value to add products, bundled promotions, or services. An action set, when processed, generates either an order or a quote, depending on the Mode value in the bulk request header. After an order or quote is created, the asset-based ordering cycle must be followed to generate an asset. ■ **Modify.** Changes an existing asset. Select this value to update products and services for an asset, suspend services for an asset, resume services for an asset after suspension, or delete obsolete products and services for an asset. ■ **Upgrade.** Upgrades an asset. Select this value to upgrade existing assets.
Account	The customer account for the action set.
Service Account	The service account for the action set.
Due Date	By default, displays a date that is one week from today. The value in this field populates the Due Date fields of the bulk quote or bulk order that this action set creates.
Active	If you want to bypass the action set when you submit this bulk request for processing, then deselect the check box to set the field to N.

Field	Description
File Name	The name of the template file that was imported to create the action set. This field has a value only if you import bulk request data. For more information about importing bulk request data, see "Importing Bulk Request Data from a Template File" on page 173.
Comment	A description of the action set.
Child Type	The type of instances to associate with this action set. The fields in the Instances list change dynamically with the value selected in this field. Select one of the following values: ■ **Contact ID**. The instances are contacts that are associated with the account specified in the Account field of this action set. The bulk request will act on all assets associated with the contacts in the Instances list. ■ **Service ID**. The instances are services that are associated with the account specified in the Account field of this action set. The bulk request will act on all assets associated with the services in the Instances list. ■ **Agreement ID**. The instances are agreements. The bulk request will act on all assets associated with the agreements in the Instances list. ■ **Network ID**. The instances are networks. The bulk request will act on all assets associated with the networks in the Instances list.
Scope	Identifies the assets that are included in or excluded from the bulk request. Values include the following: ■ **All.** For the account in the action set, include all assets associated with the instances for the account. If you select this value, then you cannot specify individual instances. ■ **Include.** For the account in the action set, select this value to include *only* the assets identified by the instances that you specify in "Adding Instances to a Bulk Request Action Set" on page 166. ■ **Exclude.** For the account in the action set, select this value to include all assets associated with the account *except* for the assets identified by the instances that you specify in "Adding Instances to a Bulk Request Action Set" on page 166. **NOTE:** The scope of assets is governed by the Child Type value. If, for example, the Child Type value is Contact ID, then a Scope value of All means all contacts for the account in the action set.

Field	Description
Status	Read only. Processing status of the action set. Values include the following: ■ **To Process.** Processing is not yet started because the bulk request has not been submitted. ■ **Partially Processed.** Processing is complete, but some of the data in the action set was not processed to create the bulk quote or bulk order. ■ **Processed.** Processing is complete, and all data in the action set was processed to create the bulk quote or bulk order. ■ **Error.** Processing failed because of an error.
Valid	Read only. Validation status of the action set. An action set is evaluated against validation rules when you click Validate or Submit in the Bulk Request form. Values include the following: ■ **Y**. The action set complies with validation rules. ■ **N**. The action set does not comply with validation rules, or the action set has not yet been evaluated against validation rules.

Adding Instances to a Bulk Request Action Set

An instance specifies a contact, asset, network, or agreement to which to apply a bulk request action. To add instances to a bulk request action set, follow this procedure.

To add instances to a bulk request action set

1 In the Action Sets list, select an action set to which you want to add instances.

2 In the Instances list, add the instances that are applicable to the action set by performing one of the steps listed in the following table.

If the Child Type of the action set is...	Then go to...
Contact ID	Step 3
Service ID	Step 4
Agreement ID	Step 5
Network ID	Step 6

3 Add contacts to the action set by completing the following actions.

a Perform one of the following actions:

❑ To add a single contact, click New and, in the new contact record, complete the Email Address field.

- To add a single contact, click New and, in the Email Address field of the new instance, click the select button, select a contact in the Add Contact dialog box, and click OK.

  The fields in the instance are populated from the selected contact record.

- To add multiple contacts, click Add Users, select the contacts in the Add Users dialog box, and click Add Selected.

The Add Users dialog box lists all contacts, and is not constrained to the contacts belonging to the selected account. This is because, when you import a template XML file, your Siebel application is configured to accept all imported contacts to generate instances. When the bulk request is processed or validated, invalid contacts will generate errors and can be removed at that stage.

b. (Optional) To bypass this instance when you submit this bulk request for processing, deselect the check box in the Active field of the instance to set the field to N.

NOTE: If the value of the Active field of the action set is N, then this value supersedes any Y values in the Active fields of instances associated with that action set.

c. Go to Step 7.

4. Add services to the action set by completing the following actions.

a. If the Instances list contains no data, then click New to display the fields in the Instances list relating to services.

b. Perform one of the following actions:

- To add a single service, click New and, in the Service Id field of the new instance, click the select button, select a service in the Add Service dialog box, and click OK.

  The fields in the instance are populated from the selected service record.

  If the value of the Type field in the action set is New, then the select button in the Service Id field is not available. This is because you are creating a new asset, and therefore you cannot select the service ID for an existing asset. In this case, enter a service ID for the new asset manually.

- To add multiple services, click Add Instances, select the services in the Add dialog box, and click Add Selected.

  If the value of the Type field in the action set is New, then the Add Instances button is unavailable. This is because you are creating a new asset, and therefore you cannot select existing assets.

The Add dialog box lists all services, and is not constrained to the services belonging to the selected account. This is because, when you import a template XML file, your Siebel application is configured to accept all imported services to generate instances. When the bulk request is processed or validated, invalid services will generate errors and can be removed at that stage.

c (Optional) To bypass this instance when you submit this bulk request for processing, deselect the check box in the Active field of the instance to set the field to N.

NOTE: If the value of the Active field of the action set is N, then this value supersedes any Y values in the Active fields of instances associated with that action set.

d Go to Step 7.

5 Add agreements to the action set by completing the following actions.

a If the Instances list contains no data, then click New to display the fields in the Instances list relating to agreements.

b Perform one of the following actions:

- To add a single agreement, click New and, in the Agreement Name field of the new instance, click the select button, select an agreement in the Add Agreement dialog box, and click OK.

  The fields in the instance are populated from the selected agreement record.

- To add multiple agreements, click Add Agreements, select the agreements in the Add Agreements dialog box, and click Add Selected.

The Add Agreements dialog box lists all agreements, and is not constrained to the agreements belonging to the selected account. This is because, when you import a template XML file, your Siebel application is configured to accept all imported agreements to generate instances. When the bulk request is processed or validated, invalid agreements will generate errors and can be removed at that stage.

c Go to Step 7.

6 Add networks to the action set by completing the following actions.

a If the Instances list contains no data, then click New to display the fields in the Instances list relating to networks.

b Perform one of the following actions:

- To add a single network, click New and, in the Network field of the new instance, click the select button, select a network in the Add Network dialog box, and click OK.

  The fields in the instance are populated from the selected network record.

- To add multiple networks, click Add Networks, select the networks in the Add Networks dialog box, and click Add Selected.

The Add Networks dialog box lists all networks, and is not constrained to the networks belonging to the selected account. This is because, when you import a template XML file, your Siebel application is configured to accept all imported networks to generate instances. When the bulk request is processed or validated, invalid networks will generate errors and can be removed at that stage.

7 Step off the record to save it.

Adding Actions to a Bulk Request Action Set

An action specifies an operation to perform on the instances associated with a bulk request action set. To add actions to a bulk request action set, follow this procedure.

To add actions to a bulk request action set

1. In the Action Sets list, select an action set to which you want to add actions.
2. In Actions list, add the actions applicable to the action set in the *exact order* in which the actions are to be processed on each product, and select a base product, by performing one of the following actions:
   - To add an action for a single base product, click New and, in the new action record, select a product in the Base Product field.
   - To add actions for multiple base products, click Add Items, enter a quantity for each product in the Pick Products dialog box, click Add to display the added products at the bottom of the dialog box, and click OK to add those products.

     The Add Items button is available *only* if you select New in the Type field of the action set.

3 Continue to fill in the fields of the action record, as required.

Some fields are described in the following table.

Field	Comments
Sequence	The number in the Sequence field records the order in which action records are entered. The Sequence number is automatically generated and read only. **CAUTION:** The Sequence number is significant when you specify more than one action for the same product. For example, because a product must exist before you can update the product, the sequence number for an action that adds a product must be lower than the sequence number for an action that updates an attribute for that product. If you add the actions for a product in an incorrect order, then you must delete those actions and add them again to reorder them.
Action Code	Identifies an action to perform on the assets listed for the associated action set. Values include the following: ■ **Add**. Adds a new product or service for an asset. ■ **Update**. Changes the product or service for an asset. ■ **Suspend**. Suspends the service. ■ **Resume**. Resumes the service after suspension. ■ **Delete**. Disconnects a product or service. ■ **Upgrade**. Upgrades an asset (product or service) or a promotion to a newer or improved version of the asset, or to a different promotion. ■ **Replace**. Replaces an asset (product or service) with a different product or service.

Note the following restrictions on Action Code field value selection:

- When you add a single base product, though you can select any action code, the value in the Type field of the action set determines the valid Action Code values. If you select an invalid Action Code value, then an error (exception) occurs when you submit the bulk request.

  The following table shows the Action Code values that are valid for each action set Type value.

Action Set Type	Valid Action Codes
New	Add, Update **NOTE:** Add must come first. A subsequent Update can update the fields of a base product added by Add.
Modify	Add, Update, Suspend, Resume, Delete, Replace
Upgrade	Upgrade

- When you add multiple base products by using the Add Items button, the Action Code value for each base product is Add, and is read only.

The Action Code value that you select determines the other fields in that action in which you can enter data. In the following table, Yes indicates that you can enter data in the field for the Action Code value, and No indicates that you cannot enter data in the field for the Action Code value.

Action Code	Base Product	Com-ponent Product	Product Path	At-tribute Name	At-tribute Value	Field Name	Field Value	Upgrade Product	Upgrade Promotion
Add	Yes	Yes	Yes	No	No	No	No	No	No
Update	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Suspend	Yes	Yes	Yes	No	No	No	No	No	No
Resume	Yes	Yes	Yes	No	No	No	No	No	No
Delete	Yes	Yes	Yes	No	No	No	No	No	No
Upgrade	Yes	No	No	No	No	No	No	Yes	Yes
Replace	Yes	Yes	Yes	No	No	No	No	No	No

Note the following exceptions for field entries:

- When you click the Add Items button to add multiple base products, the quantity that you selected in the Pick Products dialog box is carried over to the quote or order line items.
- When the action set Type value is Modify, a promotion can be attached to a promotion component. In this case, Field Name is set to Prod Prom Name, and Field Value is set to the name of the promotion.

4 Continue filling in the fields of the action record, as required.

Some fields are described in the following table.

Field	Comments
Component Product	Select a single component product to associate with this action. You can enter a component product if you have selected an Action Code of Add, Update, or Delete, and if the base product or promotion has components. You cannot enter a component product for an Action Code of Upgrade, or for an Action Code of Add if you have used the Add Items button to create the action. To enter multiple component products, go to Step 5.
Product Path	When you select a component product, this field is automatically populated for the component product. This field uses two vertical lines (||) to separate relationships (that is, ports), and two colons (::) to separate instances from the domain from the product model.

Field	Comments
Attribute Name	For an Action Code value of Update, select the applicable attribute name. If you select a component product, then only the attributes applicable to that component product are available for selection. If you do not select a component product, then only the attributes applicable to the base product are available for selection.
Attribute Value	For an Action Code value of Update, enter the applicable attribute value for the selected attribute.
Field Name	For an Action Code value of Update, select the applicable field. If you click the Add Items button to add multiple base products, then this field displays Quantity, and is read only. The available field names are the fields in the ABO Bulk Request Action Field Names business component. You can add new values by modifying this business component.
Field Value	For an Action Code value of Update, enter the applicable field value for the selected field. If you click the Add Items button to add multiple base products, then this field displays the quantity that you select in the Pick Products dialog box, and is read only.
Upgrade Product	Select an upgrade product for an Action Code value of Upgrade.
Active	If you want to bypass this action when you submit this bulk request for processing, then deselect the check box to set the field to N. If the value of the Active field of the action set is N, then this value supersedes any Y values in the Active fields of actions associated with that action set.
Upgrade Promotion	Select a promotion for an Action Code value of Upgrade.

5 To select multiple component products, perform the following steps.

a Click Customize.

Siebel Configurator is launched and a separate configuration window appears.

b In the configuration window, select component products and attributes as you would in customizing a product for a quote or an order.

For more information, see the chapter on creating a quote or sales order in *Siebel Order Management Guide*.

c Click Done.

d In the Action Template, click the Action Sets tab to return to the bulk request.

The Customize button is available for selection for an Action Code value of Add or Upgrade, and if the applicable product has components. If you select an Add action code, then you can specify product components for the base product. If you select an Upgrade action code, then you can specify product components for the upgrade product.

You can also select available attributes and fields when you click the Customize button. The component products, attributes, and fields that you select using the Customize button do not appear in the action record.

If you use the Customize button to select component products, attributes, and fields, then Customize creates a template quote or order in the background. To this template, Customize adds the customizable product along with the configuration lines that you added in Siebel Configurator. You can click the link in the Base Product field to display the Action Template view containing the selected component products, attributes, and fields.

6 Repeat Step 2 through Step 5 for each action in the bulk request.

CAUTION: After customizing products, do *not* change the value in the Mode field of the bulk request header (from Quote to Order or from Order to Quote). Changing this value can cause loss of your customizations or other undesired results.

Importing Bulk Request Data from a Template File

To save time when creating a bulk request, you can import the data from a template XML file to populate the action sets, instances, and actions for the bulk request.

Before you can perform this procedure, an administrator must create one or more import templates. For more information, see "Creating Bulk Import Template Files" on page 149.

To add action sets, instances, and actions to a bulk request by importing an XML template file, follow this procedure.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To import bulk request data from a template file

1 Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 Find a bulk request for which to add action sets, instances, and actions.

3 Click the link in the Request Name field.

The Action Sets view, Users & Actions subview appears. The Bulk Request form appears at the top of the screen. Below the Bulk Request form, lists of action sets, instances, and actions appear.

4 In the Bulk Request form, click Import.

The Import Bulk Request Template dialog box appears.

5 Navigate to the XML file that contains the data to import, select the file, and click Import.

The action set, instances, and actions are populated with the data from the XML template file. One Excel spreadsheet file can have multiple action sets. When you generate the XML template files from the Excel spreadsheet file, one XML template per action set is generated.

About Template File Validation

During the import process, your Siebel application validates the template file, with the following possible results:

- **Invalid**. If the template file is invalid, then an error message appears, and data in the file is not imported into the fields in the bulk request. Correct the file before re-importing it.
- **Partially valid**. If the template file is valid but contains some invalid data, then an error message appears directing you to a file with details about the invalid data.
  - If data is validated, then no data is imported into the appropriate fields in the bulk request, and all of the data is logged to this file.
  - If data is not validated, then valid and invalid data is imported into the appropriate fields in the bulk request. You can correct the invalid data before you submit the bulk request for processing.

  For information about setting up data validation for the import process, see "Configuring the Import Process" on page 159.
- **Valid**. If the template file is valid and contains only valid data, then no error message appears, and the valid data is imported into the appropriate fields in the bulk request.

Creating Bulk Requests with a Target List

You might need to create a bulk request for hundreds or thousands of accounts, contacts, or assets, which will therefore generate hundreds or thousands of quotes or orders. In this case, you can avoid manually associating all the accounts, contacts, or assets individually with the bulk request by associating a target list of accounts, contacts, or assets with a bulk request action set template.

You create a target list for bulk requests from account, contact, or asset records that exist in your Siebel application. The information in the action set template and the associated target list populate the action sets and instances of the bulk request.

This task is a step in "Process of Managing Bulk Requests" on page 162.

Creating Bulk Request Target Lists

Before creating bulk requests with target lists, a marketing manager must prepare one or more target lists from the account, contact, or asset records in your Siebel application.

To create a bulk request target list

- Create and save a target list of contacts, accounts, or assets with the List Management functionality of your Siebel application.

  You can create target lists for bulk requests in the Contacts, Accounts, and Assets views of the List Management screen. For more information about generating target lists, see the chapter on global target list management in *Siebel Applications Administration Guide*. For information about how target lists are used in creating bulk requests, see "Creating Bulk Requests with a Target List" on page 174.

Adding Bulk Request Data from a Target List

To add action sets and instances to a bulk request by associating a list of accounts, contacts, or assets with the bulk request, follow this procedure.

To add bulk request data from a target list

1. Navigate to the Bulk Requests screen, then the Bulk Requests List view.
2. Find a bulk request for which to add action sets, instances, and actions.
3. Click the link in the Request Name field.
4. Click the Action Set Template view tab.
5. In the Action Set Template form, add an action set template and complete the required fields.

   Some fields are described in the following table.

Field	Comments
List Name	Select a List Management list. You can select an Accounts, Contacts, or Assets list here. This list supplies the instances for the action set. For more information about generating a list of instances, see "Creating Bulk Request Target Lists" on page 174.
Type	The type of action set. Values include: ■ **New.** Creates line items with Add actions. Select this value to add products, bundled promotions, or services. ■ **Modify.** Changes an existing asset. Select this value to update products and services for an asset, suspend services for an asset, resume services for an asset after suspension, or disconnect products and services for an asset. ■ **Upgrade.** Upgrades an asset. Select this value to upgrade existing assets.

Field	Comments
Child Type	The type of instances to create when this action set template is exploded. Depending on the content of the associated target list, the following values are available: ■ **Contact ID**. The instances are contacts. The bulk request will act on all assets associated with the contacts in the list. Available if the attached list contains accounts or contacts. ■ **Service ID**. The instances are services. The bulk request will act on all assets associated with the services in the list. Available if the attached list contains assets.
Scope	Identifies the assets that are included in or excluded from the bulk request. Values include the following: ■ **All.** For the accounts in the generated action sets, include all associated assets. This is the only value available for a list of accounts. ■ **Include.** For the accounts in the generated action sets, include *only* the assets associated with the target list items. This value is available only for lists of contacts and assets. ■ **Exclude.** For the accounts in the generated action sets, include all assets *except* for the assets associated with the target list items. This value is available only for lists of contacts and assets.
List Content	Read only. Populated when you select a list.

6 In the Actions list below the Action Set Template form, follow the steps of "Adding Actions to a Bulk Request Action Set" on page 169.

7 To convert the action set template into action sets and instances, in the Action Set Template form, click Explode.

Your Siebel application creates action sets, instances, and actions from the action set template. For more information about the processing performed by Explode, see "About Exploding an Action Set Template" on page 183.

8 Monitor the status of the Explode action by clicking Refresh at intervals and viewing the values displayed in the Status field of the Bulk Request form.

The values of the Status field are described in the following table.

Value	Description
New	Default value when the action set is created and before you initiate the Explode action.
Queued	Awaiting initiation of Explode action.
Exploding	An Explode action has been initiated.

Value	Description
Explode Fault	The Explode action has failed. If an explode action fails, then error messages are logged in the Bulk Requests screen, Exceptions view.
Exploded	The Explode action is complete.

9 To view the action sets and instances generated by exploding the action set template, click the Action Sets view tab.

The action sets appear in the Users & Actions list, and the instances appear in the Instances list.

(Optional) Validating a Bulk Request

When you submit a bulk request, your Siebel application validates the data in the bulk request. You can also check for and correct invalid data before you submit a bulk request.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To validate a bulk request

1 Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 In the Bulk Requests list, select an unsubmitted bulk request that you want to validate.

3 To check for invalid data before you submit the bulk request, click Validate.

For information about correcting invalid bulk request data, see "Managing Exception Data in a Bulk Request" on page 179.

Submitting a Bulk Request

You submit a bulk request to automatically generate bulk quotes or orders. Each action set in a bulk request generates one bulk quote or order, unless an exception occurs. The contacts, services, and actions in the action set determine the line items in the bulk quote or order.

The processing that generates bulk quotes or orders for the bulk request can take a significant amount of time. Before this processing is complete, you can cancel the submitted bulk request. When you cancel the request, only some of the data in the bulk request is included in the generated bulk quotes or orders. You can resubmit the bulk request later to include the unprocessed data in the bulk quotes or orders. For more information, see "Configuring Cancellation Processing" on page 148.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To submit a bulk request

1 Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 Select the bulk request record from the list.

3 (Optional) If you want to check for and correct invalid data before you submit the bulk request, then click Validate.

4 Click Submit.

Your Siebel application validates the bulk request data and begins generating the bulk quotes or orders. Your Siebel application performs the following specific actions:

- Sets the bulk request Status field to Queued.
- Submits the bulk request asynchronously to the request queue.
- Validates the bulk request data.

  For information about correcting invalid bulk request data, see "Managing Exception Data in a Bulk Request" on page 179.

- Generates the bulk quotes or orders by performing the following steps:
  - Processes the bulk request action sets.
  - For each action set, processes the instances and the actions for each instance.

  NOTE: Bulk requests do not use the eCfg API to create child items or to modify attributes. In a bulk request, you can define actions for background processing as you can in Siebel Configurator. However, Siebel Configurator runs product scripts that are part of the product description, while bulk ordering does not. Only the validation step at the end of the bulk request process runs Cfg_InstInitialize.

- Updates the bulk request Status field.
- Notifies the user specified in the bulk request Notify User field.

5 To update the Status field to the current status of the submission, click Refresh.

The value in the Status field of the bulk request changes from New to the status of the submission. The possible statuses of the submission while it is processing are described in the following table.

Status	Comments
Queued	Processing has not yet started.
Processing	The bulk request is being processed to create quotes or orders.
Partially Complete	Processing is complete, but some data was not processed.
Complete	Processing is complete, and all the data was processed.

When processing is finished, the user with the ID in the Notify User field of the bulk request is sent an email message about the success of failure of the bulk request submission, and about any invalid data in the bulk request.

6 (Optional) To stop the bulk request processing before it is complete, perform the following steps:

a click Cancel Request.

After you cancel a bulk request, the Status field of the bulk request can have one of the values described in the following table.

Status	Comments
Cancel Pending	The cancellation is not complete.
Canceled	The bulk request is canceled.

b To update the Status field to the current status of the cancellation, click Refresh.

7 If the bulk request is for a bulk order, then click Submit Order.

The orders created by this bulk request are submitted to fulfillment. The Status values of the orders change from Pending to Open.

Managing Exception Data in a Bulk Request

The valid data in an action set of a submitted bulk request generates a bulk quote or order. If a submitted bulk request contains invalid data, then the invalid data is not included in the generated bulk quotes or orders. You can correct this invalid data, and then resubmit the bulk request to include the corrected data in the bulk quotes or orders. Alternatively, you can exclude the data in the bulk request from the bulk quote or order.

Invalid data items in a bulk request are captured as exception records. An exception record corresponds to an action set, an instance, or an action in a bulk request that failed validation. For each exception record, you can correct the data in the bulk request and include that data in the bulk quote or order, or you can exclude the data in the bulk request from the bulk quote or order.

When you include or exclude the exception data in a bulk request, the exception record is assigned a clear date, indicating when the exception record was reviewed. Exception records are not deleted and continue to appear. An exception record with a clear date indicates that the exception was reviewed, while an exception record with no clear date indicates that the record was not reviewed.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To manage exception data in a bulk request

1 Navigate to the Bulk Requests screen, then the Bulk Requests List view.

2 In the Bulk Requests list, click the Request Name field for the bulk request.

The Bulk Request form appears. Below this form, sections for action sets, instances, and actions appear.

3 Click the Exceptions link in the Action Sets view, and select an action set.

Information about invalid data for the action set appears in the Exceptions list below the Action Set list.

NOTE: Alternatively, if your user ID is in the Notify User field of the bulk request, then you can review email messages about invalid data that are automatically sent to you when the bulk request is submitted.

4 In the Exceptions list, review the description of the invalid data in the Exception field.

5 Proceed to one of the steps listed in the following table.

If you want to...	Then go to...
Exclude the bulk request data in an exception record	Step 6
Include the bulk request data in an exception record	Step 7

6 To exclude from the bulk quote or order the bulk request data that corresponds to an exception record, perform the following steps.

a Select the exception record.

b Click Clear to acknowledge that the exception has been reviewed.

The Clear Date field for the exception record is time-stamped with the current date.

c Go to Step 8.

7 To include in the bulk quote or order the bulk request data that corresponds to an exception record, perform the following steps.

a Select the exception record.

b Click Reset to acknowledge that the exception has been reviewed, and to reset the status so that the instance will be reprocessed upon resubmission of the bulk request.

The Clear Date field for the exception record is time-stamped with the current date.

c Correct the invalid data in the bulk request, and then revalidate or resubmit the bulk request.

8 Click Validate or Submit to revalidate or resubmit the bulk request.

Resubmitting a bulk request processes only those action sets, instances, and actions with a Status value of To Process or Partial Processed. When you resubmit the bulk request, a new bulk quote or bulk order is generated for each action set. If the corrected data is still invalid, then another exception record appears. If the corrected data is valid, then the data is included in the bulk quote or order.

If you click Validate or Submit from the Action Sets view when you revalidate or resubmit a bulk request, then you must click Refresh to see the invalid data. After you click Validate or Submit, the action set, contact, service, and action records that will be included in the bulk quotes or orders have a Y in the Valid field.

Viewing a Bulk Quote

When you submit a bulk request for quotes, you create bulk quotes for that bulk request. You can view a list of the bulk quotes generated by a bulk request.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To view a bulk quote

1. Navigate to the Bulk Requests screen, then the Bulk Requests List view.
2. In the Bulk Requests list, click the Request Name field for the bulk request.

   The Bulk Request form appears. Below this form, sections for action sets, instances, and actions appear.
3. Click the Quotes link in the Action Sets view, and select an action set.

   The quote that is created for that action set appears in the Quotes list below the Action Set list.
4. Click the Quote Number field to view details about the bulk quote, including line items and attributes of line items.

Viewing a Bulk Order

When you submit a bulk request for orders, you create bulk orders for that bulk request. You can view a list of the bulk orders generated by a bulk request. If you use asset-based ordering, then these bulk orders are used to create and modify the assets that are associated with the products and services provided to customers.

For information about the processing logic that applies to the creation of bulk orders, see "About Bulk Request Processing Logic" on page 182. For information about how orders generate assets, see the information about asset-based ordering in *Siebel Order Management Guide*.

This task is a step in "Process of Managing Bulk Requests" on page 162.

To view a bulk order

1. Navigate to the Bulk Requests screen, then the Bulk Requests List view.
2. In the Bulk Requests list, click the Request Name field for the bulk request.

   The Bulk Request form appears. Below this form, sections for action sets, instances, and actions appear.
3. Click the Orders link in the Action Sets view, and select an action set.

   The order that is created for that action set appears in the Orders list below the Action Set list.
4. Click the Order Number field to view details about the bulk order, including line items and attributes of line items.

About Bulk Request Processing

This topic describes how Siebel Order Management for Industry Applications processes bulk requests. This topic contains the following topics:

- About Bulk Request Processing Logic on page 182
- About Exploding an Action Set Template on page 183
- About Exception Data in Bulk Requests on page 185

About Bulk Request Processing Logic

This topic describes the effects of Siebel Order Management for Industry Applications processing logic on bulk quotes or bulk orders generated by bulk requests.

Before creating bulk quotes or bulk orders for a bulk request, the processing logic recognizes any open quotes or orders for the base products in that bulk request.

For example, if an open quote or order exists to add a component for a customer, and if you delete that component for that customer in the bulk request, then the processing logic recognizes the component as a customer asset before creating the bulk quote or bulk order. The resulting bulk quote or bulk order includes a line item to delete that component. This follow-on quote or order is a change to the asset before the asset is fulfilled.

Also, for example, if an open order exists to disconnect an asset for a customer, and if you update that asset in the bulk request, then a run-time error occurs. This is because you cannot update an asset that will be disconnected.

A bulk quote or bulk order can include a complex line item for a base product in the bulk request. Complex line items contain additional line items for the actions and component products applicable to the base product. Identical action codes and component products for a base product in a bulk request are combined into a single line item in the bulk quote or bulk order.

Unspecified Line Items in a Bulk Quote or Order

A bulk quote or bulk order can include component line items that you do not specify in the bulk request under any of the following circumstances:

- **Exclude constraint**. In the bulk request, you select a component with an exclude constraint. For example, if a customer wants component A, then the customer cannot also have component B. If you add component A to a bulk request for a customer who currently has component B, then the resulting bulk quote or bulk order automatically includes a line item to delete component B, even though you do not delete component B in the bulk request for the customer.

  CAUTION: If you delete the BatchValidate step in the ABO Bulk Request - Add Sub-Process Workflow or the ABO Bulk Request - Modify Sub-Process Workflow, then the exclude constraint has no effect. Consequently, in this example, the resulting bulk quote or bulk order does not automatically include a line to delete component B. Additionally, deleting the BatchValidate step can result in incorrect and inconsistent quotes or orders, because no rule of the iLog engine is applied to the quotes or orders.

  Bulk requests do not use the eCfg API to create child items or to modify attributes. In a bulk request, you can define actions for background processing as you can in Siebel Configurator. However, Siebel Configurator runs product scripts that are part of the product description, while bulk ordering does not. Only the validation step at the end of the bulk request process runs Cfg_InstInitialize.

- **Require constraint**. In the bulk request, you select a component with a require constraint. For example, if a customer wants component A, then the customer must also have component B. If you add component A to a bulk request for a customer who does not currently have component B, then the resulting bulk quote or bulk order automatically includes a line item to add component B, even though you do not add component B in the bulk request for the customer.

  CAUTION: If you delete the BatchValidate step in the ABO Bulk Request - Add Sub-Process Workflow or the ABO Bulk Request - Modify Sub-Process Workflow, then the require constraint has no effect. Consequently, in this example, the resulting bulk quote or bulk order does not automatically include a line to add component B.

- **Parent component**. In the bulk request, you select a component with a parent component. For example, component B is the parent component of component A. If you add component A to a bulk request, then the resulting bulk quote or bulk order automatically includes a line item for component B, even though you do not select component B in the bulk request. However, the line item for component B has no action code in the bulk quote or bulk order.

- **Default component**. In the bulk request, you select a base product with a default component. For example component B is a default component of base product A. If you add base product A to a bulk request, then the resulting bulk quote or bulk order automatically includes a line item for component B, even though you do not select component B in the bulk request. However, the line item for component B has no action code in the bulk quote or bulk order.

About Exploding an Action Set Template

When you click the Explode button in the Action Set Template view, then depending on the records in the attached list, the action value in the Type field, and the value in the List Content field, Explode performs the actions described in this topic.

Explode Action for a List of Accounts

When you attach a list of accounts, Explode performs the actions described in Table 17.

Table 17. Effects of Exploding an Accounts List

Action Type	Explode Actions
New	Creates an action set for each account in the list. Associates the actions specified in the Action Set Template view, Actions list with each action set.
Modify	For each account that has a product defined in the Action Set Template view, Actions list, creates a Modify action set. Associates the instances in the list with action sets. Associates the actions defined in the template with the action sets.
Upgrade	For each account that has a product defined in the Action Set Template view, Actions list, creates an Upgrade action set. Associates the instances with the action sets. Associates the actions defined in the template with the action sets.

Explode Action for a List of Contacts

When you attach a list of contacts, Explode performs the actions described in Table 18.

Table 18. Effects of Exploding a Contacts List

Action Type	Explode Actions
New	Creates one Add action set for each distinct account associated with one or more of the contacts in the list. Associates the actions specified in the Action Set Template view, Actions list with each action set. Adds the contacts specific to each account in the Instances list.
Modify	Creates one Modify action set for each distinct account associated with one or more of the contacts in the list. Associates the actions specified in the Action Set Template view, Actions list with each action set. Adds the contacts specific to each account in the Instances list.
Upgrade	Creates one Upgrade action set for each distinct account associated with one or more of the contacts in the list. Associates the actions specified in the Action Set Template view, Actions list with each action set. Adds the contacts specific to each account in the Instances list.

Explode Action for a List of Assets

When you attach a list of assets, Explode performs the actions described in Table 19.

Table 19. Effects of Exploding an Assets List

Action Type	Explode Actions
New	Not a valid combination.
Modify	Creates an action set for each owner account on the asset. Associates instances (assets) with the action sets. Associates the actions specified in the Action Set Template view, Actions list with each action set.
Upgrade	Creates an action set for each owner account on the asset. Associates instances (assets) with the action sets. Associates the actions specified in the Action Set Template view, Actions list with each action set.

About Exception Data in Bulk Requests

The bulk request functionality evaluates the validity of the action sets, instances, and actions. The bulk request functionality also enforces eligibility and compatibility rules. Violations are shown in the Bulk Requests screen, Exceptions view. If errors occur during an Explode action, then these errors are also logged in the Bulk Requests screen, Exceptions view. For more information about the Exceptions view, see "Managing Exception Data in a Bulk Request" on page 179.

Action Set Exception Types

Some exceptions that can occur in bulk request processing of action sets are as follows:

- The service account associated with the action set is not valid.
- The service account is not a child of the customer account.

If an action set fails validation, then the associated instances and actions are not evaluated.

Instance Exception Types

Some exceptions that can occur in bulk request processing of instances are as follows:

- The contact does not exist.
- The contact is not associated with the customer account or the service account specified in the action set.
- The asset does not exist.
- The configuration of the asset violates product definition constraints.
- An unprocessed order exists to disconnect the asset.

Action Exception Types

Some exceptions that can occur in bulk request processing of actions are as follows:

- The component to be deleted or updated does not exist in the asset.
- The value of the Attribute Name to update is not valid.

Eligibility and Compatibility in Bulk Requests

Your Siebel application enforces eligibility and compatibility rules for bulk requests. An eligibility check is performed when a user selects a product. Eligibility and compatibility checks are run when a user submits the bulk request.

In the Action Sets view, Actions list, the bulk request functionality evaluates eligibility in the Base Product and Upgrade Product fields in pre-pick mode. Consequently, only eligible products are available for selection in those fields. Child component eligibility is evaluated when the bulk request is submitted. Likewise, compatibility is evaluated when the bulk request is submitted. However, no eligibility or compatibility checks occur in the Action Set Template view, Actions list.

The levels of eligibility and compatibility enforcement are as follows:

0. No eligibility or compatibility checks occur.

1. Creation of quotes and orders with ineligible products is allowed. Eligibility comments are displayed as exception records. Additionally, eligibility and compatibility messages and status values are carried over to the bulk request-generated quotes and orders.

2. Creation of quotes, orders, quote line items, and order line items is only allowed for eligible products. Ineligible items are removed from the bulk requests. If none of the added products meet eligibility and compatibility rules, then an exception is generated and the bulk request is not completed.

You can set the enforcement level in the Eligibility Display Mode parameter. For more information, see the chapter on eligibility and compatibility in *Siebel Product Administration Guide*.

About Controlling Eligibility and Compatibility Calls

You can control the eligibility and compatibility calls by setting the properties shown in Table 20 in the respective Synchronize steps of the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow and the ABO Bulk Request - Inclusive Process Action Sub-Process Workflow.

Table 20. Eligibility and Compatibility Call Controls

Property	Comments
WriteECException	If set to Y, then eligibility comments are written to the Exception table.
CheckEligibility	If set to Y, then eligibility and compatibility rules are called.
CheckEligOncePerActnSet	If set to Y, then eligibility and compatibility rules are triggered only once for each action set.

Process of Managing Prepaid Services

Customers of telecommunications companies often pay for a service before actually using that service. Subsequently, the prepaid balance in the customer account is automatically decreased as the customer uses the service. Periodically, the customer replenishes the account balance to ensure uninterrupted service. A prepaid service is sometimes referred to as pay-as-you-go service. Customers might want to prepay for service because they use the service sporadically or because they want to avoid entering into a long term contractual relationship with the company.

To manage prepaid services, perform the following tasks:

- "Designating Prepaid Services for Products and Promotions" on page 187
- "Setting Up a Billing Profile for Prepaid Services" on page 188
- "Topping Up a Balance for an Installed Asset" on page 189
- "Viewing Prepaid Transaction Details" on page 191

Designating Prepaid Services for Products and Promotions

To set up prepaid services, administrators must designate the products and the product promotions to which prepaid services apply. When a user manages prepaid services, the user can view only the installed assets that are associated with the products and product promotions to which prepaid services apply.

This task is a step in "Process of Managing Prepaid Services" on page 187.

To designate prepaid services for products

1. Navigate to the Administration - Product screen.
2. In the Products list, select the product for which you want to designate a prepaid service.

   The form for the Detail view of the product appears below the Products list.
3. In the form, change the Payment Type field to Prepaid.

You can also designate prepaid services for product promotions.

To designate prepaid services for product promotions

1. Navigate to the Administration - Product screen.
2. In the link bar, click Product Promotions.
3. In the Product Promotions list, select the promotion for which you want to designate a prepaid service.

   The form for the More Info view of the product promotion appears below the Product Promotions list.

4 In the form, change the Payment Type field to Prepaid.

Setting Up a Billing Profile for Prepaid Services

To set up prepaid services, a user must set up the customer billing profile for prepaid services.

This task is a step in "Process of Managing Prepaid Services" on page 187.

To set up a billing profile for prepaid services

1 Navigate to the Accounts screen, then the Accounts List view.

2 In the Accounts list, click the Name field for the account.

3 Click the Profiles view tab.

4 In the link bar of the Profiles view, click Billing Profile.

The Billing Profile list appears.

Alternatively, you can display the Billing Profile list if you navigate to the Billing Data Administration screen, then the Profiles view, select an account in the Billing Accounts list, and click the Billing Profile view tab.

5 Select an existing profile or create a new billing profile:

a Select Prepaid in the Payment Type field.

b Select the Auto Top-Up check box to indicate that the account is automatically replenished when the account balance decreases to a threshold amount that you specify.

6 Enter replenishment details for the account in the Top-Up Preference form that appears below the Billing Profile list. Some fields are described in the following table.

Field	Description
Top-Up Amount	When the account is replenished, the amount by which to replenish the account.
U/M	The unit of measurement for the top-up amount (for example, minutes or currency).
Threshold Amount	When the account balance decreases to this amount, the account is replenished.
Threshold UOM	The unit of measurement for the threshold amount (for example, minutes or currency).

Field	Description
SMS Notification	Check this box to notify the contact for the account when the account is replenished.
Frequency	The interval in which a billing application automatically reviews the threshold amount to determine whether the account balance must be replenished. The billing application performs the replenishment. If you select the Auto Top-Up check box in Step 5, then this field value has no effect because the account is automatically replenished when the account balance decreases to the threshold amount.

Topping Up a Balance for an Installed Asset

By creating a top-up request, a user can add currency and usage units (for example, phone minutes) to the balance that is associated with an installed asset. When a user creates a top-up request, the user selects a top-up method, such as Credit Card, Automatic Debit, Complimentary, Voucher, or Promotion.

To top up the currency balance for an installed asset, the customer frequently prepays for services with a credit or debit card. In this scenario, the user selects a top-up method of Credit Card or Automatic Debit. The user can select a method of Complimentary, Voucher, or Promotion to top up either the currency balance or the usage unit balance for an installed asset.

This task is a step in "Process of Managing Prepaid Services" on page 187.

To top up the balance for an installed asset

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts list, click the Name field for the account.
3. Click the Account Summary - Prepaid view tab.
4. In the Installed Assets list, select the asset for which you want to top up the balance.

   NOTE: The assets that can appear on this list are those assets that are associated with products to which prepaid services apply. For more information, see "Designating Prepaid Services for Products and Promotions" on page 187.

5. In the Top-Up Requests list, click New to create a top-up request.

   The Prepaid Service Popup Form Applet appears.

   Alternatively, you can display the Prepaid Service Popup Form Applet if you navigate to the Assets screen, click List in the link bar, click the Asset # field for the asset for which you want to top up the balance, click the Top-Up Requests view tab, and click New to create a top-up request.

6 Enter data in the form fields. Some fields are described in the following table.

Field	Description
Method	The means by which to top up the balance for the installed asset. The method that you select determines the additional fields in which you can enter data. Values include: ■ **Complimentary.** Use this method to provide a complimentary top-up amount to the customer. If you select this method, then you cannot enter a value in the Promotion Code field, the Voucher No field, the Credit Card Information fields, and the Automatic Debit Card Information fields. ■ **Voucher.** Use this method if a voucher allows for the top-up amount. If you select this method, then you can enter a value in the Voucher No field, but you cannot enter a value in the Promotion Code field, the Credit Card Information fields, and the Automatic Debit Card Information fields. After you enter a value in the Voucher No field, click Validate Voucher to populate the Amount field with the amount for the voucher number. ■ **Promotion.** Use this method if a company promotion allows for the top-up amount. If you select this method, then you can enter a value in the Promotion Code field, but you cannot enter a value in the Voucher No field, the Credit Card Information fields, and the Automatic Debit Card Information fields. ■ **Credit Card.** Use this method if the customer pays the top-up amount with a credit card. If you select this method, then you can enter a value in the Credit Card Information fields, but you cannot enter a value in the Promotion Code field, the Voucher No field, and the Automatic Debit Card Information fields. ■ **Automatic Debit.** Use this method if the customer pays the top-up amount with a debit card. If you select this method, then you can enter a value in the Automatic Debit Card Information fields, but you cannot enter a value in the Promotion Code field, the Voucher No field, and the Card Information fields.
Status	The status of the top-up request. Values include: ■ **New.** The top-up request is not yet submitted to the billing application. ■ **Submitted.** The top-up request is submitted to the billing application. ■ **Rejected.** The billing application rejected the amount of the top-up request. ■ **Completed.** The billing application accepted the amount of the top-up request.
U/M	The unit of measurement for the top-up amount (for example, minutes or currency).
Amount	The top-up amount.

7 Click Submit to submit the top-up request to the billing application.

The top-up request appears in the Top-Up Requests list.

Viewing Prepaid Transaction Details

A user might have a prepaid account. For billing accounts, a user can view prepaid account details including recent top-up requests, balances, and usage activities.

When viewing prepaid account details, the user must click the Refresh button to retrieve up-to-date data from the billing application.

This task is a step in "Process of Managing Prepaid Services" on page 187.

To view balance and usage activity

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts list, click the Name field for the account.
3. Click the Account Summary - Prepaid view tab.
4. In the Installed Assets list, select the asset for which you want to view prepaid account details:
   - To view top-up request activity, click Refresh in the Top-Up Requests list.

     Alternatively, to view top-up request activity, you can navigate to the Assets screen, click List in the link bar, click the Asset # field for the asset for which you want to view top-up requests, and click the Top-Up Requests view tab.
   - To view currency balances, click Refresh in the Current Balance area of the screen.
   - To view usage activity, click Refresh in the Usage list.

Process of Configuring Prepaid Services

Data from a billing application appears in the Siebel application in applets for top-up requests, current account balances, and usage activity for an account. To retrieve this data from the billing application, administrators perform the following tasks:

1. "Creating Outbound Web Services" on page 191
2. "Configuring Virtual Business Components" on page 192
3. "Importing Outbound Web Services into the Siebel Application" on page 194

Creating Outbound Web Services

To retrieve data from a billing application, the administrator must create WSDL files in the billing application. Then, the administrator uses these WSDL files to create outbound Web services. Each outbound Web service contains an outbound proxy business service and a Web service administration document (an XML file) that holds run-time data about the Web service for the billing application.

For more information about Web services, see *Siebel CRM Web Services Reference*.

This task is a step in "Process of Configuring Prepaid Services" on page 191.

To create an outbound Web service

1. Perform the following tasks in the billing application:
   a. Identify the request and response integration objects.
   b. Create XSD files for these integration objects.
   c. Use the XSD files to create WSDL files.
2. Log in to Siebel Tools as an administrator.
3. In the Object Explorer, click Project, and create a new project.

   Optionally, you can use the Prepaid Service 8.1 project.
4. Lock the project so that you can change it.
5. Select File, then New Object... to display the New Object Wizards.
6. Select the EAI tab, and then double-click Web Service.

   The WSDL Import Wizard appears. Do the following:
   a. Select your project.
   b. Specify the WSDL document that contains the Web service or Web service definition to import.
   c. Specify the file that will store the run-time data extracted from the WSDL document, or accept the default.
   d. Specify the log file that will store the errors, warnings, and other information for the import process, or accept the default.
   e. Click Next to view and verify your import information.
   f. Click Finish to complete the process of importing the business service into the Siebel repository.
7. After you create all of the proxy business services, compile the proxy business services into the Siebel Repository File, Siebel_sia.srf.
8. Unlock your project.

Configuring Virtual Business Components

After the administrator creates the proxy business services, the administrator enters the data in these proxy business services into the virtual business components that retrieve and display data from the billing application. For information about creating proxy business services, see “Creating Outbound Web Services” on page 191.

The administrator configures the following virtual business components:

- Prepaid Service - All Activities
- Prepaid Service - Current Balance
- Prepaid Service - Top Up Request
- Prepaid Service - Top Up Request Popup

- Prepaid Service - Top Up Request (Assets)

This task is a step in "Process of Configuring Prepaid Services" on page 191.

To configure the virtual business components

1. Log in to Siebel Tools as an administrator.
2. For each proxy business service that you create:
   a. In the Object Explorer, navigate to Business Service, select the proxy business service, and note the name for the proxy business service.
   b. In the Object Explorer, navigate to Business Service, then Business Service Method, and note the method name for the proxy business service.
   c. In the Object Explorer, navigate to Business Service, then Business Service Method, then Business Service Method Arg, and note the name of the input and output argument for the method for the proxy business service.

      The input and output arguments have a value of Integration Object in the Data Type field. The input argument name is the request type, and the output argument name is the response type.
3. For each Prepaid Service virtual business component:
   a. In Object Explorer, navigate to Business Component, select a Prepaid Service virtual business component.
   b. Lock the business component so that you can change it.
   c. In Object Explorer, navigate to Business Component, then Business Component User Prop, and configure the following user properties:
      - For the Proxy BS Name user property and the Proxy BS Name: Validate user property, enter in the Value field the business service name that you noted in Step 2.
      - For the Proxy BS Method user property and the Proxy BS Method: Validate user property, enter in the Value field the method name that you noted in Step 2.
      - For the Proxy BS Param: Request Message Type user property and the Proxy BS Param: Request Message Type: Validate user property, enter in the Value field the input argument name that you noted in Step 2.
      - For the Proxy BS Param: Response Message Type user property and the Proxy BS Param: Response Message Type: Validate user property, enter in the Value field the output argument name that you noted in Step 2.
   d. Compile the Prepaid Service virtual business components for your changes into the Siebel Repository File, Siebel_sia.srf.
   e. Unlock the business component.

Importing Outbound Web Services into the Siebel Application

When the administrator creates the an outbound Web service, a Web service administration document (an XML file) that contains run-time data about the Web service for the billing application is created. The administrator must import this Web service administration document into the run-time database for the Siebel application.

For information about creating outbound Web services, see "Creating Outbound Web Services" on page 191. For more information about Web services, see *Siebel CRM Web Services Reference*.

This task is a step in "Process of Configuring Prepaid Services" on page 191.

To import Web Outbound Services into the Siebel application

1. Restart the Siebel Server with the recompiled version of the SRF that includes the new objects that you create using the WSDL Import Wizard.
2. Navigate to the Administration - Web Services screen, then the Outbound Web Services view.
3. For each Web service administration document:
   a. In the Outbound Web Services list applet, click Import.

      The EAI Web Service Import dialog box appears.

   b. Specify the Web service administration document that you created using the Web Services Import Wizard.

   c. Click Import to import the Web service definition into the run-time database.

Adding Special Rating Items to a Quote or Order

Siebel Order Management for Industry Applications supports a friends and family feature that allows your customers to have unlimited calling to the numbers they identify. A *special rating product* is a product record that defines a friends and family plan and its characteristics. A *special rating list* specifies the phone numbers of the designated family and friends plan members.

You can add special a special rating product to a quote or sales order, and associate a special rating list with that product. When you associate a special rating list with a special rating product in a sales order, you set up the friends and family plan specified in the product for the phone numbers on the list.

To add special rating items to a quote or sales order, perform the following tasks:

- "Adding Special Rating Items to a Quote" on page 195
- "Adding Special Rating Items to a Sales Order" on page 195

NOTE: Before performing these procedures, you must create special rating products and special rating lists. For more information about creating special rating products and special rating lists, see the chapter on profiles in *Siebel Communications Guide*.

Adding Special Rating Items to a Quote

To add a special rating product and a special rating list to a quote, follow this procedure.

To add special rating items to a quote

1. Follow the steps for creating a quote as described in the chapter on creating a quote or sales order in *Siebel Order Management Guide*.
2. Associate the appropriate service account with the quote.
3. In the Line Items list, add a special rating product to the quote as a line item.
4. Assign a special rating list to the special rating product by making a selection in the Special Rating List field of the special rating product line item.

   NOTE: You can create a new special rating list in the pick list of the Special Rating List field by clicking the New button. You can then add special rating items to the new special rating list by drilling down on the Special Rating List field of the order line item. For more information about creating a special rating list, see the chapter on profiles in *Siebel Communications Guide*.
5. In the quote, make sure the following conditions apply:
   - If a service bundle includes a component product with its Billing Type set to Special Rating, then at least one other component product must have its Billing Type set to Subscription.
   - A special rating product has a Billing Service Type of null. Hence, all components with a Billing Type of Special Rating must have the same Billing Service Type (that is, null).
   - For each special rating product, the number of items in its associated special rating list must not exceed the maximum list items defined in the special rating product.
6. In the quote form, click Verify.

   Siebel CRM verifies the accuracy of the special rating product in the context of the service bundle.
7. After confirming the accuracy of the quote, you can click Auto Order to convert the quote to an order.

Adding Special Rating Items to a Sales Order

To add a special rating product and a special rating list to a sales order, follow this procedure.

To add special rating items to a sales order

1. Follow the steps for creating an order as described in the chapter on creating a quote or sales order in *Siebel Order Management Guide*.
2. Associate the appropriate service account with the sales order.
3. In the Line Items list, add a special rating product to the order as a line item.

4 Assign a special rating list to the special rating product by making a selection in the Special Rating List field of the special rating product line item.

NOTE: You can create a new special rating list in the Special Rating List field pick list by clicking the New button. You can then add special rating items to the new special rating list by drilling down on the Special Rating List field of the order line item. For more information about creating a special rating list, see the chapter on profiles in *Siebel Communications Guide*.

5 In the order, make sure the following conditions apply:

- If a service bundle includes a component product with its Billing Type set to Special Rating, then at least one other component product must have its Billing Type set to Subscription.
- A special rating product has a Billing Service Type of null. Hence, all components with a Billing Type of Special Rating must have the same Billing Service Type (that is, null).
- For each special rating product, the number of items in its associated special rating list must not exceed the maximum list items defined in the special rating product.

6 In the order form, click Menu and choose Verify.

Siebel CRM verifies the accuracy of the special rating product in the context of the service bundle.

7 After confirming the accuracy of the order, click Submit to process the order.

When the special rating product line item is completed and provided with an auto-asset, Siebel CRM associates the special rating product with the asset. The Special Rating List Id field of the asset is populated by the ID of the associated special rating list.

About Managing Order Fallout

Order fallout refers to orders that could not be fulfilled and failed to go through the billing or provisioning process. Alternatively, such an order might be referenced as an *order failure*. The Order Fallout Management functionality of Siebel CRM applies only to orders that fail *after* the order is submitted by Siebel CRM to external applications such as billing or provisioning systems. (Within the Siebel CRM order capture process, any issue with an In Progress order is captured and managed internally by Siebel CRM.) The Order Fallout Management functionality of Siebel CRM supplies a Web service to create trouble tickets for orders that fail in the external systems, and a view that displays order failure information.

Order fallout management is composed of the following phases:

Detection. An order is identified as a fallout order. The order is marked and information about the order is captured in a repository.

Notification. Individuals or systems in charge of correcting, reprocessing, or resubmitting the fallout orders are notified.

Correction. Corrective measures are taken automatically or manually. Fallout orders can also be discarded. A fallout order might be discarded because a corrected order was already resubmitted, because the user is expected to submit a new order, or because of other reasons.

Resubmission. After correction, the order is resubmitted. The process of resubmitting the order can start at the point of failure, at the beginning of the flow, or at an intermediate checkpoint.

The Correction and Resubmission phases are often identified collectively as **Recovery**.

In an integrated order management and fulfillment system, orders might fail in multiple places, such as the following:

- Fulfillment systems (such as Oracle Communications Billing and Revenue Management, and provisioning applications) processing an order component
- Order Lifecycle Management system (OSM Fulfillment)
- Oracle Application Integration Architecture services
- FMW infrastructures

In an integrated order management and fulfillment system, orders can fail for numerous reasons, as listed in Table 21.

Table 21. Reasons for Order Failure

Reason	Description	Comments
Oracle Application Integration Architecture services error	Validation, transformation, and other errors occur in Oracle Application Integration Architecture services.	Generates an Oracle Application Integration Architecture fault message. Also generates an order failure notification, which is delivered by Oracle Application Integration Architecture to the Order Fallout Management system of Siebel CRM.
Infrastructure error in FMW	Errors related to delivery are not included, because guarantee of delivery is supported by the FMW infrastructure.	Generates an Oracle Application Integration Architecture fault message. Also generates an order failure notification, which is delivered by Oracle Application Integration Architecture to the Order Fallout Management system of Siebel CRM.
Data error from a fulfillment system	Missing or incorrect data is detected during initial validation by an external fulfillment system.	Generates an Oracle Application Integration Architecture fault message. Also generates an order failure notification, which is delivered by Oracle Application Integration Architecture to the Order Fallout Management system of Siebel CRM.

Table 21. Reasons for Order Failure

Reason	Description	Comments
Processing error from a fulfillment system	The order component is accepted by an external fulfillment system, but the fulfillment system is not able to process the order.	Generates an Oracle Application Integration Architecture fault message. Also generates an order failure notification, which is delivered by Oracle Application Integration Architecture to the Order Fallout Management system of Siebel CRM.
Functional error from a fulfillment system	The order component is accepted by an external fulfillment system. The fulfillment system is able to process the order, but the result is unexpected.	Generates an order failure notification, which is delivered by Oracle Application Integration Architecture to the Order Fallout Management system of Siebel CRM.

When an order failure is detected in an external system, it generates a trouble ticket in Siebel CRM. An order fallout-generated trouble ticket contains information about the failed order. If order capture and order fallout functionalities are present in the same Siebel CRM instance, then the order fallout-generated trouble ticket is linked to the failed order.

As part of the correction process, the trouble ticket can be updated in Siebel CRM. Correction of a failed order can be done locally (in the fulfillment system where the order failed) or in Siebel CRM. In all cases involving correction of a failed order, a user must change the order status from Failed to either Canceled (in which case no further processing occurs) or In Progress (in which case order processing resumes).

In Siebel CRM, correction of a failed order typically involves entering missing information or modifying incorrect information either in the order header, the order line items, or a related record such as the Billing Profile, then resubmitting the order as an order revision. The revised order goes back to the fulfillment system through the integration.

For more information about order fallout-generated trouble tickets, see the chapter on service requests and trouble tickets in *Siebel Communications Guide*.

Viewing Fallout Orders and Order Line Items

To view order and order line item fallout information, follow this procedure.

This procedure describes order and order line item information that is specific to the Order Fallout Management functionality of Siebel CRM. For more information about viewing orders, editing orders, and submitting order revisions, see the chapter on asset-based ordering in *Siebel Order Management Guide*.

To view order and order line item fallout information

1. Navigate to the Sales Order screen, then the Sales Order List view.
2. Query for the order with the fallout information you want to view.
3. Click the link in the Order # field.
4. Click the Line Items view tab.
5. In the Sales Order form near the top of the screen, view the order fallout information associated with the current order. Some fields are described in the following table.

Field	Comments
Cancel Reason	Reason for canceling an already-submitted order.
Status	The following pick list values are related to order line item fallout: ■ **Suspend.** Order line is suspended in the fulfillment system ■ **In Progress.** Order line is in progress in the fulfillment system.
Job Type	Indicates the type of job that has failed. Applicable to bulk orders only. Values are as follows: ■ **Homogeneous**. All the orders in the job are similar to each other. ■ **Heterogeneous**. Different types of orders exist in the same job. ■ **3rd Party Homogeneous**. Like Homogeneous, but originating from an external source (for example, a partner). ■ **3rd Party Heterogeneous**. Like Heterogeneous, but originating from an external source (for example, a partner). ■ **Correlated**. The job contains interdependent orders. The failure of one order will typically trigger the failure of multiple other orders.
Back Office Error Text	Text of the order failure message from the external fulfillment system.

6. Scroll down to the Line Items list in the center portion of the screen, and select a line item with the fallout information you want to view.

7 In the selected line item, view the order fallout information associated with the current order line item. Some fields are described in the following table.

Field	Comments
Change Cost	Cost to change this line item. Values include High, Medium, Low, and PONR (signifying Point of No Return, the point at which it is technically unfeasible to make changes to the line item).
Depends On Order Item Id	Defines the dependency of a follow-on sales order line item. ■ If this is a follow-on order line item, then this field displays the original sales order Row ID. ■ If this is not a follow-on order line item, then this field displays its own Row ID.
Depends On Order Id	A joined field from the order using Depends On Order Item Id.
Status	The following pick list values are related to order line item fulfillment: ■ **Suspend.** Order line is suspended in the fulfillment system. ■ **In Progress.** Order line is in progress in the fulfillment system.

You can see fallout order information in the trouble ticket created for a particular failed order.

To view a fallout order trouble ticket

1 Navigate to the Accounts screen, then the Accounts List view.

2 Select the account for which the order has failed and drill down on its Name field.

3 In the Account Summary view, scroll down to the Trouble Tickets list and drill down on the Ticket ID # field of the trouble ticket.

4 In the Trouble Ticket view, click the Order Failure Information view tab.

The Order Failure Information list displays the failure information related to the order and the order line items.

For more information about order fallout-generated trouble tickets, see the chapter on service requests and trouble tickets in *Siebel Communications Guide*.

Upgrading Promotions in Quote and Order Lines

Siebel Order Management for Industry Applications allows users to upgrade a promotion contextually from a quote line item or an order line item. The selected quote or order is reused during the upgrade process.

Users can select a destination promotion, and once confirmed, instead of creating a new quote or order line item for the promotion upgrade, the existing quote or order line item is reused. The action code for the source promotion and its components are modified according to the upgrade change, and the additional default components for the target are added.

Scenario for Working with Promotion Upgrades

This topic gives one example of how promotion upgrades might be used. You might use promotion upgrades differently, depending on your business model.

A customer contacts a company's call center and wants to disconnect her promotion group. The call center agent selects the customer's account and disconnects the promotion group. As a result, there is a line item that has an Action field defined as -, and others as Delete.

The order validation returns a warning to the call center agent for the disconnected asset, because it is no longer associated to any promotion group, which contradicts the minimum asset membership cardinality. He informs the customer that the disconnected asset cannot exist without being part of a promotion group, and that there is an option to upgrade to a different plan.

If the customer chooses to upgrade her plan, then the call center agent can then upgrade the promotion for the customer.

Upgrading Promotions from a Quote or Order Line Item

This topic describes how to upgrade promotions from a quote line item or an order line item. These instructions assume that you have performed modifications that require an upgrade of a quote or order line item, and that you are presented with the Quote Line Items or Order Line Items view.

To upgrade a promotion from the quote or order line item

1. Right-click on the line item you want to upgrade, then select Upgrade Promotion from the context menu.

   The Promotion Upgrade dialog box appears.

   NOTE: The Action Code for the promotion that you want to upgrade must be Update or -. If it is not, then the Upgrade Promotion context menu item is unavailable.

2. Select the target promotion.
3. Click OK.

   The action code is updated. The Action Code field for each promotion component summarizes the action: add, update, or delete. Additionally, the following cases might be applicable:

   - If an existing commitment is broken, then a penalty charge, if applicable, is added to the line item.

- In cases where components of the source promotion have been debundled or disconnected, and where these components have an Action Code of Prompt, the behavior is similar to that of an Action Code of Modify. In other words, Prompt has no meaning in this context. For more information about prompt actions, see "Specifying the Prompt Action for Debundled Promotion Components" on page 68.

5 Workflows for Employee Asset-Based Ordering

This chapter describes the workflows for employee asset-based ordering that are specific to Siebel Order Management for Industry Applications. This chapter includes the following topics:

- "About Workflows for Employee Asset-Based Ordering" on page 204
- "Workflow That Generates Revenue Line Items for an Opportunity" on page 204
- "Workflows to Edit Quote Line Items" on page 205
- "Workflows to Edit Order Line Items" on page 209
- "Workflows to Submit an Order" on page 213
- "Workflows to Update Order Line Items" on page 218
- "Workflows to Modify a Service Item" on page 221
- "Workflows to Disconnect a Service Item" on page 228
- "Workflows to Suspend or Resume Service Items" on page 231
- "Workflows to Transfer a Service to Another Location" on page 236
- "Workflows to Validate a Network" on page 246
- "Workflows for Price Comparison" on page 249
- "Workflows for Enrollment" on page 252
- "Workflows for Bulk Requests" on page 259
- "Workflow for Prepaid Services" on page 330
- "Workflows to Calculate Prices for Orders" on page 331
- "Workflows to Process an Order" on page 341
- "Workflows to Cancel an Order" on page 359
- "Workflows to Process a Quote" on page 363
- "Workflows to Process Time-Based Offerings" on page 366
- "Workflows for Dynamic Transform" on page 367
- "Workflows for Ambiguity Resolution" on page 374
- "Workflow for User Prompts" on page 378
- "Workflows for In-Memory Promotion Upgrades" on page 380
- "Workflows to Process Promotions" on page 393

About Workflows for Employee Asset-Based Ordering

This chapter describes the workflows for employee asset-based ordering that are specific to industry applications and supplements the information about workflows for employee asset-based ordering in *Siebel Order Management Guide*.

The workflows are grouped in topics that denote automated business processes. Each topic describes at least one main workflow process and can describe one or more subprocesses that a main process calls. Subprocesses can call additional subprocesses. The workflow listings for each group show how the process and subprocesses are related to each other. In the workflow listings, subprocesses are indented and listed under their corresponding processes. If you cannot see all of the detail in some of the larger workflow diagrams in this chapter, then you can view these workflows in Siebel Tools to see a clearer image.

Many of the 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 the workflows call. For information about these methods, see *Siebel Order Management Infrastructure Guide*.

NOTE: Both employee and customer applications use some of these workflows. Only customer applications use workflows with names that begin with CUT eSales. However, these workflows are included in this chapter because workflows for both employee and customer applications call these workflows.

Workflow That Generates Revenue Line Items for an Opportunity

This workflow generates revenue line items for an opportunity from an associated quote for the opportunity. It includes one workflow process, "SIS OM Update Revenue Workflow" on page 204.

SIS OM Update Revenue Workflow

This workflow creates revenue items for all quote line items. For quote line items with recurring charge types, this workflow generates multiple revenue items at intervals equivalent to the unit of measurement. The value in the Number of Occurrences field in the quote line item determines the number of line items the workflow generates. Figure 18 shows this workflow.

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

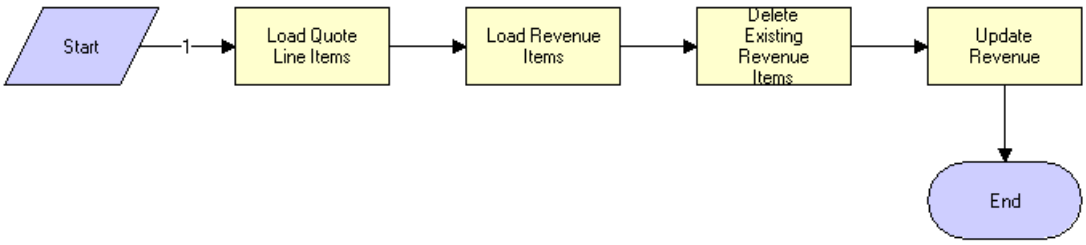


Figure 18. SIS OM Update Revenue Workflow

Workflow Description. This workflow performs the following actions:

1. **Load Quote Line Items**. This step reads the quote line items from the database.
2. **Load Revenue Items**. This step reads the revenue items associated with the opportunity for the quote from the database.
3. **Delete Existing Revenue Items**. This step deletes the existing revenue items.
4. **Update Revenue**. This step 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.

   This step calls the Quote To Revenue method.

Workflows to Edit Quote Line Items

This group of workflows allows a user to edit the line items of quotes that result from creating or modifying service items. It includes the following workflow process and subprocess:

- "SIS OM Edit Delta Quote Line Item Workflow" on page 205
  - "SIS OM Add Service Charge Quote Sub-Process Workflow" on page 208

SIS OM Edit Delta Quote Line Item Workflow

The workflow prevents the new line items that are created for a deleted action code. It is called when the user clicks Customize in the Quote Detail view. This workflow applies active and unprocessed orders to the asset associated with the chosen line item and displays the asset in the Product Configurator view. The user makes changes to define the newly requested state, then clicks Done. The workflow writes the delta of the current and requested states of the asset to the current quote as one or more line items.

Figure 19 illustrates the SIS OM Edit Delta Quote Line Item workflow.

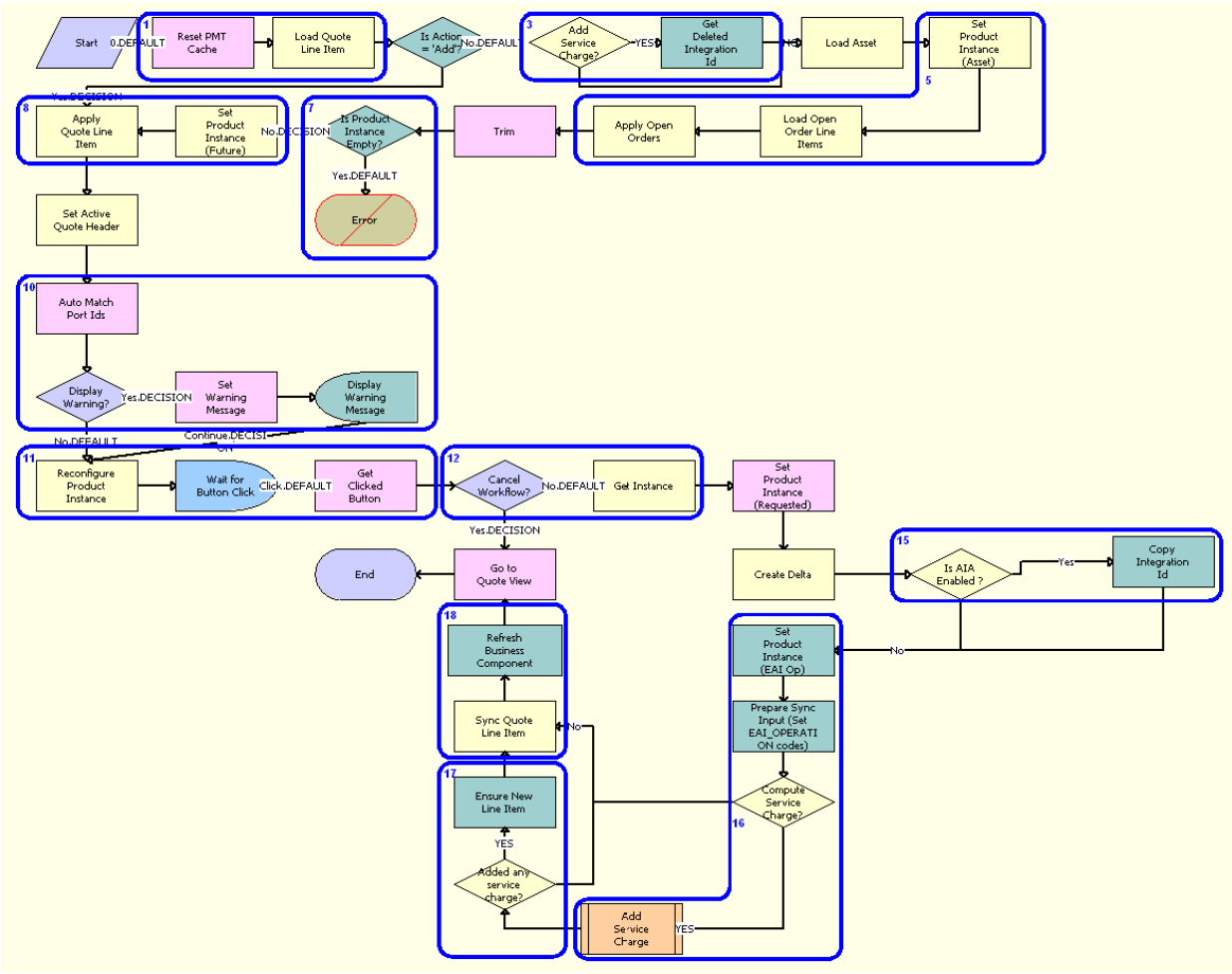


Figure 19. SIS OM Edit Delta Quote Line Item Workflow

Workflow Description. This workflow performs the following actions:

1. Clears the business service cache of existing product instances and loads the quote line item.
2. Checks the action code of the top-level component of the quote line item. If the action code is Add, then the workflow proceeds to Step 8.
3. If the action code is not Add, then the workflow recursively loops through the input property set and gets the integration IDs for the line items. The input property set includes the quote line items in the active document.
4. Reads the asset that is associated with the chosen quote line item from the Siebel database, excluding components that contain an Inactive status.

5 Retrieves all prior active and unprocessed orders that relate to the asset and applies them to generate the requested future state of the asset.

6 Removes the asset components whose Track As Asset flag is not set.

7 If one of the active and unprocessed orders disconnects the top-level component, or if the Track As Asset flag is not set for any asset components, then the resulting asset is empty, and the workflow displays the following error message: A request has already been made to disconnect this service item. The workflow stops.

8 Applies the current quote line item to the asset.

9 Stores the quote header so that line items can be added to it.

10 Corrects the asset so that the asset structure matches the product definition. If any changes are made to the asset, then the workflow displays a warning message.

11 Displays the currently requested state of the asset in the Product Configurator view. The user makes the required changes and clicks Done or Cancel.

12 If the user clicks Cancel, then the workflow terminates. If the user clicks Done, then the workflow retrieves the newly requested state from the Configurator.

13 If the action code of the root item is not Add, then the workflow caches the newly requested state of the asset to use as an input to delta.

14 Generates the delta of the following as one or more quote line items:

- The requested state of the asset before the current order line item is applied.
- The state of the asset after the user reconfigures it.

15 If the system preference Enable AIA Comms is set to True, then the Integration Ids of the deleted line item from 'Quote Line Item' process property are copied, avoiding creating new line items by retaining the existing Integration Ids.

16 Generates a unique asset integration ID for all line items that contain an Add action code.

17 Performs one of the following:

- If the Enable AIA Comms system preference is set to True, then the workflow creates a one-time service charge item for the quote. For more information, see "SIS OM Add Service Charge Quote Sub-Process Workflow" on page 208.
- If the Enable AIA Comms system preference is set to False, then the workflow proceeds to Step 18 without creating a one-time service charge item.

18 Saves the document to the Siebel database.

19 Navigates to the Quote Line Item view.

Table 22 shows the steps in this workflow that call business service methods.

Table 22. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Deleted Integration Id	TraverseHierarchy	SIS OM PMT Service
Refresh Business Component	Refresh Business Component	SIS OM PMT Service
Ensure New Line Item	Set Field Value	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation	SIS OM PMT Service
Copy Integration Id	MergeCompPropSets	SIS OM PMT Service

SIS OM Add Service Charge Quote Sub-Process Workflow

This workflow adds a one-time charge to a service instance for a disconnect order type. Figure 20 shows this workflow.

This workflow is called when a user performs a MACD operation. The SIS OM Edit Delta Quote Line Item workflow calls this workflow as a subprocess.

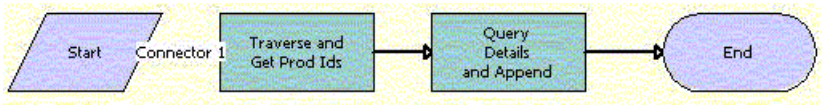


Figure 20. SIS OM Add Service Charge Quote Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Traverse and Get Prod Ids**. This step recursively loops through the input property set (the complete hierarchy of service instances for the delete, transfer, suspend, or resume operation) and returns a list of the product IDs and corresponding integration IDs with a Service Bundle billing type, or with a Subscription billing type and Service Instance set to True.
2. **Query Details and Append**. This step queries each of the products and gets the penalty charge details, if any, to append to the input property set.

Table 23 shows the steps in this workflow that call business service methods.

Table 23. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Traverse and Get Prod Ids	GetProductId	SIS OM PMT Service
Query Details and Append	AppendServiceCharge	SIS OM PMT Service

Workflows to Edit Order Line Items

This group of workflows allows a user to edit the line items in orders. It includes the following workflow process and subprocess:

- "SIS OM Edit Service Order Line Item Workflow" on page 209
  - "SIS OM Add Service Charge Order Sub-Process Workflow" on page 212

SIS OM Edit Service Order Line Item Workflow

This workflow prevents new line items from being created for a deleted action code. It is called when the user customizes a product. This workflow applies active and unprocessed orders to the asset that is associated with the chosen line item and displays the asset in the Product Configurator view. The user makes changes to define the newly requested state and clicks Done. The workflow then writes the difference between the current and requested states of the asset to the current order as one or more line items.

Figure 21 illustrates the SIS OM Edit Service Order Line Item workflow.

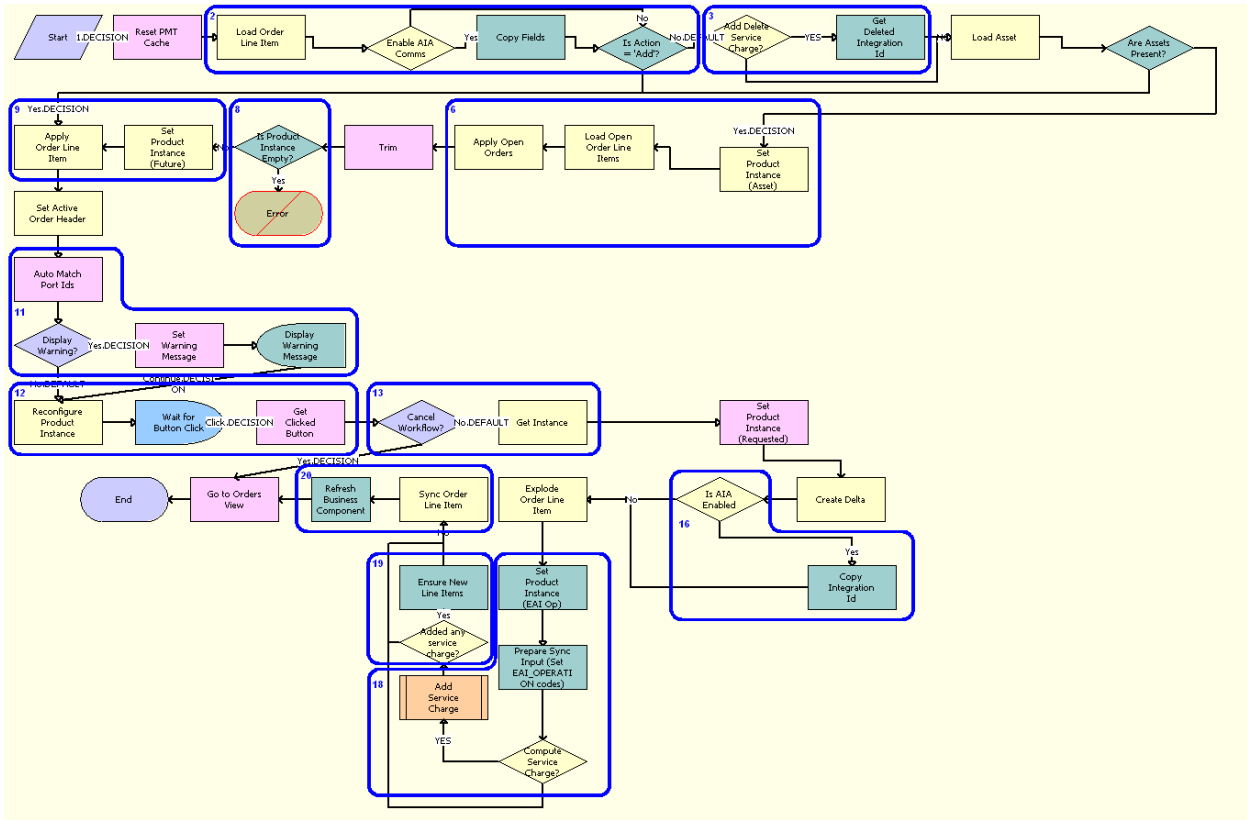


Figure 21. SIS OM Edit Service Order Line Item Workflow

Workflow Description. This workflow performs the following actions:

1. Clears the 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 9.
3. If the action code is not Add, then the workflow recursively loops through the input property set and gets the integration IDs for the line items. The input property set includes the order line items in the active document.
4. Reads the asset that is associated with the chosen order line item from the Siebel database, excluding components that contain an Inactive status.
5. Checks whether the asset is successfully loaded. If not, then goes to Step 9.
6. Retrieves all prior active and unprocessed orders that are related to the asset and applies them to generate the requested future state of the asset.
7. Removes asset components whose Track As Asset flag is not set.

8 If one of the active and unprocessed orders disconnects the top-level component, or if the Track As Asset flag is not set for any asset components, then the resulting asset is empty, and the workflow displays the following error message: A request has already been made to disconnect this service item. The workflow stops.

9 Applies the current order line item to the asset.

10 Stores the order header so that line items can be added to it.

11 Corrects the asset so that the asset structure matches the product definition. If any changes are made to the asset, then the workflow displays a warning message.

12 Displays the currently requested state of the asset in the Product Configurator view. The user makes the required changes, then clicks Done or Cancel.

13 If the user clicks Cancel, then the workflow terminates. If the user clicks Done, then the workflow retrieves the newly requested state from the Configurator.

14 Caches the newly requested state of the asset to use as an input in determining the delta.

15 Generates the delta between the following as one or more order line items:

- The requested state of the asset before the current order line item is applied.
- The state of the asset after the user reconfigures it.

16 If the system preference Enable AIA Comms is set to True, then the Integration Ids of the deleted line item from Order Line Item process property are copied to the delta document, avoiding creation of new line items by retaining the existing Integration Ids.

17 Ungroups into multiple line items any order line item that includes a quantity of more than 1, each with a quantity of 1. Writes the order line item to the Siebel database and refreshes the view.

NOTE: This step does not control the quantity of the line items. It only works with the quantity it is given. The user specifies order line item quantities in the Configurator.

18 Performs one of the following:

- If the Enable AIA Comms system preference is set to True, then the workflow creates a one-time service charge item for the order. For more information, see "SIS OM Add Service Charge Order Sub-Process Workflow" on page 212.
- If the Enable AIA Comms system preference is set to False, then the workflow proceeds to Step 20 without creating a one-time service charge item.

19 Generates a unique asset integration ID for all line items that contain an action code of Add.

20 Saves the document to the Siebel database.

21 Navigates to the Order Line Item view.

Table 24 shows the steps in this workflow that call business service methods.

Table 24. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Copy Fields	CopyFields	SIS OM PMT Service
Get Deleted Integration Id	TraverseHierarchy	SIS OM PMT Service
Copy Integration Id	MergeCompPropSets	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation	SIS OM PMT Service
Ensure New Line Items	Set Field Value	SIS OM PMT Service
Refresh Business Component	Refresh Business Component	SIS OM PMT Service

SIS OM Add Service Charge Order Sub-Process Workflow

This workflow adds a one-time charge to a service instance for a disconnect order type. Figure 22 shows this workflow.

This workflow is called when a user customizes a product. The SIS OM Edit Service Order Line Item workflow calls this workflow as a subprocess.

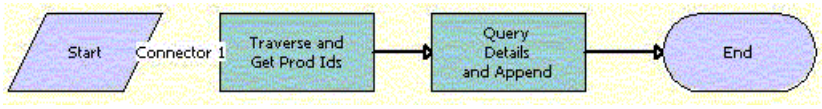


Figure 22. SIS OM Add Service Charge Order Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Traverse and Get Prod Ids**. This step recursively loops through the input property set (the complete hierarchy of service instances for the delete operation) and returns a list of the product IDs and corresponding integration IDs with a Service Bundle billing type, or with a Subscription billing type and Service Instance set to True.
2. **Query Details and Append**. This step queries each of the products and gets the penalty charge details, if any, to append to the input property set.

Table 25 shows the steps in this workflow that call business service methods.

Table 25. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Traverse and Get Prod Ids	GetProductId	SIS OM PMT Service
Query Details and Append	AppendServiceCharge	SIS OM PMT Service

Workflows to Submit an Order

This group workflows allows users to submit an order and signal to the provisioning system that the order is ready for provisioning. It includes the following workflow processes:

- "Submit Order ASI Workflow" on page 213
- "SISOMBillingSubmitOrderWebService Workflow" on page 214
- "SIS OM Submit Order Process Workflow" on page 217
- "Order Process Workflows Retained for Backward Compatibility" on page 217

Submit Order ASI Workflow

This workflow is used to submit an order. It checks for the value of the system preference Enable AIA OrderToCash. If the value is set to True, then it calls the SWISendOrder Workflow. It is called when the user clicks the Submit button in the Sales Order screen.

Figure 23 illustrates this workflow.

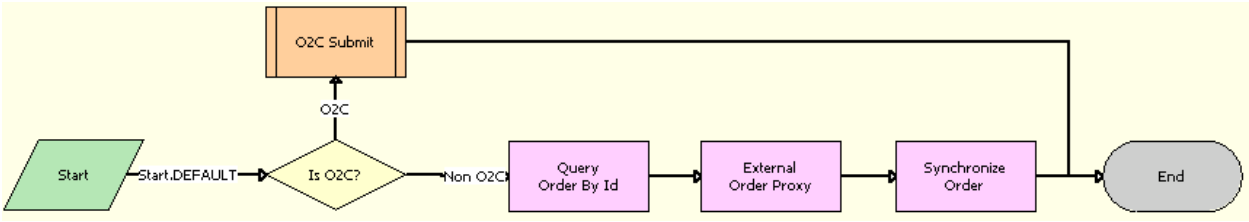


Figure 23. Submit Order ASI Workflow

Workflow Description. This workflow performs the following actions:

1. **Is O2C?** This step checks for the value of the Enable AIA OrderToCash system preference.
2. **O2C Submit.** This step calls the SWISendOrder subprocess.
3. **Query Order By Id.** This step obtains the details of the order.
4. **External Order Proxy.** This step calls the External Order business service.
5. **Synchronize Order.** This step synchronizes the order.

Table 26 shows the steps in this workflow that call business service methods.

Table 26. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
QueryById	QueryById	Siebel Order
External Order Proxy	Insert	External Order
Synchronize Order	Synchronize	Siebel Order

SISOMBillingSubmitOrderWebService Workflow

This workflow submits an order from the Siebel CRM application to the billing application and creates a new account, if needed, in the billing application. It is called when a user clicks Submit on the order header of the Sales Orders screen.

Figure 24 illustrates the SISOMBillingSubmitOrderWebService workflow.

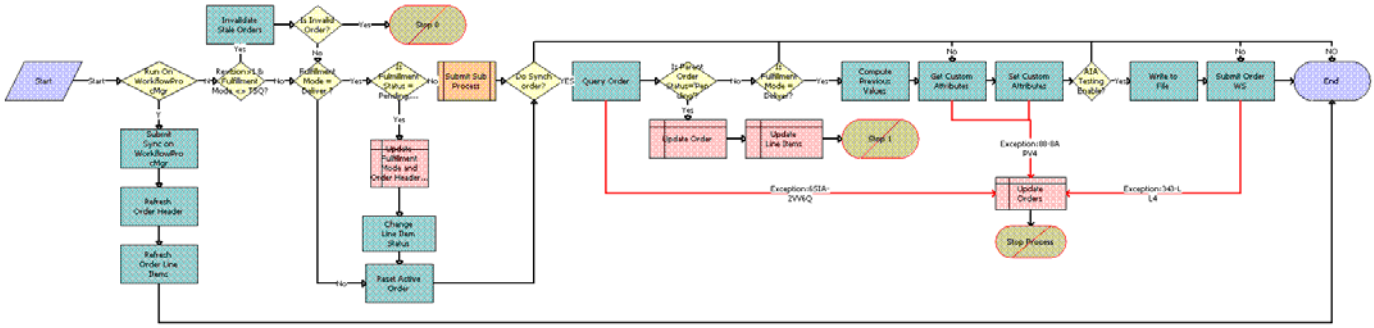


Figure 24. SISOMBillingSubmitOrderWebService Workflow

Workflow Description. This workflow performs the following actions:

1. **Run On WorkflowProcMgr**. This step checks the setting of the RunOnWorkflowProcMgr process property. By default, the RunOnWorkflowProcMgr is set to N. If this property is set to Y, then this step calls Step 2, which runs the workflow on the WorkflowProcMgr object manager. If this property is set to N, then this step goes through the normal flow; in other words, the workflow proceeds to Step 5 and runs the workflow on the current object manager.
2. **Submit Sync on WorkflowProcMgr**. This step calls the workflow recursively with the RunOnWorkflowProcMgr process property set to N, so that the workflow goes through the normal process.
3. **Refresh Order Header**. This step refreshes the order header to reflect the status and other changes after submission.
4. **Refresh Order Line Items**. This step refreshes the order line items to the reflect the status and other changes after submission, and ends the workflow.

5 **Revision>1 & Fulfillment Mode <> TSQ?** This step checks whether the order revision number is greater than 1. If the order revision number is greater than 1, then this step checks whether or not this order is valid.

6 **Invalidate Stale Orders.** If the Order Revision number is greater than 1, then this step calls the InValidateStaleOrders method. This step checks whether a user is attempting to submit a stale version of an order. If so, then this step prevents the user from submitting the current order, to reduce order fallout.

7 **Is Invalid Order?** This step checks whether the Fulfillment Mode is Cancel:

- If the Fulfillment Mode is Cancel, then this step determines that the order is already submitted for cancellation and resets the active order.
- If the Fulfillment Mode is not Cancel, then this step submits the order and calls the SIS OM Submit Order Process. For more information, see "SIS OM Submit Order Process Workflow" on page 217.

8 **Stop 0**. This step displays an error message if the user attempts to submit a sales order before the user submits the parent order.

9 **Is Fulfillment Mode = Deliver?** This step checks whether the Fulfillment Mode is Deliver. If it is, then the next step is executed.

10 **Is Fulfillment Status = Pending, Passed or Failed TSQ?** This step checks for the Fulfillment Status Code values Pending TSQ, Passed TSQ, and Failed TSQ, and checks to see whether the Order Status value is not equal to Open. If both the conditions are true, then the next step is executed.

11 **Update Fulfillment Mode and Order Header Status.** This step sets the value of the Fulfillment Status to Deliver and sets the Status of the order to Open.

12 **Change Line Item Status.** This step sets the Status of each line item to Open.

13 **Reset Active Order.** This step resets the Active Order so that the current order is no longer the active order.

14 **Do Synch order?** This step checks whether the System Preference Enable AIA Comms is set to True.

15 **Query Order**. This step derives the value for the UTCCanonical input parameter of this step from the UTCCanonical process property. The default value for this property is N.

16 **Is Parent Order Status = Pending?** This step validates that the status of the parent order is Pending to determine whether the parent order is submitted before the child order (Submitted Order).

17 **Update Order**. This step updates the Status of the submitted order to Pending if the Is Parent Order Status = Pending step is Yes.

18 **Update Line Items**. If the parent order is not submitted, then this step updates the status of the corresponding order line item to Pending.

19 **Is Fulfillment Mode = Deliver?** This step checks whether the Fulfillment Mode is Deliver. If it is, then next step, Compute Previous Values, is executed

20 **Compute Previous Values**. This step derives the value of the UTCCanonical input parameter for this step from the UTCCanonical process property. The default value for this property is N. The behavior of the workflow depends on the value of the UTCCanonical process property. If it is N, then the workflow converts the date values of the Sales Order to UTC and Canonical format. To change this behavior, you can change the default value for the UTCCanonical process property in the SISOMBillingSubmitOrderWebService workflow to Y. For more information, see "SISOMBillingSubmitOrderWebService Workflow" on page 214.

NOTE: Previous values are computed when an order is modified from an asset, and during the change order process. Previous values are not computed for revision orders.

21 **Get Custom Attributes.** This step reads the enterprise details, such as the Siebel Enterprise Server name, language, and locale.

22 **Set Custom Attributes.** This step sets the enterprise details as part of the request message.

23 **AIA Testing Enable?** This step checks whether or not the Enable AIA Testing system preference is set to True.

24 **Write to File.** This step writes the entire order payload as an XML file to the path specified in the AIA Order Backup Path system preference.

25 **Submit Order WS**. This step includes an input argument named siebel_transport_param:JMSPriority. This argument maps the Order priority to the JMS priority.

26 **Update Orders.** If any of the preceding steps include an exception, then this step changes the status of the order from Open to Pending.

Table 27 shows the steps in this workflow that call business service methods.

Table 27. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Submit Sync on WorkflowProcMgr	SubmitRequest	Server Requests
Refresh Order Header	Refresh Business Component	SIS OM PMT Service
Refresh Order Line Items	Refresh Business Component	SIS OM PMT Service
Invalidate Stale Orders	InValidateStaleOrders	CMU External Integration Service
Change Line Item Status	SetLIAccounts	CUT eSales Order Entry Toolkit Service
Reset Active Order	Set Profile Attribute	SIS OM PMT Service
Query Order	Query	EAI Siebel Adapter
Compute Previous Step	ComputePreviousValues	CMU External Integration Service
Get Custom Attributes	GetEnterpriseParameters	CMU External Integration Service

Table 27. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Set Custom Attributes	SetAttributesToMessage	CMU External Integration Service
Write to File	WriteEAIMsg	EAI XML Write to File
Submit Order WS	process	SWISubmitOrder

SIS OM Submit Order Process Workflow

This workflow checks that account information exists and sets the status of the order and the line items to Open. Because only orders that do not have a status of Open are submitted, this workflow cannot submit orders more than once. Figure 25 shows this workflow.

A user initiates this workflow by clicking the Submit button on the order header form in the Order Entry views. The Submit button is hard-coded to call this workflow. Also, the SISOMBillingSubmitOrderWebService workflow calls this workflow as a subprocess.

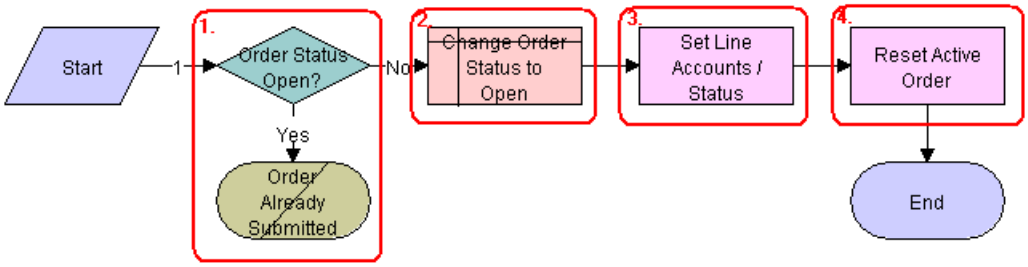


Figure 25. SIS OM Submit Order Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks that the order status is not Open. If the order has a status of Open, then this step does not submit the order because the order is already submitted.
2. Sets the status of the order to Open.
3. Sets the status of each Pending line item to Open.
4. Resets the Active Order so that the current order is no longer the active order.

Order Process Workflows Retained for Backward Compatibility

The following workflows were retained for backward compatibility with previous releases of Oracle's Siebel Order Management for Industry Applications.

SIS OM Auto Select Order Billing and Service Accounts Workflow

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

SIS OM Auto Select Quote Billing and Service Accounts Workflow

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

Workflows to Update Order Line Items

This group of workflows updates order line items. It includes the following workflow processes and subprocesses:

- "SIS OM Order Line Item Update Main Workflow" on page 218
  - "SIS OM UpdateOrderItem Workflow" on page 219
  - "SIS OM NSB Update Order Line Workflow" on page 220

SIS OM Order Line Item Update Main Workflow

This workflow updates the status of order line items for simple products, calls a subprocess to update the status of order line items for complex products, and calls a subprocess to update the status of order line items for nested service bundles. Figure 26 shows this workflow.

An inbound Web service call calls this workflow when the status of an order line item changes in the billing application.

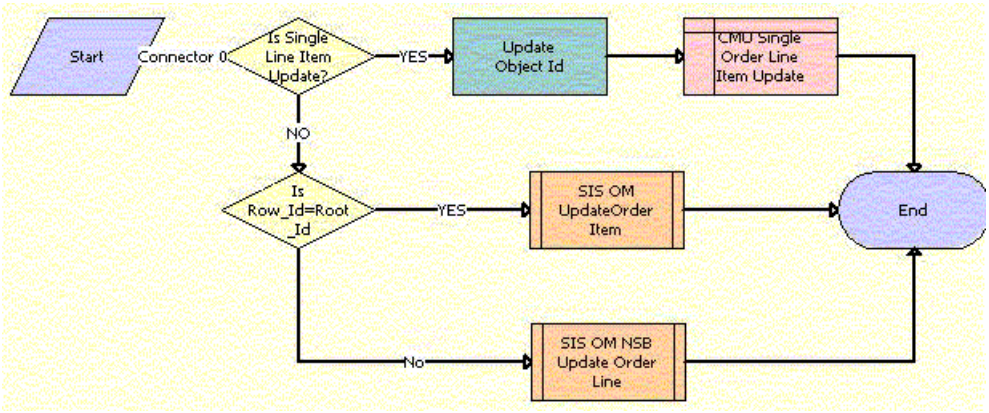


Figure 26. SIS OM Order Line Item Update Workflow

Workflow Description. This workflow performs the following actions:

1. Updates the status of the order line items for simple products.
2. Updates the status of the order line items for complex products. For more information, see "SIS OM UpdateOrderItem Workflow" on page 219.
3. Updates the status of the order line items for nested service bundles. For more information, see "SIS OM NSB Update Order Line Workflow" on page 220.

Table 28 shows the step in this workflow that calls a business service method.

Table 28. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Update Object Id	Echo	Workflow Utilities

SIS OM UpdateOrderItem Workflow

This workflow updates the status of order line items for complex products. Figure 27 shows this workflow.

The SIS OM Order Line Item Update Main workflow calls this workflow as a subprocess.

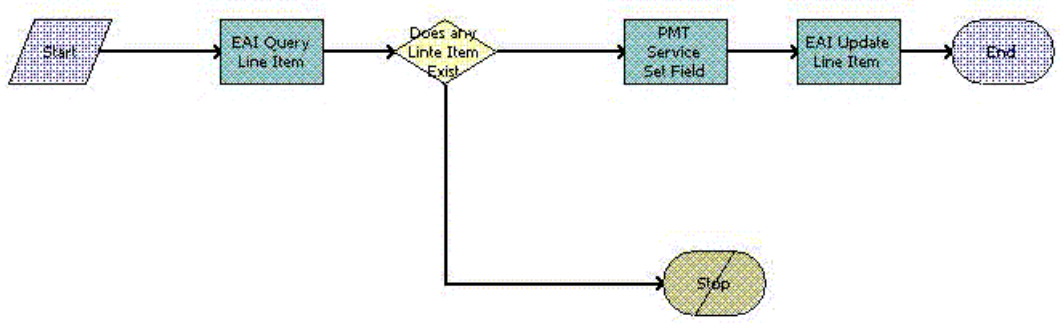


Figure 27. SIS OM UpdateOrderItem Workflow

Workflow Description. This workflow performs the following actions:

1. Finds the appropriate line item for the order.
2. If the line item exists, then updates the line item for the order.
3. If the line item does not exist, then stops the workflow and returns an error message.

Table 29 shows the steps in this workflow that call business service methods.

Table 29. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
EAI Query Line Item	Query	EAI Siebel Adapter
PMT Service Set Field	Set Field Value	EAI Siebel Adapter

SIS OM NSB Update Order Line Workflow

This workflow updates the status of order line items for nested service bundles. The field name and value of the line item to update as well as the row ID of the root order and the nested service bundle are passed to this workflow. Figure 28 shows this workflow.

The SIS OM Order Line Item Update Main workflow calls this workflow as a subprocess.

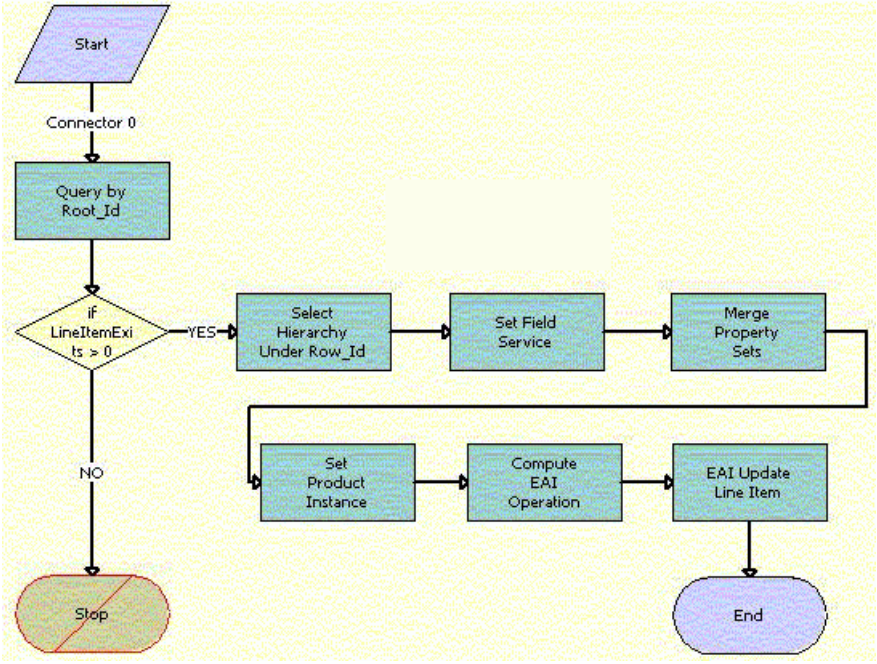


Figure 28. SIS OM NSB Update Order Line Item Workflow

Workflow Description. This workflow performs the following actions:

1. **Query by Root_Id**. This step gets the order hierarchy of the entire order using the row ID of the root order.
2. **if LineItemExists > 0**. This step checks whether one or more line items exist for the order.

3 **Select Hierarchy Under Row_Id**. This step gets the order hierarchy of the nested service bundle using the row ID of the nested service bundle.

4 **Set Field Service**. This step iterates through the order hierarchy of the nested service bundle and updates those fields and values that are passed to the workflow.

5 **Merge Property Sets**. This step merges the updated order hierarchy of the nested service bundle with the order hierarchy of the entire order to update the order hierarchy of the entire order.

6 **Set Product Instance**. This step loads the order hierarchy that is not updated into memory.

7 **Compute EAI Operation**. This step compares the updated order hierarchy with the order hierarchy that is not updated, and sets a flag for the fields with updated values.

8 **EAI Update Line Item**. This step updates the database with the updated values.

Table 30 shows the steps in this workflow that call business service methods.

Table 30. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query by Root_Id	Query	EAI Siebel Adapter
Select Hierarchy Under Row_Id	GetProductHierarchyUnderRow	CMU External Integration Service
Set Field Service	SetFieldValue	CMU External Integration Service
Merge Property Sets	MergePropertySet	CMU External Integration Service
Set Product Instance	Set Product Instance	SIS OM PMT Service
Compute EAI Operation	Compute EAI Operation	SIS OM PMT Service
EAI Update Line Item	Update	EAI Siebel Adapter

Workflows to Modify a Service Item

This group of workflows allows a user to modify a service item. It includes the following workflow process and subprocess:

- "SIS OM Edit Complex Asset Workflow" on page 222
  - "SIS OM Add Service Charge Sub-Process Workflow" on page 225
- "SIS OM Modify Products & Services Process Workflow" on page 226

SIS OM Edit Complex Asset Workflow

This workflow applies the changes for 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 these line items to the active quote. The SIS OM Modify Products & Services Process calls this workflow as a subprocess. For information about the SIS OM Modify Products & Services Process workflow, see *Siebel Order Management Guide*. Figure 29 shows the SIS OM Edit Complex Asset Workflow.

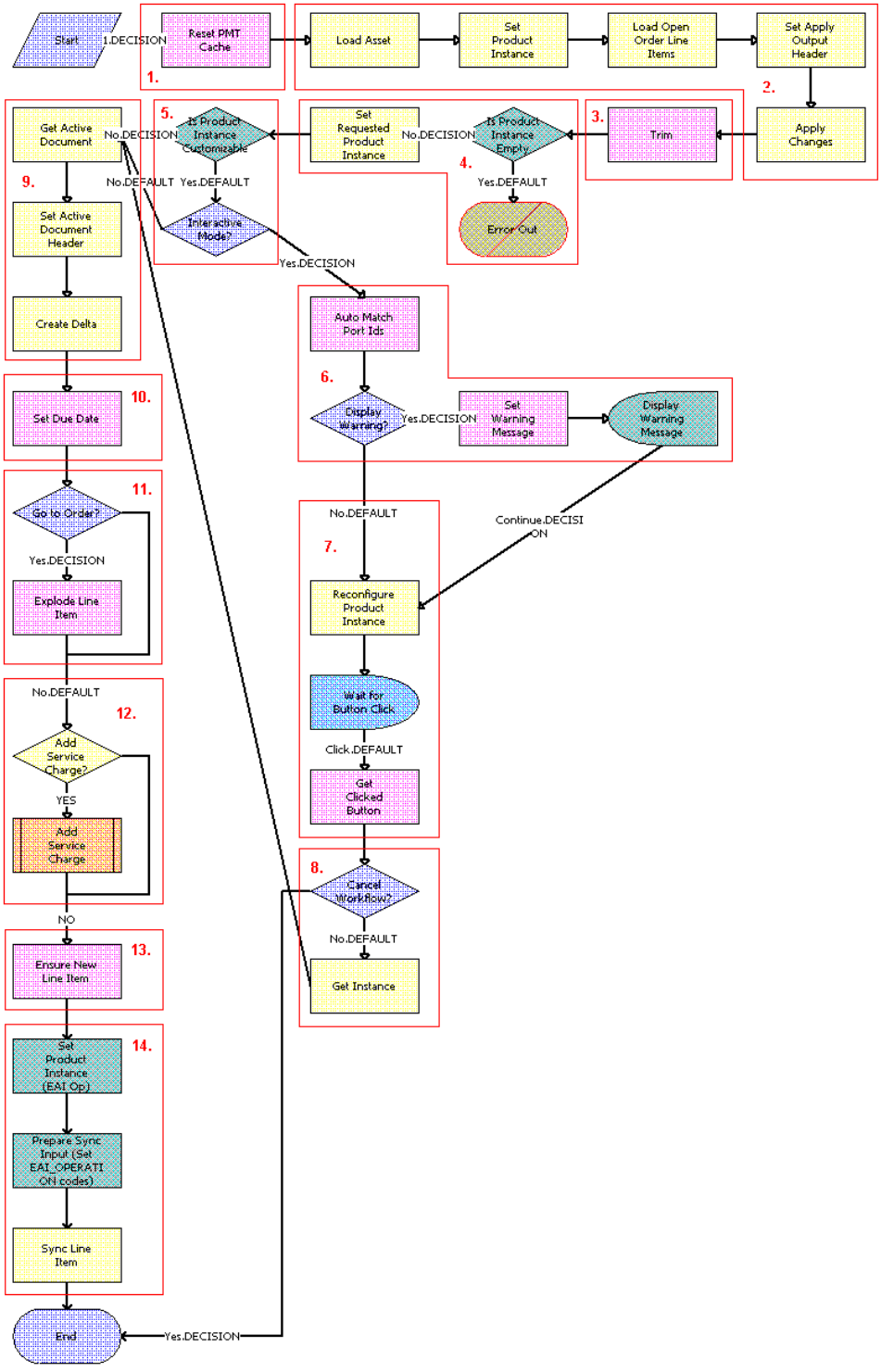


Figure 29. SIS OM Edit Complex Asset Workflow

Workflow Description. This workflow performs the following actions:

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 that those orders specify to re-create the state of the service product as the user requests 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 an open or pending order disconnects the root component, or if no components have the Track As Asset flag set, then the result is an empty asset, and the workflow 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, then displays the asset 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, then goes directly to Step 9.

6 Self-heals the asset so that the asset structure matches the product definition. If any changes are made to the asset, then a warning message appears.

7 Displays the future requested state of the asset in the Configurator view.

8 If the user clicks the Cancel button, then the workflow stops. If the user clicks the Done button, then this step retrieves the newly requested state from the Configurator.

9 Retrieves the active document and adds as line items the delta of the previously requested state of the asset and the newly requested state of the asset.

10 Sets the Due Date and Calculated Due Date field values for all the line items.

11 If the active document is an order, then this step explodes (ungroups) the line items with a quantity greater than 1 into multiple copies of the line item, each with quantity 1.

12 A decision point step checks the setting of the Enable AIA Comms system preference, and does one of the following:

- If the system preference is set to TRUE, then this step creates a one-time service charge item for the quote or order based on the type of target document. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.
- If the system preference is set to FALSE, then goes to Step 13 without creating a one-time service charge item.

13 Generates a unique asset integration ID for all line items with an action code of Add.

14 Saves the document to the database.

Table 31 shows the steps in this workflow that call business service methods.

Table 31. Associated 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
Set Due Date	Set Field Value
Explode Line Item	Explode
Ensure New Line Item	Set Field Value
Sync Line Item	Synchronize

SIS OM Add Service Charge Sub-Process Workflow

This workflow adds a one-time charge to a service instance for a disconnect, move, suspend, or remove order type. Figure 30 shows this workflow.

This workflow is called when a user performs a MACD operation. The following workflows call this workflow as a subprocess:

- SIS OM Edit Complex Asset Workflow
- SIS OM Disconnect Asset Sub-Process
- SIS OM Suspend / Resume Sub-Process

- SIS OM Move Process

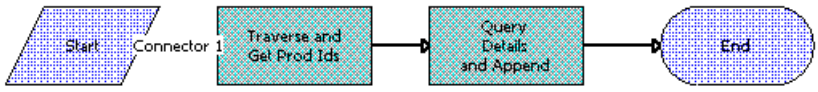


Figure 30. SIS OM Add Service Charge Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Traverse and Get Prod Ids**. This step recursively loops through the input property set (the complete hierarchy of service instances for the delete, transfer, suspend, or resume operation) and returns a list of the product IDs and corresponding integration IDs with a Service Bundle billing type or with a Subscription billing type and Service Instance set to True.
2. **Query Details and Append**. This step queries each of the products and gets the penalty charge details, if any, to append to the input property set.

Table 32 shows the steps in this workflow that call business service methods.

Table 32. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Traverse and Get Prod Ids	GetProductId	SIS OM PMT Service
Query Details and Append	AppendServiceCharge	SIS OM PMT Service

SIS OM Modify Products & Services Process Workflow

This workflow determines whether an active quote exists for the current account. If no active quote exists, then this workflow creates a new quote. This workflow generates a quote line item to update the selected asset. If the product has components, then 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 also validates due date changes. Figure 31 shows this workflow.

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

- Accounts screen, Service Items view
- Accounts screen, Account Summary view
- Networks screen, Nodes view
- Networks screen, Connections view
- Networks screen, All Elements view

- Orders screen, Order Entry - Line Items view

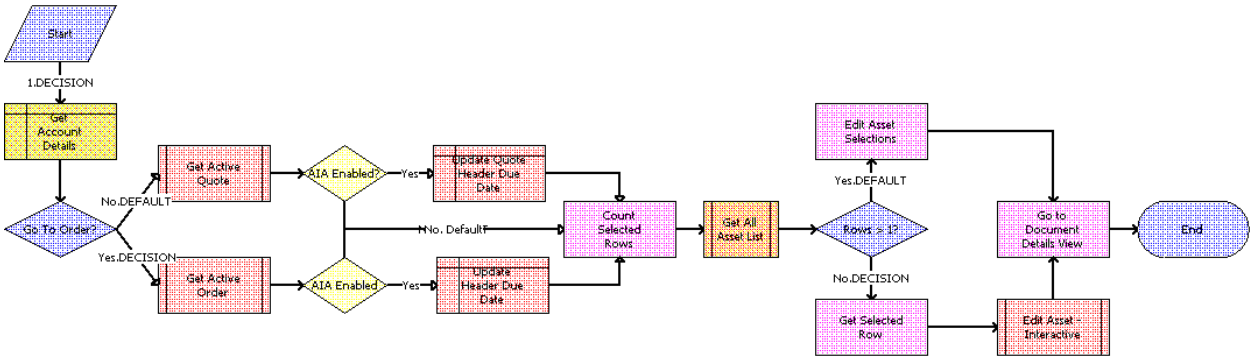


Figure 31. SIS OM Modify Products & Services Process Workflow

Workflow Description. This workflow performs the following actions:

1. Gets the details of the current account.
2. Retrieves the active document (quote or order) for the session.

   If the Type field of the account is set to Residential, then the active order is retrieved. Otherwise, the active quote is retrieved.
3. Checks whether or not the Enable AIA Comms system preference is set to TRUE.
4. If the Enable AIA Comms system preference is set to TRUE, then a pop-up window appears in which the user is prompted to select a date. Based on whether the document type is Quote or Order, one of the following actions occurs:
   - If the document type is Quote, then the quote header due date is updated with the date selected in the pop-up window.
   - If the document type is Order, then the order header due date is updated with the date selected in the pop-up window.
5. Gets the number of assets that the user has selected to modify.
6. If the user has selected only one asset, then the currently requested state of the asset is retrieved and displayed in the Product Configurator view. See "SIS OM Edit Complex Asset Workflow" on page 222.
7. If the user has selected more than one asset, then the currently requested state of each asset is retrieved and added to the active document. See "SIS OM Edit Complex Asset Workflow" on page 222.
8. Displays active document.

Table 33 shows the steps in this workflow that call business service methods.

Table 33. Associated 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

Workflows to Disconnect a Service Item

This group of workflows allows a user to disconnect a service. It includes the following workflow process and subprocess:

- "SIS OM Disconnect Products & Services Process Workflow" on page 228
- "SIS OM Disconnect Asset Sub-Process Workflow" on page 230
- "SIS OM Add Service Charge Sub-Process Workflow" on page 225

SIS OM Disconnect Products & Services Process Workflow

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 also validates due date changes. Figure 32 shows this workflow.

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

- Accounts screen, Service Items view
- Accounts screen, Account Summary view
- Networks screen, Nodes view
- Networks screen, Connections view

■ Networks screen, All Elements view

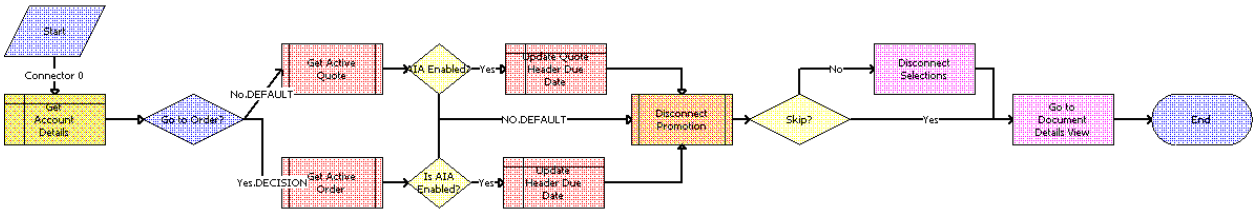


Figure 32. SIS OM Disconnect Products & Services Process Workflow

Workflow Description. This workflow performs the following actions:

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, then the active order is retrieved. Otherwise, the active quote is retrieved.
3. Checks whether or not the Enable AIA Comms system preference is set to TRUE.
4. If the Enable AIA Comms system preference is set to TRUE, then a pop-up window appears in which the user is prompted to select a date. Depending on whether the document type is Quote or Order, one of the following actions occurs:
   - If the document type is Quote, then the quote header due date is updated with the date selected in the pop-up window.
   - If the document type is Order, then the order header due date is updated with the date selected in the pop-up window.
5. 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 Workflow" on page 230.

   NOTE: When deleting a network node, the process automatically deletes all associated network connections. If this is not desirable behavior, then change the value of the Delete Connection argument to N.
6. Displays the active document.

Table 34 shows the steps in this workflow that call business service methods.

Table 34. Associated 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 Workflow

This workflow applies the changes for the open and pending orders related to the selected asset to get requested state of the asset, creates line items to disconnect the selected asset in that state, and adds these line items to the active document. Figure 33 shows this workflow.

The SIS OM Disconnect Products & Services Process calls this workflow as a subprocess. For information about the SIS OM Disconnect Products & Services Process workflow, see *Siebel Order Management Guide*.

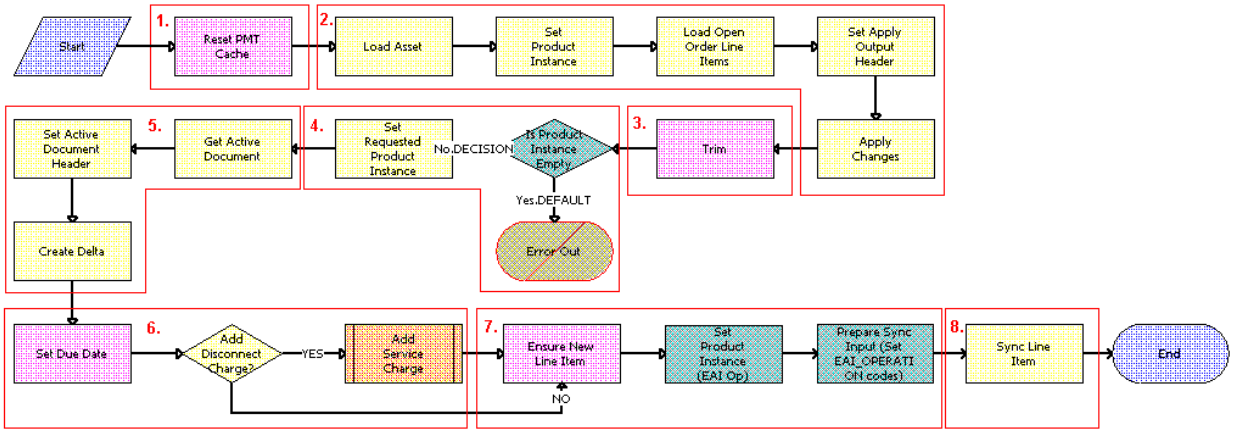


Figure 33. SIS OM Disconnect Asset Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

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 that those orders specify to re-create the state of the service product as the user requests 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 an open or pending order disconnects the root component, or if no components have the Track As Asset flag set, then the result is an empty asset, and the workflow displays an error message.

5 Retrieves the active document and generates the delta of the requested state of the asset and the future empty state of the asset to create line items to disconnect the asset in the active document.

6 Sets the due date for each line item. A decision point step checks the setting of the Enable AIA Comms system preference, and does one of the following:

- If the system preference is set to TRUE, then this step creates a one-time service charge item for the quote or order based on the type of target document. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.
- If the system preference is set to FALSE, then goes to Step 7 without creating a one-time service charge item.

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

8 Saves the document to the database.

Table 35 shows the steps in this workflow that call business service methods.

Table 35. Associated 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 Suspend or Resume Service Items

This group of workflows allows a user to suspend or resume a service. It includes the following workflow process and subprocess:

- "SIS OM Suspend / Resume Products & Services Process Workflow" on page 232
- "SIS OM Suspend / Resume Products & Services Process Workflow" on page 232
- "SIS OM Add Service Charge Sub-Process Workflow" on page 225

SIS OM Suspend / Resume Products & Services Process Workflow

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 also validates due date changes. Figure 34 shows this workflow.

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

- Accounts screen, Service Items view
- Accounts screen, Account Summary view
- Networks, Nodes view
- Networks, Connections view
- Networks, All Elements view

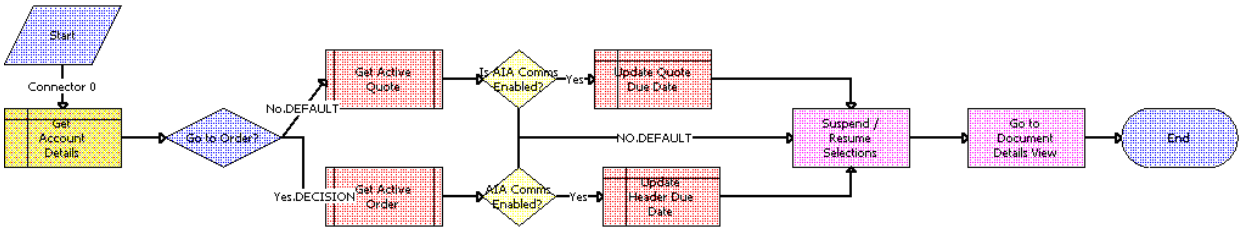


Figure 34. SIS OM Suspend / Resume Products & Services Process Workflow

Workflow Description. This workflow performs the following actions:

1. Gets the details of the current account.
2. Retrieves the active document (quote or order) for the session.

   If the Type field of the account is set to Residential, then the active order is retrieved. Otherwise, the active quote is retrieved.
3. Checks whether or not the Enable AIA Comms system preference is set to TRUE.
4. If the Enable AIA Comms system preference is set to TRUE, then a pop-up window appears in which the user is prompted to select a date. Based on whether the document type is Quote or Order, one of the following actions occurs:
   - If the document type is Quote, then the quote header due date is updated with the date selected in the pop-up window.
   - If the document type is Order, then the order header due date is updated with the date selected in the pop-up window.
5. Allows the user to suspend or resume the asset.

   The workflow gets the current state of the asset and then creates quote line items to suspend or resume the asset in that state. For more information, see SIS OM Suspend / Resume Products & Services Process Workflow.

6 Displays the active document.

Table 36 shows the steps in this workflow that call business service methods.

Table 36. Associated 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 Workflow

This workflow suspends a selected asset instead of suspending and resuming the entire asset hierarchy. This workflow applies the changes for the open and pending orders related to the selected asset to get the requested state of the asset, creates line items to suspend or resume the selected asset in that state, and adds the line items to the active document.

The SIS OM Suspend / Resume Products & Services Process workflow calls this workflow as a subprocess when a user suspends or resumes an asset. For more information about the SIS OM Suspend / Resume Products & Services Process workflow, see "SIS OM Suspend / Resume Products & Services Process Workflow" on page 232.

Figure 35 illustrates the SIS OM Suspend / Resume Asset Sub-Process workflow.

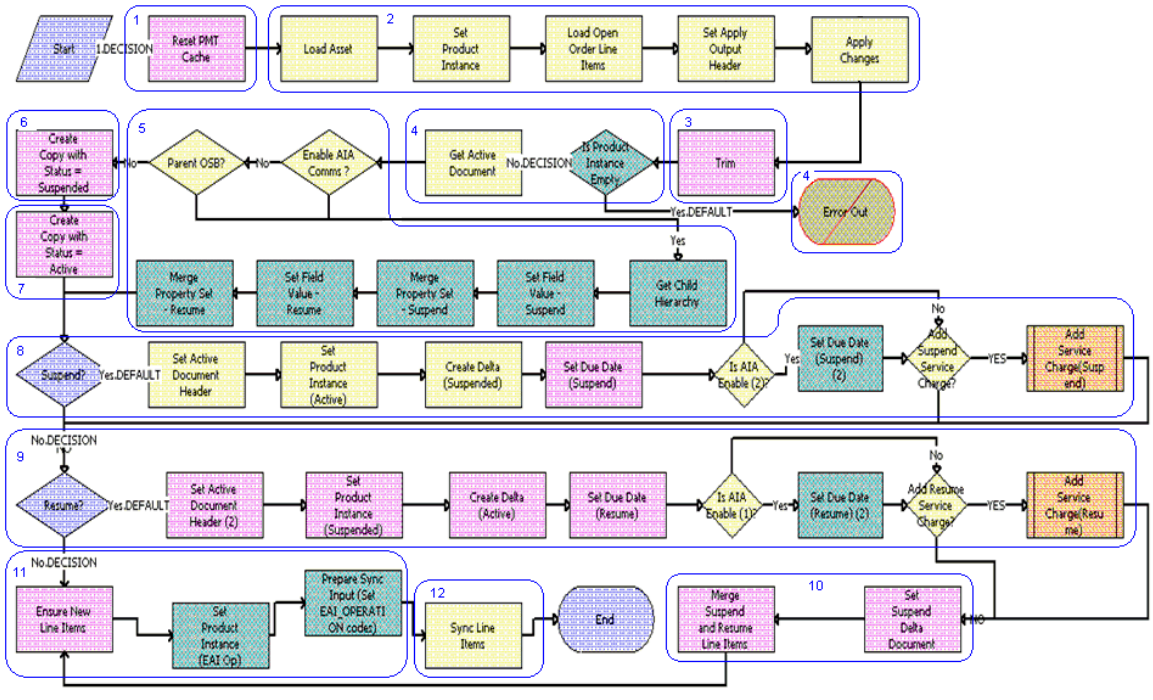


Figure 35. SIS OM Suspend / Resume Asset Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

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 that those orders specify to re-create the state of the service product as the user requests 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 an open or pending order disconnects the root component, or if no components have the Track As Asset flag set, then the result is an empty asset, and the workflow displays an error message.

5 Determines whether the Enable AIA Comms system preference is set to TRUE, and whether Root Asset Integration Id is not equal to Asset Integration Id. The workflow then performs one of the following operations:

- If the Enable AIA Comms system preference is set to TRUE, and the selected asset is a service or the child asset of a service, then this step extracts the selected child asset hierarchy or asset from the asset hierarchy, and then updates the asset status to either Suspend or Resume for the extracted child asset hierarchy, according to the user selection. Merges the updated child asset hierarchy with the asset hierarchy, using the merged asset hierarchy to incorporate additional changes.
- If the Enable AIA Comms system preference is set to FALSE, then this step proceeds with the existing implementation and suspends the complete asset hierarchy.

6 Copies the asset and sets the status of each component to Suspended.

7 Copies the asset and sets the status of each component to Active.

8 If the user clicks the Suspend button, then this step generates the delta of the requested state of the asset and the future suspended state of the asset to create line items to suspend the asset and set the due date for each line item.

A decision point step checks the setting of the Enable AIA Comms system preference, and does one of the following:

- If the system preference is set to TRUE, then sets the Due Date for Suspend Operation.
- If the system preference is set to FALSE, then proceeds without setting the Due Date for Suspend Operation.

Another decision point step checks the setting of the Add Suspend Service Charge system preference, and does one of the following:

- If the system preference is set to TRUE, then creates a one-time service charge item for the quote or order based on the type of target document. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.
- If the system preference is set to FALSE, then proceeds without creating a one-time service charge item.

9 If the user clicks the Resume button, then this step generates the delta of the requested state of the asset and the future active state of the asset to create line items to resume the asset and set the due date for each line item.

A decision point step checks the setting of the Enable AIA Comms system preference, and does one of the following:

- If the system preference is set to TRUE, then sets the Due Date for Resume Operation.
- If the system preference is set to FALSE, then proceeds without setting the Due Date for Resume Operation.

Another decision point step checks the setting of the Add Resume Service Charge system preference, and does one of the following:

- If the system preference is set to TRUE, then creates a one-time service charge item for the quote or order based on the type of target document. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.
- If the system preference is set to FALSE, then proceeds without creating a one-time service charge item.

10 Merges the line items of the suspend and resume requests into a single document.

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

12 Saves the document to the database.

Table 37 shows the steps in this workflow that call business service methods.

Table 37. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Reset PMT Cache	Reset	SIS OM PMT Service
Set Product Instance	Set Product Instance	SIS OM PMT Service
Load Open Order Line Items	Find Orders	SIS OM PMT Service
Set Apply Output Header	Set Output Header	SIS OM PMT Service
Apply Changes	Apply	SIS OM PMT Service
Trim	Trim	SIS OM PMT Service
Get Child Hierarchy	GetProductHierarchyUnderRow	CMU External Integration Service
Set Field Value - Suspend	SetFieldValue	CMU External Integration Service
Merge Property Set - Suspend	MergePropertySet	CMU External Integration Service
Set Field Value - Resume	SetFieldValue	CMU External Integration Service

Table 37. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Merge Property Set - Resume	MergePropertySet	CMU External Integration Service
Create Copy with Status = Suspended	Set Field Value	SIS OM PMT Service
Create Copy with Status = Active	Set Field Value	SIS OM PMT Service
Set Active Document Header	Set Output Header	SIS OM PMT Service
Set Requested Product Instance (Active)	Set Product Instance	SIS OM PMT Service
Create Delta (Suspended)	Delta	SIS OM PMT Service
Set Due Date (Suspend)	Set Field Value	SIS OM PMT Service
Set Due Date (Suspend) (2)	Set Field Value	SIS OM PMT Service
Set Active Document Header (2)	Set Output Header	SIS OM PMT Service
Set Requested Product Instance (Suspended)	Set Product Instance	SIS OM PMT Service
Create Delta (Active)	Delta	SIS OM PMT Service
Set Due Date (Resume)	Set Field Value	SIS OM PMT Service
Set Due Date (Resume) (2)	Set Field Value	SIS OM PMT Service
Set Suspend Delta Document	Set Product Instance	SIS OM PMT Service
Merge Suspend and Resume Line Items	Merge	SIS OM PMT Service
Ensure New Line Item	Set Field Value	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation	SIS OM PMT Service
Sync Line Items	Synchronize	SIS OM PMT Service

Workflows to Transfer a Service to Another Location

This group of workflows facilitates the transfer of service from one location to another location when a customer moves. It includes the following workflow process and subprocesses:

- "SIS OM Move Process Workflow" on page 237
  - "SIS OM Move Exception Handling Workflow" on page 244
  - "SIS OM Move Service Point Check Workflow" on page 245

- "SIS OM Add Service Charge Sub-Process Workflow" on page 225
- "SIS OM Move Display Quote Workflow" on page 246

SIS OM Move Process Workflow

This workflow creates a quote with line items to disconnect all services at the move-out address and to 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 at the new address. Figure 36 shows this workflow.

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.

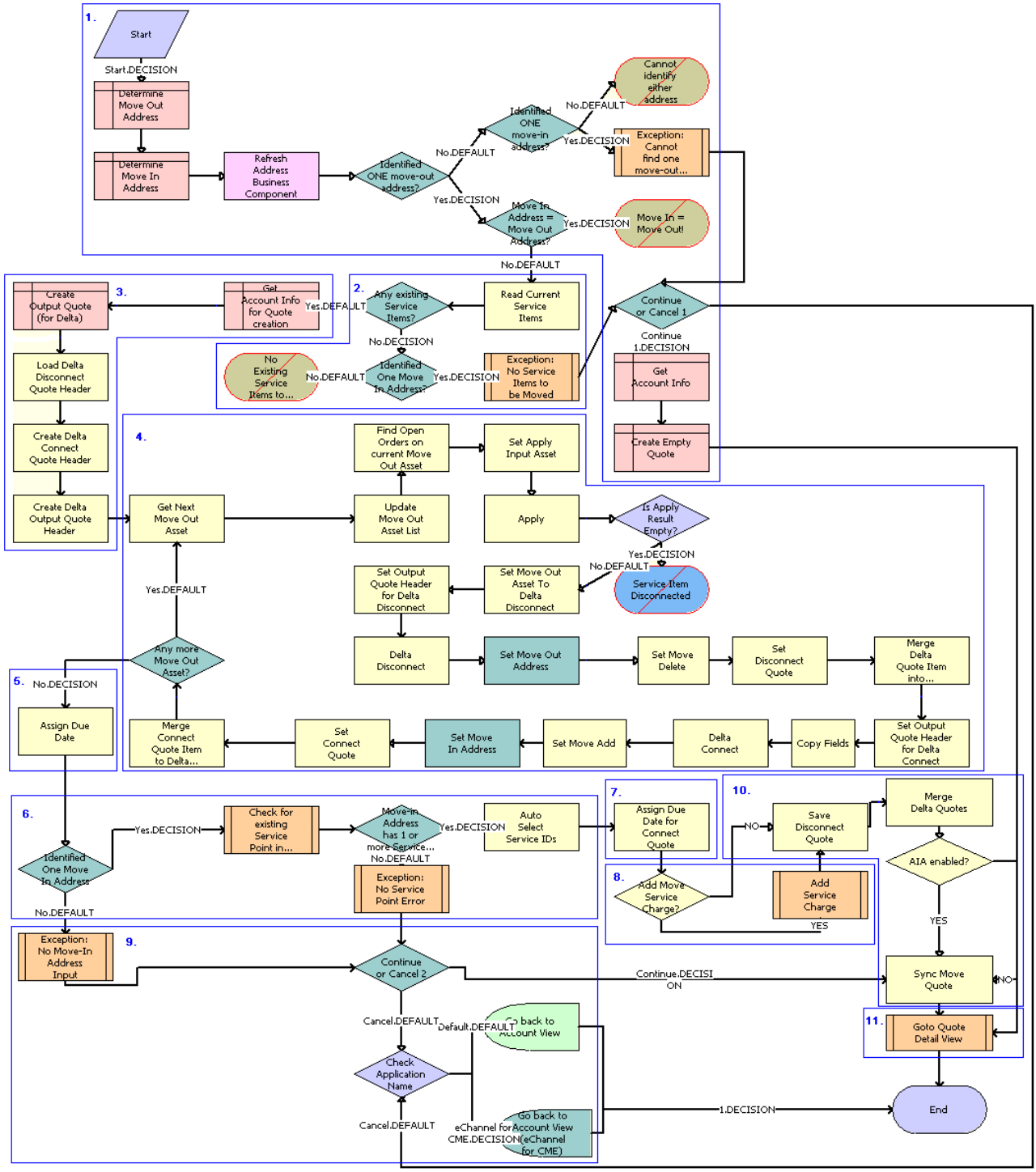


Figure 36. SIS OM Move Process Workflow

Workflow Description. This workflow performs the following actions:

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 was updated most recently and that has an end date later than the current date.

   b The workflow identifies the move-in address as the address record for the current account that was updated most recently and that has a start date later than the current date.

   c If the workflow can identify neither a move-out address nor a move-in address, then the workflow 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 terminates.

   d If the workflow identifies a move-out address and a move-in address that are the same, then the workflow 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 the workflow terminates.

   e If the workflow cannot identify a move-out address but can identify a move-in address, then the workflow displays the following error message: 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.

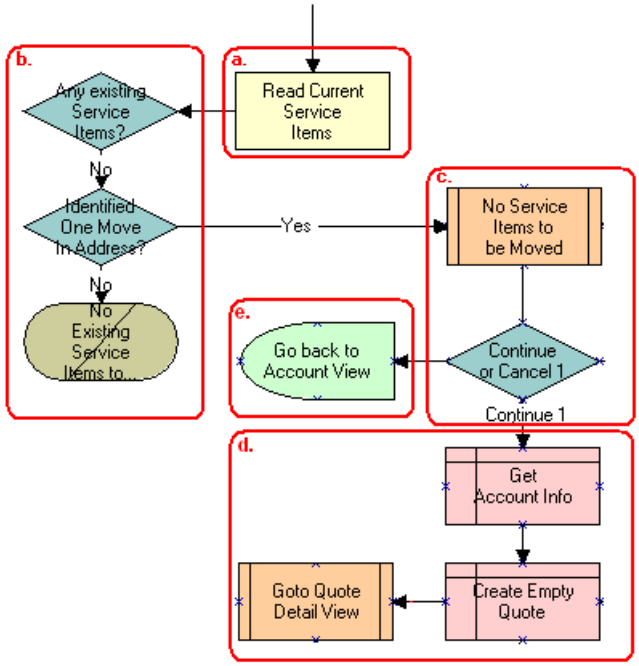
      For more details, see "SIS OM Move Exception Handling Workflow" on page 244.

   f If the user clicks Continue, then 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.

   g If the user clicks Cancel, then the workflow returns the user to the Account view.

2 If the move-in address and the move-out address are validated, then this step retrieves the service items for the move-out address.



a The workflow retrieves the service items.

b If the move-out address has no service items and a move-in address is not identified, then 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 the workflow terminates.

c If the move-out address has no service items and a move-in address is identified, then 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 Continue, then 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.

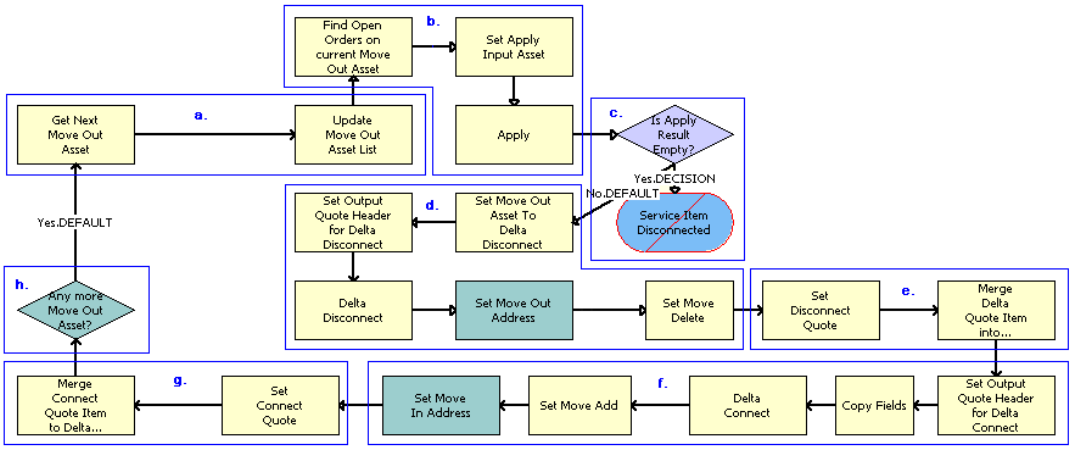
e If the user clicks Cancel, then the workflow returns the user to the Account view.

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 in turn each service item at the move-out address.

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 to determine whether the asset is disconnected as a result of an open or pending order.

If the asset is disconnected, then an error message displays and the workflow terminates.

d The workflow generates the delta of the requested state of service item with move-out address stamped 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 with move-in address stamped 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 the move-out address has more service items, then the workflow continues to the next item.

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 Move Delete	Set field Value

Workflow Step	Business Service Method Called
Set Move Out Address	Set field Value
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 Move Add	Set field Value
Set Move In Address	Set field Value
Set Related Asset	Set field Value
Set Connect Quote	Set Product Instance
Merge Connect Quote Item to Delta Connect Quote	Merge

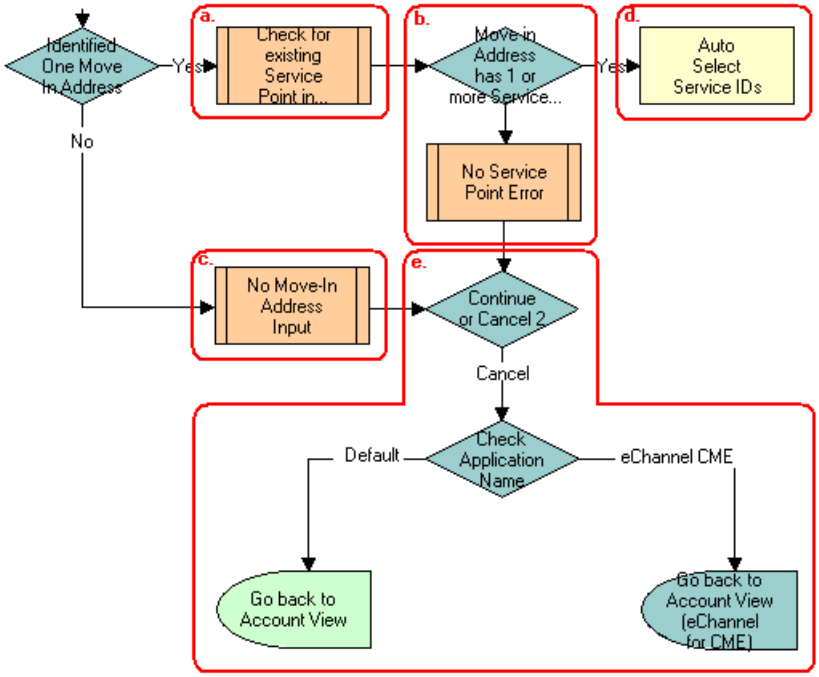
5 Specifies the due date for each of the disconnect line items.

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

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, then this step assigns a service point to each service item to connect at that address.



a The workflow checks to determine whether existing service points of any type exist at the move-in address.

For more details, see "SIS OM Move Service Point Check Workflow" on page 245.

b If no service points exist at the move-in address, then the workflow displays the following error message: There are no service points at the move-in address selected. Address might 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 no available service points of the correct type exist, then the Service Point ID for the item is empty.

d If service points exist at the move-in address, then the workflow assigns each service item a service point with the same item type.

e If the user clicks Continue, then the workflow displays the disconnect quote in the Quote Detail view. If the user clicks Cancel, then the workflow returns the user to the Account view.

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.

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 A decision point step checks the setting of the Enable AIA Comms system preference, and does one of the following:

- If the system preference is set to TRUE, then creates a one-time service charge item for the quote. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.
- If the system preference is set to FALSE, then goes to Step 10 without creating a one-time service charge item.

9 If the move-in address is not identified, then this step 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 only the disconnect service. If the user clicks the Cancel button, then the workflow returns the user to the Accounts view.

10 Merges the disconnect line items and the connect line items into one quote and saves that quote to the database.

The following table shows the steps in this part of the workflow that call business service methods.

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

11 Displays the quote in the Quote Detail view.

For more details, see "SIS OM Move Display Quote Workflow" on page 246.

SIS OM Move Exception Handling Workflow

This workflow provides exception handling for the SIS OM Move Process. Figure 37 shows this workflow.

The SIS OM Move Process workflow calls this workflow as a subprocess.

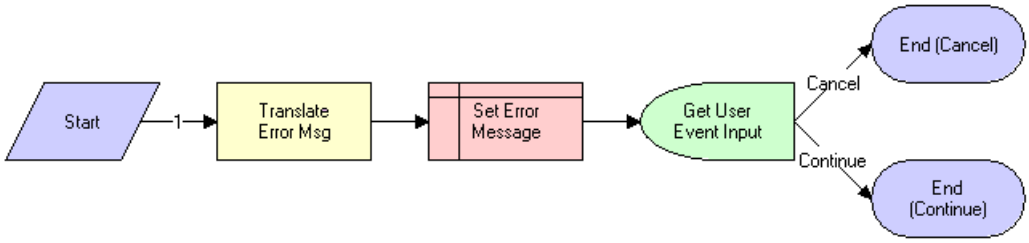


Figure 37. SIS OM Move Exception Handling Workflow

Workflow Description. This workflow performs the following actions:

1. Displays an error message in a view (not in a popup window).
2. Determines whether the user clicked the Continue button or the Cancel button.

Table 38 shows the step in this workflow that calls a business service method.

Table 38. Associated Business Service Methods

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

SIS OM Move Service Point Check Workflow

This workflow checks the number of service points at the move-in address. Figure 38 shows this workflow.

The SIS OM Move Process workflow calls this workflow as a subprocess.

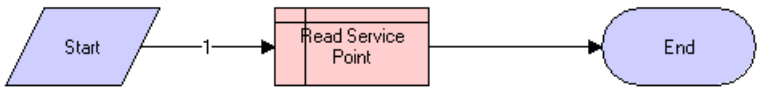


Figure 38. SIS OM Move Service Point Check Workflow

Workflow Description. This workflow performs the following action:

- **Read Service Point**. This step determines the number of service points for an address.

SIS OM Move Display Quote Workflow

This workflow displays the newly created quote in the Quote Detail view. Figure 39 shows this workflow.

The SIS OM Move Process workflow calls this workflow as a subprocess.

Figure 39. SIS OM Move Display Quote Workflow

Workflow Description. This workflow performs the following action:

- **Bring user to Quote Detail View**. This step displays the Quote Detail view.

Workflows to Validate a Network

This group of workflows validates a network. It includes the following workflow processes:

- "VORD Validate (Quote) Workflow" on page 246
- "VORD Validate (Order) Workflow" on page 248

VORD Validate (Quote) Workflow

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 screen, Line Item, and then the Network Line Detail View.

This workflow is shown in Figure 40.

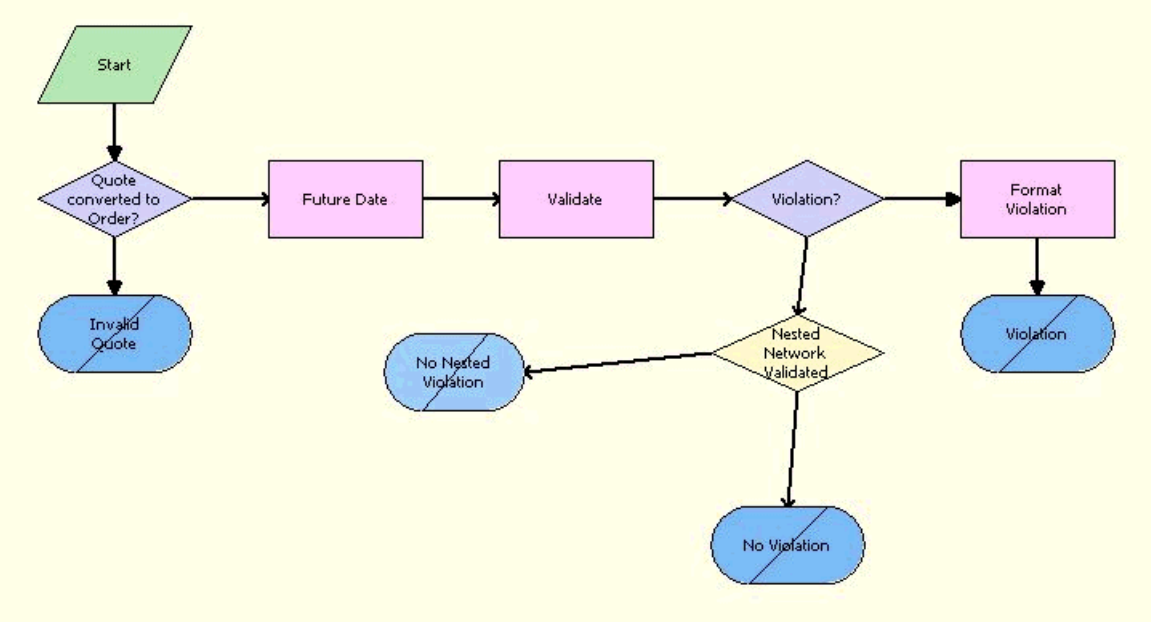


Figure 40. VORD Validate (Quote) Workflow

Workflow Description. This workflow performs the following actions:

1. **Quote Converted to Order?** This step checks whether the quote has already been converted to an order. If so, then this step displays an error message and terminates the workflow.
2. **Future Date.** This step 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.
3. **Validate.** This step invokes the Compound Product Validation Engine to validate each of the rules associated with the compound product. In case of nested validation, in addition to the current network, the compound product validation engine validates nested networks against the rules associated with the compound product. This applies only if cross-network validation is enabled.
4. **Violation?** If cross-network validation is enabled and if there are no violations, then this step displays the following message: This *compound product* is valid. In case of Nested Network validation, if there are no violations and if the NestedNetworkValidated flag is set to false, which means there are no nested networks associated with the current network or that nested network validation is not invoked, then the following message appears: This *compound product* is valid
5. **NestedNetwork Validated.** If there are no violations and the NestedNetworkValidated flag is set to true, which means cross-network validation is invoked, then this step displays the following message The following networks are valid: *NestedNetworkname:NetworkName1,NestedNetworkname:NetworkName2.....NestedNetworkname:NetworkNameN*

6 **Format Violation.** If there are violations, then this step concatenates the error messages into a single string and displays it to the user. In case of nested network validation the error messages are concatenated with the set of valid network messages if they are found and displayed.

Table 39 shows the steps in this workflow that call business service methods.

Table 39. Associated Business Service Methods

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

VORD Validate (Order) Workflow

This workflow validates the network (or compound product) associated with the currently selected order 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 Order screen, Line Item, and then the Network Detail View.

This workflow is shown in Figure 41.

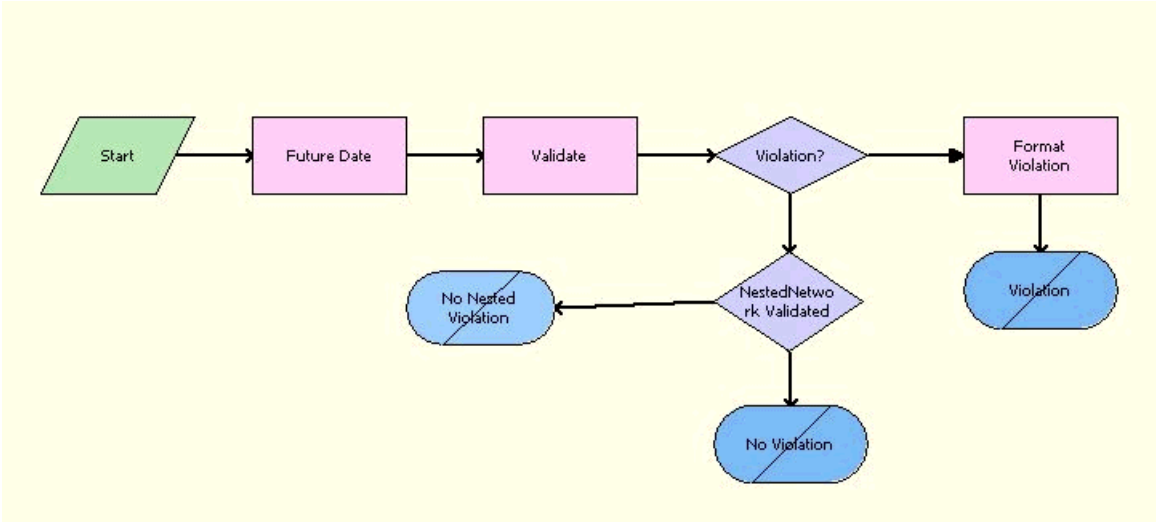


Figure 41. VORD Validate (Order) Workflow

Workflow Description. This workflow performs the following actions:

1. **Future Date.** This step 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. **Validate.** This step invokes the Compound Product Validation Engine to validate each of the rules associated with the compound product. In case of nested validation, in addition to the current network, the compound product validation engine validates nested networks against the rules associated with the compound product. This applies only if cross-network validation is enabled.

3. **Violation?** If cross-network validation is enabled and if there are no violations, then this step displays the following message: This *compound product* is valid. In case of Nested Network validation, if there are no violations and if the NestedNetworkValidated flag is set to false, which means there are no nested networks associated with the current network or that nested network validation is not invoked, then the following message is displayed: This *compound product* is valid

4. **NestedNetwork Validated.** If there are no violations and the NestedNetworkValidated flag is set to true, which means cross-network validation is called, then this step displays the following message: The following networks are valid: *NestedNetworkname:NetworkName1,NestedNetworkname:NetworkName2.....NestedNetworkname:NetworkNameN*

5. **Format Violation.** If there are violations, then this step concatenates the error messages into a single string and displays it to the user. In case of nested network validation the error messages are concatenated with the set of valid network messages if they are found and displayed.

Table 40 shows the steps in this workflow that call business service methods.

Table 40. Associated Business Service Methods

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

Workflows for Price Comparison

This group of workflows compares prices. It includes the following workflow process and subprocess:

- "SIS OM PC Price Comparison Process Workflow" on page 250
  - "SIS OM Goto Price Comparison View Process Workflow" on page 251

SIS OM PC Price Comparison Process Workflow

This workflow generates comparison quotes based on the competitor company service that a customer currently subscribes to. The workflow generates one quote for each product that meets the customer criteria, such as region of service, and provides the total annual charge and savings based on the current usage. Figure 42 shows this workflow.

A SmartScript session calls this workflow. A user initiates the SmartScript session 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.

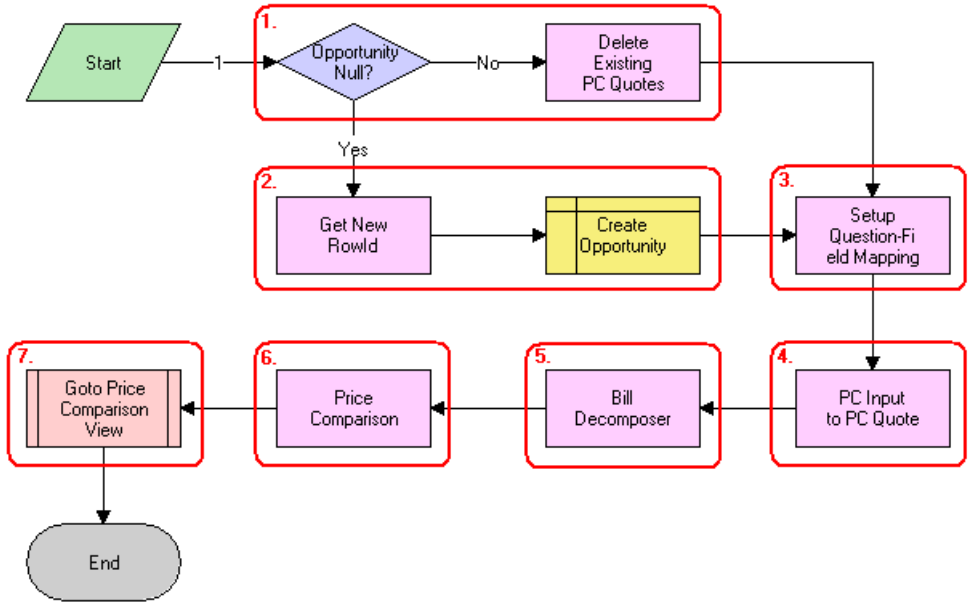


Figure 42. SIS OM PC Price Comparison Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks to determine whether an opportunity exists for the price comparison. If an opportunity exists, then deletes all existing price comparison quotes.
2. If an opportunity does not exist, then creates a new opportunity.
3. Maps the SmartScript session questions to the fields of a quote.
4. Converts the answers from the SmartScript session to a competitor quote using the mapping created in the previous step.
5. Uses the Bill Decomposer method to calculate the user's annual usage.

   This method uses the competitor quote information.

6 Uses the Price Comparison method to generate a comparison quote for each product the company offers that meets the user's specified criteria.

This method uses the usage amounts calculated in the previous step to calculate the projected annual bill for the product.

7 Displays the comparison quotes in the Opportunity Price Comparison view. For more details, see "SIS OM Goto Price Comparison View Process Workflow" on page 251.

Table 41 shows the steps in this workflow that call business service methods.

Table 41. Associated Business Service Methods

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 Workflow

This workflow displays the Opportunity screen, Price Comparison view. Figure 43 shows this workflow.

The SIS OM PC Price Comparison Process workflow calls this workflow as a subprocess.

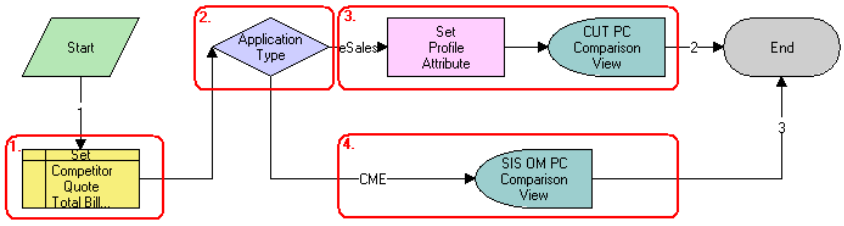


Figure 43. SIS OM Goto Price Comparison View Process Workflow

Workflow Description. This workflow performs the following actions:

1 Sets the Primary Revenue Amount of the opportunity to the total bill amount passed as an input to the workflow.

2 Checks the Siebel application that calls the workflow.

3 If the Siebel application is eSales, then this step stores the Opportunity Id as a profile attribute and displays the CUT Opportunity PC Price Comparison View (eSales).

4 If the Siebel application is not eSales, then this step displays the SIS OM Opportunity PC Price Comparison View.

Table 42 shows the step in this workflow that calls a business service method.

Table 42. Associated Business Service Methods

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

Workflows for Enrollment

This group of workflows facilitates user enrollment. It includes the following workflow process and subprocesses:

- "SIS OM PC Enrollment Workflow" on page 252
  - "SIS OM PC Create Account Subprocess Workflow" on page 254
  - "SIS OM PC Go To Opportunity View Workflow" on page 255
  - "SIS OM PC Set Opportunity Account Workflow" on page 255
  - "CUT eSales - PC Enrollment Process Workflow" on page 255
    - "CUT eSales - Set Shopping Cart Price List Workflow" on page 257
    - "CUT eSales - PC Prepare Cart Process Workflow" on page 257
  - "SIS OM PC Go to Order Entry - Line Items View (Sales) Workflow" on page 258

SIS OM PC Enrollment Workflow

This workflow generates an order for the product that the user selects from the quotes that the price comparison process generates. Figure 44 shows this workflow.

A user initiates this workflow by clicking the Enroll button in the SIS OM PC Opportunity Price Comparison View or the CUT Opportunity PC Price Comparison View (eSales).

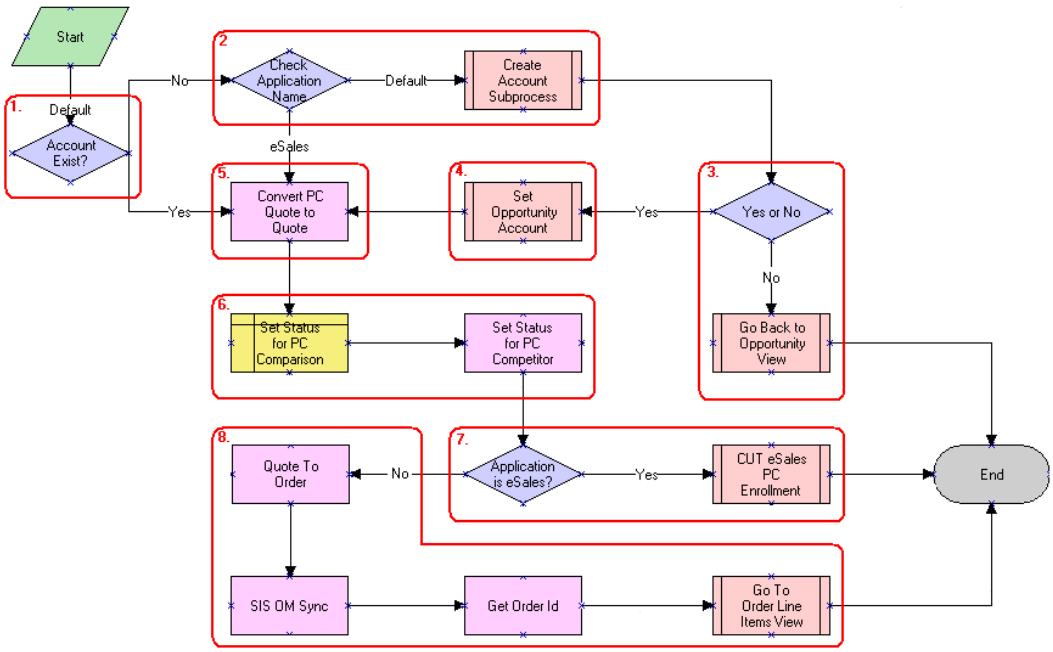


Figure 44. SIS OM PC Enrollment Workflow

Workflow Description. This workflow performs the following actions:

1. Checks to determine whether an account is associated with the opportunity.
2. If an account does not exist and the Siebel application that called the workflow is not eSales, then this step 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 Workflow" on page 254.
3. Checks to determine whether the user created an account. If the user did not create an account, then this step returns the user to the SIS OM PC Opportunity Price Comparison View. For more details, see "SIS OM PC Go To Opportunity View Workflow" on page 255.
4. If the user created a new account, then this step associates the account with the opportunity. For more details, see "SIS OM PC Set Opportunity Account Workflow" on page 255.
5. Converts the comparison quote to a regular quote that the order lifecycle can process.
6. Sets the status of the comparison and competitor quotes to Order Placed.
7. If the Siebel application that called the workflow is eSales, then this step merges the comparison quote with the shopping cart. For more details, see "CUT eSales - PC Enrollment Process Workflow" on page 255.
8. If the Siebel application that called the workflow is not eSales, then this step 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) Workflow" on page 258.

Table 43 shows the steps in this workflow that call business service methods.

Table 43. Associated Business Service Methods

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 Workflow

This workflow creates a new account for a customer based on the details that the user enters. Figure 45 shows this workflow.

The SIS OM PC Enrollment workflow calls this workflow as a subprocess.

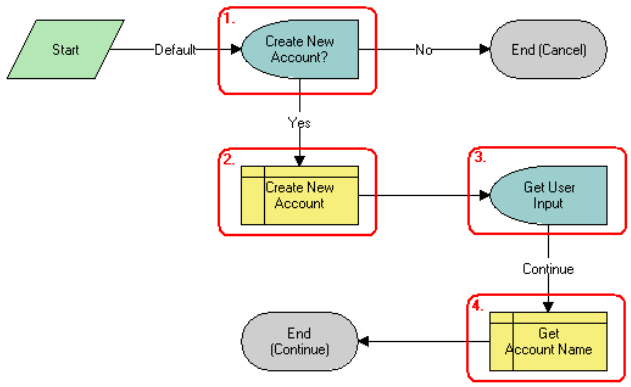


Figure 45. SIS OM PC Create Account Subprocess Workflow

Workflow Description. This workflow performs the following actions:

1. Displays the SIS OM PC Account Entry Selection View and asks the user whether a new account is needed. If the user clicks No, then the subprocess does not create an account and terminates.
2. If the user clicks Yes, then this step creates a new account.
3. Displays the SIS OM PC Account Entry View so the user can enter the details of the account.

   The user clicks Continue.
4. Retrieves the name of the account and returns the name to the calling workflow.

SIS OM PC Go To Opportunity View Workflow

This workflow displays the SIS OM PC Opportunity Price Comparison View. Figure 46 shows this workflow.

The SIS OM PC Enrollment workflow calls this workflow as a subprocess.

Figure 46. SIS OM PC Go To Opportunity View Workflow

Workflow Description. This workflow performs the following actions:

- **Opportunity PC View.** This step displays the SIS OM PC Opportunity Price Comparison View.

SIS OM PC Set Opportunity Account Workflow

This workflow associates the account ID that the process property specifies with the opportunity. Figure 47 shows this workflow.

The SIS OM PC Enrollment workflow calls this workflow as a subprocess.

Figure 47. SIS OM PC Set Opportunity Account Workflow

Workflow Description. This workflow performs the following actions:

- **Set Opportunity Account Id**. This step associates the account ID that the process property specifies with the opportunity.

CUT eSales - PC Enrollment Process Workflow

This workflow adds products (to the shopping cart) that the user selects from the quotes that the price comparison process generates. Figure 48 shows this workflow.

NOTE: Only customer applications use this workflow. This workflow is included in this chapter because a workflow for both employee and customer applications calls this workflow.

The SIS OM PC Enrollment workflow calls this workflow as a subprocess.

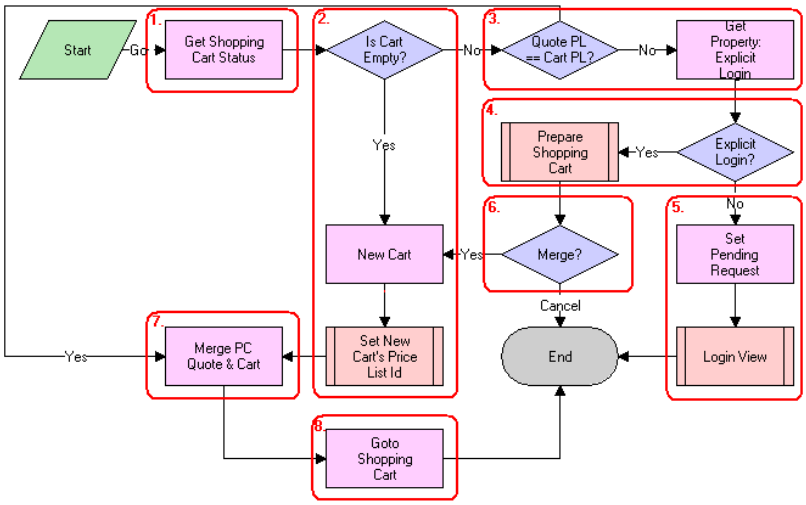


Figure 48. CUT eSales - PC Enrollment Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks the status of the shopping cart.
2. If the cart is empty, then this step creates a new cart and sets the cart's price list to the internal price list for the price comparison. For more details, see "CUT eSales - Set Shopping Cart Price List Workflow" on page 257.
3. If the cart is not empty, then this step compares the cart's price list to the price list of the comparison quote the user selects. If the price lists are different, then checks to determine whether the user explicitly logged in.
4. If the user is logged in, then this step 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 Workflow" on page 257.
5. If the user is not logged in, then this step makes a request to display the CUT Opportunity PC Price Comparison View (eSales) on log in, and displays the Login view. The workflow stops.
6. If the user does not save or discards the existing cart, then the workflow stops.
7. If the price list of the comparison quote and the price list of the cart are the same, or if new cart is created, then this step adds the comparison quote line items to the cart.
8. Displays the Shopping Cart view.

Table 44 shows the steps in this workflow that call business service methods.

Table 44. Associated Business Service Methods

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

CUT eSales - Set Shopping Cart Price List Workflow

This workflow updates the cart's price list to the specified value. Figure 49 shows this workflow.

NOTE: Only customer applications use this workflow. This workflow is included in this chapter because a workflow for both employee and customer applications calls this workflow.

The CUT eSales - PC Enrollment Process workflow calls this workflow as a subprocess.

Figure 49. CUT eSales - Set Shopping Cart Price List Workflow

Workflow Description. This workflow performs the following action:

- **Set Cart Price List Id**. This step updates the cart's price list to the specified value.

CUT eSales - PC Prepare Cart Process Workflow

This workflow allows the user to save the current shopping cart or to discard the cart contents before adding the product the user selects from the quotes that the price comparison process generates. Figure 50 shows this workflow.

NOTE: Only customer applications use this workflow. This workflow is included in this chapter because a workflow for both employee and customer applications calls this workflow.

The CUT eSales - PC Enrollment Process workflow calls this workflow as a subprocess.

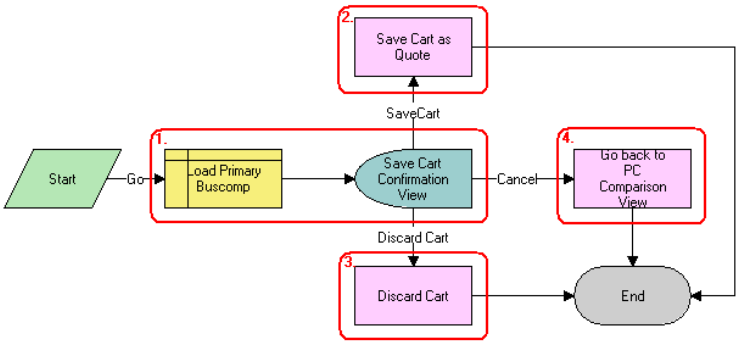


Figure 50. CUT eSales - PC Prepare Cart Process Workflow

Workflow Description. This workflow performs the following actions:

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

Table 45 shows the steps in this workflow that call business service methods.

Table 45. Associated Business Service Methods

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

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

This workflow navigates to the Order Entry - Line Items view (Sales). Figure 51 shows this workflow.

The SIS OM PC Enrollment workflow calls this workflow as a subprocess.

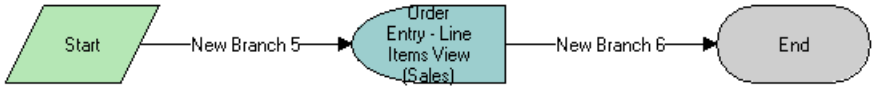


Figure 51. SIS OM PC Go to Order Entry - Line Items View (Sales) Workflow

Workflow Description. This workflow performs the following action:

- **Order Entry - Line Items View (Sales)**. This step navigates to the Order Entry - Line Items view (Sales).

Workflows for Bulk Requests

The group of workflows listed in this topic supports the bulk requests functionality. This topic describes the following workflow processes and subprocesses:

- "ABO Bulk Request Import Workflow" on page 261
- "ABO Bulk Request - Validate Process Workflow" on page 261
- "ABO Bulk Request - Submit Driver Process Workflow" on page 262
- "ABO Bulk Request - Submit Process Workflow" on page 263
- "ABO Bulk Request - Parallel Sub Process Workflow" on page 265
- "ABO Bulk Request - Sub Process Workflow" on page 267
- "ABO Bulk Request - Prepare Action Set Sub-Process Workflow" on page 269
- "ABO Bulk Request - Inclusive Process Action Sub-Process Workflow" on page 270
- "ABO Bulk Request - Add Sub-Process Workflow" on page 276
- "ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow" on page 273
- "ABO Bulk Request - Modify Sub-Process Workflow" on page 277
- "ABO Bulk Request - Delete Sub-Process Workflow" on page 280
- "ABO Bulk Request - Suspend/Resume Sub-Process Workflow" on page 282
- "ABO Bulk Request - Upgrade Sub-Process Workflow" on page 285
- "ABO Bulk Request - Notify User Sub-Process Workflow" on page 287
- "ABO Bulk Request Add Item Customize Process Workflow" on page 288
- "ABO Bulk Request Add Item Customize SubProcess Workflow" on page 291
- "ABO Bulk Request - Edit Order Line Item Workflow" on page 293
- "ABO Bulk Request - Clear Exception Process Workflow" on page 296

- "ABO Bulk Request - Clear Exception Sub-Process Workflow" on page 297
- "ABO Bulk Request - Reset Process Workflow" on page 297
- "ABO Bulk Request - Reset Process Sub-Process Workflow" on page 298
- "ABO Bulk Request - Cancel Process Workflow" on page 298
- "ABO Bulk Request - Edit Complex Asset Workflow" on page 299
- "ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow" on page 302
- "ABO Bulk Request - ApplyProductPromotion Workflow" on page 304
- "ABO Bulk Request - ModifyWebService-Order Workflow" on page 306
- "ABO Bulk Request - Check Eligibility & Compatibility Workflow" on page 307
- "ABO Bulk Request - Disconnect Products & Services Process Workflow" on page 307
- "ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow" on page 308
- "ABO Bulk Request - Promotion Disconnect Sub Process Workflow" on page 311
- "ABO Bulk Request - Disconnect Asset Sub-process Workflow" on page 315
- "ABO Bulk Request - Edit Promotion Related Asset Workflow" on page 317
- "ABO Bulk Request - Promotion - Update Matched Items Sub Process Workflow" on page 319
- "ABO Bulk Request - Promotion Disconnect Process Workflow" on page 321
- "ABO Bulk Request - Explode Workflow" on page 323
- "ABO Bulk Request - Explode Driver Workflow" on page 324
- "ABO Bulk Request - All Instances Sub Process Workflow" on page 326
- "ABO Bulk Request Add Item Customize SubProcess Quotes Workflow" on page 327

NOTE: For some of these bulk ordering workflows, the CallServiceMethod wrapper method calls the method in the workflow. Because these workflows are called asynchronously, some method calls are routed through this wrapper method to capture exceptions.

Template Quotes and Template Orders for Bulk Requests

A *template quote* or *template order* is a temporary quote or order that stores a configured customizable product. A template quote or order is created when a user configures a customizable product in the Actions applet during the creation of a bulk request. The Customize button in the Actions applet calls the ABO Bulk Request Add Item Customize Process Workflow workflow. If you use Siebel Configurator for customizable products for creating actions, then you cannot remove the capacity of Siebel Communications Order Management to create template orders.

After a bulk order is processed, its template quotes or orders remain in the Siebel database. However, you can set up the bulk requests functionality to delete template quotes or orders. To accomplish this deletion, you can modify the ABO Bulk Request - Sub Process Workflow by adding a step with a condition before the End step. This condition must check whether the action set has finished successfully, and not been cancelled by an error or a user action.

ABO Bulk Request Import Workflow

This workflow imports an XML template file for a bulk request. Figure 52 shows this workflow.

A user can initiate this workflow by clicking the Import button on the Bulk Request form or the Bulk Request List view. Also, a run-time event or other engine can call this workflow.

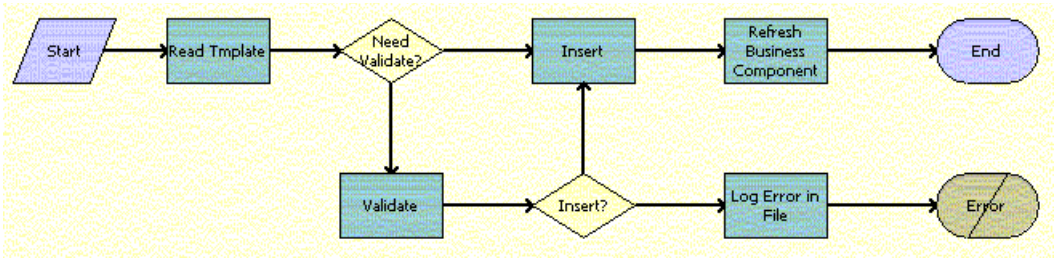


Figure 52. ABO Bulk Request Import Workflow

Workflow Description. This workflow performs the following actions:

1. Reads the XML template file, extracts the data in the file, and converts the data to a Siebel Message.
2. If validation is not configured, then writes all of the data (valid and invalid) into the database.
3. If validation is configured, then validates the data.
4. If all the data is valid, then writes the data into the database.
5. If any of the data is invalid, then logs the data into a file.

Table 46 shows the steps in this workflow that call business service methods.

Table 46. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Read Template	ReadXMLTemplateFile	ABO Bulk Request Import Service
Validate	Validate	ABO Bulk Request Validation Service
Insert	Insert	ABO Bulk Request Import Service
Refresh Business Component	Refresh Business Component	SIS OM PMT Service
Log Error in File	LogExceptionFile	ABO Bulk Request Import Service

ABO Bulk Request - Validate Process Workflow

This workflow validates the data in a bulk request. Figure 53 shows this workflow.

A user can initiate this workflow by clicking the Validate button on the Bulk Request form or the Bulk Request List view.

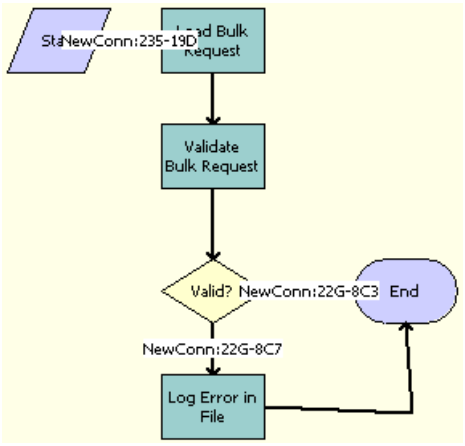


Figure 53. ABO Bulk Request Validate Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Load Bulk Request**. This step loads the data in the bulk request.
2. **Validate Bulk Request**. This step validates the data in the bulk request against validation rules.

   The Cache Action Set, Cache Actions, and Cache Instances arguments are part of this step. These inputs take values of Y or N. In the case of a Y value, the objects are cached during validation. When the number of objects of a particular type is very high, these flags can be set to N to improve performance.
3. **Valid?** This step calls different actions for valid and invalid data.
4. **Log Error in File**. If any of the data is invalid, then this step logs the data into a file.

Table 47 shows the steps in this workflow that call business service methods.

Table 47. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Load Bulk Request	Query	EAI Siebel Adapter
Validate Bulk Request	Validate	ABO Bulk Request Validation Service
Log Error in File	LogExceptionFile	ABO Bulk Request Import Service

ABO Bulk Request - Submit Driver Process Workflow

This workflow submits a bulk request asynchronously. Figure 54 shows this workflow.

A user initiates this workflow by clicking the Submit button on the Bulk Request form or the Bulk Request List view.

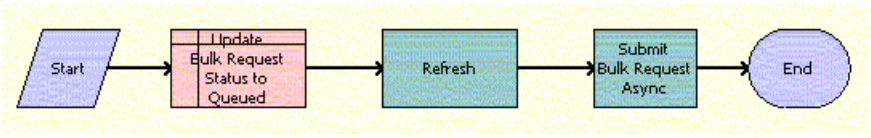


Figure 54. ABO Bulk Request Submit Driver Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Update Bulk Request Status to Queued**. This step calls Siebel Operation Update to update the status of the bulk request header to Queued.
2. **Refresh**. This step refreshes the request header status.
3. **Submit Bulk Request Async**. This step calls the RunProcess business service method for Siebel Server Requests to call the ABO Bulk Request - Submit Process Workflow. For more details, see "ABO Bulk Request - Submit Process Workflow" on page 263.

Table 48 shows the steps in this workflow that call business service methods.

Table 48. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Refresh	Refresh Business Component	SIS OM PMT Service
Submit Bulk Request Async	SubmitRequest	Server Requests

ABO Bulk Request - Submit Process Workflow

This workflow submits a bulk request for processing. The execution of this workflow can result in one or more exceptions that are logged in the exception table. Figure 55 shows this workflow.

The resubmit process is handled natively in this workflow and is accomplished by loading only those action sets, actions, and users who have the appropriate status.

- Only those action sets with a status of To Process or Partially Processed and no exceptions are loaded. Action sets that are completely processed have a Processed status, and the records are read-only.
- Only those action records with a status of To Process or Partially Processed are loaded. Action records that are completely processed have a Processed status, and action records that have errors have an Error status.
- Only those user records with a status of To Process or Partially Processed are loaded. User records that are completely processed have a Processed status, and user records that have errors have an Error status.

The ABO Bulk Request - Submit Driver Process Workflow calls this workflow as a subprocess.

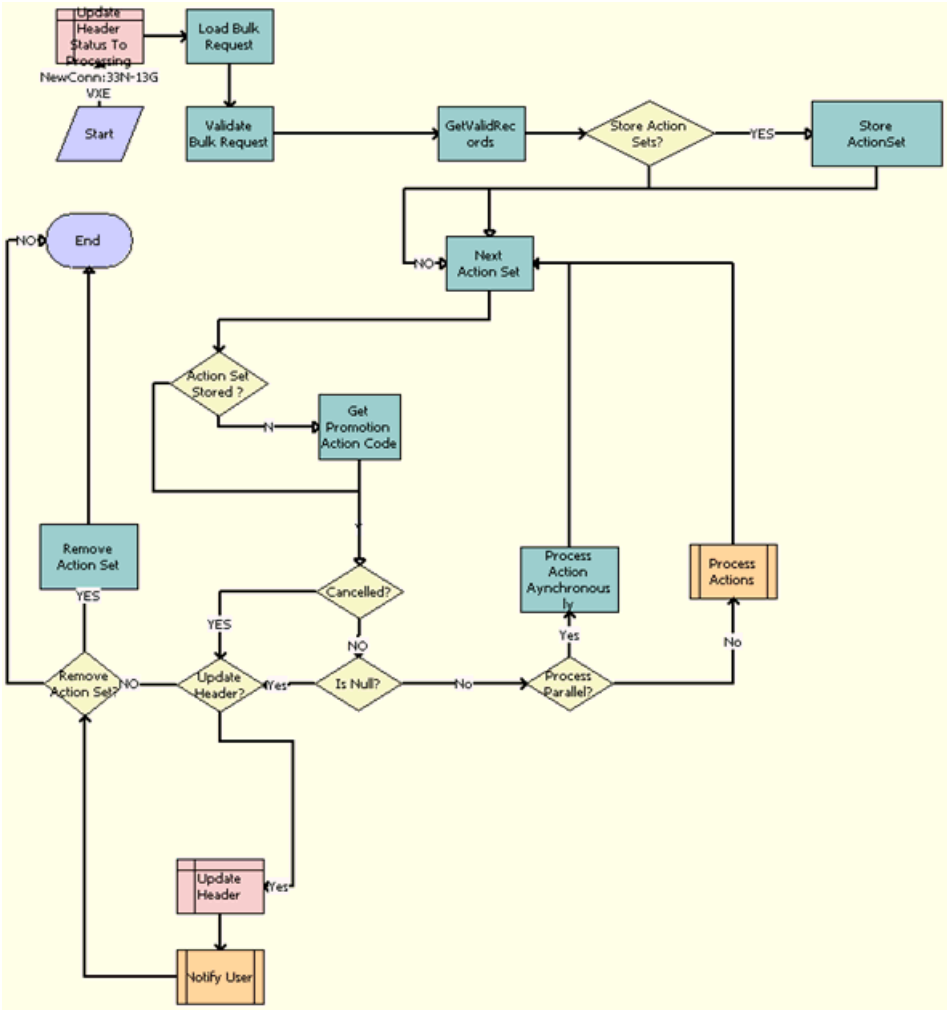


Figure 55. ABO Bulk Request - Submit Process Workflow

Workflow Description. This workflow performs the following actions:

1. Updates the status of the header for the bulk request to Processing.
2. Loads the bulk request record into memory using the EAI Query method that takes as input a search specification that contains the bulk request ID.
3. Validates the action sets, actions, and users for the bulk request.
4. Gets the valid action sets to process.
5. Stores these action sets.
6. Calls the Next Action Set business service method to retrieve from memory the next valid action set record to process.

7 Checks whether the action set is stored, and gets the Action Code of the promotion.

8 Checks whether the bulk request is canceled.

9 If the bulk request is not canceled, then checks whether an action set to process exists for the bulk request.

10 If an action set exists, then calls the ABO Bulk Request - Parallel Sub Process Workflow for action sets that are processed in parallel or the ABO Bulk Request - Sub Process Workflow for action sets that are not processed in parallel. For more details, see "ABO Bulk Request - Parallel Sub Process Workflow" on page 265 and "ABO Bulk Request - Sub Process Workflow" on page 267.

11 Queries the order header to obtain the total number of jobs present for the entered bulk request ID.

12 For bulk request headers to update, updates the status of the header to appropriate value and total number of jobs obtained in previous step. The successful or unsuccessful completion of the process to submit the bulk request determines the appropriate value.

13 Calls the ABO Bulk Request - Notify User Sub-Process Workflow that notifies the user or creator of the bulk request about the status of the bulk request. For more details, see "ABO Bulk Request - Notify User Sub-Process Workflow" on page 287.

14 For bulk request headers to not update, removes the action set for the bulk request, if appropriate.

Table 49 shows the steps in this workflow that call business service methods.

Table 49. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Load Bulk Request	Query	EAI Siebel Adapter
Validate Bulk Request	Validate	ABO Bulk Request Validation Service
GetValidRecords	Query	EAI Siebel Adapter
Store ActionSet	StoreParentChildInfo	ABO Bulk Request Processing Service
Next Action Set	NextObject	ABO Bulk Request Processing Service
Get Promotion Action Code	GetPromotionActionCode	ABO Bulk Request Validation Service
Process Actions Asynchronously	SubmitRequest	Server Requests
Remove Action Set	RemoveParentChildInfo	ABO Bulk Request Processing Service

ABO Bulk Request - Parallel Sub Process Workflow

This workflow calls the appropriate subprocess to create orders for action sets that are processed in parallel. Figure 56 shows this workflow.

The ABO Bulk Request - Submit Process Workflow calls this workflow as a subprocess.

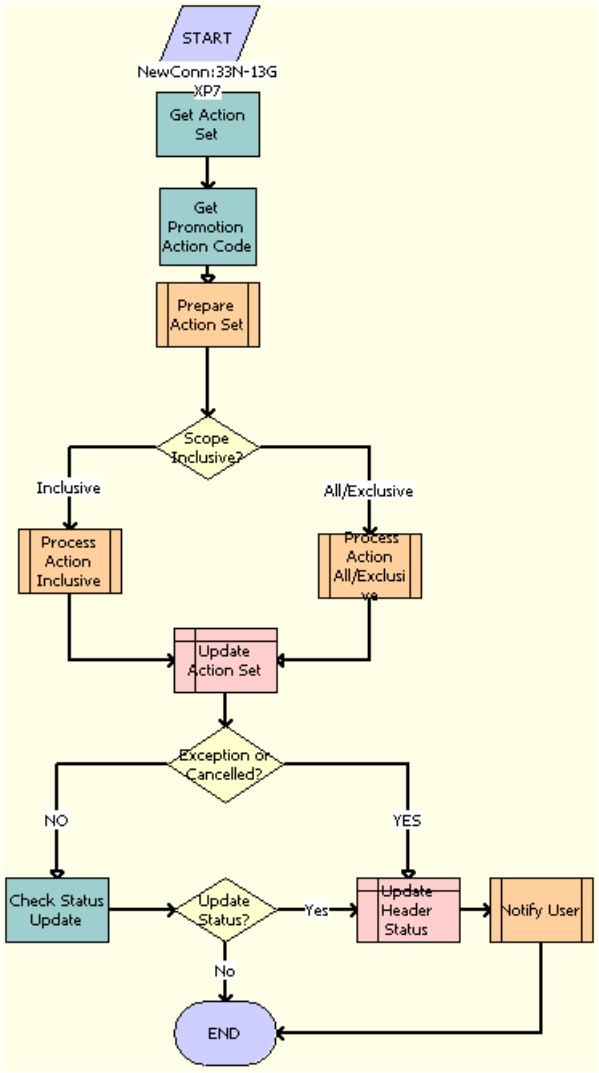


Figure 56. ABO Bulk Request - Parallel Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. Gets the action set and gets the Action Code of the promotion.
2. Calls the ABO Bulk Request - Prepare Action Set Sub-Process Workflow. For more details, see "ABO Bulk Request - Prepare Action Set Sub-Process Workflow" on page 269.
3. If the scope of the action set is Inclusive, then calls the ABO Bulk Request - Inclusive Process Action Sub-Process Workflow. For more details, see "ABO Bulk Request - Inclusive Process Action Sub-Process Workflow" on page 270.

4 If the scope of the action set is All or Exclusive, then calls the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow. For more details, see "ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow" on page 273.

5 Queries the order header to obtain the total number of jobs present for the entered bulk request ID.

6 Updates the status of the action set and the total number of jobs obtained in the previous step.

7 Calls the ABO Bulk Request - Notify User Sub-Process Workflow that notifies the user or creator of the bulk request about the status of the bulk request. For more details, see "ABO Bulk Request - Notify User Sub-Process Workflow" on page 287.

Table 50 shows the steps in this workflow that call business service methods.

Table 50. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Action Set	GetObject	ABO Bulk Request Processing Service
Get Promotion Action Code	GetPromotionActionCode	ABO Bulk Request Validation Service
Check Status Update	CheckObject	ABO Bulk Request Processing Service

ABO Bulk Request - Sub Process Workflow

This workflow calls the appropriate subprocess to create orders for action sets that are not processed in parallel. Figure 57 shows this workflow.

The ABO Bulk Request - Submit Process Workflow calls this workflow as a subprocess.

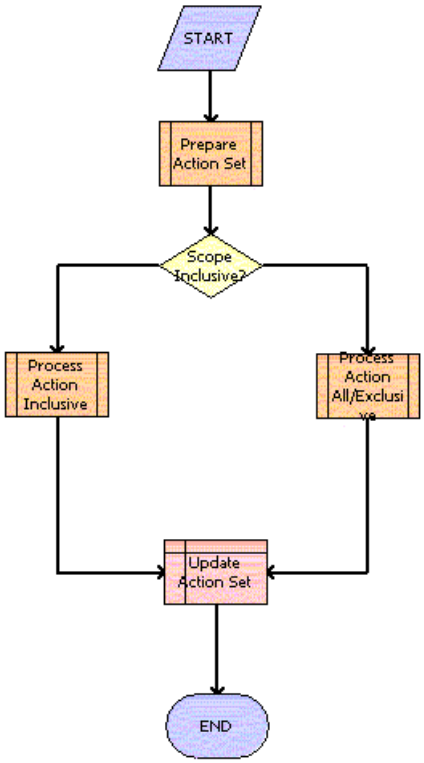


Figure 57. ABO Bulk Request - Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Prepare Action Set**. This step calls the ABO Bulk Request - Prepare Action Set Sub-Process Workflow. For more details, see "ABO Bulk Request - Prepare Action Set Sub-Process Workflow" on page 269.
2. **Scope Inclusive?** This step calls different workflow steps, depending on the scope of the action set.
3. **Process Action Inclusive**. If the scope of the action set is Inclusive, then this step calls the ABO Bulk Request - Inclusive Process Action Sub-Process Workflow. For more details, see "ABO Bulk Request - Inclusive Process Action Sub-Process Workflow" on page 270.
4. **Process Action All/Exclusive**. If the scope of the action set is All or Exclusive, then this step calls the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow. For more details, see "ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow" on page 273.
5. **Update Action Set**. This step updates the status of the action set.

ABO Bulk Request - Prepare Action Set Sub-Process Workflow

This workflow creates a new or follow-on order for each action set in a submitted bulk request. This workflow passes out the new order ID, the order number, and the follow-on flag. Figure 58 shows this workflow.

The ABO Bulk Request - Parallel Sub Process Workflow and the ABO Bulk Request - Sub Process Workflow call this workflow as a subprocess.

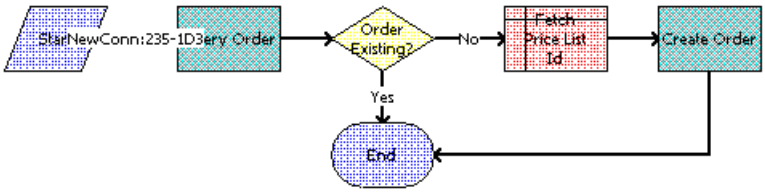


Figure 58. ABO Bulk Request - Prepare Action Set Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Query Order**. This step queries the Order table for orders for the action set. If an unprocessed (not submitted) order exists, then this step takes no action. If processed (submitted) order exists, then this step returns a flag indicating that the action set is a candidate for follow-on order creation.
2. **Order Existing?** This step checks the output of the order query and indicates if a new or follow-on order is needed.
3. **Fetch Price List Id**. This step gets the price list for the order.
4. **Create Order**. This step creates the order along with the Job Id and the Job Type for this action set using EAI Insert.

Table 51 shows the steps in this workflow that call business service methods.

Table 51. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query Order	QueryOrder Depending on the Mode input arguments, this method queries for either quotes or orders.	ABO Bulk Request Processing Service
Create Order	CreateOrder Depending on the Mode input arguments, this method creates either a quote or an order.	ABO Bulk Request Processing Service

ABO Bulk Request - Inclusive Process Action Sub-Process Workflow

When the scope of the action set is Inclusive, this workflow cycles through the consolidated actions in the action set of a submitted bulk order to call the appropriate subprocess to create order line items for the users in the bulk order. Figure 59 shows this workflow.

The ABO Bulk Request - Parallel Sub Process Workflow or the ABO Bulk Request - Sub Process Workflow calls this workflow as a subprocess.

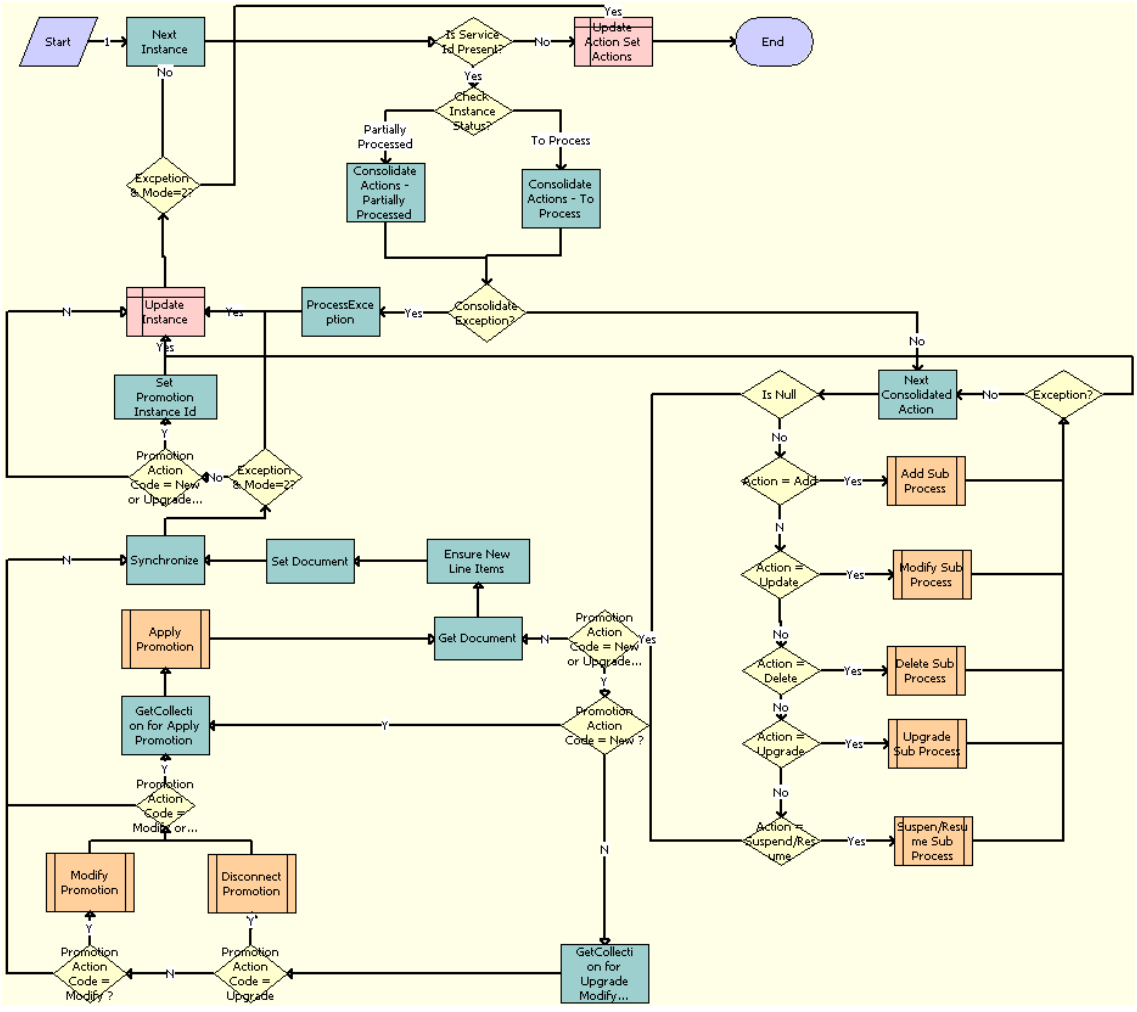


Figure 59. ABO Bulk Request - Inclusive Process Action Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Is Service Id Present?** This step determines whether a service ID is present.
2. **Check Instance Status.** This step determines the status of the instance.

3 **Consolidate Actions - Partially Processed**. This step consolidates the partially processed actions for the instance.

4 **Consolidate Actions - To Process**. This step consolidates the To Process actions for the instance.

5 **Consolidate Exception?** This step checks for exceptions from the consolidation steps.

6 **ProcessException**. This step processes any found exceptions.

7 **Next Consolidated Action**. This step gets the next valid consolidated action record to process.

8 **Is Null?** This step determines if the action code is null.

9 **Action = Add.** This step determines if the action code is Add.

10 **Add Sub Process**. This step creates order line items for Add action codes. For more information, see "ABO Bulk Request - Add Sub-Process Workflow" on page 276. The subprocess uses the consolidated action and the list of action set users as input.

11 **Action = Update.** This step determines if the action code is Modify.

12 **Modify Sub Process**. This step creates order line items for Modify action codes. For more information, see "ABO Bulk Request - Modify Sub-Process Workflow" on page 277. The subprocess uses the consolidated action and the list of action set users as input.

13 **Action = Delete.** This step determines if the action code is Delete.

14 **Delete Sub Process**. This step creates order line items for Delete action codes. For more information, see "ABO Bulk Request - Delete Sub-Process Workflow" on page 280. The subprocess uses the consolidated action and the list of action set users as input.

15 **Action = Upgrade.** This step determines if the action code is Upgrade.

16 **Upgrade Sub Process**. This step creates order line items for Upgrade action codes. For more information, see "ABO Bulk Request - Upgrade Sub-Process Workflow" on page 285. The subprocess uses the consolidated action and the list of action set users as input.

17 **Action = Suspend/Resume.** This step determines if the action code is Suspend or Resume.

18 **Suspend/Resume Sub Process**. This step creates order line items for Suspend and Resume action codes. For more information, see "ABO Bulk Request - Suspend/Resume Sub-Process Workflow" on page 282. The subprocess uses the consolidated action and the list of action set users as input.

19 **Exception?** This step determines if exceptions are present.

20 **Promotion Action Code = New or Upgrade or Modify or Delete?** This step checks whether the Promotion Action Code is equal to New, Upgrade, Modify, or Delete.

21 **Promotion Action Code = New?** This step checks whether the action code of the promotion is New.

22 **GetCollection for Upgrade Modify Promotion**. This step gets the collection to upgrade a modify promotion.

23 **Promotion Action Code = Upgrade**. This step checks whether the Promotion Action Code is equal to Upgrade.

24 **Disconnect Promotion**. This step calls the subprocess to delete promotions.

25 **Promotion Action Code = Modify?** This step checks whether the action code of the promotion is Modify.

26 **Modify Promotion**. This step calls the subprocess to modify the promotion.

27 **Promotion Action Code = Modify or Upgrade or New**. This step checks whether the action code of the promotion is Modify, Upgrade, or New.

28 **GetCollection for Apply Promotion**. This step gets the collection to apply the promotion.

29 **Apply Promotion**. This step calls the subprocess to apply promotions.

30 **Get Document**. This step gets information about the overall document.

31 **Ensure New Line Items**. This step checks new line items.

32 **Set Document**. This step sets the document.

33 **Synchronize**. This step synchronizes the order line items for the instance with the price calculation and with the eligibility and compatibility check, if specified.

34 **Exception & Mode=2?** This step checks whether the E&C mode is 2 and whether any exception exists.

35 **Promotion Action Code = New or Upgrade or Modify or Delete**. This step checks whether the action code of the promotion is New, Upgrade, Modify, or Delete.

36 **Set Promotion Instance Id**. This step sets the promotion instance Id.

37 **Exception & Mode=2?** This step checks whether the E&C mode is 2 and whether any exception exists.

38 **Next Instance**. This step loops through the list of instances and return one instance at a time for processing.

39 **Update Action Set Actions**. This step updates the status of the actions for the action set to Processed or to Error (for found exceptions).

Table 52 shows the steps in this workflow that call business service methods.

Table 52. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Ensure New Line Items	Set Field Value	SIS OM PMT Service
Get Document	GetCollection	ABO Bulk Request Processing Service
GetCollection for Apply Promotion	GetCollection	ABO Bulk Request Processing Service
GetCollection for Upgrade Modify Promotion	GetCollection	ABO Bulk Request Processing Service
Set Document	AddItemtoCollection	ABO Bulk Request Processing Service
Set Promotion Instance Id	SetPromInstanceId	ABO Bulk Request Processing Service

ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow

When the scope of the action set is All or Exclude, this workflow cycles through the consolidated actions in the action set of a submitted bulk order to call the appropriate subprocess to create order line items for the users in the bulk order. Figure 60 shows this workflow.

The ABO Bulk Request - Parallel Sub Process Workflow or the ABO Bulk Request - Sub Process Workflow calls this workflow as a subprocess.

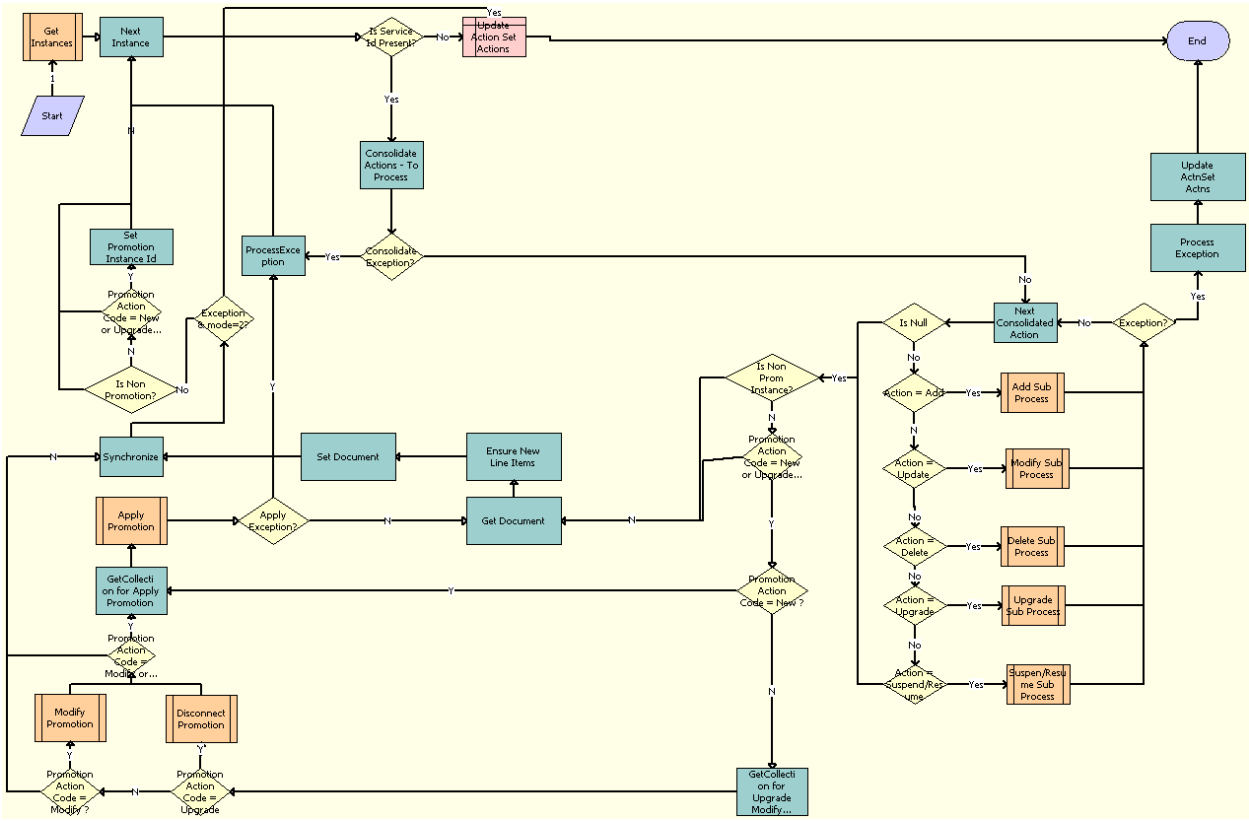


Figure 60. ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Instances**. This step gets the list of instances, using as criteria the scope and child instance type values. For example, if the scope is Exclude, then this step removes the specified instances from the list of instances.
2. **Is Service Id Present?** This step determines whether a service ID is present.
3. **Consolidate Actions - To Process**. This step consolidates the To Process actions for the instance.
4. **Consolidate Exception?** This step checks for exceptions from the consolidation step.

5 **ProcessException**. This step processes any found exceptions.

6 **Next Consolidated Action**. This step gets the next valid consolidated action record to process.

7 **Is Null?** This step determines if the action code is null.

8 **Action = Add.** This step determines if the action code is Add.

9 **Add Sub Process**. This step creates order line items for Add action codes. For more information, see "ABO Bulk Request - Add Sub-Process Workflow" on page 276. The subprocess uses the consolidated action and the list of action set users as input.

10 **Action = Update.** This step determines if the action code is Modify.

11 **Modify Sub Process**. This step creates order line items for Modify action codes. For more information, see "ABO Bulk Request - Modify Sub-Process Workflow" on page 277. The subprocess uses the consolidated action and the list of action set users as input.

12 **Action = Delete.** This step determines if the action code is Delete.

13 **Delete Sub Process**. This step creates order line items for Delete action codes. For more information, see "ABO Bulk Request - Delete Sub-Process Workflow" on page 280. The subprocess uses the consolidated action and the list of action set users as input.

14 **Action = Upgrade.** This step determines if the action code is Upgrade.

15 **Upgrade Sub Process**. This step creates order line items for Upgrade action codes. For more information, see "ABO Bulk Request - Upgrade Sub-Process Workflow" on page 285. The subprocess uses the consolidated action and the list of action set users as input.

16 **Action = Suspend/Resume.** This step determines if the action code is Suspend or Resume.

17 **Suspend/Resume Sub Process**. This step creates order line items for Suspend and Resume action codes. For more information, see "ABO Bulk Request - Suspend/Resume Sub-Process Workflow" on page 282. The subprocess uses the consolidated action and the list of action set users as input.

18 **Exception?** This step determines if exceptions are present.

19 **Process Exception**. This step processes any found exceptions.

20 **Update Action Set Actions**. This step updates the status of the actions for the action set to Processed or to Error (for found exceptions).

21 **Promotion Action Code = New or Upgrade or Modify or Delete?** This step checks whether the Promotion Action Code is equal to New, Upgrade, Modify, or Delete.

22 **Promotion Action Code = New?** This step checks whether the action code of the promotion is New.

23 **GetCollection for Upgrade Modify Promotion**. This step gets promotion-related information from the document to be used when calling the Modify Promotion and Disconnect Promotion subprocesses.

24 **Promotion Action Code = Upgrade**. This step checks whether the Promotion Action Code is equal to Upgrade.

25 **Disconnect Promotion**. This step calls the Disconnect Promotion workflow.

26 **Promotion Action Code = Modify?** This step checks whether the action code of the promotion is Modify.

27 **Modify Promotion**. This step calls the Modify Promotion workflow.

28 **Promotion Action Code = Modify or Upgrade or New**. This step checks whether the action code of the promotion is Modify, Upgrade, or New.

29 **Get Collection for ApplyPromotion**. This step removes the entire document for the instance from the collection and proceeds to the Apply Promotion step.

30 **Apply Promotion**. This step checks the missed items and the matched items in the promotion.

31 **Get Document**. This step removes the entire document from the collection.

32 **Ensure New Line Items**. This step generates a new Integration Id for each line item in the document.

33 **Set Document**. This step gets the document back in the collection before synchronization occurs.

34 **Synchronize**. This step synchronizes the order line items for the instance with the price calculation and with the eligibility and compatibility check, if specified.

35 **Exception & Mode=2?** This step checks whether the E&C mode is 2 and whether any exception exists.

36 **Promotion Action Code = New or Upgrade or Modify or Delete**. This step checks whether the action code of the promotion is New, Upgrade, Modify, or Delete.

37 **Set Promotion Instance Id**. After the document is synchronized, this step adds the promotion instance Id to the promotion-related line items.

38 **Next Instance**. This step loops through the list of instances and return one instance at a time for processing.

39 **Update Action Set Actions**. This step updates the status of the actions for the action set to Processed or to Error (for found exceptions).

Table 53 shows the steps in this workflow that call business service methods.

Table 53. Associated Business Service Methods

Workflow Step	Method Called
Consolidate Actions - To Process	ConsolidateAllActions
Next Consolidated Action	NextObject
Synchronize	Synchronize
ProcessException	WriteException
Update Action Set Actions	UpdateActionSetAction
Set Promotion Instance Id	SetPromInstanceId
Set Document	AddItemtoCollection

Table 53. Associated Business Service Methods

Workflow Step	Method Called
GetCollection for Upgrade Modify Promotion	GetCollection
GetCollection for Apply Promotion	GetCollection
Get Document	GetCollection
Ensure New Line Items	Set Field Value
Next Instance	NextObject

ABO Bulk Request - Add Sub-Process Workflow

This workflow creates an order line item when the consolidated action is Add. Figure 61 shows this workflow.

The ABO Bulk Request - Inclusive Process Action Sub-Process Workflow calls this workflow as a subprocess when the consolidated action is Add.

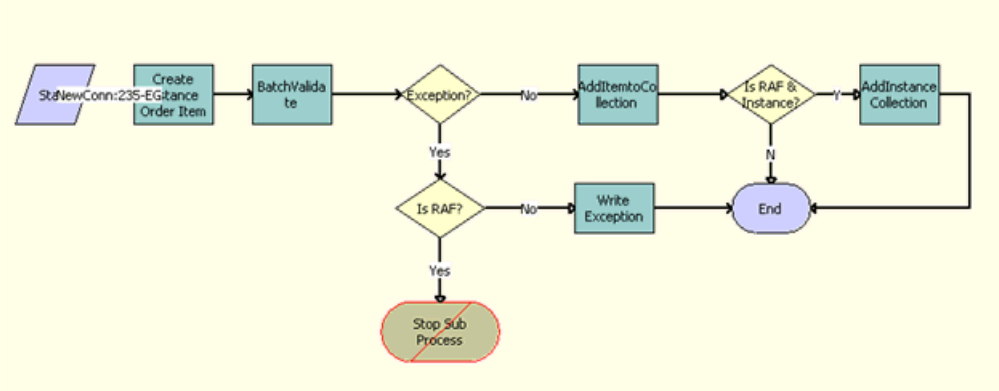


Figure 61. ABO Bulk Request - Add Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Create Instance Order Item**. This step creates an order line item for the product instance associated with the bulk request instance (user).
2. **BatchValidate**. This step checks the order line items against Configurator rules to validate the order line items.
3. **Exception?** This step checks the order line items and indicates whether or not exceptions exist.
4. **Is RAF ?** This decision step checks if the flow is called from RAF. If so, it routes the flow to Stop Sub Process, which terminates the process by setting the error code. If not, it routes the flow to Write Exception.

5 **Write Exception**. If an exception exists, then this step retrieves it and stores it as an exception in the database for bulk request processing.

6 **AddItemtoCollection**. If exceptions do not exist, then this step adds the order line items to a collection in memory for synchronization. This step calls the AddItemtoCollection method of the ABO Bulk Request Processing Service through the wrapper method CallServiceMethod of the ABO Bulk Request Processing Service business service.

7 **Is RAF & Instance?** This condition step checks whether the flow is called from RAF and whether the input argument Instance is populated with a quote or order populated from the request message.

8 **AddInstance Collection.** This step calls the AddItemtoCollection method of the ABO Bulk Request Processing Service through the wrapper method CallServiceMethod of the ABO Bulk Request Processing Service business service, if the Instance has a valid quote or order value, to add the quote or order structure to the collection so the final order includes the quote or order details passed as input in addition to the line items generated through offer action executions.

Table 54 shows the steps in this workflow that call business service methods.

Table 54. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Create Instance Order Item	SetInstanceData	ABO Bulk Request Processing Service
BatchValidate	BatchValidate	ABO Bulk Request Processing Service
AddItemtoCollection	AddItemtoCollection	ABO Bulk Request Processing Service
Write Exception	WriteException	ABO Bulk Request Processing Service

ABO Bulk Request - Modify Sub-Process Workflow

This workflow creates an order line item when the consolidated action is Update. Figure 62 shows this workflow.

The ABO Bulk Request - Inclusive Process Action Sub-Process Workflow and the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow call this workflow as a subprocess when the consolidated action is Update.

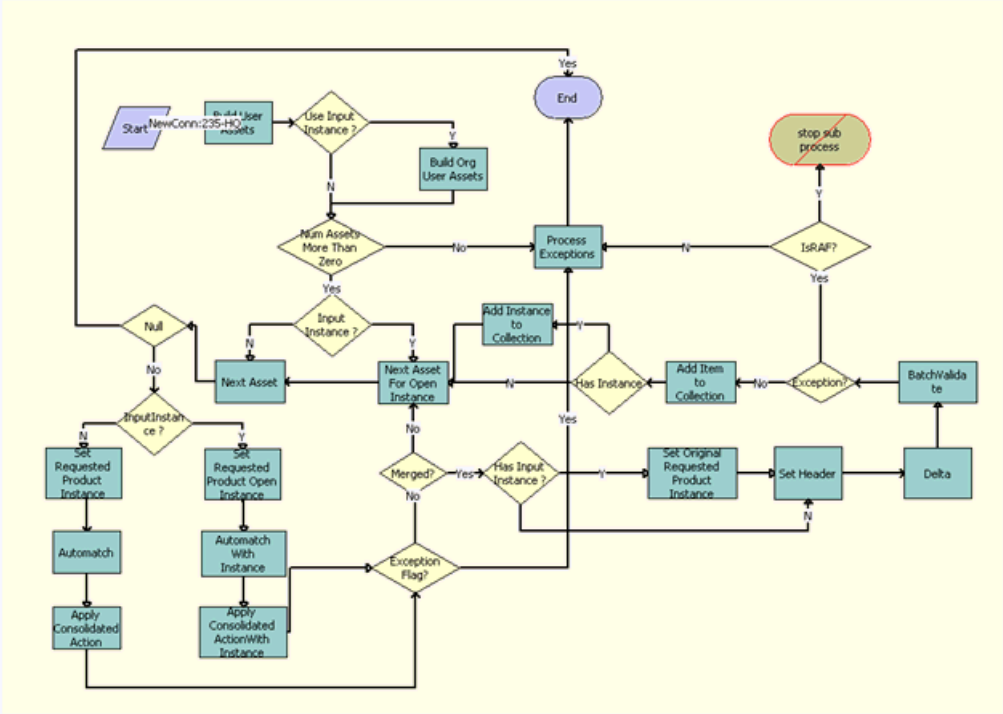


Figure 62. ABO Bulk Request - Modify Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Build User Assets.** This step calls the BuildInstanceAsset method of the ABO Bulk Request Processing Service business service, which uses the contact ID and account ID for the user and the product ID to load the asset records for the user.
2. **Use Input Instance ?** This condition step checks whether the input includes a quote or order structure to be used in the processing that is called from a RAF flow.
3. **Build Org User Assets.** This step calls BuildInstanceAsset method of ABO Bulk Request Processing Service business service for loading the asset based on the input, and it also considers the input quote or order which has been provided in the input argument.
4. **Num Assets More Than Zero.** This decision step checks to see whether asset records exist. If no asset records exist, then an exception occurs, and the workflow terminates.
5. **Input Instance.** This condition step checks whether the input includes a quote or order structure to be used in the processing that is called from a RAF flow.
6. **Next Asset For Open Instance.** This step calls the NextObject method of the ABO Bulk Request Processing Service business service to traverse to the next root product in the quote or order structure that is passed as input argument.

7 **Next Asset.** This step uses the NextObject method of the ABO Bulk Request Processing Service business service to load into memory the next asset for the user from the instance asset records created in the earlier step.

8 **Null.** This decision step checks whether the asset id for the list of product which is being loaded in to memory in the step Next Asset is Null. If so, there is no remaining asset to apply the actions to.

9 **Input Instance.** This decision step checks whether the input includes a quote or order structure to be used in the processing and whether it is called from a RAF flow. If so, it routes the flow to the step Set Requested Product Open Instance and the subsequent steps to load and apply actions the quote or order instance passed as input. If not, it routes the flow to the step Set Requested Product Instance and the subsequent steps to apply actions to the quote or order that are based on user asset.

10 **Set Requested Product Open Instance.** This step calls the Set Product Instance method of the SIS OM PMT Service business service to load the current root product instance details into memory for processing.

11 **Automatch With Instance.** This step calls the AutoMatch method of the Complex Product AutoMatch Service business service to match the line items of the quote or order with the product configuration using the Configurator engine and to fix any inconsistency.

12 **Apply Consolidated Action With Instance.** This step calls the MergeConsolidatedAction method of the ABO Bulk Request Processing Service business service to apply consolidated actions to the user asset to form the future state of the asset.

13 **Exception Flag?** This condition step checks whether there are any exceptions while applying the modify actions. If so, it routes the message to the Process Exceptions step. If not, to the Merged? step.

14 **Set Requested Product Instance.** This step calls the Set Product Instance method of the SIS OM PMT Service business service, which uses the asset for the user and the consolidated action (converted into asset hierarchy) to build the future state of the asset.

15 **Automatch.** This step calls the AutoMatch method of the Complex Product AutoMatch Service business service to match the line items of the quote or order with the product configuration using the Configurator engine and to fix any inconsistency.

16 **Apply Consolidated Action.** This step calls the MergeConsolidateAction method of the ABO Bulk Request Processing Service business service, which compares the future state of the asset to the initial state of the asset to create the order line item records with appropriate action codes.

17 **Merged.** This decision step checks if the action must be applied on another instance of the product or if the final structure is merged. If all the actions are applied on the instances, it routes the flow to Has Input Instance and subsequent steps to calculate delta. If not, it routes the flow to the step Next Asset For Open Instance to apply actions to the next instance of the product.

18 **Has Input Instance?** This decision step checks whether the flow is called from an RAF Flow and has a quote or order instance as input. If so, it routes the flow to the step Set Original Requested Product Instance. If not, to the step Set Header.

19 **Set Original Requested Product Instance.** This step calls the Set Product Instance method of the SIS OM PMT Service business service to reload the original instance of the product from the asset to memory, enabling the action code to be calculated based on the original instance of the asset during the delta flow.

20 **Set Header.** This step uses the Set Output Header method of the SIS OM PMT Service business service to lead the quote or order structure to memory which is required for the Delta calculation in the step Delta.

21 **Delta.** This step uses the Delta method of the SIS OM PMT Service business service to compare the updated line items with those of the asset and to update the action code for each of the line items

22 **Batch Validate.** This step uses the BatchValidate method of the ABO Bulk Request Processing Service business service to validate order or quote line items against configurator rules.

23 **Exception.** This decision step checks whether Batch Validate found any exceptions.

24 **Process Exacerbations.** This step uses the WriteException method of the ABO Bulk Request Processing Service business service to extract and update the error message to the database.

25 **Add Item to Collection.** If exceptions do not exist, then this step uses the AddItemtoCollection method of the ABO Bulk Request Processing Service business service to add the order line items to a collection in memory for synchronization.

26 **Has Instance ?** This decision step checks whether the quote or order is specified in the input.

27 **Add Instance to Collection.** This step calls the AddItemtoCollection method of the ABO Bulk Request Processing Service business service if the quote or order is specified in the input, adding the nonmodified line item details from the quote or order to the collection.

ABO Bulk Request - Delete Sub-Process Workflow

This workflow creates an order line item when the consolidated action is Delete. Figure 63 shows this workflow.

The ABO Bulk Request - Inclusive Process Action Sub-Process Workflow and the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow call this workflow as a subprocess when the consolidated action is Delete.

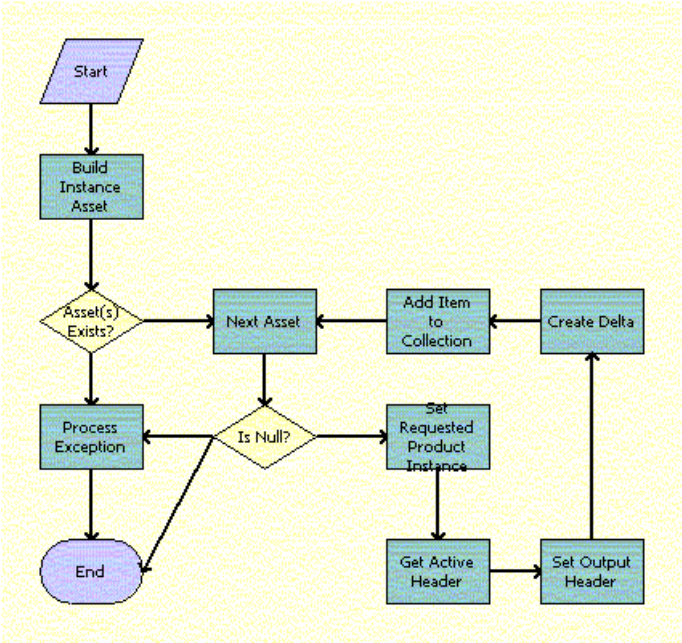


Figure 63. ABO Bulk Request - Delete Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. Loads the instance asset records to delete. If no asset records exist, then an exception occurs, and the workflow terminates.
2. From the instance asset records created in the previous step, loads into memory the next asset to delete.
3. Sets the current asset as the instance from which to create order line records.
4. Creates the order line item records with Delete action codes.
5. Adds the order line items to a collection in memory for synchronization.

Table 55 shows the steps in this workflow that call business service methods.

Table 55. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Build Instance Asset	BuildInstanceAsset	ABO Bulk Request Processing Service
Next Asset	NextObject	ABO Bulk Request Processing Service
Process Exception	WriteException	ABO Bulk Request Processing Service

Table 55. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Set Requested Product Instance	Set Product Instance	SIS OM PMT Service
Get Active Header	Query	EAI Siebel Adapter
Set Output Header	Set Output Header	SIS OM PMT Service
Create Delta	Delta	SIS OM PMT Service
Add Item to Collection	AddItemtoCollection	ABO Bulk Request Processing Service

ABO Bulk Request - Suspend/Resume Sub-Process Workflow

This workflow creates an order line item when the consolidated action is Suspend or Resume. Figure 64 shows this workflow.

The ABO Bulk Request - Inclusive Process Action Sub-Process Workflow and the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow call this workflow as a subprocess when the consolidated action is Suspend or Resume.

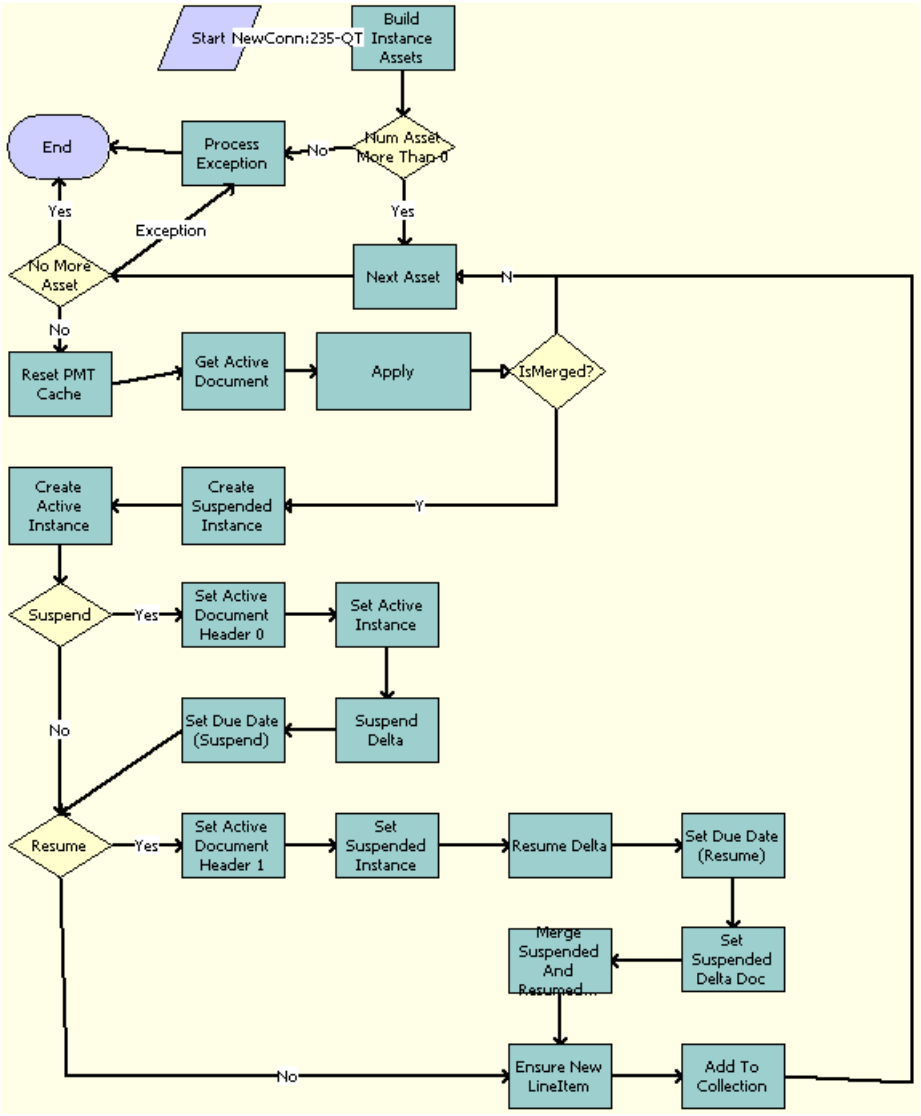


Figure 64. ABO Bulk Request - Suspend/Resume Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. Loads the asset records to suspend and resume. If no asset records exist, then an exception occurs, and the workflow terminates.
2. From the instance asset records created in the previous step, loads into memory the next asset to suspend or resume.

3 Checks whether the assets are merged.

4 Clears the business service cache.

5 If the user selects the Suspend action, then creates the order line item records with Suspend action codes.

6 If the user selects the Resume action, then creates the order line item records with Resume action codes.

7 Merges the Suspend and Resume order line item records.

8 Adds the order line items to a collection in memory for synchronization.

Table 56 shows the steps in this workflow that call business service methods.

Table 56. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Build Instance Assets	BuildInstanceAsset	ABO Bulk Request Processing Service
Process Exception	WriteException	ABO Bulk Request Processing Service
Next Asset	NextObject	ABO Bulk Request Processing Service
Reset PMT Cache	Reset	SIS OM PMT Service
Get Active Document	Query	EAI Siebel Adapter
Apply	MergeConsolidatedAction	ABO Bulk Request Processing Service
Create Suspended Instance	Set Field Value	SIS OM PMT Service
Create Active Instance	Set Field Value	SIS OM PMT Service
Set Active Document Header 0	Set Output Header	SIS OM PMT Service
Set Active Instance	Set Product Instance	SIS OM PMT Service
Suspend Delta	Delta	SIS OM PMT Service
Set Due Date (Suspend)	Set Field Value	SIS OM PMT Service
Set Active Document Header 1	Set Output Header	SIS OM PMT Service
Set Suspended Instance	Set Product Instance	SIS OM PMT Service
Resume Delta	Delta	SIS OM PMT Service
Set Due Date (Resume)	Set Field Value	SIS OM PMT Service
Set Suspended Delta Doc	Set Product Instance	SIS OM PMT Service
Merge Suspended and Resumed Items	Merge	SIS OM PMT Service

Table 56. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Ensure New LineItem	Set Field Value	SIS OM PMT Service
Add To Collection	AddItemtoCollection	ABO Bulk Request Processing Service

ABO Bulk Request - Upgrade Sub-Process Workflow

This workflow creates an order line item when the consolidated action is Upgrade. To upgrade an asset, this workflow deletes the old products for the asset and adds the new products for the asset. To create the order line items for the upgraded asset, this workflow cycles through the existing components of the asset, adds these components as new order line items, and copies the existing field and attribute values for these components to these new order line items. This workflow adds new configured components to the asset and uses attributes for these new configured components on the new order line items. Figure 65 shows this workflow.

The ABO Bulk Request - Inclusive Process Action Sub-Process Workflow and the ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow call this workflow as a subprocess when the action code is Upgrade.

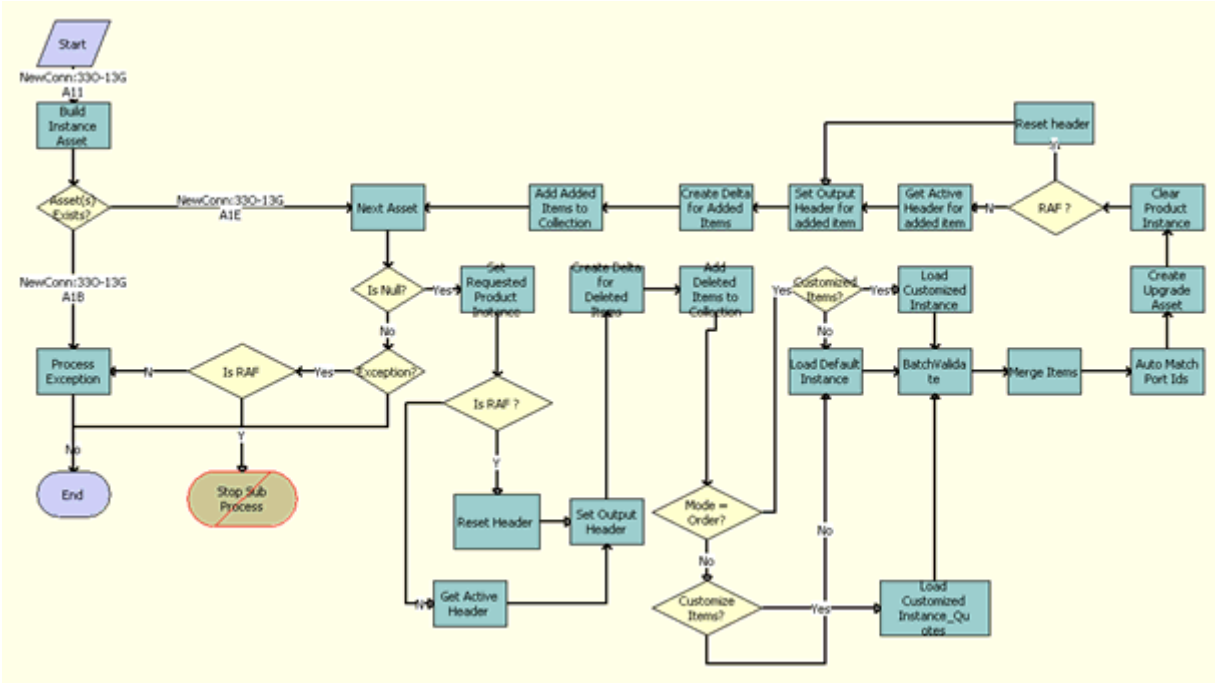


Figure 65. ABO Bulk Request - Upgrade Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Build Instance Asset.** This step calls the BuildInstanceAsset method of the ABO Bulk Request Processing Service business service and queries the Product ID field of the assets to load the asset records to upgrade.

2 **Asset(s) Exists?** This decision step checks if any assets were loaded in the previous step.

3 **Next Asset.** This step calls the NextObject method of the ABO Bulk Request Processing Service. From the instance asset records created in the previous step, this step loads into memory the next asset to upgrade.

4 **Is Null.** This decision step checks if there are any other assets left for processing, If not, it routes the flow to step Exception? If so, it routes the flow Set Requested Product Instance.

5 **Exception?** This decision step checks if there are any exceptions in the processing. If so, it routes the flow to Is RAF. If not, it routes the flow to End.

6 **Is RAF.** This decision step checks if the flow is called from an RAF flow. If so, it sets the exception error message by routing the flow to Stop. If not, it routes the flow to Process Exception, where the exception is synchronized to the database before going to End.

7 **Process Exception.** If exceptions exist, this step uses the WriteException method of the ABO Bulk Request Processing Service business service to process exceptions.

8 **Set Requested Product Instance.** This step calls the Set Product Instance method of the SIS OM PMT Service business service, which sets the current asset as the instance from which to create order line records.

9 **Is RAF.** This condition step checks whether the flow is called from RAF. If so, it routes the flow to Reset Header, which uses the quote or order header from the input. If not, it routes the flow to Get Active Document flow, which queries for the active quote or order from database.

10 **Reset Header.** This step calls the Echo method of the Workflow Utilities business service to assign the quote or order header stored in the Instance argument in memory to the delta document, which is used for further processing, rather than using a database query to get the document.

11 **Create Delta for Deleted Items.** Creates order line item records with Delete action codes.

12 **Add Deleted Items to Collection.** Adds the Deleted order line items to a collection in memory for synchronization.

13 **Mode = Order ?** This decision step determines whether the flow calls for an order or quote. If Mode = Order ? is evaluated to TRUE, meaning that the flow calls for an order, it routes the flow to Customized Items ? If Mode = Order ? is FALSE, meaning that the flow calls for a quote, it routes the flow to Customize Items ?

14 **Customized Items ?** If the mode is order, this decision step checks whether the line items of the order include customized items. If Customized Items ? is evaluated to TRUE, this step routes the flow to Load Customized Instance. If not, it routes the flow to Load Default Instance.

15 **Load Default Instance.** If the new base product is not customizable, then this step calls the LoadDefaultItems method of the ABO Bulk Request Processing Service business service to load the default instance.

16 **Load Customized Instance.** If the Mode is Order and the new base product is customizable, then this step calls the LoadCustomizedItems method of the ABO Bulk Request Processing Service business service to load the customized instance.

17 **Customize Items ?** If the mode is not order, this decision step checks whether the line items of the quote include customized items. If Customize Items ? is evaluated to TRUE, this step routes the flow to Load Customized Instance_Quotes. If not, it routes the flow to Load Default Instance.

18 **Load Customized Instance_Quotes.** If the Mode is not Order and the new base product is customizable, then this step calls the LoadCustomizedItems method of the ABO Bulk Request Processing Service business service to get the list of instances according to the Scope and child Instance Type. For example, if the Scope is Exclude, then this step removes the specified instances from the list of instances.

19 **BatchValidate.** This step uses the BatchValidate method of the ABO Bulk Request Processing Service business service to validate the line item details using the configurator rules.

20 **Merge Items.** This step calls the MergeItems method of the ABO Bulk Request Processing Service business service to merge the default instance, customized instance, and instance assets into new order line items.

21 **Auto Match Port Ids.** This step uses the AutoMatch method of the Complex Product AutoMatch Service business service to validate the line item with product configurations and to fix any ambiguities.

22 **Create Upgrade Asset.** This step uses the Convert Product Instance method of the SIS OM PMT Service business service to convert the upgrade quote or order instance to a product instance.

23 **Clear Product Instance.** This step uses the Set Product Instance method of the SIS OM PMT Service business service to load an empty asset instance into memory.

24 **Is RAF.** This decision step checks whether the flow is called from an RAF Flow. If so, it routes the flow to Reset header to use the in-memory instance of the quote or order header. If not, it route the flow to Get Active Header for added item to load the quote or order instance from data base.

25 **Reset header.**This step uses the Echo method of the Workflow Utilities business service to assign the in-memory instance of quote or order as the header of the active quote or order.

26 **Get Active Header for added item.** This step uses the Query method of the EAI Siebel Adapter business service to load the active quote or order header instance.

27 **Set Output Header for added item.** This step uses the Set Output Header method of the SIS OM PMT Service business service to load the quote or order header instance to memory.

28 **Create Delta for Added Items.** This step uses the Delta method of the SIS OM PMT Service business service to compare the updated line details with the asset and compute the action code for each of the line items.

29 **Add Added Items to Collection.** This step uses the AddItemtoCollection method of the ABO Bulk Request Processing Service business service to add the update order structure to the collection in memory for synchronization.

ABO Bulk Request - Notify User Sub-Process Workflow

The workflow creates an email message to notify a user about the status of a bulk request. Figure 66 shows this workflow.

The ABO Bulk Request - Submit Process Workflow and the ABO Bulk Request - Parallel Sub Process Workflow call this workflow as a subprocess.

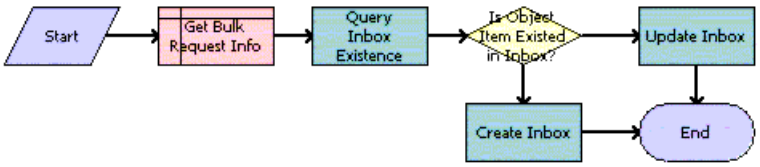


Figure 66. Notify User Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Bulk Request Info**. This step gets the information about the bulk request to construct a message to inform the user about the status of the request.
2. **Query Inbox Existence**. This step loads the inbox for the user.
3. **Is Object Item Existed in Inbox?** This step checks whether the message exists in the user's inbox.
4. **Update Inbox**. If the message exists in the user's inbox, then this step updates the message.
5. **Create Inbox**. If the message does not exist in the user's inbox, then this step creates a new message in the user's inbox.

Table 57 shows the steps in this workflow that call business service methods.

Table 57. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query Inbox Existence	IsInboxItemExisted	Universal Inbox
Update Inbox	UpdateInboxItemInfo	Universal Inbox
Create Inbox	CreateInboxEx	Universal Inbox

ABO Bulk Request Add Item Customize Process Workflow

This workflow customizes a base product. Figure 67 shows this workflow.

A user initiates this workflow by clicking the Add Items button and the Customize button in the Actions applet.

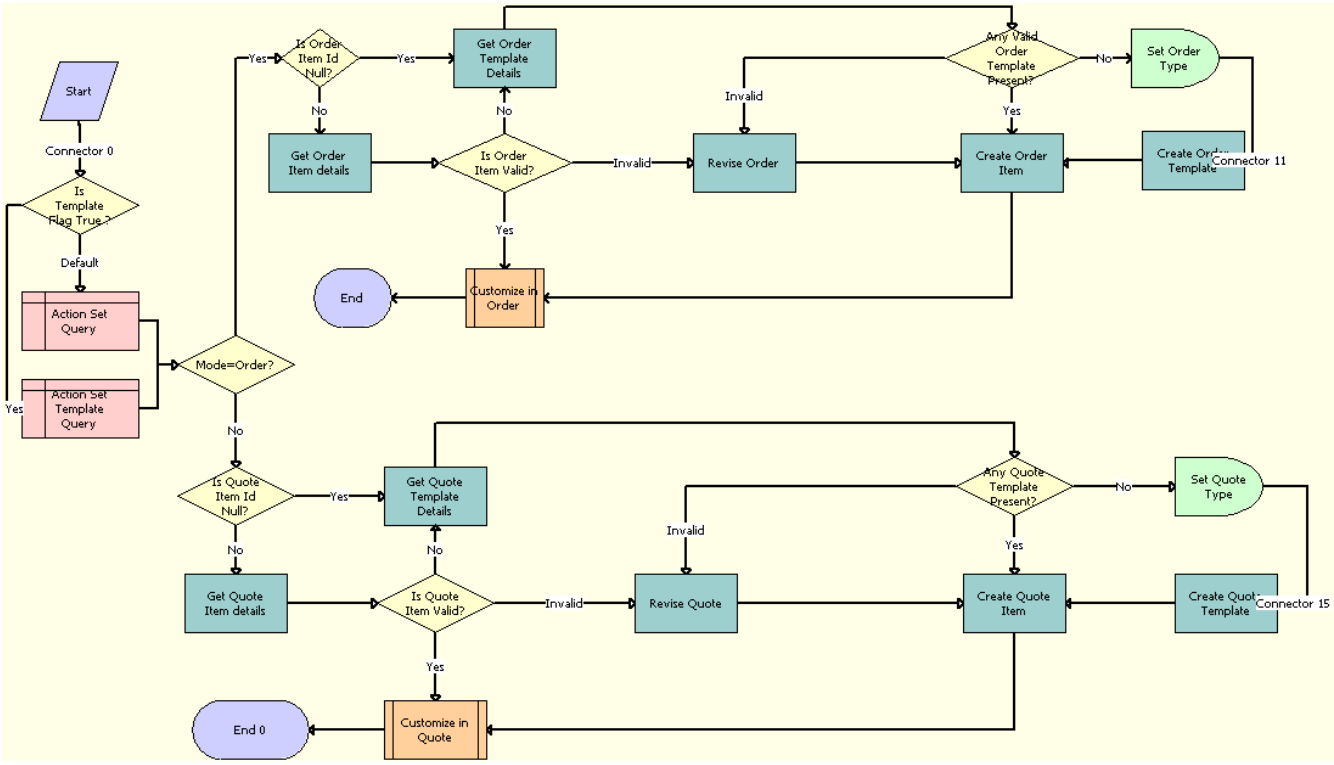


Figure 67. ABO Bulk Request Add Item Customize Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Is Template Flag True?** This step determines whether the template flag is set.

2 **Action Set Query**. This step queries the Action Set business component.

3 **Action Set Template Query**. This step queries the Action Set Template business component.

4 **Mode=Order?** This step determines if an order or a quote applies.

5 **Is Quote Item Id Null?** This step checks whether the Quote Item Id value is null.

6 **Get Quote Template Details**. This step gets the quote template details.

7 **Get Quote Item Details**. This step gets the quote item details.

8 **Is Quote Item Valid?** This step checks whether the quote item is valid.

9 **Any Quote Template Present?** This step checks whether the quote template is present.

10 **Set Quote Type**. This step sets the quote type.

11 **Create Quote Template**. This step creates a quote template.

12 **Create Quote Item**. This step creates a quote item.

13 **Revise Quote**. This step copies the contents of the bulk request explode quote to the bulk request template quote.

   The bulk request explode quote and the bulk request template quote are temporary quotes that the Bulk Requests functionality uses to create the final quote.

14 **Customize in Quote**. This step customizes in Quote mode.

15 **Is Order Item Id Null?** This step checks whether the Order Item Id value is null.

16 **Get Order Template Details**. This step gets the order template details.

17 **Get Order Item Details**. This step gets the order item details.

18 **Is Order Item Valid?** This step checks whether the order item is valid.

19 **Revise Order**. This step copies the contents of the bulk request explode order to the bulk request template order.

   The bulk request explode order and the bulk request template order are temporary orders that the Bulk Requests functionality uses to create the final sales order.

20 **Any Valid Order Template Present?** This step checks whether the order template is present.

21 **Set Order Type**. This step sets the order type.

22 **Create Order Template**. This step creates an order template.

23 **Create Order Item**. This step creates an order item.

24 **Customize in Order**. This step customizes in Order mode.

Table 58 shows the step in this workflow that calls a business service method.

Table 58. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Create Quote Item	ConsolidateItem	ABO Bulk Request Processing Service
Create Quote Template	CreateOrder	ABO Bulk Request Processing Service
Get Quote Template Details	GetFieldValues	ABO Bulk Request Processing Service
Revise Order	Revise	ABO Bulk Request Processing Service
Revise Quote	Revise	ABO Bulk Request Processing Service
Set Order Type	Sleep	Workflow Utilities
Set Quote Type	Sleep	Workflow Utilities

ABO Bulk Request Add Item Customize SubProcess Workflow

This workflow launches the Configurator run-time session when a user customizes a base product. Figure 68 shows this workflow.

The ABO Bulk Request Add Item Customize Process workflow calls this workflow as a subprocess.

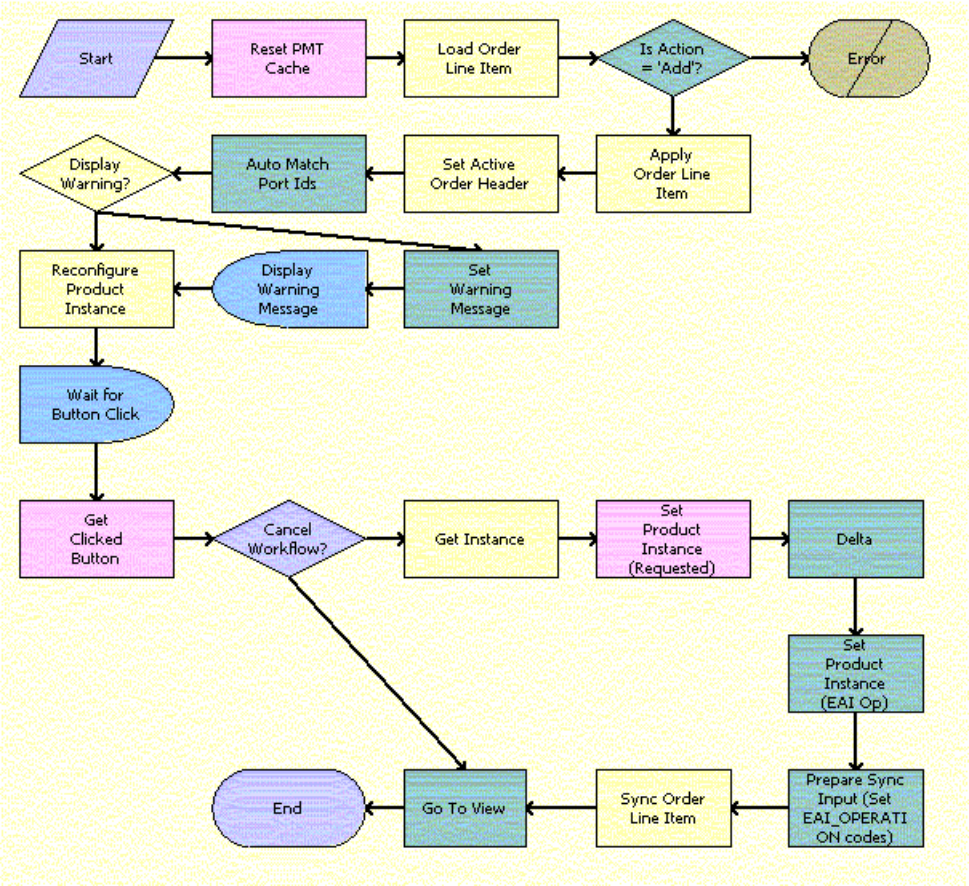


Figure 68. ABO Bulk Request Add Item Customize SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. Clears the business service cache.
2. Loads the current order line item into memory.
3. Checks whether the action code of the root line item is Add. If the action code of the root item is not Add, then terminates the process because of an error.
4. If the action code of the root line item is Add, then uses the current order line item to generate an asset.
5. Stores the order header with which to associate the configured line item.
6. Checks whether the port IDs for the customized instance match port IDs for the product definition.
7. Launches the Configurator run-time session to reconfigure the product instance.

8 Waits for the user to click a button to terminate the session.

9 Gets the details of the button that the user clicks.

10 Checks whether the user clicks the Cancel button.

11 If the user does not click the Cancel button, then gets the configured product instance from the Configurator session.

12 Stores the configured product instance.

13 Creates the Delta action codes.

14 Writes the order line item to the database.

15 Displays the Actions applet.

Table 59 shows the steps in this workflow that call business service methods.

Table 59. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Reset PMT Cache	Reset	SIS OM PMT Service
Load Order Line Item	Query	EAI Siebel Adapter
Apply Order Line Item	Apply	SIS OM PMT Service
Set Active Order Header	Set Output Header	SIS OM PMT Service
Auto Match Port Ids	AutoMatch	Complex Product AutoMatch Service
Reconfigure Product Instance	Reconfigure Product Instance	SIS OM PMT Service
Set Warning Message	SetBusCompFields	Shopping Service
Get Clicked Button	Get Cfg Button Click Information	SIS OM PMT Service
Get Instance	GetInstance	SIS OM PMT Service
Set Product Instance (Requested)	Set Product Instance	SIS OM PMT Service
Delta	Delta	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Prepare Sync Input	Compute EAI Operation	SIS OM PMT Service
Sync Order Line Item	Synchronize	SIS OM PMT Service
Go To View	GoToView	ABO Bulk Request GoToView Service

ABO Bulk Request - Edit Order Line Item Workflow

This workflow edits a line item for an order. Figure 69 shows this workflow.

A user initiates this workflow by clicking the Customize button in the Actions applet.

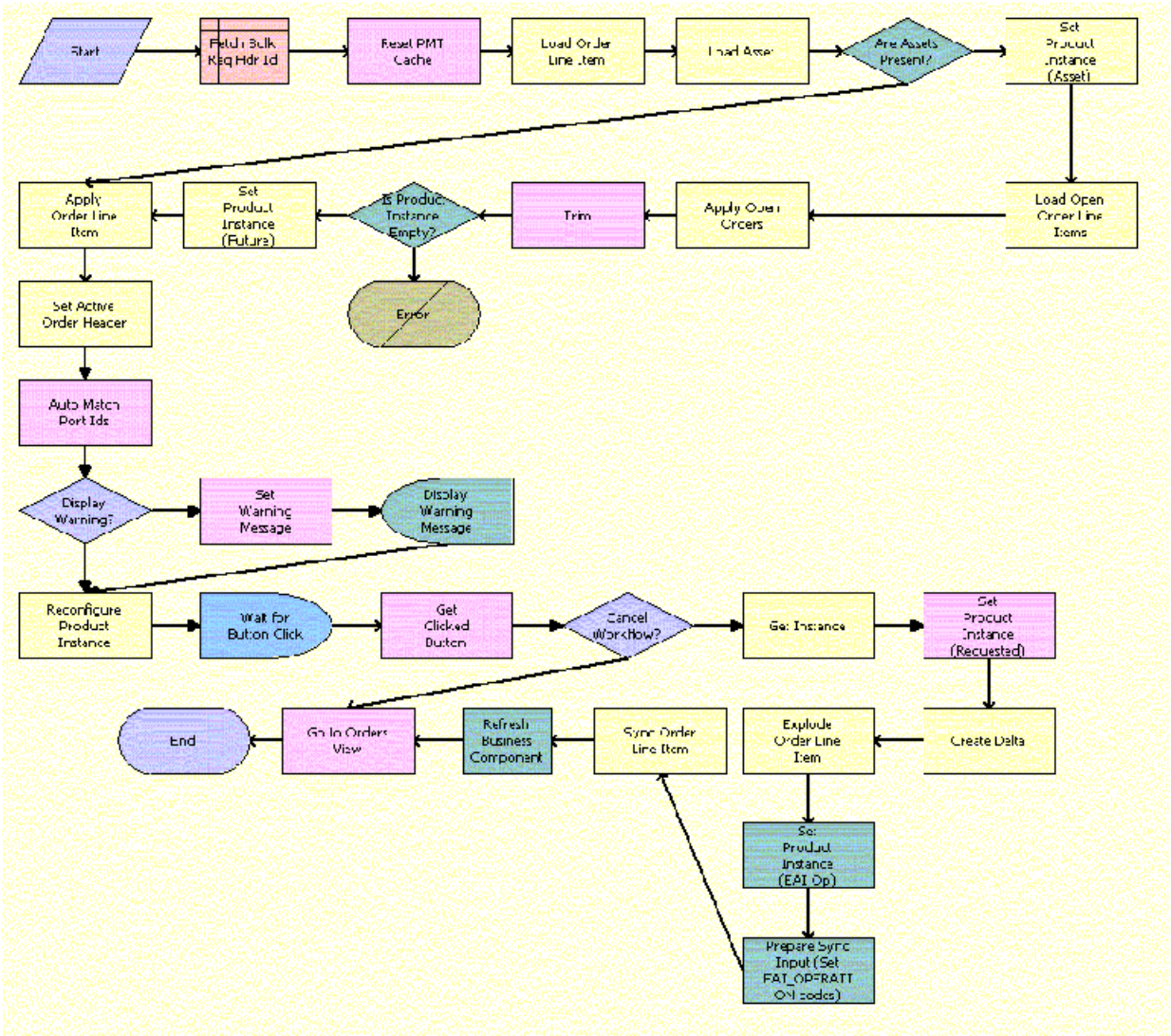


Figure 69. ABO Bulk Request - Edit Order Line Item Workflow

Workflow Description. This workflow performs the following actions:

1. Clears the business service cache.
2. Loads the current order line item into memory.
3. Loads assets into memory.
4. Checks whether an asset exists for the order line item. If an asset exists, then applies the order line item to the asset.
5. If an asset does not exist, then uses the current order line item to generate an asset.

6 Stores the order header with which to associate the edited line item.

7 Checks whether the port IDs for the edited instance match port IDs for the product definition.

8 Launches the Configurator run-time session to reconfigure the product instance.

9 Waits for the user to click a button to terminate the session.

10 Gets the details of the button that the user clicks.

11 Checks whether the user clicks the Cancel button.

12 If the user does not click the Cancel button, then gets the configured product instance from the Configurator session.

13 Stores the configured product instance.

14 Creates the Delta action codes.

15 Writes the order line item to the database.

16 Displays the Orders applet.

Table 60 shows the steps in this workflow that call business service methods.

Table 60. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Reset PMT Cache	Reset	SIS OM PMT Service
Load Order Line Item	Query	EAI Siebel Adapter
Load Asset	Query	EAI Siebel Adapter
Set Product Instance (Asset)	Set Product Instance	SIS OM PMT Service
Load Open Order Line Items	Find Orders	SIS OM PMT Service
Apply Open Orders	Apply	SIS OM PMT Service
Trim	Trim	SIS OM PMT Service
Set Product Instance (Future)	Set Product Instance	SIS OM PMT Service
Apply Order Line Item	Apply	SIS OM PMT Service
Set Active Order Header	Set Output Header	SIS OM PMT Service
Auto Match Port Ids	AutoMatch	Complex Product AutoMatch Service
Set Warning Message	SetBusCompFields	Shopping Service
Reconfigure Product Instance	Reconfigure Product Instance	SIS OM PMT Service
Get Clicked Button	Get Cfg Button Click Information	SIS OM PMT Service
Get Instance	GetInstance	SIS OM PMT Service
Set Product Instance (Requested)	Set Product Instance	SIS OM PMT Service
Create Delta	Delta	SIS OM PMT Service

Table 60. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Explode Order Line Item	Explode	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Prepare Sync Input	Compute EAI Operation	SIS OM PMT Service
Sync Order Line Item	Synchronize	SIS OM PMT Service
Refresh Business Component	Refresh Business Component	SIS OM PMT Service
Go to Orders View	GoToView	ABO Bulk Request GoToView Service

ABO Bulk Request - Clear Exception Process Workflow

This workflow clears an exception record. Figure 70 shows this workflow.

A user initiates this workflow by clicking the Clear button in the Exceptions view.

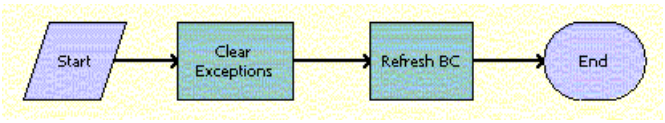


Figure 70. ABO Bulk Request - Clear Exception Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Clear Exceptions**. This step iterates through the selected exception records and calls the ABO Bulk Request - Clear Exception Sub-Process Workflow for each record. For more details, see "ABO Bulk Request - Clear Exception Sub-Process Workflow" on page 297.
2. **Refresh BC**. This step refreshes the user interface.

Table 61 shows the steps in this workflow that call business service methods.

Table 61. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Clear Exceptions	Iterate Process For Selected Rows	SIS OM PMT Service
Refresh BC	Refresh Business Component	SIS OM PMT Service

ABO Bulk Request - Clear Exception Sub-Process Workflow

This workflow sets the cleared date when a user clears an exception record. Figure 71 shows this workflow.

The ABO Bulk Request - Clear Exception Process Workflow calls this workflow as a subprocess.

Figure 71. ABO Bulk Request - Clear Exception Sub-Process Workflow

Workflow Description. This workflow performs the following action:

- **Set Clear Date**. This step sets the value of the cleared field to the current date.

Table 62 shows the step in this workflow that calls a business service method.

Table 62. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Set Clear Date	SetClearDate	ABO Bulk Request Processing Service

ABO Bulk Request - Reset Process Workflow

This workflow resets an exception record. Figure 72 shows this workflow.

A user initiates this workflow by clicking the Reset button in the Exceptions view.

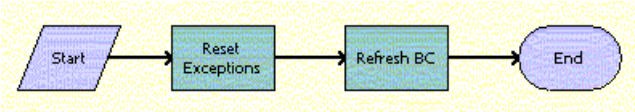


Figure 72. ABO Bulk Request - Reset Process Workflow

Workflow Description. This workflow performs the following action:

1. **Reset Exceptions**. This step iterates through the selected exception records and calls the ABO Bulk Request - Reset Process Sub-Process Workflow for each record. For more details, see "ABO Bulk Request - Reset Process Sub-Process Workflow" on page 298.
2. **Refresh BC**. This step refreshes the user interface.

Table 63 shows the steps in this workflow that call business service methods.

Table 63. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Reset Exceptions	Iterate Process For Selected Row	SIS OM PMT Service
Refresh BC	Refresh Business Component	SIS OM PMT Service

ABO Bulk Request - Reset Process Sub-Process Workflow

This workflow sets the cleared date and the user's Submit flag when a user resets an exception record. Figure 73 shows this workflow.

The ABO Bulk Request - Reset Process Workflow calls this workflow as a subprocess.

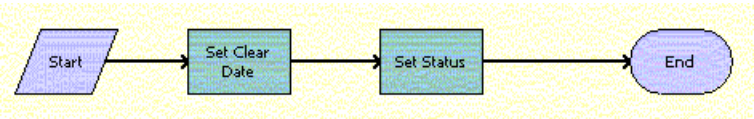


Figure 73. ABO Bulk Request - Reset Process Sub-Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Set Clear Date**. This step sets the value of the cleared field to the current date.
2. **Set Status**. This step updates the status of the action set, action, and instance, as applicable. This step updates the action set to a status value of To Process only if no actions and instances for the action set are in an error state.

Table 64 shows the steps in this workflow that call business service methods.

Table 64. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Set Clear Date	SetClearDate	ABO Bulk Request Processing Service
Set Status	UpdateStatus	ABO Bulk Request Processing Service

ABO Bulk Request - Cancel Process Workflow

This workflow terminates a bulk request submission. Figure 74 shows this workflow.

A user initiates this workflow by clicking the Cancel Request button on the Bulk Request form or the Bulk Request List view.

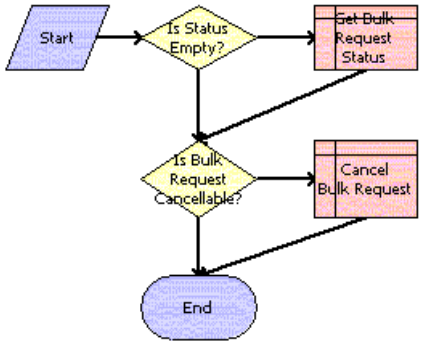


Figure 74. ABO Bulk Request - Cancel Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks the status of the bulk request.
2. If the status is Queued or Processing, then sets the status to Cancel Pending.

ABO Bulk Request - Edit Complex Asset Workflow

This workflow picks the assets associated to a promotion and creates an order or quote, depending on the Mode value of the bulk request. Figure 75 shows this workflow.

This workflow is called when a user modifies a promotion.

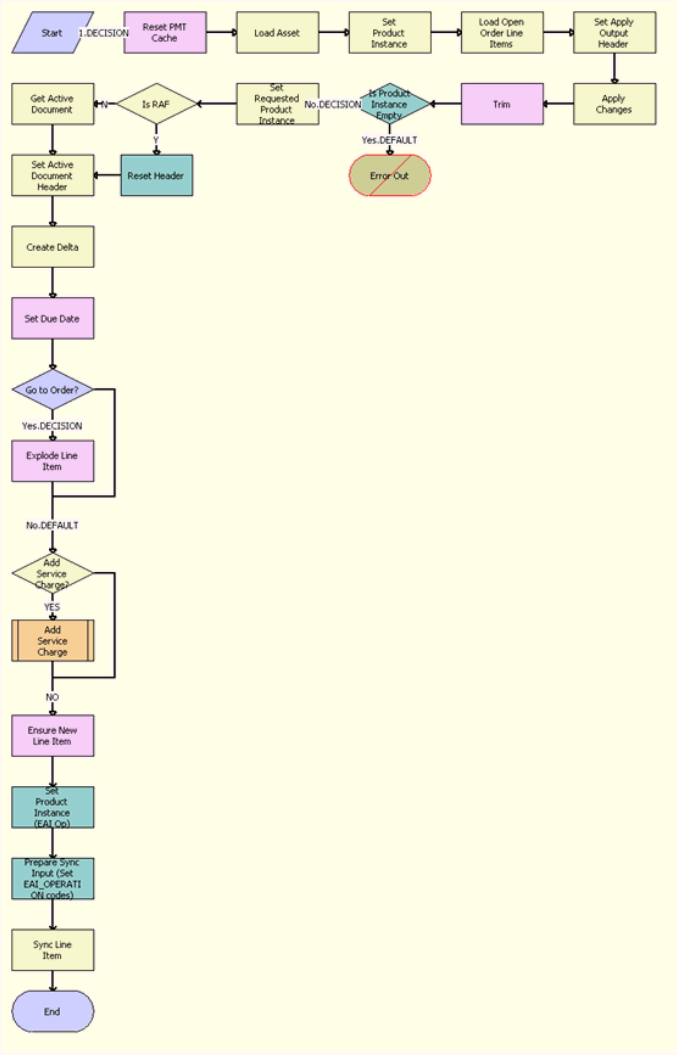


Figure 75. ABO Bulk Request - Edit Complex Asset Workflow

Workflow Description. This workflow performs the following actions:

1. **Reset PMT Cache**. This step clears the business service cache of existing product instances.
2. **Load Asset**. This step loads the asset for the given Integration Id and active status.
3. **Set Product Instance**. This step saves the asset in memory.
4. **Load Open Order Items**. This step loads the active open orders for the specified Asset Integration Id.
5. **Set Apply Output Header**. This step saves the open order header in memory.
6. **Apply Changes**. This step applies the open order to the asset to create the future asset.

7 **Trim**. This step removes any components from the asset that do not have the Track As Asset flag set to Y.

8 **Is Product Instance Empty**. This step checks whether the product instance is empty.

9 **Error Out**. This step displays an error message if the asset is empty.

10 **Set Requested Product Instance**. This step saves the future asset in memory.

11 **Is RAF.** This condition step checks whether the flow is called from RAF. If so, it routes the flow to Reset Header, which uses the quote or order header from the input. If not, it routes the flow to Get Active Document flow, which queries for the active quote or order from database.

12 **Reset Header.** This step calls the Echo method of the Workflow Utilities business service to assign the quote or order header stored in the Instance argument in memory to the delta document, which is used for further processing, rather than using a database query to get the document.

13 **Get Active Document**. This step retrieves the active document.

14 **Set Active Document Header**. This step saves the active order header in memory.

15 **Create Delta**. This step adds as line items the delta of the previously requested state of the asset and the newly requested state of the asset.

16 **Set Due Date**. This step sets the due date for all the line items.

17 **Go to Order?** This step goes to the order.

18 **Explode Line Item**. If the active document is an order, then this step explodes (ungroups) the line items with a quantity greater than 1 into multiple copies of the line item, each with a quantity of 1.

19 **Add Service Charge?** This step determines whether to add a one-time service charge item for the quote or order.

20 **Add Service Charge**. This step creates a one-time service charge item for the quote or order according to the type of target document. For more information, see "SIS OM Add Service Charge Sub-Process Workflow" on page 225.

21 **Ensure New Line Items**. This step generates a unique asset integration ID for all line items with an action code of Add.

22 **Set Product Instance (EAI Op)**. This step sets the EAI operation code.

23 **Prepare Sync Input (Set EAI_OPERATION codes)**. This step prepares the synchronized input.

24 **Sync Line Item**. This step saves the document in memory.

Table 65 shows the steps in this workflow that call business service methods.

Table 65. Associated Business Service Methods

Workflow Step	Method Called
Reset PMT Cache	Reset
Load Asset	Query

Table 65. Associated Business Service Methods

Workflow Step	Method Called
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
Get Active Document	Query
Set Active Document Header	Set Output Header
Create Delta	Delta
Set Due Date	Set Field Value
Explode Line Item	Explode
Ensure New Line Item	Set Field Value
Set Product Instance (EAI Op)	Set Product Instance
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation
Sync Line Item	AddItemtoCollection

ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow

This workflow adds a missed item to a promotion. Figure 76 shows this workflow.

This workflow is called when a user applies a promotion.

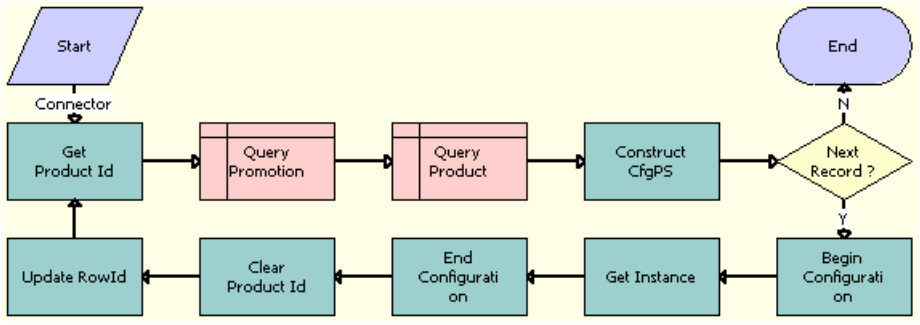


Figure 76. ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Get Product Id**. This step gets each product Id from the missed item list.

2 **Query Promotion**. This step queries the promotion table for the specified promotion Id.

3 **Query Product**. This step gets the product definition type code for the missed product.

4 **Construct CfgPS**. This step sets the product definition type code before calling Siebel Configurator.

5 **Next Record?** This step determines whether another record exists to process.

6 **Begin Configuration**. This step calls Siebel Configurator to get the product definition.

7 **Get Instance**. This step gets the product instance from Siebel Configurator.

8 **End Configuration**. This step cleans up before closing Siebel Configurator.

9 **Clear Product Id**. This step removes the product Id from the context.

10 **Update RowId**. This step identifies the missed product Id as not new.

Table 66 shows the steps in this workflow that call business service methods.

Table 66. Associated Business Service Methods

Workflow Step	Method Called
Get Product Id	Conditional Action Transform
Construct CfgPS	ConstructCfgPropertiesPS
Begin Configuration	BeginConfiguration
Get Instance	GetInstance
End Configuration	EndConfiguration
Clear Product Id	Conditional Action Transform
Update RowId	Conditional Action Transform

ABO Bulk Request - ApplyProductPromotion Workflow

This workflow applies the promotion to the document for a specified instance. Figure 77 shows this workflow.

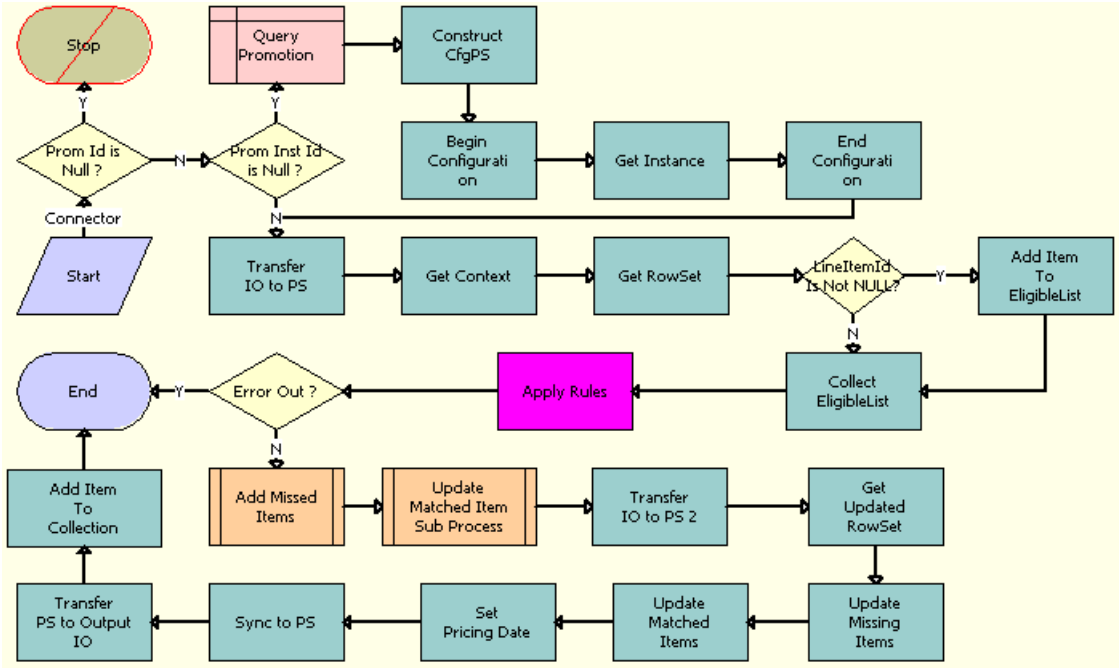


Figure 77. ABO Bulk Request - ApplyProductPromotion Workflow

Workflow Description. This workflow performs the following actions:

1. **Query Promotion**. This step queries the promotion table for the specified promotion Id.
2. **Construct CfgPS**. This step sets the product definition type code before calling Siebel Configurator.
3. **Begin Configuration**. This step calls Siebel Configurator to get the product definition.
4. **Get Instance**. This step gets the product instance from Siebel Configurator.
5. **End Configuration**. This step cleans up before closing Siebel Configurator.
6. **Transfer IO to PS**. This step converts from an Integration Object Format to a Property Set Format.
7. **Get Context**. This step gets the header from the property set.
8. **Get Rowset**. This step gets the line items from above property set.
9. **Add Item To EligibleList**. This step adds the line item that was passed in to Eligible list.
10. **Collect EligibleList**. This step adds all other line items to the Eligible list.

11 **Apply Rules**. This step applies the promotion rules to prepare the missed item list, and updates the matched list for the specified promotion Id.

12 **Add Missed Items**. This step calls a subprocess to add the missed items to the document.

13 **Update Matched Item Sub Process**. This step updates the matched items list to apply the promotion default, if any.

14 **Transfer IO to PS 2**. This step converts the Siebel message from an Integration Object Format to a Property Set Format.

15 **Get Updated RowSet**. This step applies the variable map and row set to get the updated row set.

16 **Update the Missing Items**. This step updates the row set with the missing items information.

17 **Update Matched Items**. This step updates the row set with the matched items information.

18 **Set Pricing Date**. This step sets the effective pricing date on the order header or the quote header.

19 **Sync To PS**. This step synchronizes the updated row set with the original row set.

20 **Transfer PS to Output IO**. This step converts the row set to a Siebel message.

21 **Add Item to Collection**. This step saves the Siebel message in memory.

Table 67 shows the steps in this workflow that call business service methods.

Table 67. Associated Business Service Methods

Workflow Step	Method Called
Construct CfgPS	ConstructCfgPropertiesPS
Begin Configuration	BeginConfiguration
Get Instance	GetInstance
End Configuration	EndConfiguration
Transfer IO to PS	TransferIOToPS
Get Context	GetRowSetData
Get RowSet	GetRowSetData
Add Item To EligibleList	Conditional Action Transform
Collect EligibleList	Conditional Action Transform
Apply Rules	ApplyRulesExternal
Transfer IO to PS 2	TransferIOToPS
Get Updated RowSet	GetRowSetData
Update Missing Items	Row Set Look-Up Transform
Update Matched Items	Row Set Look-Up Transform
Set Pricing Date	Conditional Action Transform

Table 67. Associated Business Service Methods

Workflow Step	Method Called
Sync to PS	SyncRowSetData
Transfer PS to Output IO	PSHierToIntObjHier
Add Item To Collection	AddItemtoCollection

ABO Bulk Request - ModifyWebService-Order Workflow

When a user modifies a promotion in Bulk Request Action, the promotion product is added as a base product, and the component to be added or deleted is set in the Component field. Because the promotion product is already an asset, this workflow gets the promotion asset along with its component asset information. Figure 78 shows this workflow.

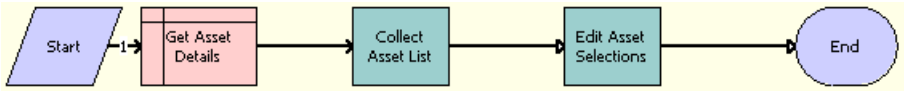


Figure 78. ABO Bulk Request - ModifyWebService-Order Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Asset Details**. This step queries the asset table for either the asset number or the integration Id.
2. **Collect Asset List**. This step gets all active assets for the given account.
3. **Edit Asset Selections**. This step calls the ABO Bulk Request - Edit Promotion Related Asset Workflow iteratively to modify all the promotion-related assets that are not selected.

Table 68 shows the steps in this workflow that call business service methods.

Table 68. Associated Business Service Methods

Workflow Step	Method Called
Collect Asset List	CollectPromAssetList
Edit Asset Selections	PromIterateProcess

ABO Bulk Request - Check Eligibility & Compatibility Workflow

When the line items are synchronized to the table, the Bulk Requests functionality runs an eligibility and compatibility check. This workflow is called from the ABOBulkRequestCheckEligibility signal. Figure 79 shows this workflow.

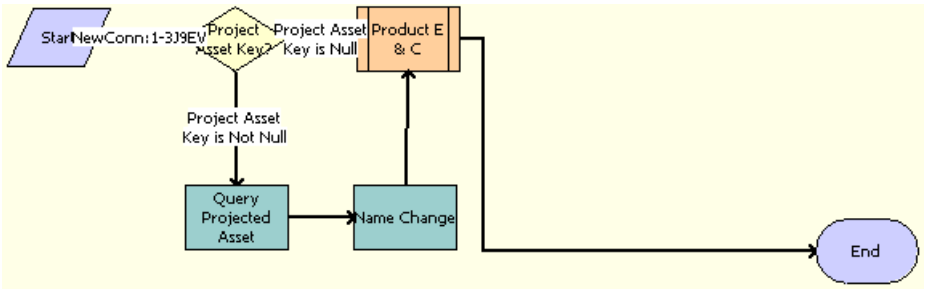


Figure 79. ABO Bulk Request - Check Eligibility & Compatibility Workflow

Workflow Description. This workflow performs the following actions:

1. **Project Asset Key.** This step determines whether the project asset key is available.
2. **Query Projected Asset**. If the key is available, then this step retrieves this key from memory and does not query the tables.
3. **Name Change**. This step renames some of the fields to correspond with the variable map variable name.
4. **Product E&C**. This step calls the eligibility and compatibility check.

Table 69 shows the steps in this workflow that call business service methods.

Table 69. Associated Business Service Methods

Workflow Step	Method Called
Query Projected Asset	Query
Name Change	Conditional Action Transform

ABO Bulk Request - Disconnect Products & Services Process Workflow

When a promotion is deleted or upgraded, this workflow deletes the promotion asset and disconnects the component assets from the promotion. Figure 80 shows this workflow.

This workflow is called when a user modifies a promotion.

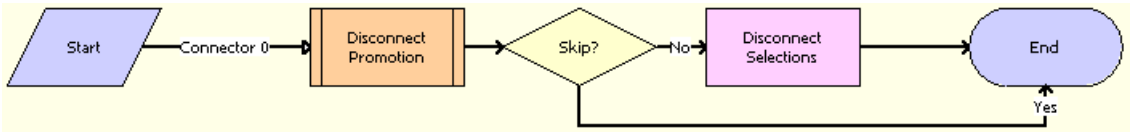


Figure 80. ABO Bulk Request - Disconnect Products & Services Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Disconnect Promotion**. This step deletes the promotion. Calls the ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow.
2. **Skip?** This step determines whether to bypass the step to disconnect the promotion-related assets.
3. **Disconnect Selections**. This step disconnects the promotion-related assets. Calls the ABO Bulk Request - Disconnect Asset Sub-process Workflow iteratively.

Table 70 shows the steps in this workflow that call business service methods.

Table 70. Associated Business Service Methods

Workflow Step	Method Called
Disconnect Selections	Iterate Process For Selected Nodes

ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow

This workflow is called from the Disconnect Promotion step of the ABO Bulk Request - Disconnect Products & Services Process Workflow. Figure 81 shows this workflow.

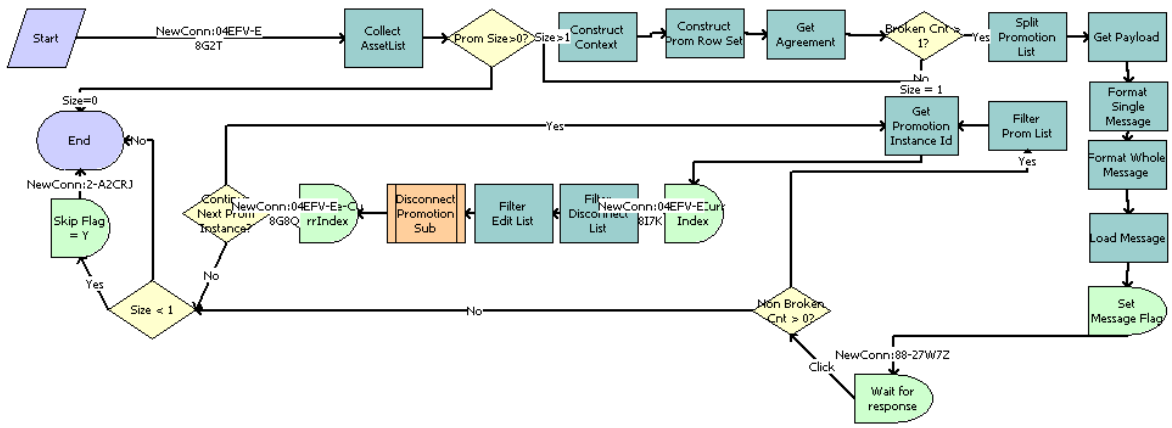


Figure 81. ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Collect AssetList**. This step collects promotion-related items, if a promotion is selected.
2. **Prom Size>0?** This step checks whether the promotion size is greater than zero.
3. **Construct Context**. This step creates the context.
4. **Construct Prom Row Set**. This step constructs the Promotion row set.
5. **Get Agreement**. This step gets the agreement details.
6. **Broken Cnt > 1?** This step checks whether more than one agreement is broken.
7. **Split Promotion List**. This step splits the Promotion List.
8. **Get Payload**. This step gets the payload.
9. **Format Single Message**. This step formats the message.
10. **Format Whole Message**. This step formats the entire message.
11. **Load Message**. This step loads the message.
12. **Set Message Flag**. This step sets the message flag.
13. **Wait for response**. This step waits for the user to respond.
14. **Non Broken Cnt > 0?** This step checks whether the value of Non-broken Agreements is greater than zero.
15. **Filter Prom List**. This step filters the Promotion List.
16. **Get Promotion Instance Id**. This step takes an index and promotion list as input. Gets the promotion instance Id from the list.
17. **Set CurrIndex**. This step sets the current Index.
18. **Filter Disconnect List**. This step takes the Delete list and item value as input. As output, passes only the list items whose values are the same as the input item value.
19. **Filter Edit List**. This step takes the Edit list and item value as input. As output, passes only those list items whose values are the same as the input item value.
20. **Disconnect Promotion Sub**. This step calls the promotion disconnect subprocess to disconnect the promotion and clear the association.
21. **PromSize-CurrIndex**. This step calculates the remaining index value by subtracting the promotion size and the current index.
22. **Continue Next Prom Instance?** If Yes, then this step continues to the next promotion instance. If No, then this step ends the workflow.
23. **Size < 1**. This step checks the size of the items to be disconnected by main or parent flow. If Size is greater than 1, then this step allows the main flow to disconnect those items. If Size is 1 or less, then this step sets the Skip Flag to Y and allows the main flow to skip the next disconnect step.
24. **Skip Flag = Y**. If the size of the items to be disconnected by the main flow is less than 1, then this step sets the Skip Flag to Y so that main flow disconnects any additional items.

Table 71 shows the steps in this workflow that call business service methods.

Table 71. Associated Business Service Methods

Workflow Step	Method Called
Collect AssetList	CollectAssetList
Construct Context	Query Transform
Construct Prom Row Set	ConstructRowSet
Get Agreement	Simple Look-Up Transform
Split Promotion List	Spit Transform
Get Payload	Simple Look-Up Transform
Format Single Message	Conditional Action Transform
Format Whole Message	Conditional Action Transform
Load Message	UpdateMessages
Set Message Flag	Sleep
Filter Prom List	FilterListByRowSet
Get Promotion Instance Id	GetPropertyItem
Filter Disconnect List	FilterDisconnectListByValue
Filter Edit List	FilterEditListByValue

ABO Bulk Request - Promotion Disconnect Sub Process Workflow

This workflow is called as a subprocess by the ABO Bulk Request - Promotion Disconnect Integration SubProcess workflow. This workflow disconnects a promotion from the line item, and if there are any agreement violations while disconnecting the promotions, it calculates penalty charges and adds a new penalty product as line item to the quote or order. Figure 82 shows this workflow.

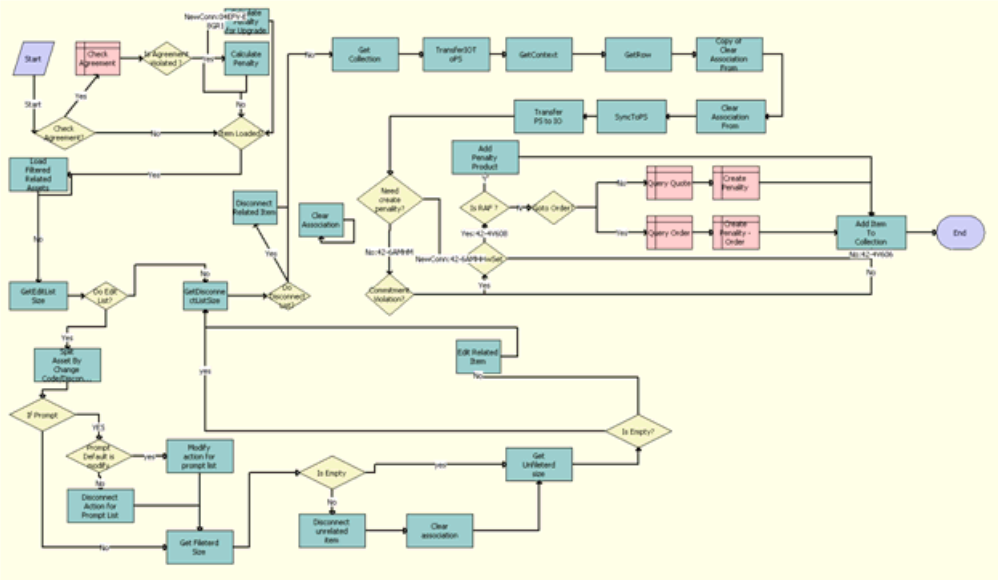


Figure 82. ABO Bulk Request - Promotion Disconnect Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Check Agreement?** This condition step checks whether the agreement violation has to be checked. If so, it routes the flow to evaluate the penalty charges. If not, it routes the flow route to disconnect the promotion.
2. **Check Agreement.** This step uses a query operation on the business component ISS Promotion Agreement Item Charges to retrieve agreement details for the promotion.
3. **Is Agreement Violated ?** This condition step checks whether an agreement is found and whether it is related to the upgrade promotion. If the upgrade promotion involves an agreement violation, it routes the flow to Calculate Penalty for Upgrade; if there is an agreement violation that does not involve an upgrade, it routes the flow to Calculate Penalty; if there is not violation, it routes the flow to the Item Loaded? step.
4. **Calculate Penalty for Upgrade.** This step calls the GetCondCharge method of the FS Conditional Charge business service to calculate the penalty charge amount for an upgrade promotion.
5. **Calculate Penalty for Upgrade.** This step call the GetCondCharge method of the FS Conditional Charge business service to calculate the penalty charge amount for a normal disconnect.

6 **Item Loaded?** This condition step checks whether flow is called from a upgrade promotion. If so, it routes the flow to load asset details in to a list. If not, it routes the flow to get the size of the edit list.

7 **Load Filtered Related Assets.** This step calls the LoadFilteredPromRelatedAsset method of the ISS Promotion Management Service business service to load assets related to a promotion into a list after filtering based on the active document. If the asset is found in the current document, it is not loaded to the list.

8 **GetEditListSize.** This step calls the GetPropertySize method of the ISS Promotion Management Service business service to calculate the size of the edit list.

9 **Do Edit List?** This condition step checks the size of the list. If the size if greater than zero, it routes the flow to the step Split Asset By Change Code/Disconnect. If the size equals zero, it routes the flow to the step GetDisconnectListSize.

10 **Split Asset By Change Code / Disconnect.** This step calls the SplitAssetByChangeCod method of the ISS Promotion Management Service business service. This step prepares a list of the component product of the promotion that will be disconnected, which are the line items marked for with the action Disconnect. It also prepares a list of the components that are not selected for disconnection by the promotion.

11 **If Prompt.** This condition step checks whether the action for any line item in the promotion is configured as prompt. If so, it routes the flow to check if the default action for prompt is configured as modify. If not, it routes the flow to the step Get Fileterd Size.

12 **Prompt Default is modify.** This condition step checks whether the default action for the prompt is set as modify. If so, it routes the flow to the step Modify action for prompt list. If not, it routes the flow to the step Disconnect Action for Prompt List.

13 **Modify action for prompt list.** This step uses the Iterate Process For Selected Rows method of the SIS OM PMT Service business service, which calls the ABO Bulk Request - Edit Complex Asset Workflow to modify the component product of the promotions. This step disassociates the component product from the promotion but does not delete the component itself.

14 **Disconnect Action for Prompt List.** This step uses the PromIterateProcess method of the ISS Promotion Management Service business service, which calls the SIS OM Disconnect Asset Sub-process, which disconnects the component product from the promotion and updates the list for unselected component lines. This step disconnects the component product by setting the action code as delete.

15 **Get Fileterd Size.** This step uses the GetPropertySize method of the ISS Promotion Management Service business service to get the number of lines in the list representing components for which the action is configured as disconnect in the promotion.

16 **Is Empty.** This condition step checks whether the list of component that are marked as disconnect is not empty. If so, it routes the flow to the step Disconnect unrelated item. If not, it routes the flow to the step Get Unfileterd size.

17 **Disconnect unrelated item.** This step uses the PromIterateProcess method of the ISS Promotion Management Service business service, which calls the workflow SIS OM Disconnect Asset Sub-process to disconnect the all components in the list from the promotion.

18 **Clear association.** This step uses the ClearAssociation method of the ISS Promotion Management Service business service to disassociate the component by removing the value of the Promotion Id from the field Prod Prom Instance Id for the disconnected lines.

19 **Get Unfileterd size.** This step uses the GetPropertySize method of the ISS Promotion Management Service business service to get the number of lines in the list for components for which the action is configured as modify in the promotion.

20 **Is Empty?** This condition step checks whether the list of components that are marked as Modify is not empty. If so, it routes the flow to the step Edit Related Item. If not, it routes the flow to the step GetDisconnectListSize.

21 **Edit Related Item.** This step uses the Iterate Process For Selected Rows method of the SIS OM PMT Service business service, which calls ABO Bulk Request - Edit Complex Asset Workflow to modify the component product of the promotions. This step disassociates the component product from the promotion but does not delete the components that are marked as modify in the promotion configuration.

22 **GetDisconnectListSize.** This step uses GetPropertySize method of the ISS Promotion Management Service business service to get the number of lines in the disconnect list.

23 **Do Disconnect List?** This condition step checks whether the size of the disconnect list is greater than zero. If so, it routes the flow to Disconnect Related Item. If not, it routes the flow to Get Collection.

24 **Disconnect Related Item.** This step uses the PromIterateProcess method of the ISS Promotion Management Service business service, which calls the workflow SIS OM Edit Asset to disconnect items in disconnect list.

25 **Get Collection.** This step uses the GetCollection method of the ABO Bulk Request Processing Service business service to clear the collection list.

26 **TransferIOToPS.** This step uses the TransferIOToPS method of the ABO Bulk Request Processing Service business service to convert the quote or order created after the disconnect flow to a property set format.

27 **GetContext.** This step uses the GetRowSetData method of the Context Service business service to build context information from the quote or order property set using the variable map Default Pricing Variable Map - Context.

28 **GetRow.** This step uses GetRowSetData method of the Context Service business service to build the rowset information from the quote or order property set using the variable map Default Pricing Variable Map - Context.

29 **Copy of Clear Association From.** This step uses Conditional Action Transform method of the Row Set Transformation Toolkit business service to set the action code for the line items for which the promotion instance id is that of the disconnecting promotion to Modify or to Delete.

30 **Clear Association From.** This step uses the Conditional Action Transform of the Row Set Transformation Toolkit business service to set values for the promotion-related fields Prod Prom Id, prod Prom Instance Id, Prod Prom Rule Id and Prod Prom Rule Name to Null for line items with Prod Prom Instance Id that match the disconnecting promotion.

31 **SyncToPS.** This step uses the SyncRowSetData method of the Context Service business service to modify the quote or order structure with the update for the promotion related fields from the steps Copy of Clear Association From and Clear Association From.

32 **Transfer PS to IO.** This step uses the PSHierToIntObjHier method of the EAI Integration Object to XML Hierarchy Converter business service to covert the property set to the quote or order integration structure.

33 **Need create penality?** This condition step evaluates whether any penalty product need to be added to Quote or order structure.

34 **Commitment Violation?** This condition step checks whether the customer has broken a commitment broken. If not, it routes the flow to the Add Item To Collection step.

35 **GetRowSet.** This condition step checks whether the penalty amount is greater than zero, making it necessary to create a penalty record in the current document.

36 **Is RAF ?** This condition step checks whether the disconnect is called from an RAF flow. If RAF is TRUE, it routes the flow to the step Add Penalty Product; the quote or order is generated in memory, the penalty product is added to in-memory quote or order as a line item, and it will be saved when the entire quote or order is synchronized to the database. If RAF is FALSE, it routes the flow to the step Goto Order? The quote or order already exists in the database, and the penalty product will be synchronized to the database as a line item.

37 **Add Penalty Product.** This step uses the Conditional Action Transform method of the Row Set Transformation Toolkit business service to add a new line item to in memory quote or order for the penalty product with a penalty charge in memory. This penalty product would be synchronized to the database along with quote or order.

38 **Goto Order?** This condition step is called when the flow is not called from an RAF flow and when the penalty product is to be synchronized to the quote or order line in the database. It checks whether the mode is order. If so, it routes the flow to the step Query Order. If not, it routes the flow the step Query Quote.

39 **Query Order.** This step uses a business component Query operation to query the active order, using the business component Order Entry - Orders.

40 **Create Penality - Order.** This step uses a business component Insert operation to create a Penalty record in the current Order with the penalty charges, using the business component Order Entry - Line Items.

41 **Query Quote.** This step uses a business component Query operation to query the active quote, using the business component Quote.

42 **Create Penality.** This step uses a business component Insert operation to create a Penalty record in the current Quote with the penalty charges.

43 **Add Item To Collection.** This step uses the AddItemtoCollection method of the ABO Bulk Request Processing Service business service to add the final processed quote or order structure to the collection after the promotion disconnection flow has been executed.

ABO Bulk Request - Disconnect Asset Sub-process Workflow

This workflow is called to convert a promotion asset to either a quote line item or an order line item. This workflow is called from the Disconnect Selection step of the ABO Bulk Request - Disconnect Products & Services Process Workflow. Figure 83 shows this workflow.

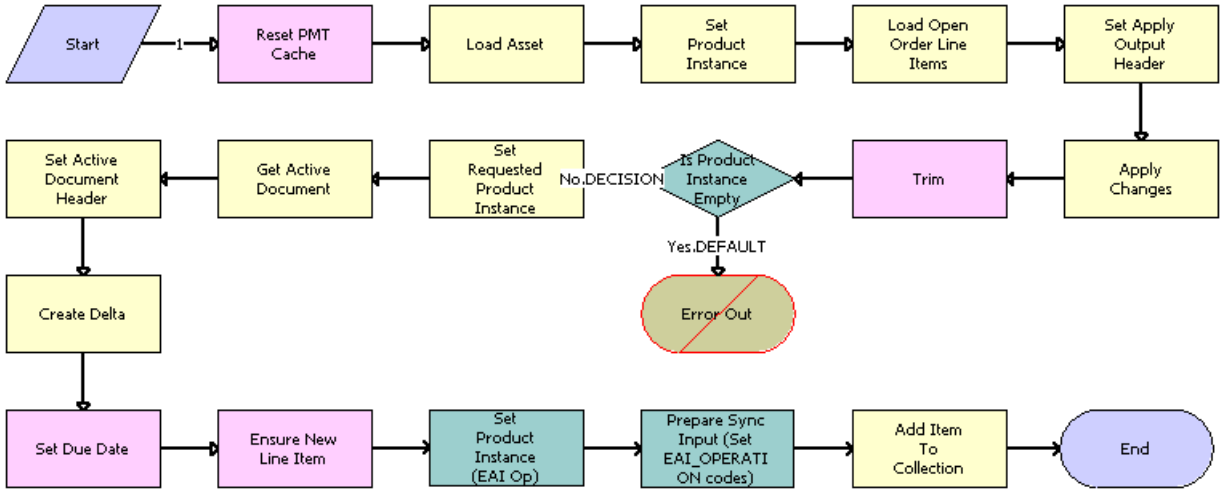


Figure 83. ABO Bulk Request - Disconnect Asset Sub-process Workflow

Workflow Description. This workflow performs the following actions:

1. **Reset PMT Cache**. This step clears the business service cache of existing product instances.
2. **Load Asset**. This step loads the asset for the given asset integration Id and active status.
3. **Set Product Instance**. This step sets the product instance.
4. **Load Open Order Line Items**. This step loads the active open orders for the specified asset integration Id.
5. **Set Apply Output Header**. This step saves the open order header in memory.
6. **Apply Changes**. This step applies the open order to the asset to create the future asset.
7. **Trim**. This step removes any components from the asset that do not have the Track As Asset flag set.
8. **Is Product Instance Empty**. This step checks whether the product instance is empty.
9. **Error Out**. This step displays an error message if the asset is empty.
10. **Set Requested Product Instance**. This step sets the requested product instance.
11. **Get Active Document**. This step retrieves the active document.
12. **Set Active Document Header**. This step saves the active order header in memory.

13 **Create Delta**. This step adds as line items the delta of the previously requested state of the asset and the newly requested state of the asset.

14 **Set Due Date**. This step sets the due date.

15 **Ensure New Line Item**. This step generates a unique asset integration Id for all line items with an action code of Add.

16 **Set Product Instance (EAI Op)**. This step sets the EAI operation code.

17 **Prepare Sync Input (Set EAI_OPERATION codes)**. This step prepares the synchronized input.

18 **Add Item To Collection**. This step adds the item to the collection.

Table 72 shows the steps in this workflow that call business service methods.

Table 72. Associated Business Service Methods

Workflow Step	Method Called
Reset PMT Cache	Reset
Load Asset	Query
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
Get Active Document	Query
Set Active Document Header	Set Output Header
Create Delta	Delta
Set Due Date	Set Field Value
Ensure New Line Item	Set Field Value
Set Product Instance (EAI Op)	Set Product Instance
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation
Add Item To Collection	AddItemtoCollection

ABO Bulk Request - Edit Promotion Related Asset Workflow

This workflow is called iteratively when a user modifies a promotion. This workflow is called from the Edit Asset Selections step of the ABO Bulk Request - ModifyWebService-Order Workflow. Figure 84 shows this workflow.

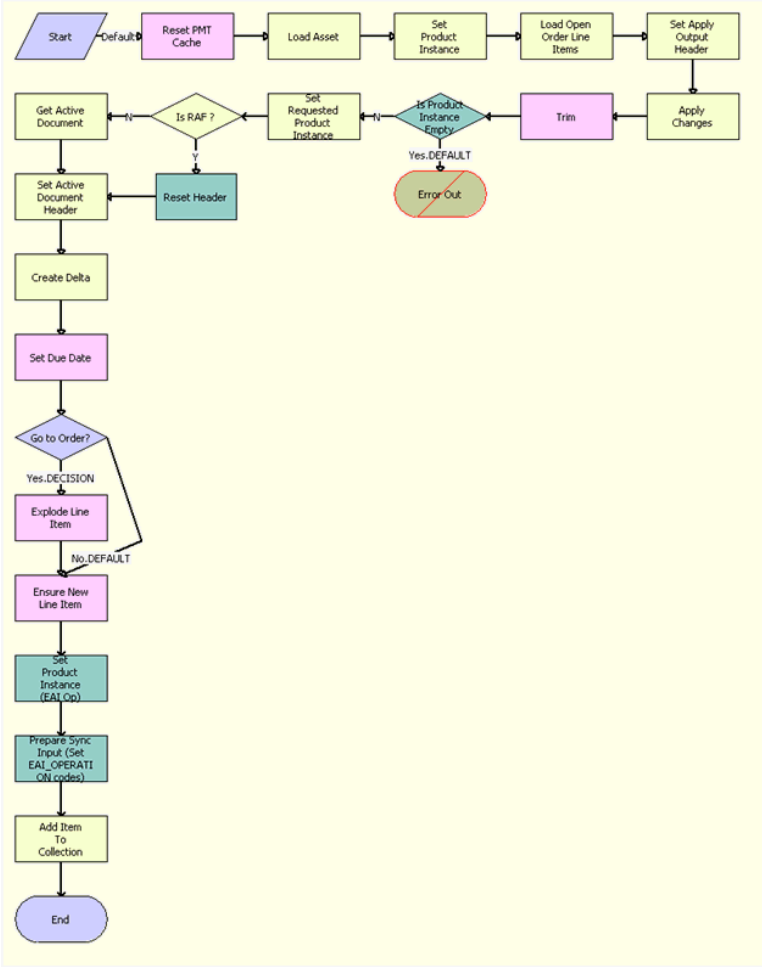


Figure 84. ABO Bulk Request - Edit Promotion Related Asset Workflow

Workflow Description. This workflow performs the following actions:

1. **Reset PMT Cache**. This step clears the business service cache of existing product instances.
2. **Load Asset**. This step loads the asset for the specified integration id and active status.
3. **Set Product Instance**. This step sets the product instance.
4. **Load Open Order Line Items**. This step loads the active open orders for the specified asset integration Id.

5 **Set Apply Output Header**. This step saves the open order header in memory.

6 **Apply Changes**. This step applies the open order to the asset to create the future asset.

7 **Trim**. This step removes any components from the asset that do not have the Track As Asset flag set.

8 **Is Product Instance Empty**. This step checks whether the product instance is empty.

9 **Error Out**. This step displays an error message if the asset is empty.

10 **Is RAF.** This condition step checks whether the flow is called from RAF. If so, it routes the flow to Reset Header, which uses the quote or order header from the input. If not, it routes the flow to Get Active Document flow, which queries for the active quote or order from data base.

11 **Reset Header.** This step calls the Echo method of the Workflow Utilities business service to assign the quote or order header stored in the Instance argument in memory to the delta document, which is used for further processing, rather than using a database query to get the document.

12 **Set Requested Product Instance**. This step sets the requested product instance.

13 **Get Active Document**. This step retrieves the active document.

14 **Set Active Document Header**. This step saves the active order header in memory.

15 **Create Delta**. This step adds as line items the delta of the previously requested state of the asset, and the newly requested state of the asset.

16 **Set Due Date**. This step sets the due date.

17 **Go to Order?** This step goes to the order.

18 **Explode Line Item**. If the active document is an order, then this step explodes (ungroups) the line items with a quantity greater than 1 into multiple copies of the line item, each with a quantity of 1.

19 **Ensure New Line Item**. This step generates a unique asset integration Id for all line items with an action code of Add.

20 **Set Product Instance (EAI Op)**. This step sets the EAI operation code.

21 **Prepare Sync Input (Set EAI_OPERATION codes)**. This step prepares the synchronized input.

22 **Add Item To Collection**. This step adds the item to the collection.

Table 73 shows the steps in this workflow that call business service methods.

Table 73. Associated Business Service Methods

Workflow Step	Method Called
Reset PMT Cache	Reset
Load Asset	Query
Set Product Instance	Set Product Instance
Load Open Order Line Items	Find Orders

Table 73. Associated Business Service Methods

Workflow Step	Method Called
Set Apply Output Header	Set Output Header
Apply Changes	Apply
Set Requested Product Instance	Set Product Instance
Get Active Document	Query
Set Active Document Header	Set Output Header
Create Delta	Delta
Set Due Date	Set Field Value
Explode Line Item	Explode
Ensure New Line Item	Set Field Value
Set Product Instance (EAI Op)	Set Product Instance
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation
Add Item To Collection	AddItemtoCollection

ABO Bulk Request - Promotion - Update Matched Items Sub Process Workflow

When a promotion is added to an order or a quote, the Bulk Request functionality checks whether any of the existing line items are part of the promotion. If yes, then those line items are passed to this workflow, which checks whether any promotion-related configuration exists. This workflow is called from the ABO Bulk Request - ApplyProductPromotion Workflow. Figure 85 shows this workflow.

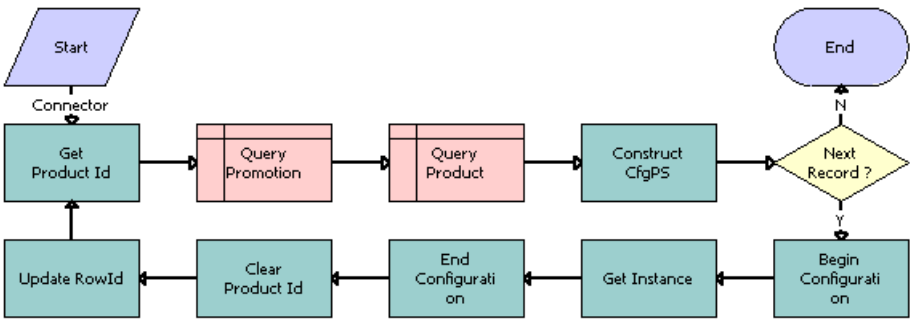


Figure 85. ABO Bulk Request - Promotion - Update Matched Items Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Product Id**. This step gets each product Id from the missed item list.
2. **Query Promotion**. This step queries the promotion table for the given promotion Id.

3 **Query Product**. This step gets the product definition type code for the missed product.

4 **Construct CfgPS**. This step sets the product definition type code before calling Siebel Configurator.

5 **Next Record?** This step determines whether another record exists to process.

6 **Begin Configuration**. This step calls Siebel Configurator to get the product definition.

7 **Get Instance**. This step gets the product instance from Siebel Configurator.

8 **End Configuration**. This step cleans up and then exits from Siebel Configurator.

9 **Clear Product Id**. This step removes the product Id from the context.

10 **Update RowId**. This step sets the missed product Id as not new.

Table 74 shows the steps in this workflow that call business service methods.

Table 74. Associated Business Service Methods

Workflow Step	Method Called
Get Product Id	Conditional Action Transform
Construct CfgPS	ConstructCfgPropertiesPS
Begin Configuration	BeginConfiguration
Get Instance	GetInstance
End Configuration	EndConfiguration
Clear Product Id	Conditional Action Transform
Update RowId	Conditional Action Transform

ABO Bulk Request - Promotion Disconnect Process Workflow

This workflow is called from the Disconnect Promotion Sub step of the ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow. Figure 86 shows this workflow.

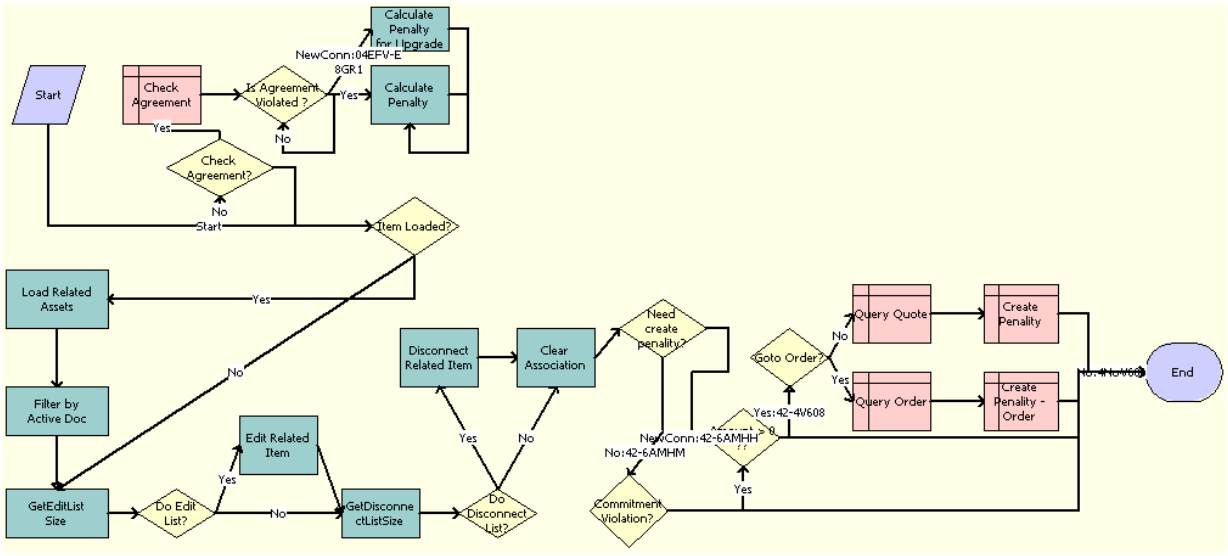


Figure 86. ABO Bulk Request - Promotion Disconnect Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Item Loaded?** This step checks whether promotion-related items are loaded into the list.
2. **Check Agreement?** This step monitors the Check Agreement Flag to see whether the agreement must be checked.
3. **Check Agreement**. This step checks whether an agreement is associated with the current promotion.
4. **Is Agreement Violated?** This step checks whether an agreement is found.
5. **Calculate Penalty for Upgrade**. For an upgrade action, this step calculates the upgrade penalty.
6. **Calculate Penalty**. For a normal disconnect action, this step calculates the normal penalty.
7. **Load Related Assets**. This step loads assets related to a promotion into a list.
8. **Filter by Active Doc**. This step filters the asset list with the current document. If an asset is found in the current document, then this step removes it from the list.
9. **GetEditListSize**. This step gets the size of the Edit list.
10. **Do Edit List?** This step checks EditListSize to see whether any items in the Edit list must be edited.

11 **Edit Related Item**. This step calls the SIS OM Edit Asset workflow to edit the items in the Edit list.

12 **GetDisconnectListSize**. This step gets the size of the Disconnect list.

13 **Do Disconnect List?** This step checks DisconnectListSize to see whether any items in the Disconnect list must be disconnected.

14 **Disconnect Related Item**. This step calls the SIS OM Edit Asset workflow to disconnect the items in the Disconnect list.

15 **Clear Association**. This step clears the promotion-related fields for the promotion items to be deleted.

16 **Need create penalty?** This step checks whether Promotion is null to decide whether to create a penalty record in the current document.

17 **Commitment Violation?** This step checks whether a commitment is broken.

18 **Amount > 0?** This step checks the penalty amount to decide whether a penalty record must be created in current document.

19 **Goto Order?** This step checks the target document to decide which type of document to load.

20 **Query Quote**. This step loads the current quote.

21 **Create Penalty**. This step creates a penalty record in current quote.

22 **Query Order**. This step loads the current order.

23 **Create Penalty - Order**. This step creates a penalty record in the current order.

Table 75 shows the steps in this workflow that call business service methods.

Table 75. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Calculate Penalty	GetCondCharge	FS Conditional Charge
Calculate Penalty for Upgrade	GetCondCharge	FS Conditional Charge
Clear Association	ClearAssociation	ISS Promotion Management Service
Disconnect Related Item	Iterate Process For Selected Nodes	SIS OM PMT Service
Edit Related Item	Iterate Process For Selected Rows	SIS OM PMT Service
Filter by Active Doc	FilterListByActiveDoc	ISS Promotion Management Service
Get Message Response	GetResponseType	ISS Promotion Management Service

Table 75. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
GetDisconnectListSize	GetPropertySize	ISS Promotion Management Service
GetEditListSize	GetPropertySize	ISS Promotion Management Service
Load Message	LoadMessage	ISS Promotion Management Service
Load Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service

ABO Bulk Request - Explode Workflow

This workflow creates an action set from the list of contacts, accounts, or assets specified in the Bulk Request screen, Action Set Template view. Figure 87 shows this workflow.

The Bucket Size process property specifies the number of action sets to be synchronized with the Siebel database at a time. For example, the default value of Bucket Size is 5,000. A list that creates 10,000 action sets is synchronized with the Siebel database in two iterations. You can configure this value according to your list size and available memory.

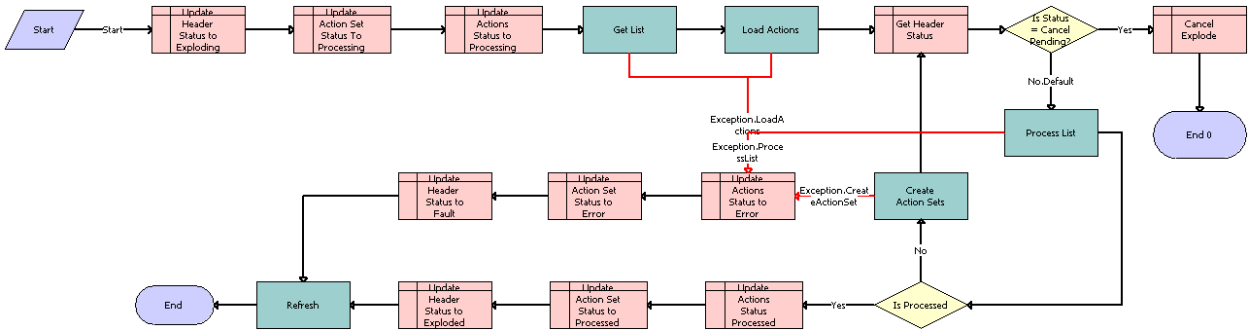


Figure 87. ABO Bulk Request - Explode Workflow

Workflow Description. This workflow performs the following actions:

1. **Update Header Status to Exploding**. This step updates the bulk request header Status value to Exploding.
2. **Update Action Set Status To Processing**. This step updates the action set Status value to Processing.
3. **Update Actions Status to Processing**. This step updates the action Status values Processing.
4. **Get List**. This step gets the list.
5. **Load Actions**. This step loads all the actions.

6 **Get Header Status**. This step gets the bulk request header Status value.

7 **Is Status = Cancel Pending?** This step checks whether the status is Cancel Pending.

8 **Cancel Explode**. This step changes the bulk request header Status value to Cancel if a user clicks the Cancel button in the bulk request header.

9 **Process List**. This step processes the list.

10 **Is Processed**. This step checks whether the list is processed.

11 **Update Actions Status Processed**. This step updates the action Status values to Processed.

12 **Update Action Set Status to Processed**. This step updates the action set Status value to Processed.

13 **Update Header Status to Exploded**. This step updates the bulk request header Status value to Exploded.

14 **Create Action Sets**. This step creates action sets for the bulk request.

15 **Update Actions Status to Error**. This step updates the action Status values Error.

16 **Update Action Set Status to Error**. This step updates the action set Status value to Error.

17 **Update Header Status to Fault**. This step updates the bulk request header Status value to Fault.

18 **Refresh**. This step refreshes the business component.

Table 76 shows the steps in this workflow that call business service methods.

Table 76. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Create Action Sets	CreateActionSets	ABO Bulk Request Explode Service
Get List	GetListDetails	ABO Bulk Request Explode Service
Load Actions	LoadActions	ABO Bulk Request Explode Service
Process List	ProcessList	ABO Bulk Request Explode Service
Refresh	Refresh Business Component	SIS OM PMT Service

ABO Bulk Request - Explode Driver Workflow

This workflow allows your Siebel application to process the list of contacts, accounts, or assets specified in the Bulk Request screen, Action Set Template view in either asynchronous or synchronous mode. This workflow calls the ABO Bulk Request - Explode Workflow to perform the processing. Figure 88 shows this workflow.

By default, this workflow explodes the list in asynchronous mode. To explode the list in synchronous mode, change the Async Flag process property value to N and republish the workflow.

This workflow is started when a user clicks the Explode button in the Bulk Request screen, Action Set Template view.

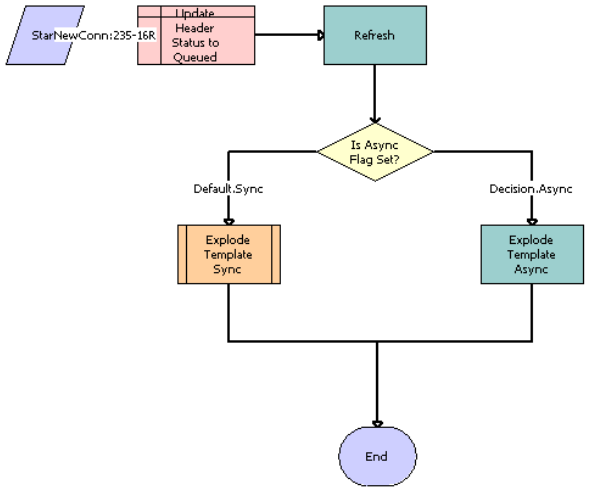


Figure 88. ABO Bulk Request - Explode Driver Workflow

Workflow Description. This workflow performs the following actions:

1. **Update Header Status to Queued**. This step updates the bulk request header Status value to Queued.
2. **Refresh**. This step refreshes the business component.
3. **Is Asyn Flag Set?** This step determines whether the asynchronous flag is set.
4. **Explode Template Sync**. This step runs the Explode action in synchronous mode.
5. **Explode Template Async**. This step runs the Explode action in asynchronous mode.

Table 77 shows the steps in this workflow that call business service methods.

Table 77. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Refresh	Refresh Business Component	SIS OM PMT Refresh
Explode Template Async	SubmitRequest	Server Requests

ABO Bulk Request - All Instances Sub Process Workflow

This workflow gets a list of valid instances for processing. For example, Child Type is Service Id and Scope is Exclude in the Action Set applet. An account has three service Ids, and one of those service Ids is added in the Instances applet. In this case, the workflow returns the remaining two service Ids, excluding the one specified in the Instances applet. Figure 89 shows this workflow.

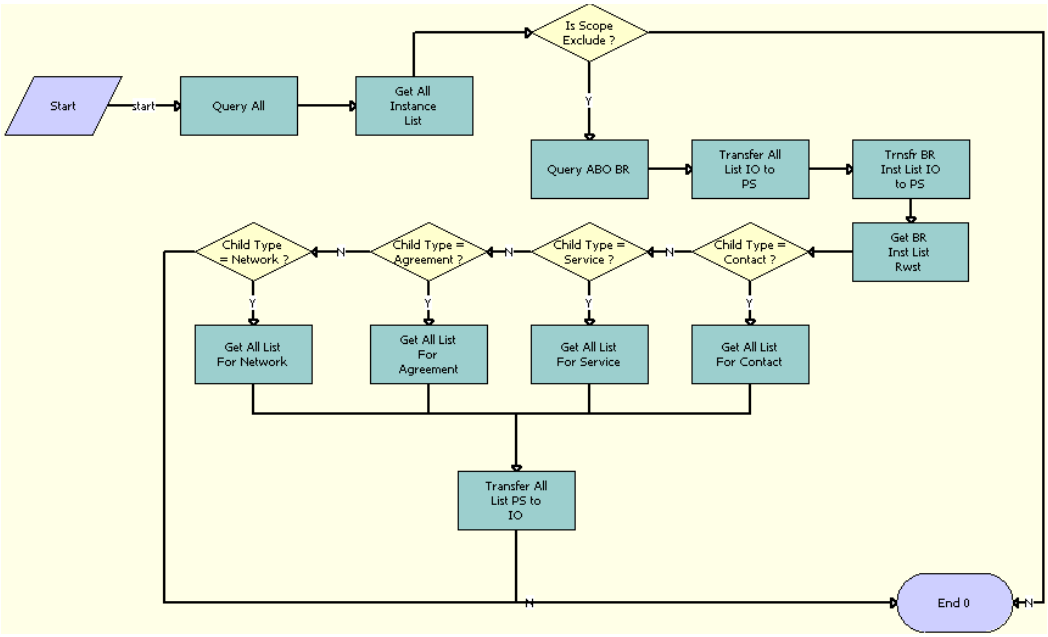


Figure 89. ABO Bulk Request - All Instances Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Query All**. This step queries for and returns all instances of the specified Child Type value.

   For example, if the Child Type is Network Id, and the account has five network Ids and four service Ids, then this method returns only the five network Ids.

2. **Get All Instance List**. This step gets a list of all instances.
3. **Is Scope Exclude?** This step checks whether the scope is Exclude.
4. **Query ABO BR**. This step queries ABO Bulk Request.
5. **Transfer All List IO to PS**. This step transfers the entire Input-Output list to the property set.
6. **Trnsfr BR Inst List IO to PS**. This step transfers the bulk request instance Input-Output list to the property set.
7. **Get BR Inst List Rwst**. This step gets the bulk request instances list row set.
8. **Child Type = Contact?** This step checks whether the child type is Contact.
9. **Get All List For Contact**. This step gets a list of all contacts for the selected account.

10 **Child Type = Service?** This step checks whether the child type is Service.

11 **Get All List For Service**. This step gets a list of all service Ids for the selected account.

12 **Child Type = Agreement?** This step checks whether the child type is Agreement.

13 **Get All List For Agreement**. This step gets a list of all agreements for the selected account.

14 **Child Type = Network?** This step checks whether the child type is Network.

15 **Get All List For Network**. This step gets a list of all networks for the selected account.

16 **Transfer All List PS to IO**. This step transfers the entire property set to the Input-Output list.

Table 78 shows the steps in this workflow that call business service methods.

Table 78. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get All Instance List	Execute	EAI Data Transformation Engine
Get All List For Agreement	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get All List For Contact	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get All List For Network	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get All List For Service	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get BR Inst List Rwst	GetRowSetData	Context Service
Query ABO BR	Query	EAI Siebel Adapter
Query All	GetAllInstanceList	ABO Bulk Request Processing Service
Transfer All List IO to PS	IntObjHierToPSHier	EAI Integration Object to XML Hierarchy Converter
Transfer All List PS to IO	PSHierToIntObjHier	EAI Integration Object to XML Hierarchy Converter
Trnsfr BR Inst List IO to PS	IntObjHierToPSHier	EAI Integration Object to XML Hierarchy Converter

ABO Bulk Request Add Item Customize SubProcess Quotes Workflow

This workflow launches the Configurator run-time session for quotes when a user customizes a base product. Figure 90 shows this workflow.

The ABO Bulk Request Add Item Customize Process Workflow workflow calls this workflow as a subprocess if the Mode value is Quote.

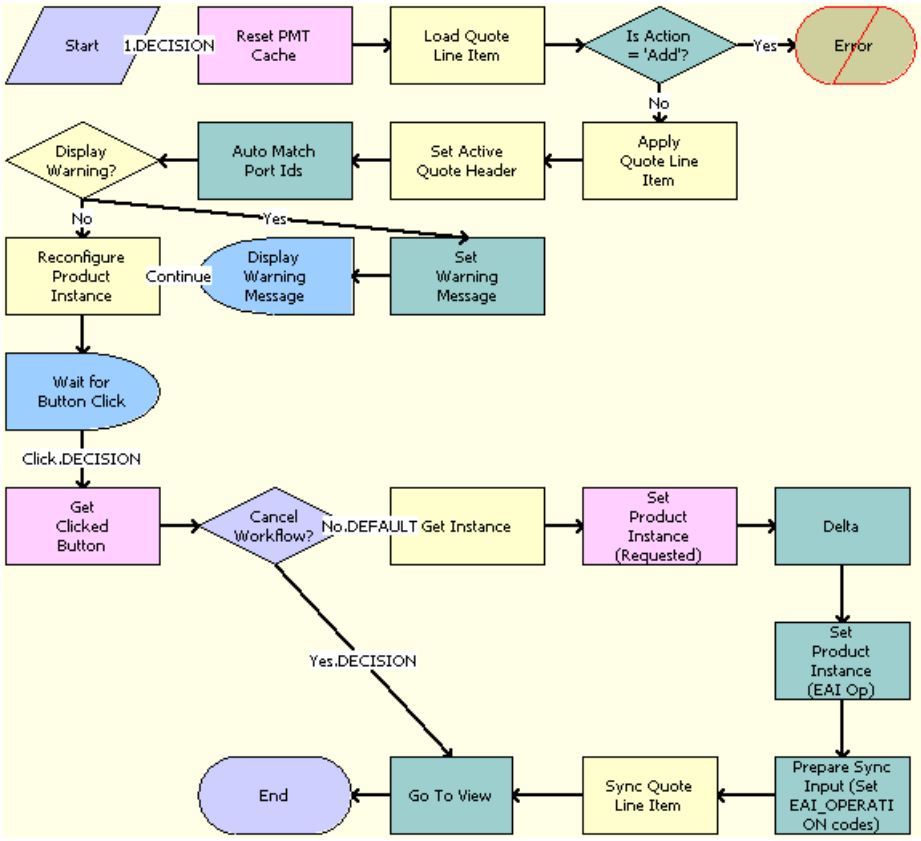


Figure 90. ABO Bulk Request Add Item Customize SubProcess Quotes Workflow

Workflow Description. This workflow performs the following actions:

1. **Reset PMT Cache**. This step prevents an incomplete workflow from polluting the PMT cache.
2. **Load Quote Line Item**. This step loads the quote line items.
3. **Is Action = 'Add'?** This step checks whether the Action code is Add.
4. **Error**. This step generates an error and ends the workflow.
5. **Apply Quote Line Item**. This step applies the quote line items.
6. **Set Active Quote Header**. This step sets the active quote header.
7. **Auto Match Port Ids**. This step auto-matches the port Ids.
8. **Display Warning?** This step checks whether to display any warning message.
9. **Set Warning Message**. This step sets the warning message.
10. **Display Warning Message**. This step displays the warning message, if any.

11 **Reconfigure Product Instance**. This step configures again the product instance.

12 **Wait for Button Click**. This step waits for a button click.

13 **Get Clicked Button**. This step gets the button that the user clicked.

14 **Cancel Workflow?** This step checks whether to cancel the workflow.

15 **Get Instance**. This step gets the instance.

16 **Set Product Instance (Requested)**. This step sets the warning message that was requested.

17 **Delta**. This step gets the delta.

18 **Set Product Instance (EAI Op)**. This step sets the product instance.

19 **Prepare Sync Input (Set EAI_OPERATION codes)**. This step prepares for the synchronization input.

20 **Sync Quote Line Item**. This step synchronizes the quote line items.

21 **Go To View**. This step goes to the view for Order, Order Lines, and Attributes.

Table 79 shows the steps in this workflow that call business service methods.

Table 79. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Apply Quote Line Item	Apply	SIS OM PMT Service
Auto Match Port Ids	AutoMatch	Complex Product AutoMatch Service
Delta	Delta	SIS OM PMT Service
Get Clicked Button	Get Cfg Button Click Information	SIS OM PMT Service
Get Instance	GetInstance	SIS OM PMT Service
Go To View	GoToView	ABO Bulk Request GoToView Svc
Load Quote Line Item	Query	EAI Siebel Adapter
Prepare Sync Input (Set EAI_OPERATION codes)	Compute EAI Operation	SIS OM PMT Service
Reconfigure Product Instance	Reconfigure Product Instance	SIS OM PMT Service
Reset PMT Cache	Reset	SIS OM PMT Service
Set Active Quote Header	Set Output Header	SIS OM PMT Service
Set Product Instance (EAI Op)	Set Product Instance	SIS OM PMT Service
Set Product Instance (Requested)	Set Product Instance	SIS OM PMT Service
Set Warning Message	SetBusCompFields	Shopping Service

Table 79. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Sync Quote Line Item	Synchronize	SIS OM PMT Service
Wait for Button Click	Sleep	Workflow Utilities

Workflow for Prepaid Services

This workflow retrieves and displays data from a billing application. It includes one workflow process, "SIA External Integration Process Workflow" on page 330.

SIA External Integration Process Workflow

This workflow retrieves and displays data from a billing application. This data includes information about top-up requests, current account balances, and usage activity for an account. Figure 91 shows this workflow.

A user initiates this workflow in the Account Summary - Prepaid view by selecting an installed asset and clicking the Refresh button in any of the following applets: Top-Up Requests, Current Balance, or Usage.

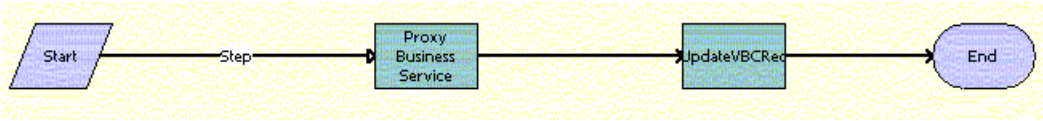


Figure 91. SIA External Integration Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Proxy Business Service**. This step calls the proxy business services that are created based on the WSDL from the billing application. This step gets the XML response from the billing application synchronously.
2. **Update VBCRec**. If no errors exist, then this step updates the virtual business component with the data from the billing application.

NOTE: The administrator must create the proxy business services that this workflow calls. Also, for the virtual business components (VBCs) that use these services, the administrator must configure the user properties. For more information, see "Process of Configuring Prepaid Services" on page 191.

Table 80 shows the steps in this workflow that call business service methods.

Table 80. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Proxy Business Service	process	CUTAccountPrepaidTopup
Proxy Business Service	process	CUTAccountPrepaidCurrentBalance
Proxy Business Service	process	CUTAccountPrepaidUsage
Proxy Business Service	process	CUTAccountAssetPrepaidTopup
Proxy Business Service	process	CUTAccountPrepaidNewTopup

The business service names depend on the Name tags in the WSDL file that the administrator generates when creating the proxy business services.

Workflows to Calculate Prices for Orders

This group of workflows performs price calculations for orders. It includes the following workflow processes:

- “Basic Pricing Procedure Workflow” on page 332
- “Dynamic Pricing Procedure Workflow” on page 335
- “Pricing Procedure - Calculate Net Price Workflow” on page 338

Basic Pricing Procedure Workflow

This workflow provides basic Price license functionality where the list price, volume discounts, and service pricing are supported. Figure 92 shows this workflow.

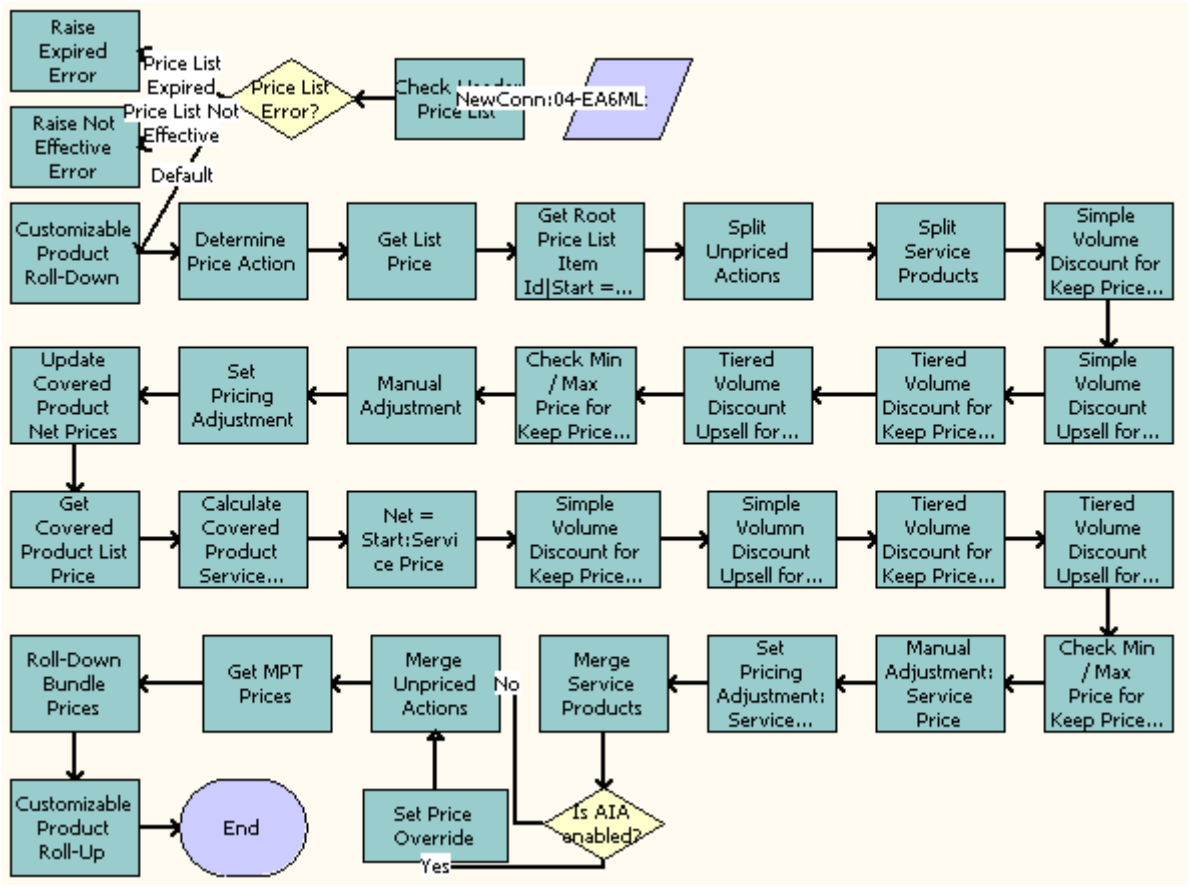


Figure 92. Basic Pricing Procedure Workflow

Workflow Description. This workflow performs the following actions:

1. Stamps error codes by checking for various conditions on the Price list.
2. From the error codes stamped in step 2, branches out to the different actions listed in step 4.
3. Does the following:
   a. Raises Expired Error
   b. Raises Not Expired Error
   c. Calculates the quantity of each component in a customizable product instance, and rolls down the price list ID and promotion ID from the root.

4 Determines the price action code based on the Action Code and Price Type of the item. Skips the Reprice functionality if the Override Reprice Flag is set to Y.

5 Using the Simple Look-up Transform business service, searches for the correct price list and stamps various price fields on the line item.

6 Gets Root Price List Item Id|Start = List|Net = Start.

7 Splits unpriced actions.

NOTE: Do not price line items with Skip Pricing Flag = 'Y'.

8 Splits service and non-service line items so they can be priced separately.

NOTE: In this Pricing Procedure, products and service products need to be split and handled differently. Service procedures are really services that are tied to products, for example a maintenance service on a car. The pricing of a service is tied to the product it covers. Later in this workflow, steps named XXX service Pricing consume the Service Product Row Set.

9 Applies the volume discount adjustment that matches the quantity on the line item.

10 Finds out the upsell discount information.

11 Applies tiered volume discounts to the net price.

12 Finds out the tiered upsell discount information.

13 Forces the net price to be within the minimum and maximum values defined in the price list item.

14 Sets the manual adjustment and applies line item and header-level manual discounts.

15 Sets the pricing adjustment. Before adjustments and discounts, the Net Price = Start Price.

16 Updates the net price for any covered products that were repriced.

17 Looks up the list price information for covered products.

18 Calculates the start price for the service product by applying the percentage in the price list item to the net or start price of the covered product.

19 Before adjustments and discounts, ensures that the Net Price = Start Price.

20 Applies the volume discount adjustment that matches the quantity on the line item.

21 Determines the upsell discount information.

22 Applies tiered volume discounts to the net price.

23 Determines the tiered upsell discount information.

24 Applies line item and header-level manual discounts.

25 Merges service and non-service line items.

26 Checks whether the Enable AIA Comms system preference is set to TRUE.

27 Checks whether any manual adjustments have been applied to the line items that are being processed. If manual adjustments have been applied to the line items, then changes the Pricing Commit Type to Committed.

NOTE: This step is called *only* if the Enable AIA Comms system preference is enabled and set to TRUE.

28 Merges unpriced line items.

29 Gets the MPT Prices and the NRC and MRC price components.

30 Spreads discounts from bundle product root to subcomponents.

31 Calculates the total extended price of the customizable product, including all subcomponents.

Table 81 shows the steps in this workflow that call business service methods.

Table 81. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Check Header Price List	Query Transform	Row Set Transformation Toolkit Service
Raise Expired Error	Raise Price List Expired Error	Pricing Manager
Raise Not Effective Error	Raise Price List Not Effective Error	Pricing Manager
Customizable Product Roll-Down	Hierarchical Transform	Row Set Transformation Toolkit Service
Get List Price	Hierarchical Transform	Row Set Transformation Toolkit Service
Split Unpriced Actions	Split	Row Set Transformation Toolkit Service
Set Pricing Adjustment	Split Transform	Row Set Transformation Toolkit Service
Update Covered Product Net Prices	Row Set Lookup Transform	Row Set Transformation Toolkit Service
Update Covered Product Net Prices	Row Set Lookup Transform	Row Set Transformation Toolkit Service
Update Covered Product Net Prices	Row Set Lookup Transform	Row Set Transformation Toolkit Service
Merge Service Products	Merge Transform	Row Set TransformationToolkit Service
Merge Unpriced Actions	Hierarchical Transform	Row Set TransformationToolkit Service
Get MPT Prices	Conditional Action Transform	Row Set TransformationToolkit Service

Table 81. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Roll-Down Bundle Prices	Hierarchical Transform	Row Set Transformation Toolkit Service
Customizable Product Roll-Up	Hierarchical Transform	Row Set Transformation Toolkit Service

Dynamic Pricing Procedure Workflow

This workflow provides advanced pricing capabilities. It contains steps and subprocedures that populate the List Price, Start Price, and Net Price fields. It also calculates the monthly recurring and nonrecurring subtotals for root customizable products. These prices and subtotals are calculated based on information from price lists, customizable product adjustments, volume discounts, attribute adjustments, aggregate discounts, service price details, product promotions, and manual discounts.

Figure 93 shows this workflow.

The Dynamic Pricing Procedure workflow, as shown in Figure 93,

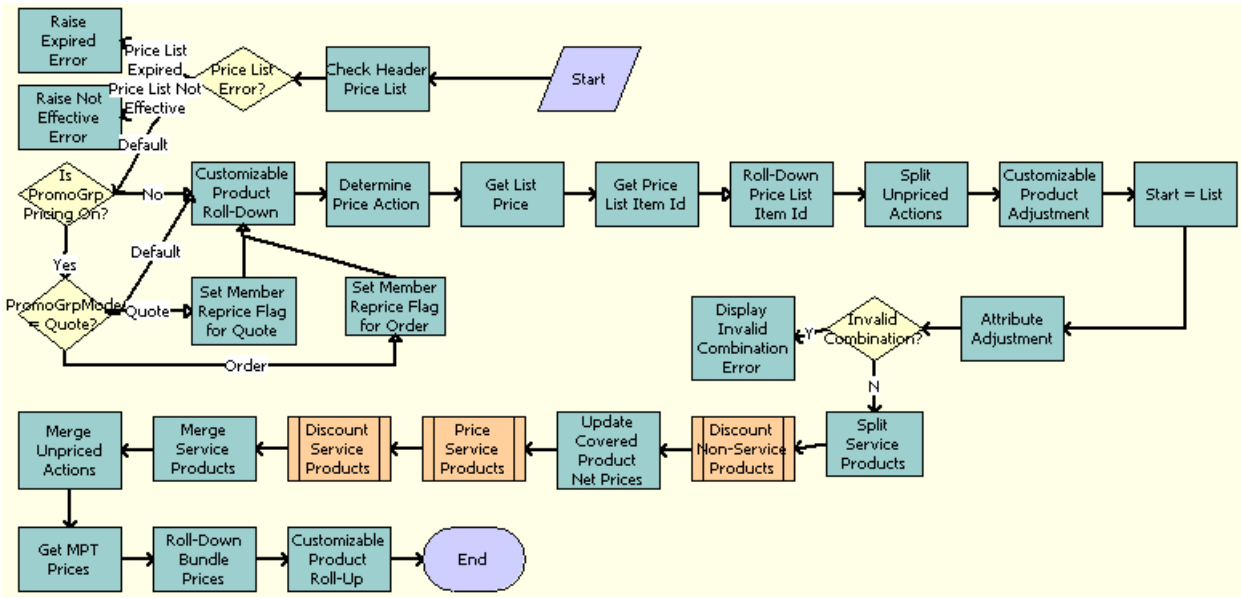


Figure 93. Dynamic Pricing Procedure Workflow

Workflow Description. This workflow performs the following actions:

1. **Check Header Price List**. This step checks whether the price list is current and active.
2. **Price List Error?** This step checks the price list for errors.

3 **Raise Expired Error**. This step generates an error if the price list is has expired.

4 **Raise Not Effective Error**. This step generates an error if the price list is not yet effective.

5 **Is Promo Group Pricing ON?** This step checks whether or not the Enable Promotion Group system preference is set to Yes.

6 **Customizable Product Roll-Down**. This step calculates the extended quantity of all component products of a CP instance. Also, it carries over some information from the CP root to CP components for later use.

7 **Set Member Reprice Flag for Quote.** This step sets the Member Reprice flag to True for those row sets in the Quote Line Item that are associated with a membership product so that when the reprice of the membership product is done, then the membership product and its associated asset are also repriced.

8 **Set Member Reprice Flag for Order.** This step sets the Member Reprice flag to True for those row sets in the Order Line Item that are associated with a membership product so that when the reprice of the membership product is done, then the membership product and its associated asset are also repriced.

9 **Determine Price Action**. This step determines the price action code based on the item Action Code and Price Type. This step skips the Reprice functionality if the Override Reprice Flag is set to Y.

10 **Get Price List**. This step gets the list price for each row in the row set.

11 **Get Price List Item Id**. This step appends other values from the Price List Item Buscomp to the row.

12 **Roll-Down Price List Item ID**. This step puts the CP Root Price List Item Id on each component of the CP for later use.

13 **Split Unpriced Actions**. This step moves those rows with an action code that are not priced to another row set that is not priced throughout the procedure.

14 **Customizable Product Adjustment**. This step gets CP Pricing Designer adjustments for components of a CP.

15 **Start = List**. This step initializes the start price value as the list price value.

16 **Attribute Adjustment**. This step applies attribute adjustments to the start price.

17 **Invalid Combination?** This step checks whether the combination for attribute pricing is valid or invalid.

18 **Display Invalid Combination Error**. This step generates an error when an invalid combination for attribute pricing occurs.

19 **Split Service Products**. This step moves service products from the row set into another row set for use in the service pricing subprocedure.

20 **Discount Non-Service Products**. This step calls the Pricing Procedure - Calculate Net Price subprocedure for nonservice products.

21 **Update Covered Product Net Prices**. This step updates the covered product net price field on the service product rows in the row set.

22 **Price Service Products**. This step calls the Pricing Procedure – Service subprocedure to handle the service product-specific pricing for service products.

23 **Discount Service Products**. This step calls the Pricing Procedure - Calculate Net Price subprocedure for service products.

24 **Merge Service Products**. This step merges the service and nonservice row sets into one row set.

25 **Merge Unpriced Actions**. This step establishes the NRC and MRC prices for one-time and monthly recurring price types, which are later used for Customizable Product Rollup.

26 **Get MPT Prices**. This step merges the priced and unpriced row sets into one row set.

27 **Roll-Down Bundle Prices**. This step spreads the discount of the root bundle products to the bundle component products.

28 **Customizable Product Roll-Up**. This step rolls up the prices of component products to the CP root.

29 **Is AIA Enabled?** This step checks whether Oracle Application Integration Architecture is enabled, and whether the Mode is Order.

30 **Set End Date**. This step calls the SWISetTBOEndDate subprocess to compute the service end date of the Time Based Offering products.

Table 82 shows the steps in this workflow that call business service methods.

Table 82. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Check Header Price List	Query Transform	Row Set Transformation Toolkit Service
Raise Expired Error	Raise Price List Expired Error	Pricing Manager
Raise Not Effective Error	Raise Price List Not Effective Error	Pricing Manager
Customizable Product Roll-Down	Hierarchical Transform	Row Set Transformation Toolkit Service
Get List Price	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Get Root Price List Item Id	Hierarchical Transform	Row Set Transformation Toolkit Service
Split Unpriced Actions	Split Transform	Row Set Transformation Toolkit Service
Customizable Product Adjustment	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Start = List	Conditional Action Transform	Row Set Transformation Toolkit Service

Table 82. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Matrix Adjustment	Dynamic Lookup Transform	Row Set Transformation Toolkit Service
Display Invalid Combination Error	Throw Invalid Combination Error	Dynamic Matrix Retrieval Service
Split Service Products	Split	Row Set Transformation Toolkit Service
Update Covered Product Net Prices	Row Set Lookup Transform	Row Set Transformation Toolkit Service
Merge Service Products	Merge Transform	Row Set Transformation Toolkit Service
Get MPT Prices	Conditional Action Transform	Row Set Transformation Toolkit Service
Merge Unpriced Actions	Merge Transform	Row Set Transformation Toolkit Service
Roll-Down Bundle Prices	Hierarchical Transform	Row Set Transformation Toolkit Service
Customizable Product Roll-Up	Hierarchical Transform	Row Set Transformation Toolkit Service

Pricing Procedure - Calculate Net Price Workflow

This workflow is responsible for the net price calculation, which takes into account volume discount, aggregate discount sequence, product promotion, product promotion group discount, manual adjustment and minimum or maximum price bound checks.

Figure 94 shows this workflow.

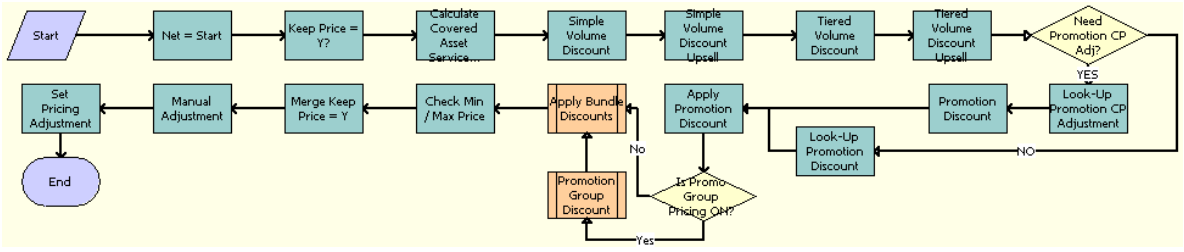


Figure 94. Pricing Procedure - Calculate Net Price Workflow

Workflow Description. This workflow performs the following actions:

1 **Net = Start.** This step initializes the net price value as the start price value.

2 **Keep Price = Y?** This step moves those rows with the Exclude Pricing flag set to Y to another Keep Price Row Set row set. This movement skips all Siebel application-generated discounts throughout the procedure. This step applies a manual adjustment (discount amount, discount percentage, discount price and header discount percentage) for the row set with Exclude Pricing flag set.

   This step sets the pricing adjustment that indicates the total amount of system-generated discount accounts for the row with the Exclude Pricing flag set to Y. Also this step sets the value of a temporary variable, Temp Pricing Commit Type, to the value of the Pricing Commit Type of the promotional product for component-level products that have adjustments defined.

3 **Calculate Covered Asset Service...** This step queries in FS Product Price Item Details business component for any covered asset service pricing adjustment.

4 **Simple Volume Discount.** This step evaluates simple volume discounts.

5 **Simple Volume Discount Upsell.** This step populates the next simple volume discount and upsell message for upsell purposes.

6 **Tiered Volume Discount.** This step evaluates tiered volume discounts.

7 **Tiered Volume Discount Upsell.** This step populates the next tiered volume discount and upsell message for upsell purposes.

8 **Need Promotion CP Adj?** This step checks whether any manual adjustments or promotional discounts have been applied to the line items that are being processed. If manual adjustments or promotional discounts have been applied to the line items, then it changes the Pricing Commit Type to Committed.

   NOTE: This step is called only if the Enable AIA Comms system preference is enabled and set to True.

9 **Look-Up Promotion CP Adjustment.** This step checks whether any pricing discount is defined for customizable product components defined under a bundled promotion. This step sets the Temp Prom Comp Discount Applied flag to Yes if the matching discount is found.

10 **Promotion Discount.** This step checks for the discount defined for a customizable product root product or a simple product that is associated with a bundled promotion.

11 **Look-Up Promotion Discount.** This step checks whether a promotion discount is defined. Also this step sets the value of a temporary variable, Temp Pricing Commit Type, to the value of the Pricing Commit Type of the promotional product for root-level products that have adjustments defined.

12 **Apply Promotion Discount.** This step applies the promotion discount found in the previous step. Also this step sets the Pricing Commit Type value to Committed for any root-level products to which committed promotions are applied.

   NOTE: This step is called only if the Enable AIA Comms system preference is enabled and set to True.

13 **Is Promo Group Pricing ON?** This step checks whether or not the Enable Promotion Group system preference is set to Yes.

14 **Promotion Group Discount.** This step calls the Pricing Procedure - Promotion Group Discount workflow.

NOTE: This step is called only if the System Preference Variable, Enable Promotion Group field, is set to True.

15 **Apply Bundle Discounts.** This step calls the Pricing Procedure - Bundle Discount subprocedure to evaluate the aggregate discount sequence.

16 **Check Min / Max Price.** This step checks whether the current net price is within the boundary of the minimum and maximum price.

17 **Merge Keep Price = Y.** This step merges the two row sets generated by the Keep Price = Y? step into one row set.

18 **Manual Adjustment.** This step applies a manual adjustment (discount amount, discount percentage, discount price and header discount percentage).

19 **Set Pricing Adjustment.** This step sets the pricing adjustment that indicates the total amount of discount accounts generated by the Siebel application.

Table 83 shows the steps in this workflow that call business service methods.

Table 83. Associated Business Service Methods

Name	Method	Business Service
Net = Start	Conditional Action Transform	Row Set Transformation Toolkit Service
Calculate Covered Asset Service Price	Simple Look-Up Transform	Row Set Transformation Toolkit
Keep Price = Y?	Split Transform	Row Set Transformation Toolkit
Manual Adjustment for Keep Price = Y	Conditional Action Transform	Row Set Transformation Toolkit Service
Set Pricing Adj for Keep Price = Y	Conditional Action Transform	Row Set Transformation Toolkit Service
Simple Volume Discount	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Simple Volume Discount Upsell	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Tiered Volume Discount	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Tiered Volume Discount Upsell	Simple Look-Up Transform	Row Set Transformation Toolkit Service
Look-Up Promotion Discount	Simple Look-Up Transform	Row Set Transformation Toolkit Service

Table 83. Associated Business Service Methods

Name	Method	Business Service
Apply Promotion Discount	Conditional Action Transform	Row Set Transformation Toolkit
Check Min or Max Price	Conditional Action Transform	Row Set Transformation Toolkit Service
Manual Adjustment	Conditional Action Transform	Row Set Transformation Toolkit
Set Pricing Adjustment	Conditional Action Transform	Row Set Transformation Toolkit Service
Merge Keep Price = Y	Merge Transform	Row Set Transformation Toolkit

Workflows to Process an Order

This group of workflows performs various order processing operations. It includes the following workflow processes:

- "SWI Initial Load Non CP Order Release Workflow" on page 342
- "SWIOrderUpsert_O2C Workflow" on page 342
- "SWI Configurator Load Workflow" on page 343
- "Oracle Configurator Load Workflow" on page 344
- "SWISendATPCheck Workflow" on page 345
- "SWISendATPCheckLine Workflow" on page 346
- "SWISendCalculateShippingCharge Workflow" on page 347
- "SWISendOrder Workflow" on page 349
- "SWIReviseOrderValidation Workflow" on page 350
- "SWICopyOrder Workflow" on page 351
- "Verify Header (Order) Workflow" on page 352
- "Verify Item (Order) Workflow" on page 352
- "SWIValidateDependentOrders Workflow" on page 353
- "SWIOrderUpsert Workflow" on page 354
- "SWIOrderUpsertSubProcess Workflow" on page 355
- "SWI TSQ Order Workflow" on page 358

SWI Initial Load Non CP Order Release Workflow

This workflow releases all the products that have been locked during initial load. It is called when Product job is run.

Figure 95 illustrates this workflow.

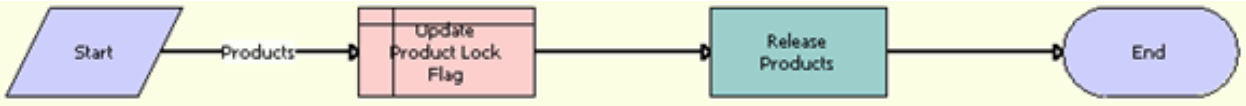


Figure 95. SWI Initial Load Non CP Order Release Workflow

Workflow Description. This workflow performs the following actions:

1. **Update Product Lock Flag.** This step updates the Prod Locked Flag field to Y.
2. **Release Products.** This step calls the ISS Authoring Import Export Service business service to release the products.

Table 84 shows the step in this workflow that calls a business service method.

Table 84. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Release Products	ReleaseSingleObject	ISS Authoring Import Export Service

SWIOrderUpsert_O2C Workflow

This workflow updates the details of an order to the Siebel application. This workflow is called by the parent workflow SWIOrderUpsert depending on the value of the system preference Enable AIA OrderToCash.

Figure 96 illustrates this workflow.

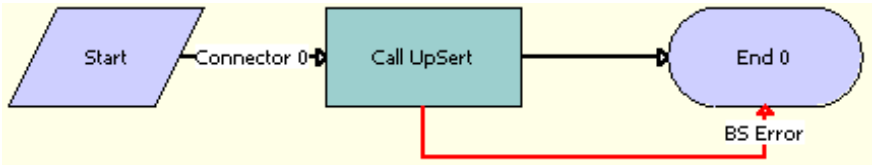


Figure 96. SWIOrderUpsert_O2C Workflow

Workflow Description. This workflow performs the following actions:

- **Call UpSert.** This step inserts or updates the order status and other details that are obtained from the payload. It derives the value for the UTCCanonical input parameter from the UTCCanonical process property. The default value for this property is N.

Table 85 shows the step in this workflow that calls a business service method.

Table 85. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Call UpSert	InsertOrUpdate	SWI Order Upsert

SWI Configurator Load Workflow

This workflow is called to start Oracle Configurator, which is launched only when the system preference Enable AIA OrderToCash is set to True and the product type is Oracle Product. This workflow is called by the parent process SWI Configurator Load, which is called when the user clicks the Customize button in the Quotes or Sales Order screen.

Figure 97 illustrates this workflow.

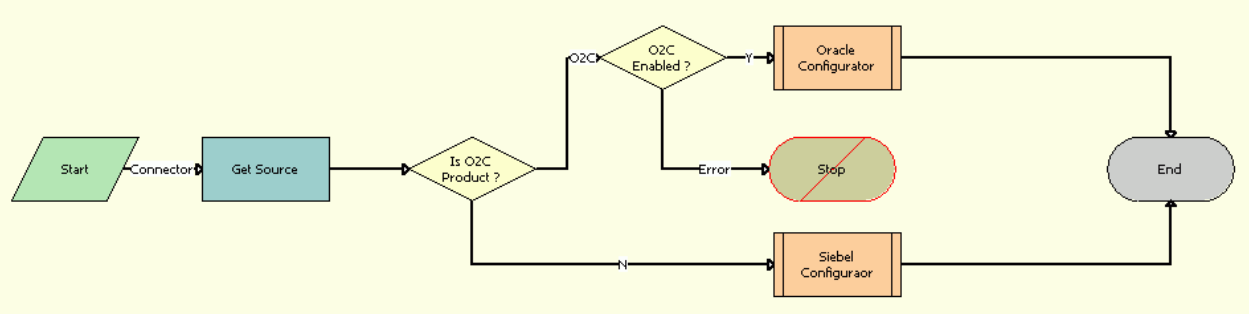


Figure 97. SWI Configurator Load Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Source.** This step calls the Inbound E-mail Database Operations business service to acquire product information.
2. **Is O2C Product?** This step determines whether the product is an Oracle product.
3. **O2C Enabled?** This step determines whether the Enable AIA OrderToCash system preference is set to True.
4. **Oracle Configurator.** This step calls the Oracle Configurator Load sub process.
5. **Siebel Configurator.** This step calls the Configurator Load sub process.

Table 86 shows the step in this workflow that calls a business service method.

Table 86. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Source	GetFieldValues	Inbound E-mail Database Operations

Oracle Configurator Load Workflow

This workflow is called to start Oracle Configurator, which is launched only when the system preference Enable AIA OrderToCash is set to True and the product type is Oracle Product. This workflow is called by the parent process SWI Configurator Load. Figure 98 illustrates this workflow.

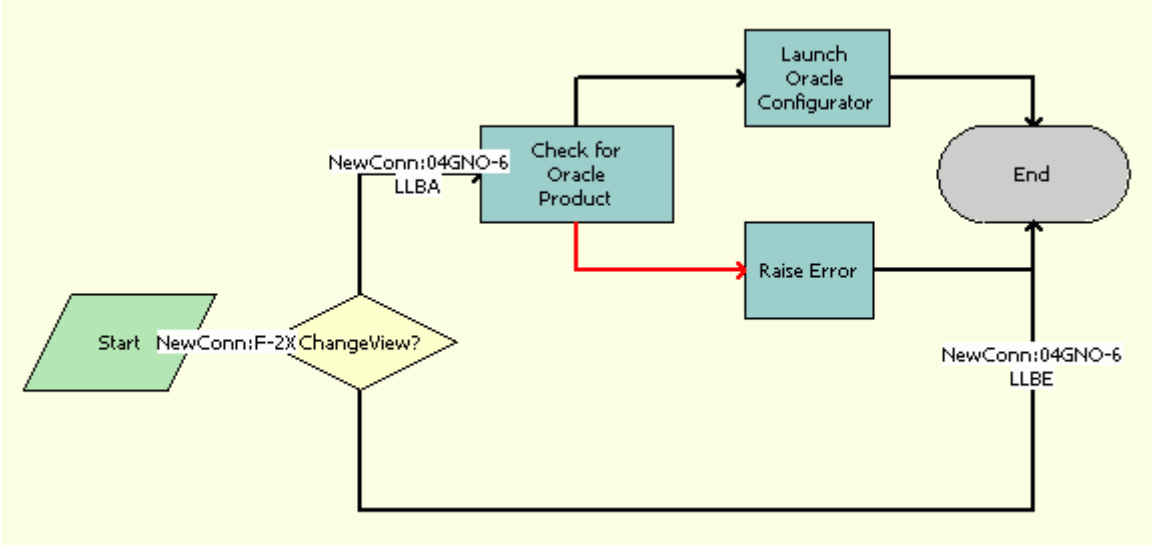


Figure 98. Oracle Configurator Load Workflow

Workflow Description. This workflow performs the following actions:

1. **Change View?** This step uses the Change View process property to determine whether or not to change the view.
2. **Check for Oracle Product.** This step calls the CZSessionManagement business service to determine whether the product is an Oracle product.
3. **Launch Oracle Configurator.** This step calls the CZSessionManagement business service to start the Oracle Configurator.
4. **Raise Error.** This step calls the CZSessionManagement business service to raise an error.

Table 87 shows the steps in this workflow that call business service methods.

Table 87. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Check for Oracle Product	IsOracleConfigurableProduct	CZSessionManagement
Launch Oracle Configurator	LaunchConfigurator	CZSessionManagement
Raise Error	RaiseNonOracleProductError	CZSessionManagement

SWISendATPCheck Workflow

This workflow checks whether a requested product is available and determines where the product resides in the inventory. It is called when the user clicking on InquireAll button in the Shipping view, Fulfillment applet.

Figure 99 illustrates this workflow.

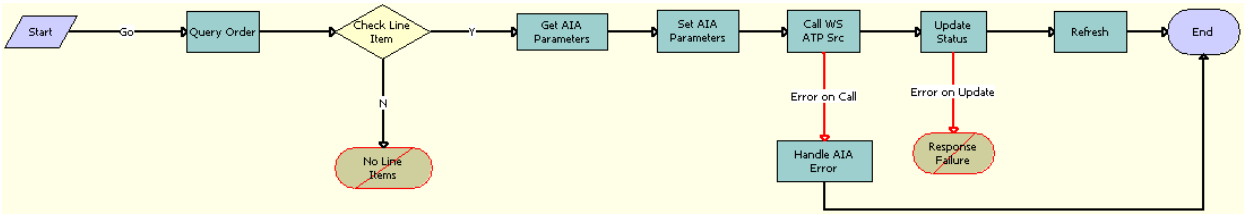


Figure 99. SWISendATPCheck Workflow

Workflow Description. This workflow performs the following actions:

1. **Query Order.** This step calls the SWI Order ATP WS business service to query for the order details. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.
2. **Check Line Item.** This step runs a query to obtain the details of the order line item.
3. **Get AIA Parameters.** This step gets the Siebel Enterprise Server details and other parameters.
4. **Set AIA Parameters.** This step formats the parameters into Siebel message format.
5. **Call WS ATP Svc.** This step calls the outbound Web service and sends the payload.
6. **Handle AIA Error.** If an error occurs in the prior step, then this step catches the error.
7. **Update Status.** This step updates ATP details. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.

8 **Refresh.** This step refreshes the applet so the synchronized information is displayed in the Siebel application.

Table 88 shows the steps in this workflow that call business service methods.

Table 88. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query Order	QueryById	SWI Order ATP WS
Get AIA Parameters	GetEnterpriseParameters	WI External Integration Service
Set AIA Parameters	SetAttributesToMessage	SWI External Integration Service
Call WS ATP Svc	CheckATP	CheckATPSalesOrderSiebelReqABCSImplService
Handle AIA Error	CheckAndSetError	SWI External Integration Service
Update Status	Upsert	EAI Siebel Adapter
Refresh	RefreshCurrentApplet	FINS Teller UI Navigation

SWISendATPCheckLine Workflow

This workflow acquires information about Sales Order shipping costs for a single line item. It is called when the user navigates to the Fulfillment view and clicks Inquire.

Figure 100 illustrates this workflow.

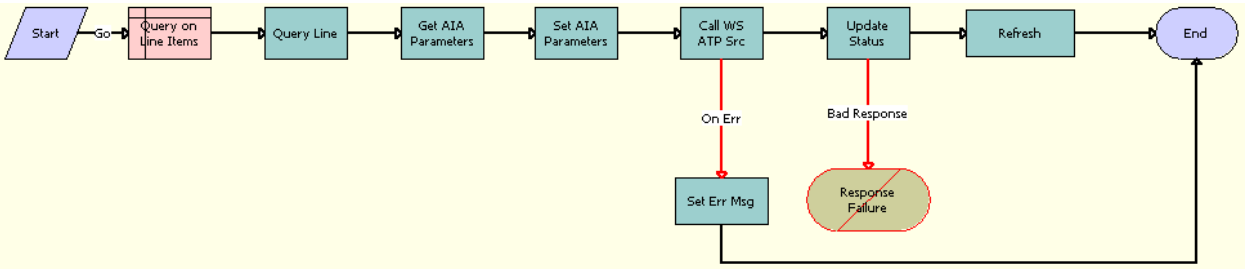


Figure 100.SWISendATPCheckLine Workflow

Workflow Description. This workflow performs the following actions:

1 **Query on Line Items.** This step queries the Order Entry - Line Items business component to obtain the Line Item Id.

2 **Query Line.** This step runs a query to obtain the details of the order line item. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.

3 **Get AIA Parameters.** This step gets the Siebel Enterprise Server details and other parameters.

4 **Set AIA Parameters.** This step formats the parameters into Siebel message format.

5 **Call WS ATP Svc.** This step calls the outbound Web service and sends the payload.

6 **Set Err Msg.** If an error occurs in the prior step, then this step displays an error message.

7 **Update Status.** This step updates ATP details. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then any field of type DTYPE_UTCDATETIME in the payload must be in UTCCanonical format. While writing these fields into the business component, these fields are converted to the locale-specific date and time.

8 **Refresh.** This step refreshes the applet so the synchronized information is displayed in the Siebel application.

Table 89 shows the steps in this workflow that call business service methods.

Table 89. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query Line	Query	EAI Siebel Adapter
Get AIA Parameters	GetEnterpriseParameters	SWI External Integration Service
Set AIA Parameters	SetAttributesToMessage	SWI External Integration Service
Call WS ATP Svc	CheckATP	CheckATPSalesOrderSiebelReqABCSImplService
Set Err Msg	CheckAndSetError	SWI External Integration Service
Update Status	Upsert	EAI Siebel Adapter
Refresh	RefreshCurrentApplet	FINS Teller UI Navigation

SWISendCalculateShippingCharge Workflow

This workflow acquires information about Sales Order shipping costs. It is called when the user clicks the Shipping and Tax button in the Shipping view, Ship To applet.

Figure 101 illustrates this workflow.

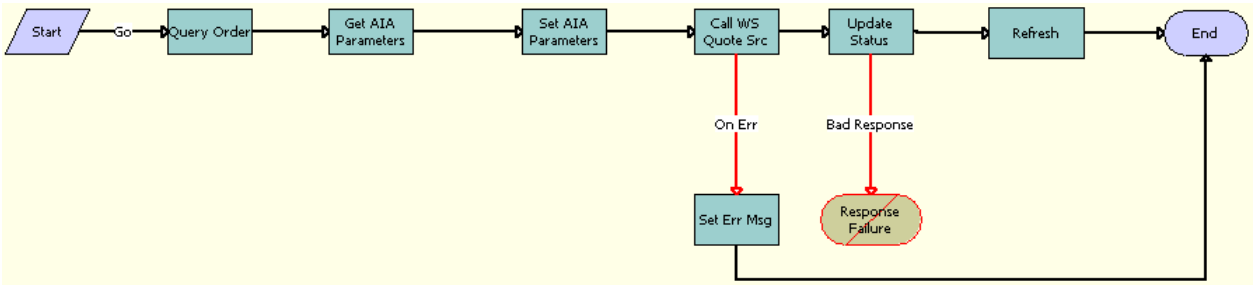


Figure 101.SWISendCalculateShippingCharge Workflow

Workflow Description. This workflow performs the following actions:

1. **Query Order.** This step runs a query to obtain the details of the order. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.
2. **Get AIA Parameters.** This step gets the Siebel Enterprise Server details and other parameters.
3. **Set AIA Parameters.** This step formats the parameters into Siebel message format.
4. **Call WS Quote Svc.** This step calls the outbound Web Service and sends the payload.
5. **Set Err Msg.** If an error occurs in the prior step, then this step displays an error message.
6. **Update Status.** This step updates the shipping charge details. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then any field of type DTYPE_UTCDATETIME in the payload must be in UTCCanonical format. While writing these fields into the business component, these fields are converted to the locale-specific date and time.
7. **Refresh.** This step refreshes the applet so the synchronized information is displayed in the Siebel application.

Table 90 shows the steps in this workflow that call business service methods.

Table 90. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Query Order	QueryById	SWI Order Upsert
Get AIA Parameters	GetEnterpriseParameters	SWI External Integration Service
Set AIA Parameters	SetAttributesToMessage	SWI External Integration Service

Table 90. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Call WS Quote Svc	CalculateShippingCharge	CalculateShippingChargeSalesOrderSiebelReqABCSImplService
Set Err Msg	CheckAndSetError	SWI External Integration Service
Update Status	Upsert	EAI Siebel Adapter
Refresh	RefreshCurrentApplet	FINS Teller UI Navigation

SWISendOrder Workflow

This workflow submits an order into AQ. It is specific to the Order To Cash Process Integration Pack. It is called by the parent workflow Submit Order ASI when the system preference Enable Order to Cash is set to TRUE.

Figure 102 illustrates the SWISendOrder workflow.

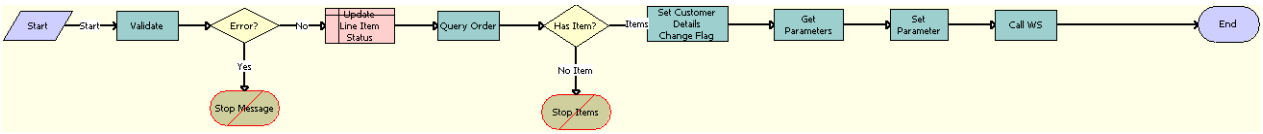


Figure 102.SWISendOrder Workflow

Workflow Description. This workflow performs the following actions:

1. **Validate.** This step validates the input values.
2. **Error?** This step determines whether a validation violation occurred.
3. **Stop Message.** This step stops the workflow execution if an error has occurred.
4. **Update Line Item Status.** This step updates the Status field.
5. **Query Order.** This step queries for the Order Id that must be submitted. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.
6. **Has item?** This step checks whether there are any line items for the order.
7. **Stop Items.** This step stops the workflow execution if no line items are present.
8. **Set Customer Details Change Flag.** This step calls the subsequent business service.
9. **Get Parameters.** This step gets the details of the Siebel Enterprise Server, language, and local values for the Siebel Server.

10 **Set Parameters.** This step sets the details of the Siebel Enterprise Server, language, and local values in the request message to make an outbound service call.

11 **Call WS.** This step calls the Web service that puts the message in Advanced Queue (AQ).

Table 91 shows the steps in this workflow that call business service methods.

Table 91. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Validate	Validate	FINS Validator
Query Order	QueryById	SWI Order Upsert
Set Customer Details Change Flag	SetPreviousFlags	SWI External Integration Service
Get Parameters	GetEnterpriseParameters	SWI External Integration Service
Set Parameters	SetAttributesToMessage	SWI External Integration Service
Call WS	process	SWISubmitOrder_o2c

SWIReviseOrderValidation Workflow

This workflow validates an order for revision. It is specific to the Order To Cash Process Integration Pack in that it verifies whether an order can be revised. It is called when the user clicks the Revise button in the Sales Order Screen.

Figure 103 illustrates the SWIReviseOrderValidation workflow.

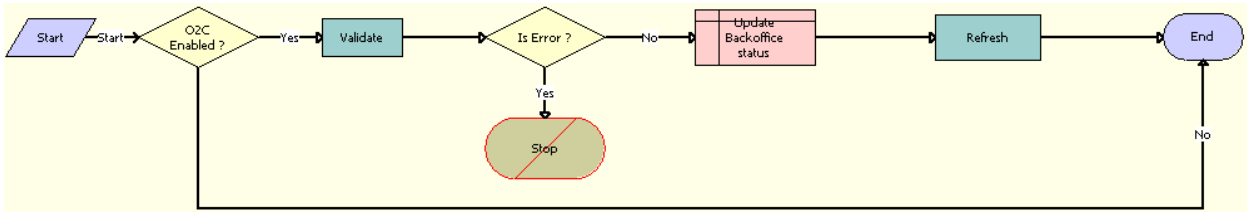


Figure 103.SWIReviseOrderValidation Workflow

Workflow Description. This workflow performs the following actions:

1 **O2C Enabled?** This step examines the Enable AIA OrderToCash system preference. If Enable AIA OrderToCash is set to False, then the workflow proceeds to the end step.

2 **Validate.** This step runs validation on the input values.

3 **Is Error?** This step checks whether an error is found. If an error is found, then the workflow proceeds to the stop step.

4 **Stop.** This step stops the workflow execution if the Order cannot be revised.

5 **Update Backoffice Status.** This step updates the value of the BackOfficeProcessStatus field.

6 **Refresh.** If the contact synchronizes successfully, then this step refreshes the Contact view so that the synchronized account is included in the Siebel client.

Table 92 shows the steps in this workflow that call business service methods.

Table 92. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Validate	Validate	FINS Validator method
Refresh	RefreshCurrentApplet	FINS Teller UI Navigation

SWICopyOrder Workflow

This workflow takes the Order Id as input, copies the order, and changes the status of the copied order and of all its line items to As Submitted. Figure 104 shows this workflow.

This workflow is called from the SWIOrderUpsert workflow. This workflow is called only if the Backup Order flag is set to TRUE in parent workflow. SWIOrderUpsert is exposed as a Web service.

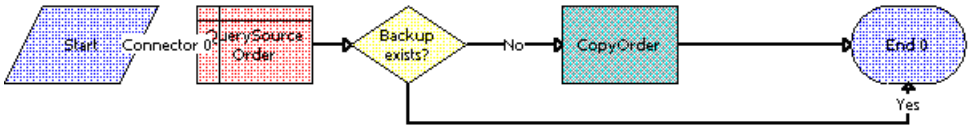


Figure 104.SWICopyOrder Workflow

Workflow Description. This workflow performs the following actions:

1 **Query Source Order**. This step queries the source order details, then gets the Copied Order Id field.

2 **Backup exists?** This step checks whether or not the order is already copied.

3 **CopyOrder**. This step calls the CMU External Utilities Service CopyOrder method. This step takes DataMap and Order Id as input and creates a backup copy of the order.

Table 93 shows the step in this workflow that calls a business service method.

Table 93. Associated Business Service Methods

Workflow Step	Method Called
CopyOrder	CMU External Utilities Service CopyOrder

Verify Header (Order) Workflow

This workflow is used to verify an order, verify a promotion, and verify the line items of an order. It displays promotion violations, data validation rule violations, and complex product violations. Figure 105 shows this workflow.

The workflow is called when a user clicks the Verify button on the Order Header applet of the Sales Order screen.

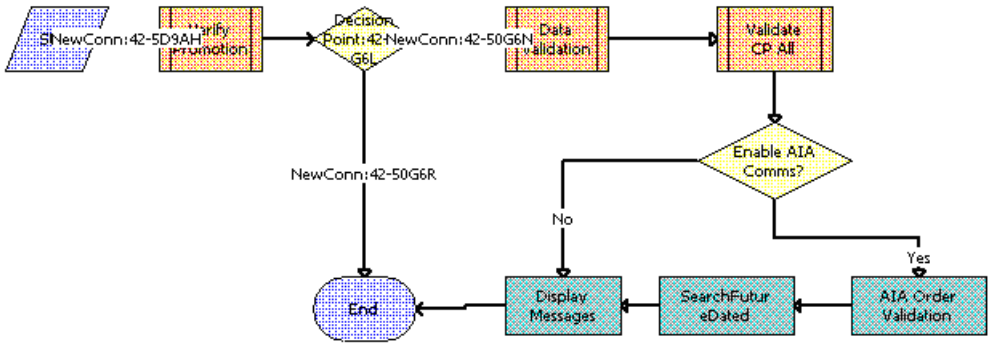


Figure 105.Verify Header (Order) Workflow

Workflow Description. This workflow performs the following actions:

1. **Verify Promotion**. This step calls the ISS Promotion Verify Sub Process workflow to verify the promotion status.
2. **Data Validation.** This step calls the SS Validation (Order) workflow to verify the data validation rules.
3. **Validate CP All**. This step calls the VORD Validate Complex Product All (Order) workflow to validate all complex products included in the order.
4. **Enable AIA Comms?** This step checks whether the Enable AIA Comms system preference is set to True or False.
5. **AIA Order Validation**. This step calls the new order validation rule set, SWI Order Validation Rule Set, which verifies the order before it is submitted.
6. **SearchFutureDated**. This step searches for the dependent future-dated orders based on the search specification present at the Order Entry - Line Items business component, SWIFutureDatedOrdersSearchSpec user property.
7. **Display Messages**. This step displays all messages generated by the earlier steps.

Verify Item (Order) Workflow

This workflow is used to verify a line item and to verify a promotion. This workflow displays promotion violations, data validation rule violations, and complex product violations. Figure 106 shows this workflow.

This workflow is triggered when a user clicks Menu and chooses Verify on the Sales Order screen, Order Line List Applet menu.

Figure 106.Verify Item (Order) Workflow

Workflow Description. This workflow performs the following actions:

1. **Call Row Set**. This step calls the Business Service Context Service method GetRowSetData to get the row set data for the input variable map passed.
2. **Convert Row Set to Validate Input**. This step calls Business Service Verify Management Service method ConvertRowSetToInput. This step converts the input row set to parameters.
3. **Validate CP**. This step calls the VORD Validate Complex Product (Order) subprocess for validating the complex products.
4. **ValidateFutureDatedLines**. This step searches for the dependent future-dated orders based on the search specification present in the Order Entry - Line Items business component, SWIFutureDatedOrdersSearchSpec user property.
5. **Display Messages**. This step calls Business Service Verify Management Service method DisplayMessages to display the messages in the UMF applet.

SWIValidateDependentOrders Workflow

This workflow is called for validating the existence of dependent follow on orders. This workflow is called when a user clicks on Modify from Order Entry Line Items list applet. Figure 107 shows this workflow.

The workflow queries based on the field Depends On Id. If there exists any record for the query, then a error message is thrown. To disable this option user can set the Business Component Order Entry - Line Items user property SWIValidateDependentFlag to FALSE.

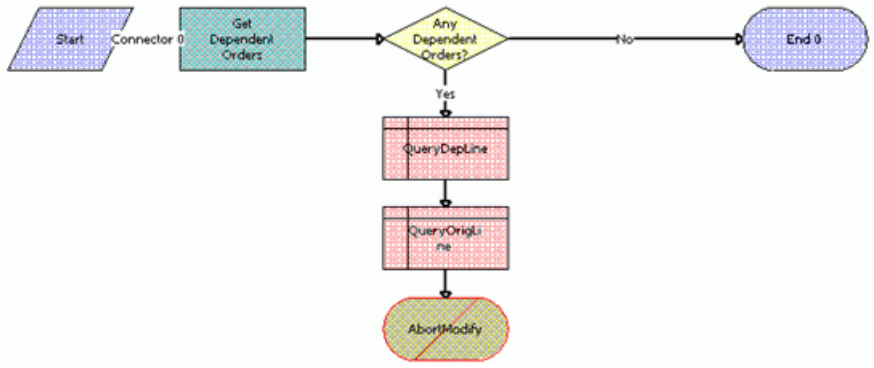


Figure 107.SWIValidateDependentOrders Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Dependent Order**. This step checks whether or not dependent follow-orders exist.
2. **Any Dependent Orders?** This step decides whether or not to generate an error based on the existence of dependent follow-on orders.
3. **QueryDepLine**. This step queries for dependent line details that are required for display in the error message.
4. **QueryOrigLine**. This step queries for source line details that are required for display in the error message.
5. **AbortModify**. This step generates an error to display a message about the existence of dependent orders.

SWIOrderUpsert Workflow

This workflow performs the following tasks:

- Makes a backup copy of an order.
- Updates the order details.
- Cascades down update.
- Triggers an auto asset.

Oracle Application Integration Architecture uses this workflow to update the order details through the SWIOrderUpsert inbound Web service. It is called when an order update arrives from Oracle Application Integration Architecture. This workflow is exposed as an inbound Web service and is used by the Siebel application to update or insert an order. This workflow decides on the basis of the system preference whether it calls the Order To Cash Process Integration Pack Order Upsert workflow or follows the communications workflow.

The UTCCanonical flag is N by default. To turn this default behavior on, you must change the default value for the UTCCanonical process property in the SWIOrderUpsert workflow to Y. This setting requires that updates from the Siebel application must be in UTC Canonical format. Because the process property is an Input process property, you can set the value of the UTCCanonical flag to Y or N from the Siebel application.

Figure 108 illustrates the SWIOrderUpsert workflow.

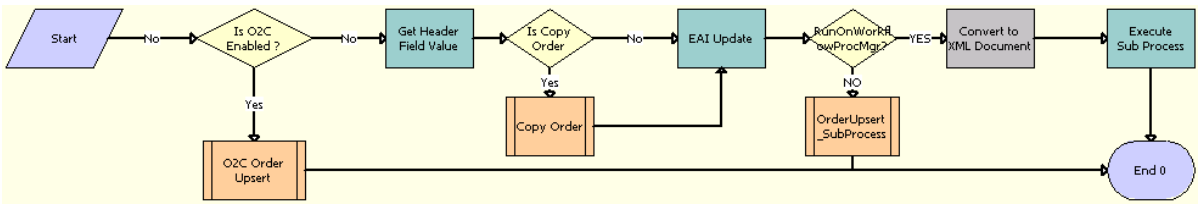


Figure 108.SWIOrderUpsert Workflow

Workflow Description. This workflow performs the following actions:

1. **Is O2C Enabled?** This step checks for the Enable AIA OrderToCash system preference and calls the O2C Order Upsert Workflow if the Is O2C Enabled property is set to True.
2. **O2C Order Upsert**. This step calls the SWI Order Upsert_O2C subprocess.
3. **Get Header Field Value.** This step gets the Order Id value. This step takes SiebelMessage, Fieldnames, HierarchyNode, and MaxField as input.
4. **Is Copy Order.** This step checks the status of the Backup Order Flag.
5. **Copy Order.** If the Backup Order Flag is set to True, then this subprocess calls the SWICopyOrder workflow to make a backup of the order details. For details, see "SWICopyOrder Workflow" on page 351.
6. **EAI Update**. This step uses an input flag named UTCCanonical. This flag is N by default. If this flag is Y, then data from the Siebel application must be in UTC (Coordinated Universal Time) and canonical format. The data in UTC and canonical format is converted to Siebel object manager format as determined by the value of the UTCCanonical flag.
7. **RunOnWorkflowProcMgr?** This step checks whether the RunOnWorkflowProcMgr process property is set to Y. If this process property is set to Y, then this step runs the SWIOrderUpsertSubProcess workflow on a different server component.
8. **OrderUpsert_SubProcess**. This step calls the SWIOrderUpsertSubProcess workflow.
9. **Convert to XML Document**. This step converts the Siebel message to a string that can be submitted to the Server Request business service to be run on a different server component.
10. **Execute Sub Process**. This step runs the workflow on a different server component.

    The default value of the literal Mode, which is an input to this step, is Sync. To make the call asynchronous, change the Mode value to DirectDB.

Table 94 shows the steps in this workflow that call business service methods.

Table 94. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Header Field Value	GetFieldValue	CMU External Integration Service
EAI Update	Upsert	EAI Siebel Adapter
Execute Sub Process	SubmitRequest	Server Requests

SWIOrderUpsertSubProcess Workflow

This workflow triggers the auto-asset functionality for root line items only, and updates the line items for event products. This workflow is called by the SWIOrderUpsert workflow.

Figure 109 illustrates the SWIOrderUpsertSubProcess workflow.

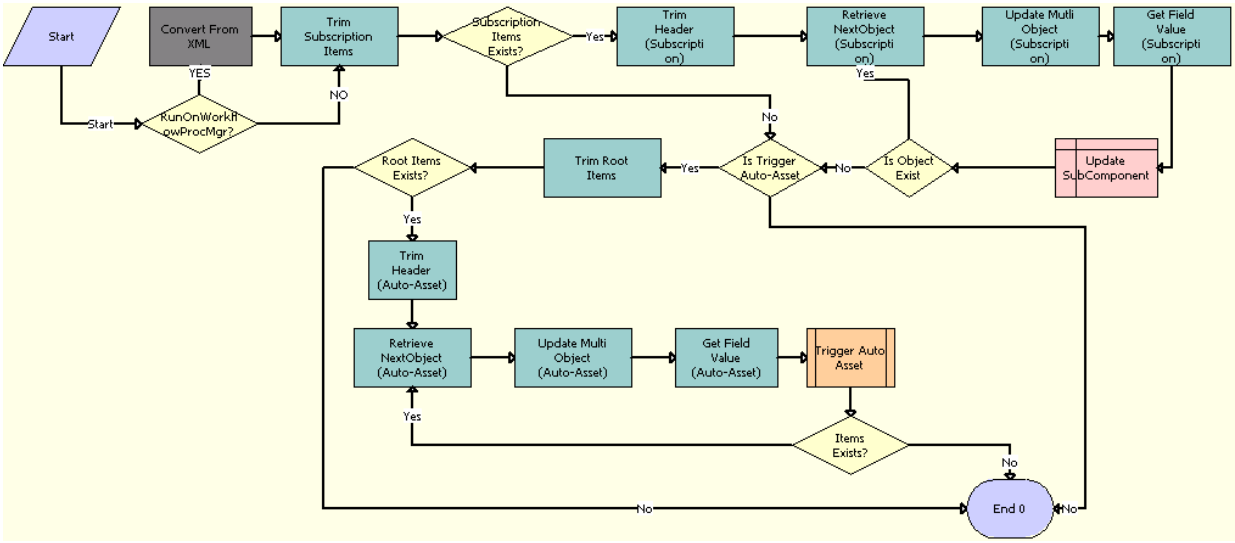


Figure 109.SWIOrderUpsertSubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **RunOnWorkflowProcMgr?** This step checks whether the RunOnWorkflowProcMgr process property is set to Y. If this process property is set to Y, then this step converts the Siebel message from a string to a hierarchy, as this workflow would have been called through the Server Request business service.
2. **Convert From XML**. This step converts the Siebel message from a string to a hierarchy.
3. **Trim Subscription Items**. This step removes all the products from the Siebel message in which Billing Type is not equal to Subscription.
4. **Subscription Items Exists?** This step returns TRUE if any products of Type equal to Subscription are returned by Step 3.
5. **Trim Header (Subscription)**. This step uses the CMU External Integration Service business service to trim the order header and send only the details of the order line items as a Siebel message.
6. **Retrieve Next Object (Subscription)**. If the Item Present flag is set to True, then this step calls the Retrieve Next object From List method multiple times with the same input argument. Each time it calls this method, the workflow returns the next root component. Also, the workflow uses it in conjunction with Update Multi Object List to form a loop control.
7. **Update Multi Object (Subscription)**. This step returns the resulting integration object and cycles through each object one by one, in combination with Step 6.
8. **Get Field Value (Subscription)**. This step takes Fieldnames, HierarchyNode, SiebelMessage, and MaxFields as input, and gives Fieldvalues as output.

9 **Update SubComponent.** If the Cascade Down flag is set to True and the Billing Type is Subscription, then this step updates the Status, Milestone, Completed Date, Change Cost, Status Context, and Expected Delivery Date of the child line items with the Status of the parent line item, which includes the Billing Type of Subscription. If the Fulfillment Status Code is Completed or Canceled, then only those values are copied to Status field of the line items of both the parent and child.

10 **Is Object Exist.** This step checks whether the Remaining Objects process property is set to True or False. If line items exist, then the workflow loops through each line item.

11 **Is Trigger Auto-Asset.** This step checks whether Status is Complete, the Auto-Asset flag is set to True, the Line Item Id is Root Line Item Id, or the Billing type is Subscription.

12 **Trim Root Items**. This step removes all products from the Siebel message except the root line item.

13 **Root Items Exists?** This step returns TRUE if any Root Line Items exist.

14 **Trim Header (Auto-Asset)**. This step uses the CMU External Integration Service business service to trim the order header and send only the details of the order line items as a Siebel message.

15 **Retrieve Next Object (Auto-Asset)**. If the Item Present flag is set to True, then this step calls the Retrieve Next object From List method multiple times with the same input argument. Each time it calls this method, the workflow returns the next root component. Also, the workflow uses it in conjunction with Update Multi Object List to form a loop control.

16 **Update Multi Object (Auto-Asset)**. This step returns the resulting integration object and cycles through each object one by one, in combination with Step 15.

17 **Get Field Value (Auto-Asset).** This step takes Fieldnames, HierarchyNode, SiebelMessage, and MaxFields as input, and gives Fieldvalues as output.

18 **Trigger Auto Asset.** This step calls the SIS OM Apply Completed Service Order Line Item to Service Profile workflow. This workflow triggers an auto asset process for each line item.

For more information about the SIS OM Apply Completed Service Order Line Item to Service Profile workflow, see the chapter on workflows for employee asset-based ordering in *Siebel Order Management Guide*.

19 **Items Exists?** This step returns TRUE if more Root Line Items are present that must be provided with an auto asset.

Table 95 shows the steps in this workflow that call business service methods.

Table 95. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Trim Header (Subscription)	TrimHeader	CMU External Integration Service
Retrieve Next Object (Subscription)	Retrieve Next Object From List	SIS OM PMT Service

Table 95. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Update Multi Object (Subscription)	Update Multi Object List	SIS OM PMT Service
Get Field Value (Subscription)	GetFieldValue	CMU External Integration Service
Trim Header (Auto-Asset)	TrimHeader	CMU External Integration Service
Retrieve Next Object (Auto-Asset)	Retrieve Next Object From List	SIS OM PMT Service
Update Multi Object (Auto-Asset)	Update Multi Object List	SIS OM PMT Service
Get Field Value (Auto-Asset)	GetFieldValue	CMU External Integration Service

SWI TSQ Order Workflow

During order capture, certain services require a technical service qualification (TSQ) before those services can be offered to a customer. This workflow submits an order for a TSQ. It sets the Fulfillment status of the order to TSQ. Because only orders that do not have a status of Open can be submitted for TSQ, this prevents the open orders from being submitted for TSQ again.

This workflow is called when a user clicks the TSQ button on the Order Entry Sales screen or the Sales Order-Catalog Screen.

Figure 110 illustrates this workflow.

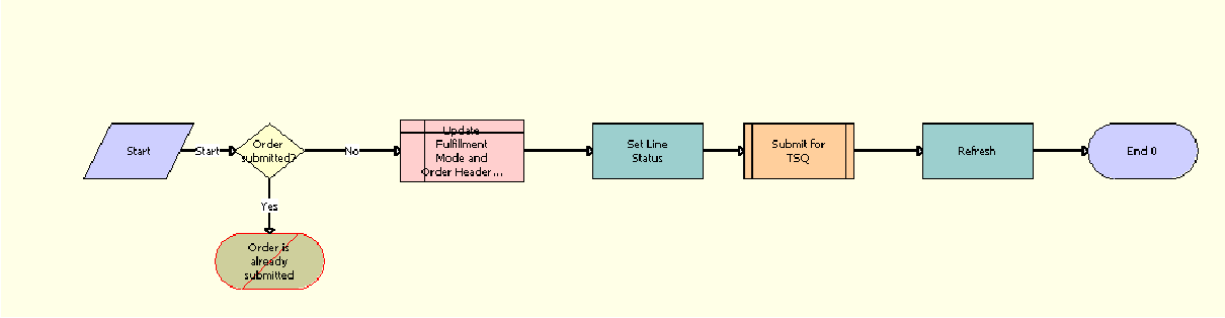


Figure 110.SWI TSQ Order Workflow

Workflow Description. This workflow performs the following actions:

1. **Order Submitted?** This step checks that the order status is not Open.
2. **Order is already submitted.** This step terminates the workflow. If the order has a status of Open, then the order cannot be submitted for TSQ because it has already been submitted.

3 **Update Fulfillment Mode and Order Header.** For the Order header, this step sets the Fulfillment Mode to TSQ and Fulfillment Status Code to Pending TSQ.

4 **Set Line Status.** This step sets the Status of each line item to Pending TSQ only if the Status is empty.

5 **Submit for TSQ.** This step calls the Submit Order Workflow, SISOMBillingSubmitOrderWebService, as a subprocess.

6 **Refresh.** This step refreshes the screen to display the modified values.

Table 96 shows the steps in this workflow that call business service methods.

Table 96. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Set Line Status	SetLIAccounts	CUT eSales Order Entry Toolkit Service
Refresh	Refresh Business Component	SIS OM PMT Service

Workflows to Cancel an Order

This group of workflows performs order cancellations. It includes the following workflow processes:

- "SWICancel Sales Order Workflow" on page 359
- "SWI Cancel Sales Order Line Item Workflow" on page 361
- "SWI Cancel Sales Order_O2C Workflow" on page 361

SWICancel Sales Order Workflow

This workflow cancels an entire sales order and submits the order. It also displays an error or warning message pertaining to future-dated orders that are dependent on the System Preference value Cancel Error Mode. The values can be 1, 2 or 3 (Default). The user must enter the reason to cancel the order in the new Cancel Reason field on the Sales Order screen. Figure 111 shows this workflow.

A user initiates this workflow by clicking the Cancel Order button in the Sales Order screen, Line Items view.

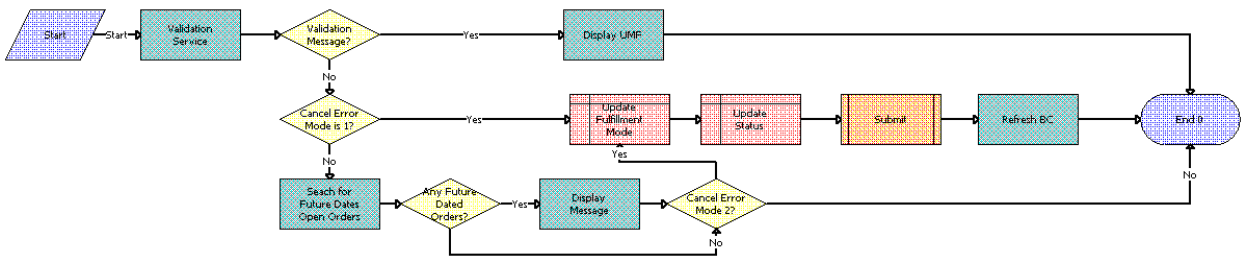


Figure 111.SWICancel Sales Order Workflow

Workflow Description. This workflow performs the following actions:

1. **Validation Service.** This step returns a soft validation message.
2. **Validation Message?** This step checks whether a return validation message exists.
3. **Display UMF.** This step displays the validation message in Universal Media Format (UMF).
4. **Cancel Error Mode is 1?** This step checks the value of the Cancel Error Mode system preference.
5. **Update Fulfillment Mode.** This step updates the fulfillment mode. If Cancel Error Mode is 1, then this step updates the fulfillment mode to Cancel.
6. **Update Status.** This step updates the Status. If Cancel Error Mode is 1, then this step updates the status to Cancel Pending.
7. **Submit.** This step calls the Submit Order workflow, SISOMBillingSubmitOrderWebService, as a subprocess. For more information, see *Siebel CRM Web Services Reference*.
8. **Refresh BC.** This step refreshes the business component.
9. **Search for Future Dates Open Orders.** This step searches for future-dated open orders. If the Cancel Error Mode is not 1, then this step checks whether future-dated orders for the current order exist.
10. **Any Future Dated Orders?** This step checks whether any future-dated orders exist.
11. **Display Message.** This step displays future-dated orders.
12. **Cancel Error Mode 2?** This step checks the value of the Cancel Error Mode system preference. If the value is not 2, then this step proceeds to the End step.

Table 97 shows the steps in this workflow that call business service methods.

Table 97. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Validation Service	Validate	FINS Validator
Display Message	DisplayMessages	Verify Management Service
Search for Future Dates Open Orders	FormMsgForCancellation	CMU External Integration Service

SWI Cancel Sales Order Line Item Workflow

This workflow cancels and deletes a sales order line item. This workflow is only applicable to revised orders. This workflow also displays an error or warning message pertaining to future-dated orders that are dependent on the System Preference value Cancel Error Mode. The values can be 1, 2 or 3 (Default). Figure 112 shows this workflow.

A user initiates this workflow by clicking the Delete button on the Sales Order screen, Line Items view.

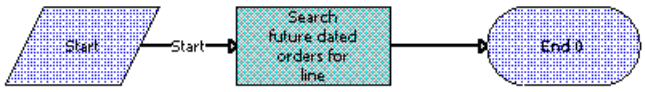


Figure 112.SWI Cancel Sales Order Line Item Workflow

Workflow Description. This workflow performs the following action:

- **Search future dated orders for line**. This step checks whether future-dated orders exist for the current order.

Table 98 shows the step in this workflow that calls a business service method.

Table 98. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Search future dated orders for line	FormMsgForCancellation	CMU External Integration Service

SWI Cancel Sales Order_O2C Workflow

This workflow cancels orders that are related to Order To Cash Process Integration Pack. It is called by the parent Workflow SWICancel Sales Order when the system preference Enable Order to Cash is set to TRUE.

Figure 113 illustrates the SWI Cancel Sales Order_O2C workflow.

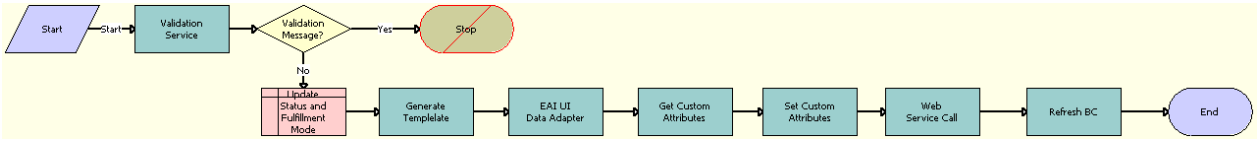


Figure 113.SWI Cancel Sales Order_O2C Workflow

Workflow Description. This workflow performs the following actions:

1. **Validation Service.** Runs validation on the input values.
2. **Validation Message?** This step checks whether a validation message exists in order to determine whether the input is absent or invalid.
3. **Stop.** This step stops the workflow execution if the order cannot be canceled.
4. **Update Status and Fulfillment Mode.** This step updates the status and Fulfillment mode.
5. **Generate Template.** This step generates a template to query order details using only the required fields to make an Outbound Service Call.
6. **EAI UI Data Adapter.** This step fills the template generated in the previous step with the order information that is used to make an Outbound Service Call. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.
7. **Get Custom Attributes.** This step gets the details of the Siebel Enterprise Server, language, and local values for the Siebel Server.
8. **Set Custom Attributes.** This step sets the details of the Siebel Enterprise Server, language and Local values in the request message to make an Outbound Service Call.
9. **Web Service Call.** This step calls the outbound Web service.
10. **Refresh BC.** This step refreshes the values of the business component.

Table 99 shows the steps in this workflow that call business service methods.

Table 99. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Validation Service	Validate	FINS Validator method
Generate Template	GetTemplate	Generate Template Service
EAI UI Data Adapter	QueryPage	EAI UI Data Adapter
Get Custom Attributes	GetEnterpriseParameters	SWI External Integration Service
Set Custom Attributes	SetAttributesToMessage	SWI External Integration Service

Table 99. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Web Service Call	Process	SWISubmitOrder_o2c
Refresh BC	Refresh Business Component	SIS OM PMT Service

Workflows to Process a Quote

This group of workflows performs various internal quote processing operations. It includes the following workflow processes:

- "Submit Quote ASI Workflow" on page 363
- "SWIQuoteUpsert Workflow" on page 364
- "SWISendQuote Workflow" on page 364

Submit Quote ASI Workflow

This workflow is used to submit a quote. It checks for the value of the system preference Enable AIA OrderToCash. If the value is set to True, then it calls the SWISendQuote Workflow. It is called when the user clicks the Submit button in the Quotes screen.

Figure 114 illustrates this workflow.

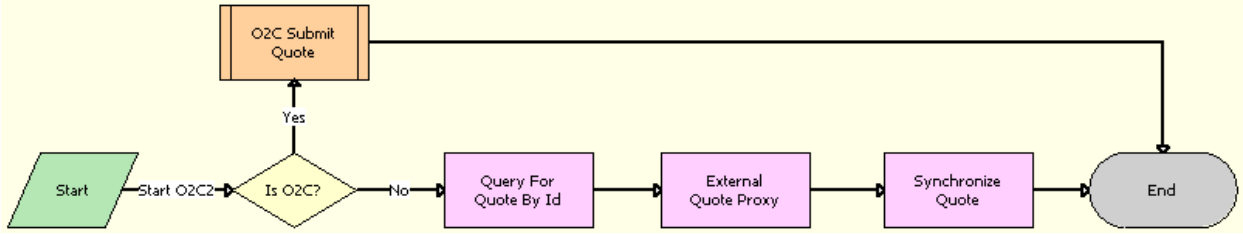


Figure 114.Submit Quote ASI Workflow

Workflow Description. This workflow performs the following actions:

1. **Is O2C?** This step checks for the value of the Enable AIA OrderToCash system preference.
2. **O2C Submit Quote.** This step calls the SWISendQuote subprocess.
3. **Query For Quote By Id.** This step obtains the details of the quote.
4. **External Quote Proxy.** This step calls the External Quote business service.
5. **Synchronize Quote.** This step synchronizes the quote.

Table 100 shows the steps in this workflow that call business service methods.

Table 100. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
QueryById	QueryById	Siebel Quote
External Quote Proxy	Insert	External Quote
Synchronize Quote	Synchronize	Siebel Quote

SWIQuoteUpsert Workflow

This workflow updates the quote details to the Siebel application. It is called by the external application to update the quote status when the quote status has been changed.

Figure 115 illustrates this workflow.

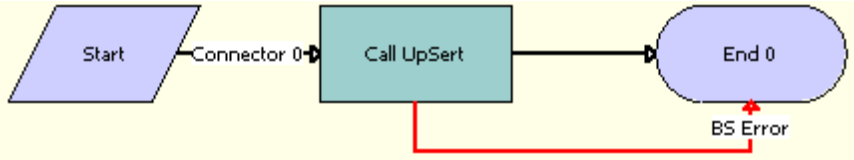


Figure 115.SWIQuoteUpsert Workflow

Workflow Description. This workflow performs the following action:

- **Call UpSert.** This step inserts or updates the quote status and other details that are obtained from the payload. It derives the value for the UTCCanonical input parameter from the UTCCanonical process property. The default value for this property is N.

Table 101 describes the step in this workflow that calls a business service method.

Table 101. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Call UpSert	InsertOrUpdate	SWI Quote Upsert

SWISendQuote Workflow

This workflow is specific to the Order To Cash Process Integration Pack and submits a quote into AQ. It is called by the parent workflow Submit Quote ASI when the system preference Enable Order to Cash is set to TRUE.

Figure 116 illustrates the SWISendQuote workflow.

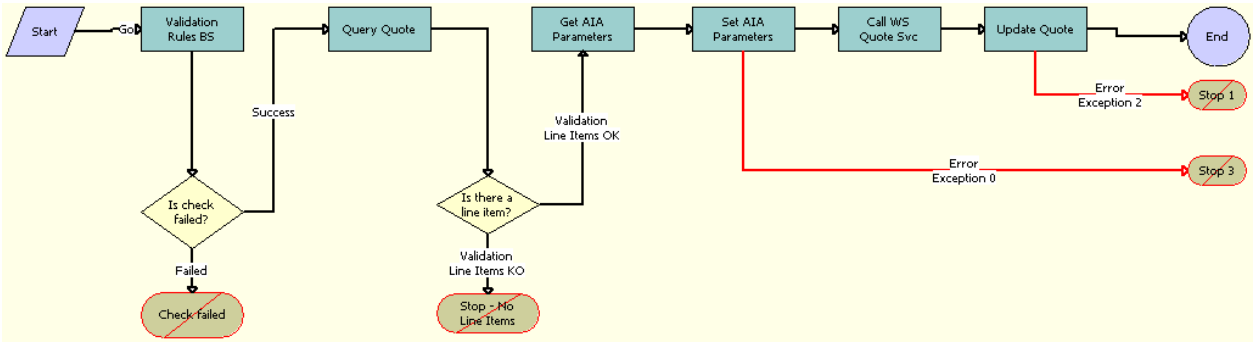


Figure 116.SWISendQuote Workflow

Workflow Description. This workflow performs the following actions:

1. **Validate Rules BS.** This step validates the input values.
2. **Is Check Failed?** This step determines whether a validation violation occurred.
3. **Check failed.** This step stops the workflow execution if any validation violation has occurred.
4. **Query Quote.** This step queries for the Quote Id that is submitted. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then the query returns data for any field of type DTYPE_UTCDATETIME in UTC Canonical format.
5. **Is there a line item?** This step checks whether there are any line items for the quote.
6. **Stop - No Line Items.** This step stops the workflow execution if no line item is found.
7. **Get AIA Parameters.** This step gets the Siebel Enterprise Server details and other parameters.
8. **Set AIA Parameters.** This step formats the parameters into a Siebel message format.
9. **Call WS Quote Svc.** This step calls the Web service that converts the message into AQ.
10. **Update Quote.** This step updates the quote status and other details that are obtained from the external application. It derives the value of the UTCCanonical input parameter from the UTCCanonical process property. The default value of this property is N. If the value passed is Y, then any field of type DTYPE_UTCDATETIME in the payload must be in UTCCanonical format. While writing these fields into the business component, these fields are converted to the locale-specific date and time.
11. **Stop 1.** This step stops the workflow execution, and the following error message appears: The call to the external system executed, but the response was not as expected. If logging is enabled, then the response can be examined to assist in diagnosing the problem.
12. **Stop 3.** This step stops the workflow execution, and the following error message appears: A configuration error occurred while preparing the message to submit to the external system. Have your system administrator check the Workflow for the step that sets the external application attributes.

Table 102 shows the steps in this workflow that call business service methods.

Table 102. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Validate	Validate	FINS Validator
Query Quote	QueryById	SWI Quote Upsert
Get AIA Parameters	GetEnterpriseParameters	SWI External Integration Service
Set AIA Parameters	SetAttributesToMessage	SWI External Integration Service
Call WS Quote Svc	process	SWISubmitQuote_o2c
Update Quote	InsertOrUpdate	SWI Quote Upsert

Workflows to Process Time-Based Offerings

This group of workflows performs processing operations for time-based offerings. It includes the following workflow processes:

- "SWISetTBOEndDate Workflow" on page 366
- "SWI Asset Status Update Workflow" on page 367

SWISetTBOEndDate Workflow

This workflow calculates the Service End Date of a Time Based Offering product by using the Service Start Date and the attribute values configured for this product in the orders.

This workflow is a subprocess. This workflow is called from the SetFieldValue and Dynamic Pricing Procedure workflows when the Status of an order is updated from Pending to Open, or when the order is repriced.

Figure 117 illustrates the SWISetTBOEndDate workflow.

Figure 117.SWISetTBOEndDate Workflow

Workflow Description. This workflow performs the following actions:

1. **Get LIC Value**. From the row sets passed, this step returns the Language Independent Code (LIC) values from the display values.
2. **Get XA**. This step returns the Extended Attribute (XA) values that are configured for the Time Based Offering product.
3. **Set End Date**. This step calculates the end date.

Table 103 describes the steps in this workflow that call business service methods.

Table 103. Associated Business Service Methods

Workflow Step	Business Service Method Called	In Business Service
Get LIC Value	PopulateAttrLICValue	Pricing Manager
Get XA	Conditional Action Transform	Row Set Transformation Toolkit
Set End Date	Conditional Action Transform	Row Set Transformation Toolkit

SWI Asset Status Update Workflow

This workflow updates the status of the assets.

This workflow is called from a batch job that inactivates expired assets, which must be created as the part of the post-installation steps for the Time Based Offering functionality. When a user schedules the batch job, this workflow is called to inactivate the expired assets.

Figure 118 illustrates the SWI Asset Status Update workflow.

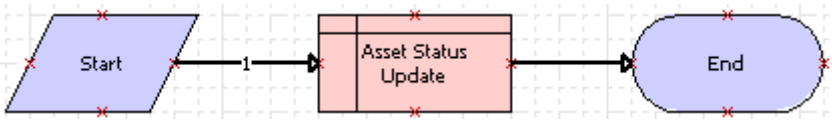


Figure 118.SWI Asset Status Update Workflow

Workflow Description. This workflow performs the following action:

- **Asset Status Update**. This step updates the status of assets to Inactive for those assets for which the Service End Date is earlier than the current date and the Status is equal to Active.

Workflows for Dynamic Transform

This group of workflows performs processing for the dynamic transform feature. It includes the following workflows:

- "ISS Promotion Dynamic Transform Process Workflow" on page 368
- "ISS Promotion Dynamic Transform Quote Sub Process Workflow" on page 369
- "ISS Promotion Dynamic Transform Quote Reprice Sub Process Workflow" on page 371

- "ISS Promotion Dynamic Transform Order Sub Process Workflow" on page 371
- "ISS Promotion Dynamic Transform Order Reprice Sub Process Workflow" on page 374

ISS Promotion Dynamic Transform Process Workflow

This workflow handles processing when users dynamically transform promotions. The user selects Dynamic Transform in the menu for the Installed Assets applet to call this workflow. For more information, see "About Dynamic Transform" on page 86.

Figure 119 illustrates this workflow.

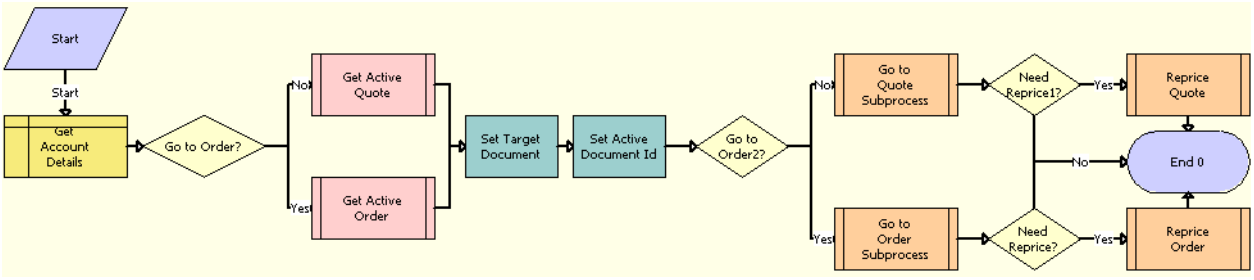


Figure 119.ISS Promotion Dynamic Transform Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Account Details.** This step obtains the details of the account.
2. **Go to Order?** This step checks for the value of the target document.
3. **Get Active Quote.** This step obtains the active quote for the non-residential account when the target document is a quote.
4. **Get Active Order.** This step obtains the active order for the residential account when the target document is an order.
5. **Set Target Document.** This step sets the attributes for the target document.
6. **Set Active Document Id.** This step sets the attributes for the Id profile.
7. **Go to Order2?** This step checks for the value of the target document again.
8. **Go to Quote Subprocess.** This step calls the ISS Promotion Dynamic Transform Quote Sub Process when the target document is a quote. For more information, see "ISS Promotion Dynamic Transform Quote Reprice Sub Process Workflow" on page 371.
9. **Need Reprice1?** This step determines whether the quote must be repriced.
10. **Reprice Quote.** This step calls the ISS Promotion Dynamic Transform Quote Reprice Sub Process when the quote must be repriced. For more information, see "ISS Promotion Dynamic Transform Quote Sub Process Workflow" on page 369.

11 **Go to Order Subprocess.** This step calls the ISS Promotion Dynamic Transform Order Sub Process when the target document is an order. For more information, see "ISS Promotion Dynamic Transform Order Sub Process Workflow" on page 371.

12 **Need Reprice?** This step determines whether the order must be repriced.

13 **Reprice Order.** This step calls the ISS Promotion Dynamic Transform Order Reprice Sub Process when the order must be repriced. For more information, see "ISS Promotion Dynamic Transform Order Reprice Sub Process Workflow" on page 374.

ISS Promotion Dynamic Transform Quote Sub Process Workflow

This workflow handles the dynamic transformation of source promotions to target promotions for non-residential accounts that are associated with quotes. The ISS Promotion Dynamic Transform Process workflow calls this workflow as a subprocess.

Figure 120 illustrates this workflow.

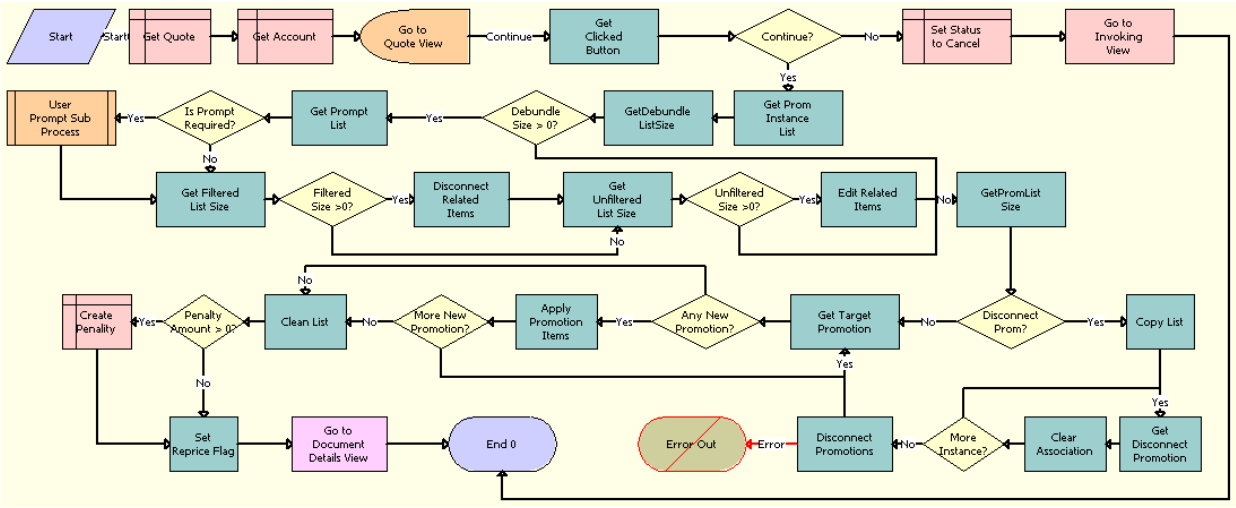


Figure 120.ISS Promotion Dynamic Transform Quote Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Get Quote.** This step obtains the current active quote.

2 **Get Account.** This step obtains the current account details.

3 **Go to Quote View.** This step navigates to the ISS Promotion Dynamic Transform View - Quote view. In this view, the user can add target promotions and initiate transfers of components from source promotions to target promotions.

4 **Get Clicked Button.** This step obtains the button that the user clicks in the in the ISS Promotion Dynamic Transform View - Quote view.

5 **Continue?** This step goes to Step 6 when the user clicks the Cancel button, or goes to Step 8 when the user clicks the Done button.

6 **Set Status to Cancel.** This step sets the status of the quote to Cancel.

7 **Go to Invoking View.** This step navigates to the Account Summary view.

8 **Get Prom Instance List.** This step separates the components for the source promotion into components that were transferred to the target promotion and components that were not transferred to the target promotion.

9 **GetDebundleListSize.** This step obtains the list of source components that were not transferred to the target promotion and that must be debundled.

10 **Debundle Size > 0?** This step determines whether the debundle size is greater than 0.

11 **Get Prompt List.** This step obtains the list of components for which to prompt the user for an action code.

12 **Is Prompt Required?** This step determines whether a user prompt is required.

13 **User Prompt Sub Process.** This step calls the ISS Promotion Prompt Interactive Sub Process when a user prompt is required.

14 **Get Filtered List Size.** This step obtains the number of components to disconnect when a user prompt is not required.

15 **Filtered Size > 0?** This step determines whether the filtered size is greater than 0.

16 **Disconnect Related Items.** This step disconnects the promotion components when the filtered size is greater than 0. This step uses the SIS OM PMT business service.

17 **Get Unfiltered List Size.** This step obtains the number of components to disassociate from the promotion when the filtered size is not greater than 0.

18 **Unfiltered Size > 0?** This step determines whether the unfiltered size is greater than 0.

19 **Edit Related Items.** This step obtains the promotion components to the document line item when the unfiltered size is greater than 0. This step uses the SIS OM PMT business service.

20 **GetPromListSize.** This step obtains the list of promotions to disconnect.

21 **Disconnect Prom?** This step determines whether promotions must be disconnected.

22 **Copy List.** This step copies the list of promotions to disconnect when promotions must be disconnected.

23 **Get Disconnect Promotion.** This step obtains a promotion in the list of promotions to disconnect.

24 **Clear Association.** This step removes the association between the promotion and the promotion component.

25 **More Instance?** This step determines whether more promotions must be disconnected.

26 **Disconnect Promotions.** This step disconnects the source promotions when no more promotions must be disconnected. This step uses the SIS OM PMT business service.

27 **Get Target Promotion.** This step obtains the target promotion when no promotions must be disconnected.

28 **Any New Promotion?** This step determines whether any new promotions exist.

29 **Apply Promotion Items.** This step applies the promotion items to the target promotion when any new promotions exist. This step uses the ApplyItems method.

30 **More New Promotion?** This step determines whether more new promotions exist.

31 **Clean List.** This step cleans the list of target promotions when no new promotions exist.

32 **Penalty Amount > 0?** This step determines whether a penalty amount is greater than 0.

33 **Create Penality.** This step adds the penalty item for disconnecting the source promotions when the penalty amount is greater than 0.

34 **Set Reprice Flag.** This step sets the reprice flag so that the quote is repriced.

35 **Go to Document Details View.** This step navigates to the document view for the newly created quote.

ISS Promotion Dynamic Transform Quote Reprice Sub Process Workflow

This workflow reprices quotes when users dynamically transform promotions. The ISS Promotion Dynamic Transform Process workflow calls this workflow as a subprocess.

Figure 121 illustrates this workflow.

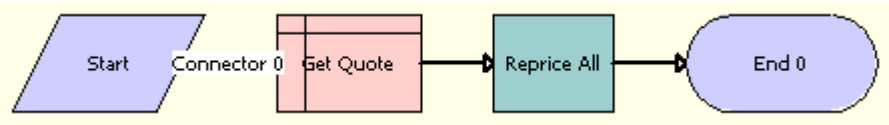


Figure 121.ISS Promotion Dynamic Transform Quote Reprice Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Get Quote.** This step obtains the active quote.

2 **Reprice All.** This step reprices all of the elements in the quote.

ISS Promotion Dynamic Transform Order Sub Process Workflow

This workflow handles the dynamic transformation of source promotions to target promotions for residential accounts that are associated with orders.The ISS Promotion Dynamic Transform Process workflow calls this workflow as a subprocess.

Figure 122 illustrates this workflow.

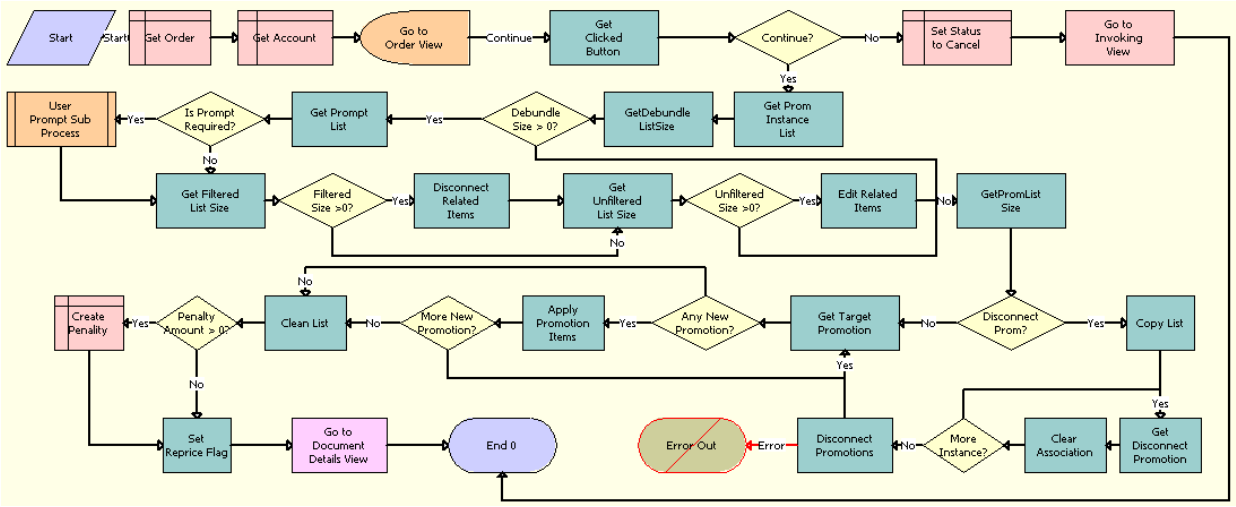


Figure 122.ISS Promotion Dynamic Transform Order Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Order.** This step obtains the current active order.
2. **Get Account.** This step obtains the current account details.
3. **Go to Order View.** This step navigates to the ISS Promotion Dynamic Transform View - Order view. In this view, the user can add target promotions and initiate transfers of components from source promotions to target promotions.
4. **Get Clicked Button.** This step obtains the button that the user clicks in the in the ISS Promotion Dynamic Transform View - Order view.
5. **Continue?** This step goes to Step 6 when the user clicks the Cancel button, or goes to Step 8 when the user clicks the Done button.
6. **Set Status to Cancel.** This step sets the status of the order to Cancel.
7. **Go to Invoking View.** This step navigates to the Account Summary view.
8. **Get Prom Instance List.** This step separates the components for the source promotion into components that were transferred to the target promotion and components that were not transferred to the target promotion.
9. **GetDebundleListSize.** This step obtains the list of source components that were not transferred to the target promotion and that must be debundled.
10. **Debundle Size > 0?** This step determines whether the debundle size is greater than 0.
11. **Get Prompt List.** This step obtains the list of components for which to prompt the user for an action code.
12. **Is Prompt Required?** This step determines whether a user prompt is required.

13 **User Prompt Sub Process.** This step calls the ISS Promotion Prompt Interactive Sub Process when a user prompt is required.

14 **Get Filtered List Size.** This step obtains the number of components to disconnect when a user prompt is not required.

15 **Filtered Size > 0?** This step determines whether the filtered size is greater than 0.

16 **Disconnect Related Items.** This step disconnects the promotion components when the filtered size is greater than 0. This step uses the SIS OM PMT business service.

17 **Get Unfiltered List Size.** This step obtains the number of components to disassociate from the promotion when the filtered size is not greater than 0.

18 **Unfiltered Size > 0?** This step determines whether the unfiltered size is greater than 0.

19 **Edit Related Items.** This step obtains the promotion components to the document line item when the unfiltered size is greater than 0. This step uses the SIS OM PMT business service.

20 **GetPromListSize.** This step obtains the list of promotions to disconnect.

21 **Disconnect Prom?** This step determines whether promotions must be disconnected.

22 **Copy List.** This step copies the list of promotions to disconnect when promotions must be disconnected.

23 **Get Disconnect Promotion.** This step obtains a promotion in the list of promotions to disconnect.

24 **Clear Association.** This step removes the association between the promotion and the promotion component.

25 **More Instance?** This step determines whether more promotions must be disconnected.

26 **Disconnect Promotions.** This step disconnects the source promotions when no more promotions must be disconnected. This step uses the SIS OM PMT business service.

27 **Get Target Promotion.** This step obtains the target promotion when no promotions must be disconnected.

28 **Any New Promotion?** This step determines whether any new promotions exist.

29 **Apply Promotion Items.** This step applies the promotion items to the target promotion when any new promotions exist. This step uses the ApplyItems method.

30 **More New Promotion?** This step determines whether more new promotions exist.

31 **Clean List.** This step cleans the list of target promotions when no new promotions exist.

32 **Penalty Amount > 0?** This step determines whether a penalty amount is greater than 0.

33 **Create Penality.** This step adds the penalty item for disconnecting the source promotions when the penalty amount is greater than 0.

34 **Set Reprice Flag.** This step sets the reprice flag so that the quote is repriced.

35 **Go to Document Details View.** This step navigates to the document view for the newly created order.

ISS Promotion Dynamic Transform Order Reprice Sub Process Workflow

This workflow reprices orders when users dynamically transform promotions. The ISS Promotion Dynamic Transform Process workflow calls this workflow as a subprocess.

Figure 123 illustrates this workflow.

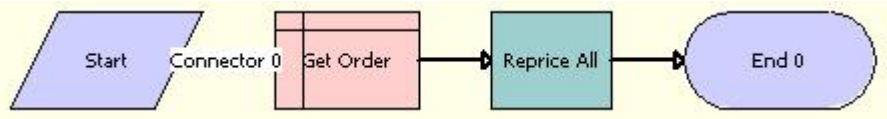


Figure 123.ISS Promotion Dynamic Transform Order Reprice Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Order.** This step obtains the active order.
2. **Reprice All.** This step reprices all of the elements in the order.

Workflows for Ambiguity Resolution

This group of workflows performs processing for ambiguity resolution. It includes the following workflows:

- “ISS Promotion Collect Eligible List Workflow” on page 374
- “ISS Promotion Ambiguity Resolution Process - Upgrade Workflow” on page 376
- “ISS Promotion Cancel Ambiguity Process Workflow” on page 377

ISS Promotion Collect Eligible List Workflow

This workflow uses the list of promotions that are disconnected during a promotion transition to collect a list of assets that are eligible for the promotion transition.

This workflow is called by the following workflows:

- ISS Promotion Upgrade Process
- ISS Promotion Merge SubProcess
- ISS Promotion Split Process

Figure 124 illustrates this workflow.

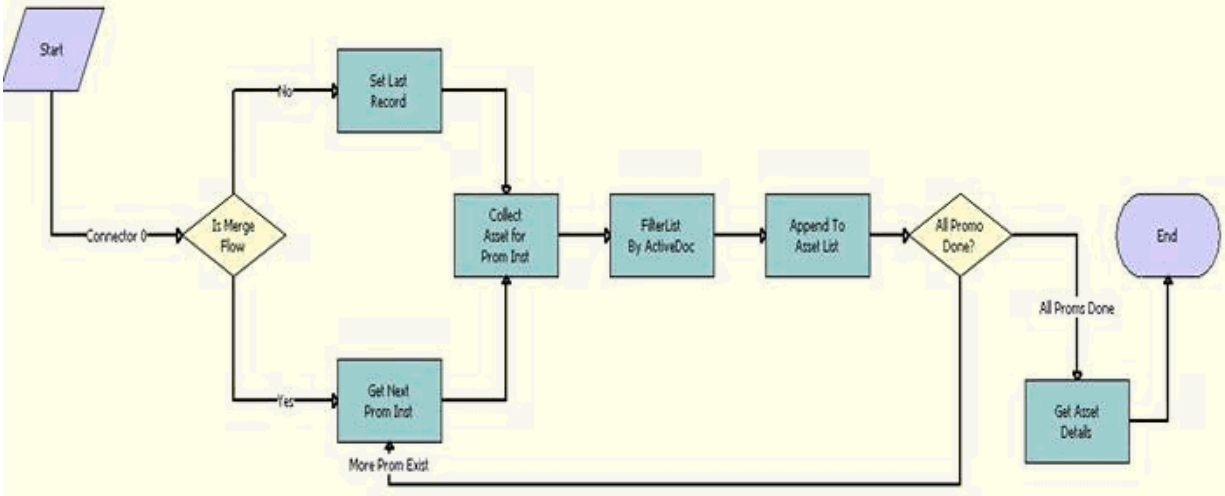


Figure 124. ISS Promotion Collect Eligible List Workflow

Workflow Description. This workflow performs the following actions:

1. **Is Merge Flow.** This step determines whether this workflow is triggered from an activity for promotion merging.
2. **Set Last Record.** This step sets last record to a value of True for an activity that is not for promotion merging. Only one promotion instance exists from which related assets must be retrieved.
3. **Get Next Prom Inst.** This step gets the promotion instance for which related assets must be retrieved for an activity that is for promotion merging.
4. **Collect Asset for Prom Inst.** This step collects all of the related assets for the promotion instance.
5. **Filter List By Active Doc.** This step filters the list by using the active document.
6. **Append to Asset List.** This step appends the assets to output list.
7. **All Promo Done?** This step determines whether more promotion instances must be processed.
8. **Get Asset Details.** This step gets the asset information for the collected list of assets when no more promotion instances must be processed.

ISS Promotion Ambiguity Resolution Process - Upgrade Workflow

This workflow displays the view for ambiguity resolution when any ambiguities exist. After the user completes transfers in this view and clicks the Done button, the workflow continues processing. After the user clicks the Cancel button in this view, the workflow calls the ISS Promotion Cancel Ambiguity Process to cancel the upgrade process.

This workflow terminates without processing when manual ambiguity resolution is not enabled. For more information about setting up manual ambiguity resolution, see "Controlling Promotion Ambiguity Resolution" on page 114.

This workflow is called by the following workflows:

- ISS Promotion Recommendation For Assets
- ISS Promotion Add To Promotion Process
- ISS Promotion Upgrade Process
- ISS Promotion Merge SubProcess
- ISS Promotion Split Process

Figure 125 illustrates this workflow.

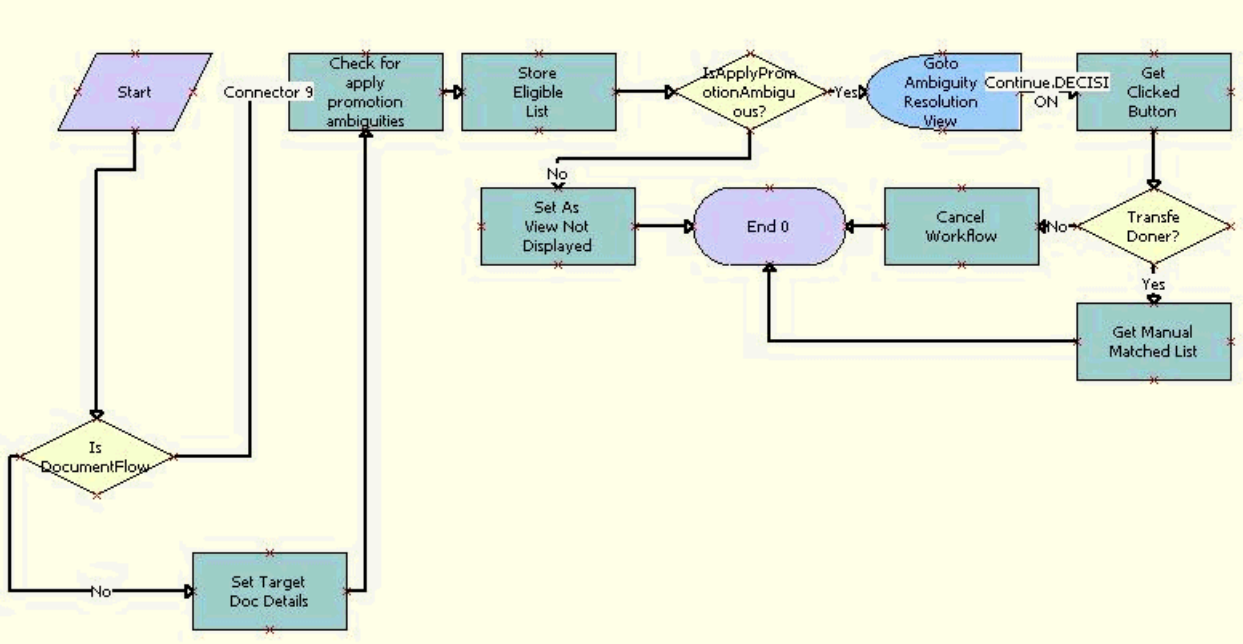


Figure 125.ISS Promotion Ambiguity Resolution Process - Upgrade Workflow

Workflow Description. This workflow performs the following actions:

1. **Is Document Flow.** This step determines whether this workflow is triggered from an activity in a document (for example, Add to Promotion in a document).
2. **Set Target Doc Details.** This step sets the correct input parameters for asset-based flows.
3. **Check for apply promotion ambiguities.** This step checks for ambiguities in the eligible list for document-based flows.
4. **Store Eligible List.** This step stores the eligible list.
5. **Is Apply Promotion Ambiguous?** This step determines whether to show the view for ambiguity resolution.
6. **Set As View Not Displayed.** This step sets the output when not showing the view for ambiguity resolution.
7. **Go to Ambiguity Resolution view.** This step navigates to the view for ambiguity resolution when showing the view for ambiguity resolution.
8. **Get Clicked Button.** This step gets the button that the user clicks.
9. **Transfer Done?** This step evaluates the clicked button.
10. **Cancel Workflow.** This step cancels the workflow when the user clicks the Cancel button.
11. **Get Manual Matched List.** This step creates the output by using the user's selections when the user clicks the Done button.

ISS Promotion Cancel Ambiguity Process Workflow

This workflow changes the status of the quote or order to Canceled and navigates back to the Account Summary view.

This workflow is called when a user clicks the Cancel button in the view for ambiguity resolution. Also, this workflow is called by the following workflows:

- ISS Promotion Recommendation For Assets
- ISS Promotion Add To Promotion Process
- ISS Promotion Upgrade Process
- ISS Promotion Merge SubProcess
- ISS Promotion Split Process

Figure 126 illustrates this workflow.

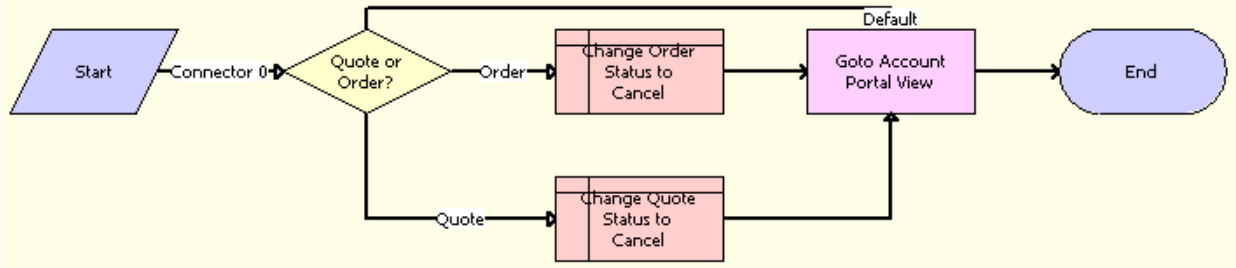


Figure 126.ISS Promotion Cancel Ambiguity Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Quote or Order?** This step determines whether the cancellation applies to a quote or order.
2. **Change Order Status to Cancel.** This step changes the status of the active order to Cancelled.
3. **Change Quote Status to Cancel.** This step changes the status of the active quote to Cancelled.
4. **Go to Account Portal View.** This step navigates back to Account Summary view from the view for ambiguity resolution.

Workflow for User Prompts

This workflow processes user prompts for promotions. It includes one workflow process, "ISS Promotion Prompt Interactive Sub Process Workflow" on page 378.

ISS Promotion Prompt Interactive Sub Process Workflow

This workflow displays an interactive view in which users can select an action for the debundled products of a promotion. Users can select an action only for components that include Prompt in the promotion definition. After users select actions and click the Done button, the selected actions are applied to the components in the resulting quote or order.

This workflow is called by the ISS Promotion Disconnect Process workflow.

Figure 127 illustrates this workflow.

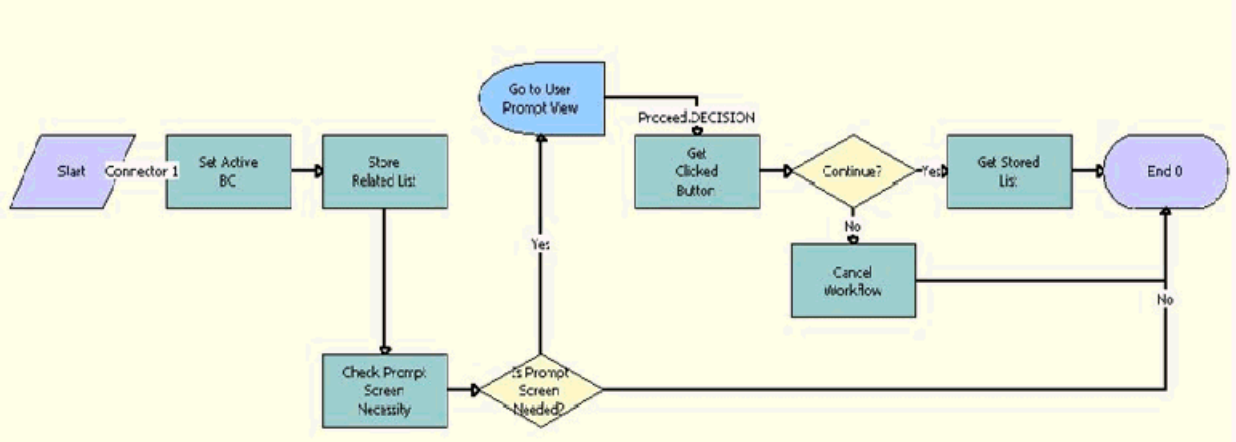


Figure 127.ISS Promotion Prompt Interactive Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Set Active BC.** This step sets the active business component for this workflow to Asset Mgmt - Asset (Order Mgmt).
2. **Store Related List.** This step stores the input lists in the ISS Promotion Management Service business service class.
3. **Check Prompt Screen Necessity.** This step checks to determine whether the prompt screen applies.
4. **Is Prompt Screen Needed?** This step goes to Step 5 when the prompt screen applies.
5. **Go to User Prompt view.** This step displays the user prompt view.

   The Proceed Decision connector generates to the InvokeMethod event when the user clicks the Done button. It invokes the EventMethodDone method on the virtual business component.
6. **Proceed.Decision (Connector).** This step generates to the InvokeMethod event when 'Done' button is clicked. It invokes 'EventMethodDone' method on the VBC.
7. **Get Clicked Button.** This step gets the button that the user clicks.
8. **Continue?** This step evaluates the clicked button.
9. **Cancel Workflow.** This step cancels the workflow when the user clicks the Cancel button.
10. **Get Stored List.** This step stores the processed modified list in the output when the user clicks the Done button.

Workflows for In-Memory Promotion Upgrades

This workflow is the driver workflow for the in-memory upgrade promotion flow and is triggered when a user selects the target promotion in the Upgrade applet. The workflow calls sub-processes to modify the assets for promotion upgrade, computes penalty amounts, and calculates the price of target promotion components by calling the Dynamic Pricing workflow. It also launches a staging view if UI mode is enabled.

Figure 128 illustrates this workflow.

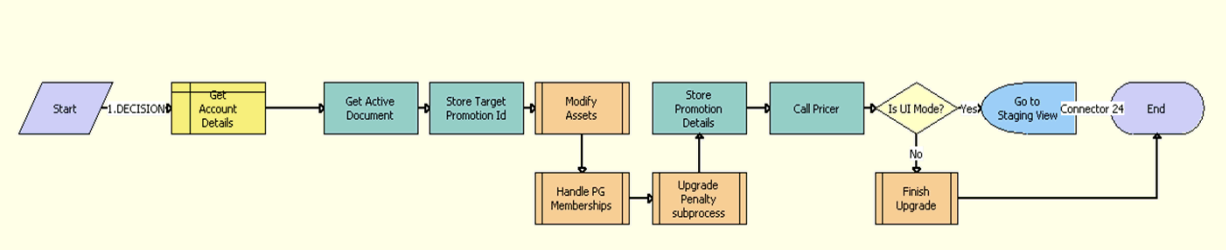


Figure 128.In Memory Promotion Upgrade Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Account Details.** This step gets the necessary fields from the Account business component used by subsequent business service methods /steps in the workflow.
2. **Get Active Document.** This step gets the active document, which can be a quote or sales order.
3. **Store Target Promotion.** This step stores the Target Promotion ID in the cache to be used by subsequent business service methods in a workflow.
4. **Modify Assets.** This step invokes the ISS Promotion Modify Complex Asset workflow sub-process. For more information, see "ISS Promotion Modify Complex Asset Workflow" on page 381.
5. **Handle PG Memberships.** This step invokes the ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade workflow for Promotion Group Membership handling. For more information, see "ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade" on page 387.
6. **Upgrade Penalty subprocess.** This step invokes the ISS Promotion Upgrade Penalty Sub Process workflow. It calculates the penalty charges and adds the penalty Line Item to the Document. For more information, see "ISS Promotion Upgrade Penalty Sub Process" on page 388.
7. **Store Promotion Details.** This step stores the promotion details in the cache of the InMemory Upgrade Data Service business service.
8. **Call Pricer.** This step calculates the price of the target promotion. Pricing Signal Name is configurable, by default the CalculatePrice signal is invoked.
9. **Is UI Mode?** This step, when set to True, will launch the in-memory staging view. Otherwise, it will go to the Quotes or the Order view after the promotion upgrade. The default value is True.

10 **Finish Upgrade.** This step invokes the ISS Promotion Finish Upgrade Sub Process, which takes the user to the Sales Order or the Quote view, depending on the document type. For more information, see "ISS Promotion Finish Upgrade Sub Process" on page 390.

11 **Go to Staging View.** This step launches the in-memory staging view, where users can resolve ambiguity, configure target promotions, run eligibility and compatibility, and complete the promotion upgrade process.

ISS Promotion Modify Complex Asset Workflow

This workflow is a sub-process that does the following:

- Verifies for the current state of the asset for the original promotion and its components and converts them to a Quote or Order property set.
- Brings in the target promotion and its components in a property set.
- Performs auto match for common components between the source promotions and the target promotions.

Figure 129 illustrates this workflow.

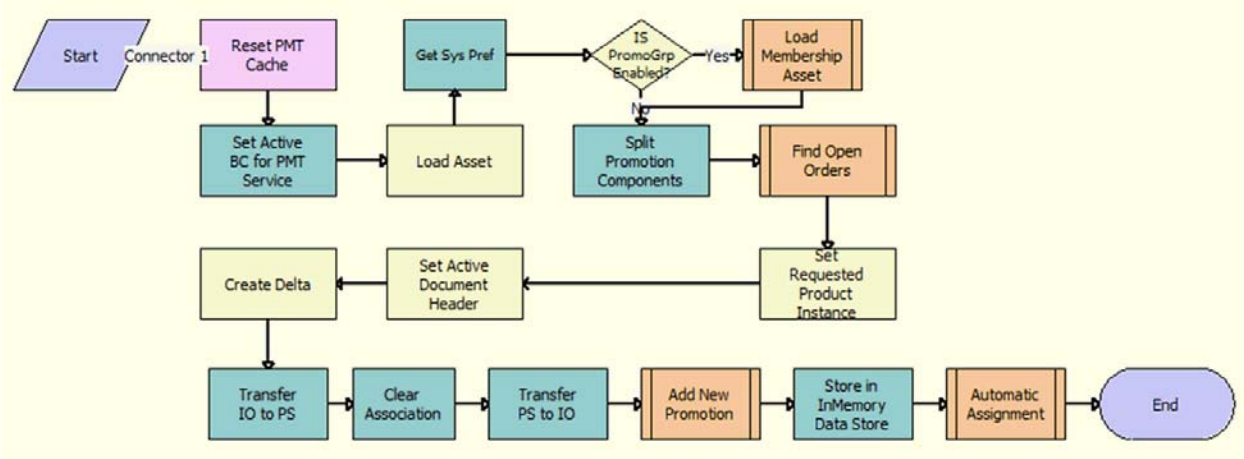


Figure 129.ISS Promotion Modify Complex Asset Workflow

Workflow Description. This workflow performs the following actions:

1 **Reset PMT Cache.** This step resets cached variables in the SIS OM PMT business service.

2 **Set Active BC for PMT Service.** This step sets the active BC for SIS OM PMT service.

3 **Load Asset.** This step loads existing installed assets for the promotion and associated components.

4 **Get Sys Pref.** This step reads system preferences for promotion group enhancement.

5 **IS PromoGrp Enabled?** This step checks if promotion group enhancement is enabled.

6 **Load Membership Asset.** This step invokes the ISS Promotion Load Membership Sub Process for associated membership. For more information, see "ISS Promotion Load Membership Sub Process" on page 388.

7 **Split Promotion Components.** This step retrieves separate component assets from existing installed assets.

8 **Find Open Orders.** This step invokes the SIS OM Find Open Order Workflow sub-process. For more information, see "SIS OM Find Open Order Workflow" on page 382.

9 **Set Requested Product Instance.** This step store the output instance from the SIS OM Find Open Order Workflow sub-process. For more information, see "SIS OM Find Open Order Workflow" on page 382.

10 **Set Active Document Header.** This step caches the active document as the header to be used in the delta method.

11 **Create Delta.** This step compares two product instances of assets with the requested state of the asset and the future state of the asset. It then generates line items to disconnect the asset.

12 **Transfer IO to PS.** This step converts from SiebelMessage to standard property set message.

13 **Clear Association.** This step detaches the original promotion from the new line items.

14 **Transfer PS to IO.** This step converts from standard property set message to SiebelMessage.

15 **Add New Promotion.** This step invokes the ISS Promotion Add New Promotion Sub Process to generate line items for target promotion. For more information, see "ISS Promotion Add New Promotion Sub Process" on page 383.

16 **Store in InMemory Data Store.** This step caches results in the InMemory Upgrade Data Service business service.

17 **Automatic Assignment.** This step invokes ISS Promotion Auto Assignment - In Memory Upgrade sub-process to include missing items. Additionally, this step performs auto match to apply common components in source and target promotions. For more information, see "ISS Promotion Auto Assignment - In Memory Upgrade" on page 384.

SIS OM Find Open Order Workflow

This workflow is a sub-process that determines if there are any open orders created in order to reflect the current state of an asset. For example, when there are open orders generated prior to an upgrade promotion process, the future state of the asset needs to be retrievable.

Another instance where this workflow applies is when a user operates in the staging view during the upgrade promotion process and another user creates new orders for the same asset at the same time. Prior to committing the in-memory structure to the database, the workflow looks for open orders again to get the current state of the asset.

Figure 130 illustrates this workflow.

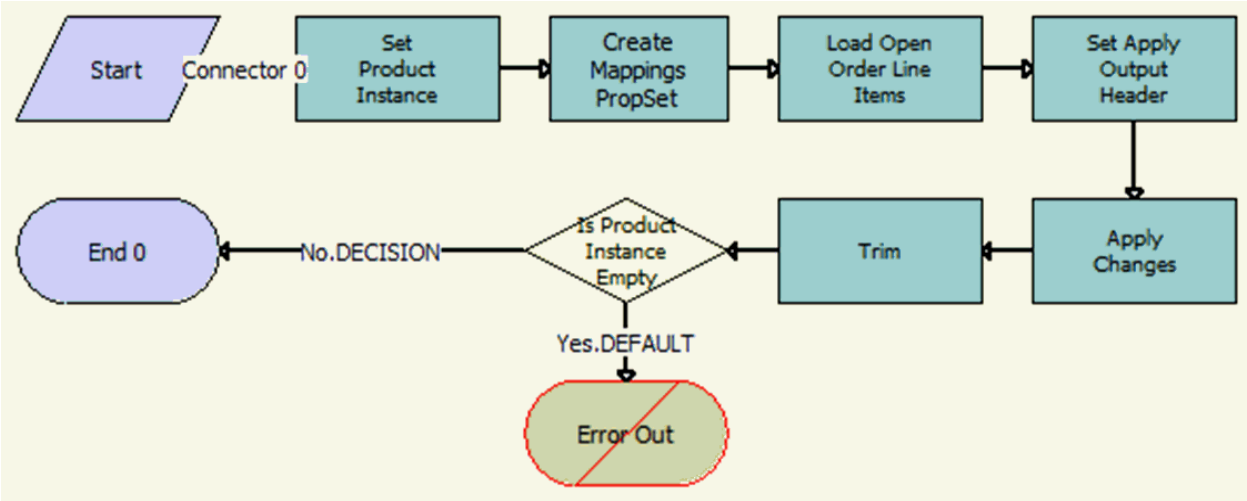


Figure 130.SIS OM Find Open Order Workflow

Workflow Description. This workflow performs the following actions:

1. **Set Product Instance.** This step stores arguments in the cache to be used by subsequent business service methods in a workflow.
2. **Create Mappings PropSet.** This step traverses the cached SiebelMessage and provides a property set of the field values based on the Mappings and Type.
3. **Load Open Order Line Items.** This step finds open orders to determine the future requested state of the asset. Only order line items with the same Asset Integration ID as the Asset are applied.
4. **Set Apply Output Header.** This step caches the active document as the header to be used.
5. **Apply Changes.** This step applies the open order line item to the asset property set.
6. **Trim.** This step eliminates any incomplete or failed changes from the open 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 Existing. This causes the service profile to reflect the true state of the assets.
7. **Is Product Instance Empty.** This step 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.

ISS Promotion Add New Promotion Sub Process

This workflow is a sub-process that loads the target promotion and its default components to the cached property set.

Figure 131 illustrates this workflow.

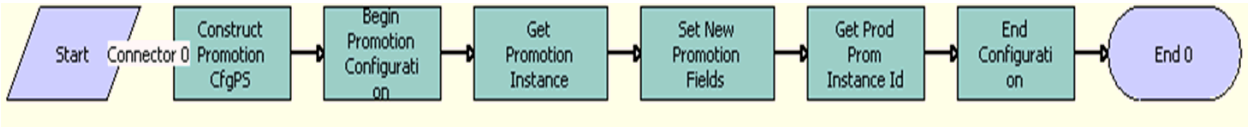


Figure 131.ISS Promotion Add New Promotion Sub Process

Workflow Description. This workflow performs the following actions:

1. **Construct Promotion CfgPS.** This step constructs a property set that's recognizable to the Configurator service.
2. **Begin Promotion Configuration.** This step starts the configuration session.
3. **Get Promotion Instance.** This step gets the stored configuration instance for the new promotion.
4. **Set New Promotion Fields.** This step updates the Prod Prom Source Id from the source promotion and Promotion Upgrade Path Id for the target promotion instance.
5. **Get Prod Prom Instance Id.** This step retrieves the New Prod Prom Instance Id from the new promotion instance.
6. **End Configuration.** This step unloads the stored configuration instance.

ISS Promotion Auto Assignment - In Memory Upgrade

This workflow is used to transfer line items in source promotion to target promotion.

Figure 132 illustrates this workflow.

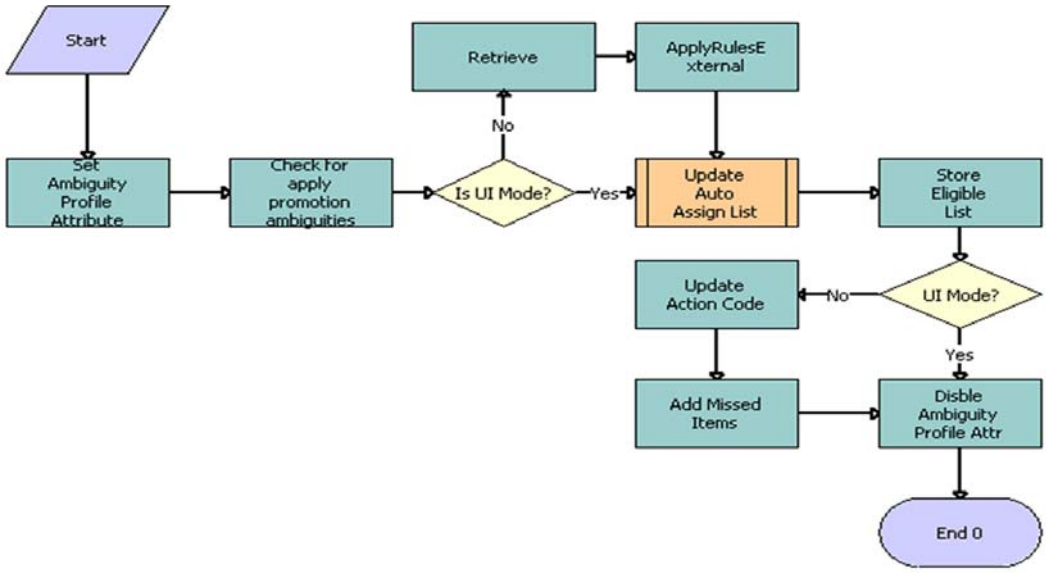


Figure 132.ISS Promotion Auto Assignment - In Memory Upgrade

Workflow Description. This workflow performs the following actions:

1. **Set Ambiguity Profile Attribute.** This step sets the profile attribute AmbiguityCheckOn to Y.
2. **Check for Apply Promotion Ambiguities.** This step calls the IsApplyPromotionAmbiguous method in ISS Promotion Management Service and classifies the list of line items to Ambiguous list, Auto Assign List, Orphan List and Ambiguity Eligible List.
3. **Is UI Mode.** This step checks whether the staging view will be used.
4. **Retrieve.** This step gets the document stored in In Memory Upgrade Data Service. This occurs only when bypassing the staging view.
5. **ApplyRulesExternal.** This step takes a list of line items as Eligible List and classifies them into Matched List and Missed List. The Auto Assign List will be updated with the Matched List in this case.
6. **Update Auto Assign List.** This step calls sub workflow ISS Promotion Update Matched Items Sub Process and the Auto Assign List obtained in Step 5. This will update the target document with automatically assigned components. For more information about ISS Promotion Update Matched Items Sub Process, see "ISS Promotion Update Matched Items Sub Process" on page 386.
7. **Store Eligible List.** This step stores the various lists retrieved from the ISS Promotion Management Service for future use. The SetItemList method is used to accomplish this task.
8. **UI Mode.** This step verifies if the staging view will be used.
9. **Update Action Code.** This step Updates the Action Code of Line Items in the target document. This step is executed only if the staging view is bypassed.

10 **Add Missed Items.** This step adds the missed line items to the target document by taking the Missed Lists obtained in ApplyRulesExternal Step 5. The AddMissedItems in In Memory Upgrade Data Service method is used to accomplish this task.

11 **Disable Ambiguity Profile Attribute.** This step sets the profile attribute AmbiguityCheckOn back to N.

ISS Promotion Update Matched Items Sub Process

This workflow is used to update the promotion-related fields (Prom Instance Id, Prom Rule Id, Promotion Id) for the promotion components that are transitional from the source to the target promotion. Also, Batch Validate is called for each common root customizable product to make sure that target promotion constraints are applied.

Figure 133 illustrates this workflow.

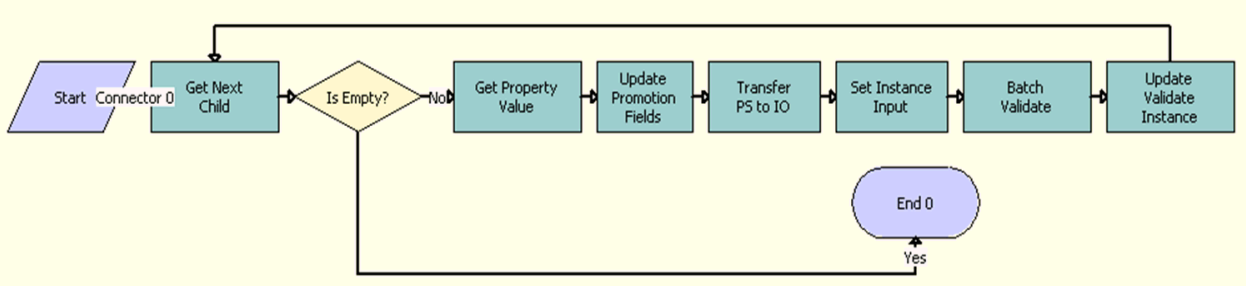


Figure 133. ISS Promotion Update Matched Items Sub Process

Workflow Description. This workflow performs the following actions:

1 **Start.** This step starts the workflow.

2 **Get Next Child.** This step goes through a list of line items matching the promotion.

3 **Is Empty?** This step verifies if the list is empty. If the list is empty, the workflow ends.

4 **Update Promotion fields.** This step uses the Row Set Transformation Toolkit to set the Promotion Id, Promotion Instance Id and Promotion Rule Id on the matching items.

5 **Transfer PS to IO.** This step converts the Property Set to IO, which is used as an input in the to Batch validate in Step 7.

6 **Set Instance Input.** This step sets the input required for the Batch Validate call.

7 **Batch Validate.** Call Batch validate to auto correct the CPs that have been transferred to the target promotion in Step 5.

8 **Update Validate Instance.** This step calls the Update Message of In memory data service to store the Batch Validate output in the memory data store.

9 **End.** This step ends the workflow.

ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade

This workflow is used to update a membership or to disconnect a membership. If the promotion group membership includes both the original and the target promotion, the membership is associated with the target promotion. Otherwise, the membership is disconnected.

This workflow also computes membership penalties and passes it as output so that it can be added in the final penalty computation. This workflow is called by In Memory Promotion Upgrade Process Workflow.

Figure 134 illustrates this workflow.

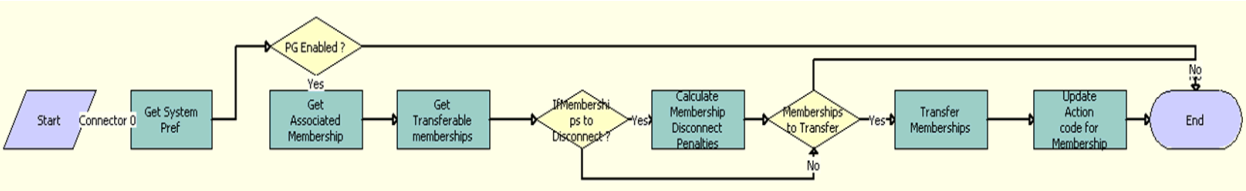


Figure 134. ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade

Workflow Description. This workflow performs the following actions:

1. **Start.** This step starts the workflow.
2. **Get System Pref.** This step gets the value of the Enable Promotion Group. The remainder of the workflow is executed only if Promotion Groups are enabled.
3. **PG Enabled?** This step determines if Promotion Groups are enabled. If they are not, the workflow ends.
4. **Get Associated Membership.** This step calls a GetListOfMemberships business service method in the InMemory Upgrade Data Service method to get a list of Memberships to which the source promotion is associated.
5. **Get Transferable Memberships.** This step calls the GetTransferableMemberships business service method in the InMemory Upgrade Data Service to get the list of Memberships that can be transferred from the source promotion to the target promotion.
6. **IfMemberships to Disconnect?** This step verifies if there are memberships to disconnect. If there are memberships to disconnect, a calculation will need to be performed to determine the membership disconnect penalties.
7. **Calculate Membership Disconnect Penalties.** This step calculates the penalty for disconnecting memberships. The penalty can include more than one membership disconnect penalty in cases where more than one membership is associated to the promotion.
8. **Memberships to Transfer.** This step verifies if there are memberships that transferred from the Source promotion to target Target promotion.

9 **Transfer Memberships.** This step uses the UpdateHierarchy business service method to update the Associated Asset Id with transferable membership assets.

10 **Update Action code for Membership.** This step uses the UpdateHierarchy business service method to update the Action Code of membership assets.

11 **End.** This step ends the workflow.

ISS Promotion Load Membership Sub Process

This workflow is used load all the membership assets that are associated to the source promotion. This workflow is called by In ISS Promotion Modify Complex Asset Workflow.

Figure 135 illustrates this workflow.

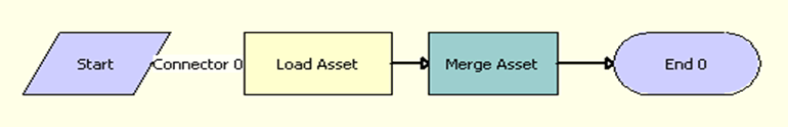


Figure 135.ISS Promotion Load Membership Sub Process

Workflow Description. This workflow performs the following actions:

1 **Start.** This step starts the workflow.

2 **Load Asset.** This step loads all the membership assets that are associated with the source promotion. This step uses the Query method in the EAI Siebel Adapter business service.

3 **Merge Asset.** This step merges the membership items with the promotion component items that were already loaded in memory for further processing. This step uses the Merge Siebel Message method in the SIS OM PMT Service business service.

4 **End.** This step ends the workflow.

ISS Promotion Upgrade Penalty Sub Process

This workflow is used to compute the penalty amount the user has to pay for promotion upgrades/ downgrades. This workflow is invoked from the In Memory Promotion Upgrade Process workflow. The penalty amount is the sum of promotion penalty and Promotion Group membership penalties. It also creates the penalty record in the in memory property set.

Figure 136 illustrates this workflow.

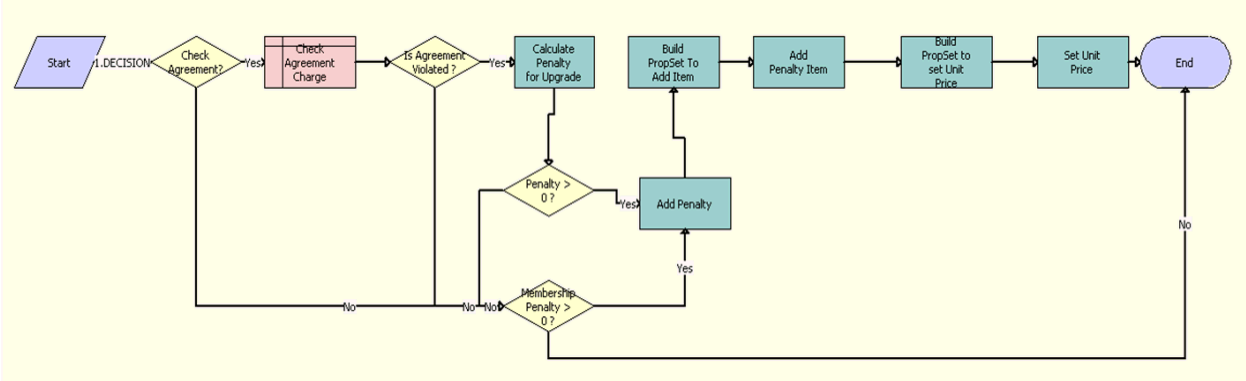


Figure 136.ISS Promotion Upgrade Penalty Sub Process

Workflow Description. This workflow performs the following actions:

1. **Start.** This step starts the workflow.
2. **Check Agreement?** This step verifies if the Agreement has to be checked.
3. **Check Agreement Charge.** This step verifies if the promotion being upgraded has any commitments (agreements).
4. **Is Agreement Violated?** This step verifies if an agreement has been violated.
5. **Calculate Penalty for Upgrade.** This step calculates the penalty for upgrade if an agreement has been violated. The FS Conditional Charge, Method - GetCondCharge business service is used to compute the penalty amount.
6. **Penalty > 0 ?** This step verifies if the penalty amount is greater than 0.
7. **Membership Penalty > 0 ?** This step verifies if membership penalty is greater 0. The Membership penalty is passed as a process input to this workflow. Computing the membership penalty is handled by the ISS Promotion Group Membership Handling Sub Process - In Memory Upgrade workflow.
8. **Add Penalty.** This step uses the Utilities Echo workflow to add the promotion and membership penalties.
9. **Build PropSet To Add Item.** This step uses the Utilities Echo workflow step to build a property set containing the Penalty product record that will in turn be used in Step 10 to add the Penalty product to the in memory data store.
10. **Add Penalty Item.** This step uses adds the Penalty Item to the in memory data store. The AddNewProducts from Business service - InMemory Upgrade Data Service business services is used to accomplish this task.
11. **Build PropSet to set Unit Price.** This step uses the Utilities Echo workflow to set the Unit Price for the penalty item to the penalty that was computed.
12. **Set Unit Price.** This step sets the unit price of the penalty item in the in memory property set.
13. **End.** This step ends the workflow.

ISS Promotion Finish Upgrade Sub Process

This workflow is a sub-process that is triggered by the Done and Cancel buttons in the in memory upgrade promotion staging view. If Cancel is clicked, then the operation is cancelled and returns to the originating view. If Done is clicked, then the property set is committed to the database. The user is then navigated to the Quote view or Sales Order view, depending on the document type.

Figure 137 illustrates this workflow.

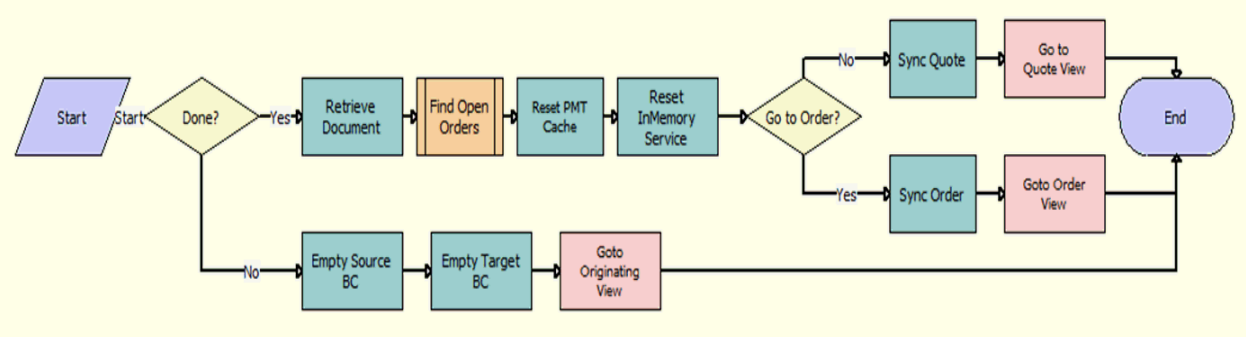


Figure 137.ISS Promotion Finish Upgrade Sub Process

Workflow Description. This workflow performs the following actions:

1. **Start.** This step starts the workflow.
2. **Done?** This step verifies if the user clicks the Done or Cancel button.
3. **Retrieve Document.** This step retrieves the stored document from the In-Memory business service.
4. **Find Open Orders.** This step invokes the SIS OM Find Open Order Workflow sub-process to check if any open orders have been created by other users during the process. For more information, see "SIS OM Find Open Order Workflow" on page 382.
5. **Reset PMT Cache.** This step resets the cached variables in the SIS OM PMT business service.
6. **Reset InMemory Service.** This step resets the cached variables in the In-Memory business service.
7. **Go to Order?** This step verifies if the workflow should navigate to the Order view.
8. **Sync Quote.** This step writes records to Quote related tables in the database using the EAI synchronize method.
9. **Sync Order.** This step writes records to Sales Orders related tables in the database using the EAI synchronize method.
10. **Go to Quote View.** This step verifies if the workflow should navigate to the Quote view.
11. **Goto Order View.** This step verifies if the workflow should navigate to the Sales Order view.
12. **Empty Source BC.** This step releases cached variables in the source promotion business component.

13 **Empty Target BC.** This step releases cached variables in the target promotion business component.

14 **Goto Originating View.** This step returns the user to the originating view of the user interface.

15 **End.** This step ends the workflow.

ISS Promotion Add Product Sub Process

This workflow is used to add a new product to a document. This workflow is called when a user clicks the Add link in the ISS Promotion Upgrade Prom Target Applet in the ISS Promotion Upgrade Staging View.

Figure 138 illustrates this workflow.

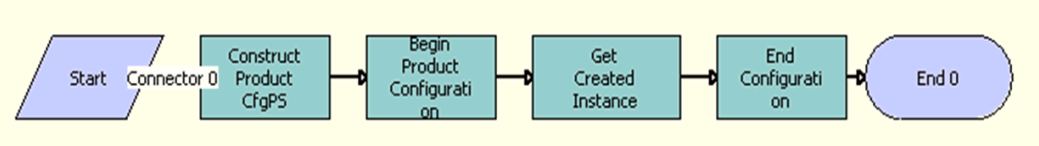


Figure 138.ISS Promotion Add Product Sub Process

Workflow Description. This workflow performs the following actions:

1 **Construct Product CfgPS.** This step uses the ConstructCfgPropertiesPS method in the Configurator Web Service to construct the input property set.

2 **Begin Product configuration.** This step begins the product configuration using the BeginConfiguration method in the Configurator Web Service. It is based on the Integration Object (SIS OM Quote/SIS OM Order) and other input parameters, for example Product Id or Promotion Id.

3 **Get Created Instance.** This step gets the newly created instance with the help of GetInstance method provided by Configurator Web Service. The output is an Integration Object (SIS OM Quote/SIS OM Order).

4 **End Configuration.** This step cleans up the session using End configuration method in the Configurator Web Service.

ISS Promotion Edit Config Line Item

This workflow is a sub-process triggered by the Customize link in the in-memory upgrade promotion staging view. It adds, modifies, and deletes items within the Product Configurator view and updates the results in the cached property set when the product configuration is complete.

Figure 139 illustrates this workflow.

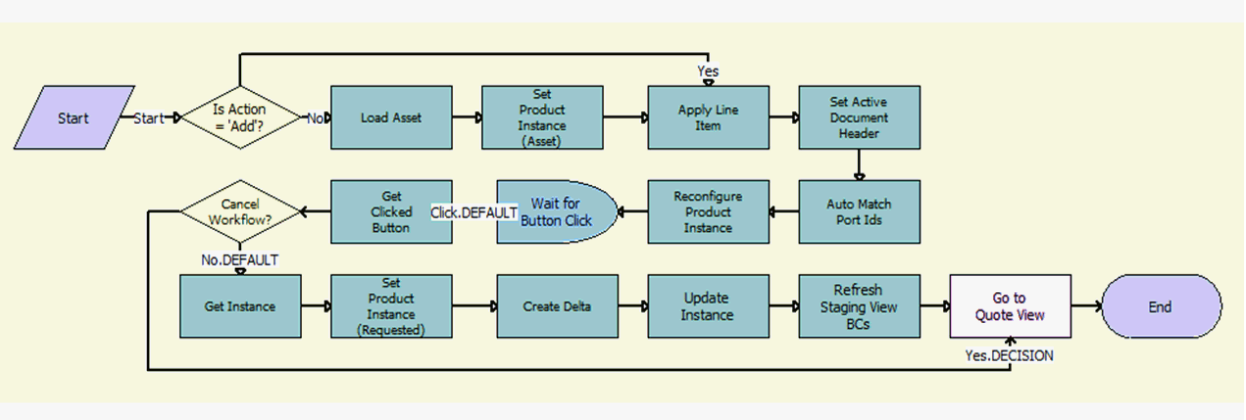


Figure 139.ISS Promotion Edit Config Line Item

Workflow Description. This workflow performs the following actions:

1. **Is Action = 'Add'?** This step checks the action code of the component to be configured.
2. **Load Asset.** This step loads the existing installed asset for the component.
3. **Set Product Instance (Asset).** This step stores the output instance.
4. **Apply Line Item.** This step applies changes to the existing asset.
5. **Set Active Document Header.** This step caches the active document as the header to be used in the Delta method.
6. **Auto Match Port Ids.** This step auto-matches the asset so that the asset structure matches the product definition.
7. **Reconfigure Product Instance.** This step 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.
8. **Wait for Button Click.** This step waits for user response.
9. **Get Clicked Button.** This step reads the user response.
10. **Cancel Workflow?** This step verifies if the Configurator View change needs to be discarded.
11. **Get Instance.** This step retrieves the requested instance from the Configurator View change.
12. **Set Product Instance (Requested).** This step stores the instance of the current asset.
13. **Create Delta.** This step compares two product instances of assets with requested state of the asset and the current state of the asset, and then generates line items to add or disconnect the asset.
14. **Update Instance.** This step updates the stored cached in In-Memory business service.
15. **Refresh Staging View BCs.** This step refreshes the user interface.
16. **Go to Quote View.** This step navigates back to the originating view.

Workflows to Process Promotions

This group of workflows performs processing operations for promotions. It includes the workflow processes listed and described in Table 104.

Table 104. Workflows to Process Promotions

Workflow Name	Comments
ISS Promotion Calculate Component Penalty Charges SubProcess	This workflow calculates the penalty charges for disconnecting a promotion component, and cumulates the charge amounts of all the sub-objects. This workflow is called by the ISS Promotion Calculate Related Objects Penalty Charges SubProcess workflow.
ISS Promotion Calculate Related Objects Penalty Charges SubProcess	This workflow calculates the penalty charges for all the related components of a promotion, and cumulates the charge amounts. This workflow is called by the ISS Promotion Calculate Promotion Penalty Charges SubProcess workflow.
ISS Promotion Disconnect Process	This workflow disconnects a promotion, and considers component-level commitments and penalty charges. This workflow is called by the ISS Promotion Group Membership Disconnect Process workflow.
ISS Promotion Disconnect Component SubProcess	This workflow disconnects a promotion component with a commitment. A user can accept or reject the penalty. This workflow is called when promotion components are disconnected.
ISS Promotion Disconnect Integration SubProcess	This workflow considers component-level commitments and penalty charges. This workflow is called when promotions or promotion components are disconnected.
ISS Promotion Upgrade Process	This workflow upgrades existing promotions to new promotions. This workflow is called when a user selects Upgrade Promotion in the menu for the Installed Assets applet.

Table 104. Workflows to Process Promotions

Workflow Name	Comments
ISS Promotion Upgrade Charge Proration SubProcess	This workflow calls a sub-process that runs the FS Conditional Charge business service to calculate the penalty from certain inputs. You can replace the workflow content with your own content (for example, a Web service call to external calculation engines), if you provide the same output arguments. This workflow is called by the ISS Promotion Upgrade Check Agreement SubProcess and by code in the promotion business service.
ISS Promotion Upgrade Check Agreement SubProcess	This workflow calculates any prorated penalty for disconnecting an existing promotion and displays the value on the Upgrade Promotion pop-up applet. This workflow is called in the Upgrade Promotion pop-up applet when a user selects Upgrade Promotion in the menu for the Installed Assets applet.
ISS Promotion Debundle Integration SubProcess	This workflow provides the list of promotion components to debundle. This workflow is called when a user selects De-bundle Promotion in the menu for the Installed Assets applet.
ISS Promotion Debundle Process	This workflow debundles the list of assets that the user selects for debundling. This workflow is called when a user selects De-bundle Promotion in the menu for the Installed Assets applet.
ISS Promotion Recommendation For Assets	This workflow handles promotion recommendations through installed assets and applies the promotion when the user accepts a promotion recommendation. This workflow is called when a user selects Recommendations in the menu for the Installed Assets applet.
ISS Add To Promotion Sub Process	This workflow provides the list of promotion assets in the Add to Promotion pop-up applet. This workflow is called when a user selects Add to Promotion in the menu for the Installed Assets applet.
ISS Promotion Add To Promotion Process	This workflow applies the promotion selected in the Add to Promotion pop-up applet and brings the promotion and its related assets to the active document. This workflow is called when a user clicks OK in the Add to Promotion pop-up applet.

Table 104. Workflows to Process Promotions

Workflow Name	Comments
ISS Promotion Commitment Compliance Check SubProcess	This workflow considers promotion components from other service accounts. This workflow is called when a document is checked for promotion commitment violations.
ISS Promotion Disconnect Process - for Verify	This workflow considers promotions from other service accounts. This workflow is called when a promotion is disconnected, and the user accepts a penalty charge when verifying a document with a promotion violation.
ISS Promotion Merge SubProcess	This workflow is called by the ISS Promotion Merge Process workflow and through the Rebundle Options menu item when the option selected is Merge.
ISS Promotion Merge Process	This workflow merges the multiple promotions selected in the Installed Assets applet into the target promotion, as specified in the promotion merge definition. This workflow is called when a user selects Merge Promotion in the menu for the Installed Assets applet.
ISS Promotion Split Process	This workflow splits a promotion selected in the Installed Assets applet into multiple promotions, as specified in the promotion split definition. This workflow is called when a user selects Split Promotion in the menu for the Installed Assets applet.
ISS Promotion Verify SubProcess	This workflow considers promotion components from other service accounts to verify a document. For more information about this workflow, see "ISS Promotion Verify SubProcess Workflow" on page 505. This workflow is called when a document is verified.

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6 Creating Communications Promotion Groups

This chapter provides information about employee administrator and user tasks for setting up and managing promotion groups. It supplements the information about promotions in *Siebel Pricing Administration Guide*. It includes the following topics:

- About Promotion Groups on page 397
- Scenario for Working with Promotion Groups on page 399
- Process of Setting Up Promotion Groups (Administrators) on page 402
- About Managing Promotion Groups on page 443
- Roadmap for Managing Promotion Groups (Users) on page 443
- Process of Creating Promotion Groups on page 443
- Process of Managing Promotion Groups on page 450
- Process of Managing Promotion Group Members on page 454
- About Promotion Group Memberships in Upgraded and Downgraded Promotions on page 456
- Promotion Group Disconnect Reference on page 458
- Promotion Group Access Control Reference on page 460

NOTE: The promotion group functionality described in this chapter is user-interface functionality only, and it is not available through API usage. However, you can extend Siebel Web services through the Enterprise Application Integration (EAI) framework to call the workflows that deliver promotion group functionality. For information about promotion group workflows, see Chapter 8, "Workflows for Promotion Groups." For more information about EAI-enabled extensibility for Web services, see *Integration Platform Technologies: Siebel Enterprise Application Integration*.

About Promotion Groups

A *promotion group* is an offering that groups together existing contracts, assets, or services for shared benefits. For example, your company might offer a promotion group for an all-employees mobile phone plan, which brings lower rates for customer employees as a shared benefit. A promotion group can apply to any set of individuals including a company, an organization, or a family. A promotion group and its associated objects are added to an order as line items. The promotion group comes into existence as a result of the fulfillment of the order.

A promotion group differs from a bundled promotion in that a promotion group can contain another promotion as a member. A bundled promotion is used to group services that a customer buys and that become assets. By contrast, when a customer buys a promotion group the customer buys, not services, but the ability to group existing contracts or assets together to gain some benefit.

About Promotion Group Management

This topic describes promotion group user functionality and defines the associated terms and concepts. When managing promotion group functionality, users create promotion groups and several other entities on behalf of their customers.

A promotion group *membership* identifies the subscription of a customer asset to a promotion group. Memberships represent different roles in the promotion group, conferring different access rights to the customer subscribers. A promotion group *member* is a customer asset that is associated with a promotion group membership.

A *promotion group subscriber* is a person or entity that owns one or more assets (members) of the promotion group. The subscriber that controls all the assets of a promotion group is known as the *promotion group owner*. The promotion group owner is the holder of the account that owns the promotion group instance as an asset. This account is in the header of the order that contains the promotion group. Consequently, a promotion group has only one owner.

A *reward* is a product or promotion that is shared by all the members of a promotion group and that confers a benefit. For example, a promotion group reward might be 1000 free text messaging minutes to be shared within a mobile phone community. Zero to multiple rewards can be associated with a promotion group. Benefits that can be conferred by subscribing to a promotion group might include reward products, pricing adjustments to members, commitments for credits on bills, or a combination of these.

CAUTION: Do not use promotion group products or promotion group membership products in any circumstances except in the context of promotion group functionality. Associating these products with other kinds of products, services, or promotions in a quote or order could cause unpredictable and undesired results.

About Promotion Group Administration

This topic describes promotion group administration functionality and defines the associated terms and concepts. When setting up promotion group functionality, administrators define several types of program objects from which the customer entities are created.

The core of promotion group functionality resides in a *promotion group definition*, which acts as the template from which specific promotion groups are generated, much like an asset is generated from a product. Thus, a promotion group is a specific instance of a promotion group definition.

Similarly, promotion group memberships are generated from a *membership definition*, which defines a type of customer asset that can or must be a member of a promotion group. Thus, a promotion group membership is a specific instance of a membership definition. One or more membership definitions can be associated with a promotion group definition. A membership definition is itself a product with a Type field value of Promotion Group Membership. Products with Type field values other than Promotion Group Membership can be associated with a membership definition.

A membership definition points to a *membership domain*, which defines the collection of components (simple products, customizable products, and bundled promotions) or aggregates (product classes and product lines) that are eligible to be associated with the generated memberships. A membership domain defines the products and services that can be associated with a membership. Only one membership domain can be associated with a membership definition.

A *membership attribute* is the same as a product attribute, that is, an object used at run time to capture information that is relevant to the membership of an asset in a promotion group. For example, the choice of a short code to identify a mobile phone service within a promotion group is a membership attribute. A membership attribute is a characteristic that is specific to participation in the promotion group, and not to the asset itself. Membership attributes are grouped by a *membership class*, which is the same as a product class. When you associate a membership definition with a membership class, the membership definition inherits all the attributes defined for that membership class.

A *reward definition* is a type of product or promotion that is associated with a promotion group definition in order to convey a benefit to promotion group subscribers. Thus, a promotion group reward is a specific instance of a reward definition. One or more reward definitions can be associated with a promotion group definition. A reward definition is a product that can have any Type value.

Scenario for Working with Promotion Groups

This topic shows how the promotion group functionality might be used. You might use the functionality differently, depending on your business model. This topic includes the following scenarios:

- Creating a Promotion Group Definition at Design Time on page 399
- Creating a Promotion Group at Run Time on page 400

Creating a Promotion Group Definition at Design Time

A product administrator for a telecommunications company sets up a promotion group definition called Family Package to offer a package of cellular phone services to family customers. To this promotion group definition, the product administrator adds the following components:

- A membership definition called *Main Membership,* with minimum and maximum cardinalities of 1. In other words, a family package promotion group must have only one main membership. The product administrator adds the Platinum Plan and Gold Plan product lines to the membership domain of the main membership.
- Another membership definition called *Partner Membership,* with a minimum cardinality of 0 and a maximum cardinality of 1. In other words, a family package promotion group is not required to have a partner membership. However, if the promotion group does have a partner membership, then it can have only one. The product administrator adds the Platinum Plan, Gold Plan, and Silver Plan product lines to the membership domain of the partner membership.
- A third membership definition called *Teen Membership,* with a minimum cardinality of 0 and a maximum cardinality of 7. In other words, a family package promotion group is not required to have a teen membership. However, if the promotion group does have teen memberships, then it can be up to seven. The product administrator adds the Teen Plan product line to the membership domain of the teen membership.

- A reward definition called *Free Text Messaging*, with minimum and maximum cardinalities of 1. In other words, a family package promotion group will have only one free text messaging reward. The reward definition includes the free text messaging service product, an instance of which will be shared among the memberships of each family package promotion group.

Figure 140 illustrates the resulting Family Package promotion group definition.

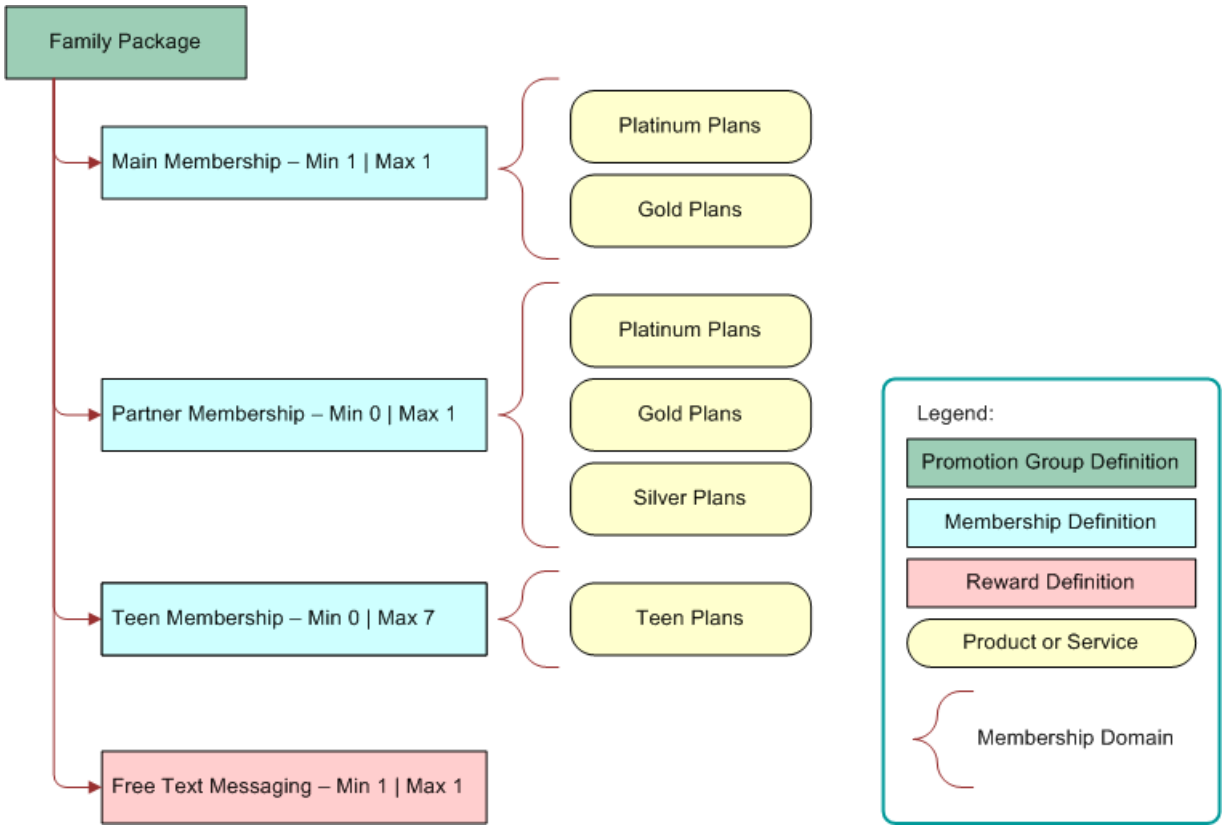

Figure 140.Design Time - Family Package Promotion Group Definition

Creating a Promotion Group at Run Time

A father of a family is a customer of a telecommunications company. He, the mother of the family, their teenage daughter, and their teenage son all possess assets supplied by the company in the form of cell phone services.

The father learns from a company sales representative that assets held by himself and his family can be consolidated under a family package promotion group for savings and benefits. From the Family Package promotion group definition described in "Creating a Promotion Group Definition at Design Time" on page 399, the sales representative generates a family package promotion group instance for this family with the following components:

- One main membership, with which the sales representative associates the father's Platinum 500 service (one of the platinum plans in the main membership domain) as the member. The father is a promotion group subscriber through his ownership of the Platinum 500 asset.

- One Partner Membership, with which the sales representative associates the mother's Gold 500 service (one of the Gold Plans in the Partner Membership domain) as the member. The mother is a promotion group subscriber through her ownership of the Gold 500 asset.
- A Teen Membership, with which the sales representative associates the teenage daughter's Teen 200 service (one of the Teen Plans in the Teen Membership domain) as the member. The teenage daughter is a promotion group subscriber through her ownership of the Teen 200 asset.
- Another Teen Membership, with which the sales representative associates the teenage son's Teen 100 service (one of the Teen Plans in the Teen Membership domain) as the associated member. The teenage son is a promotion group subscriber through his ownership of the Teen 100 asset.
- A Free Text Messaging reward, to be shared by all the members of this promotion group.

The sales representative adds the promotion group, memberships, and reward as line items to an order that she submits on behalf of the father's account. Because the order is created for the father, he is the primary account holder, and therefore he is the owner of this family package promotion group.

Figure 141 illustrates the resulting Family Package promotion group instance.

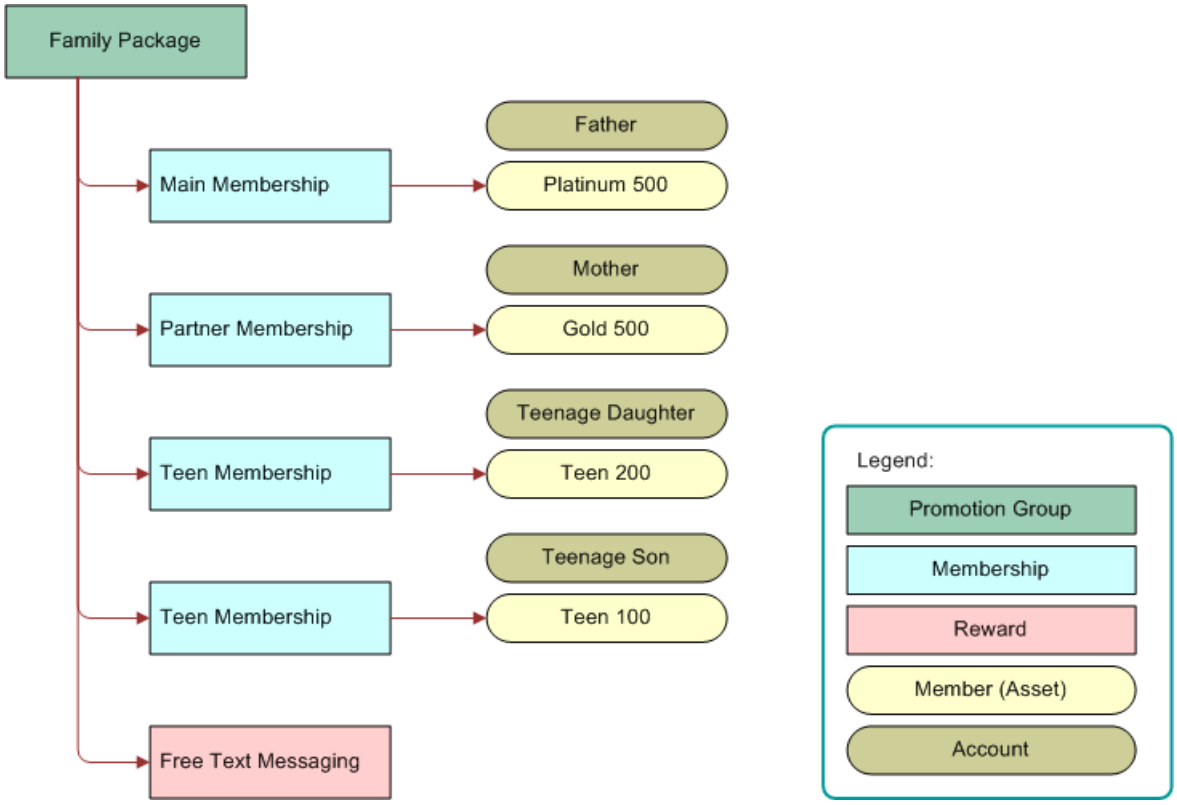

Figure 141.Run Time - Family Package Promotion Group

Process of Setting Up Promotion Groups (Administrators)

To set up promotion groups, administrators perform the following tasks:

1 Creating Promotion Group Membership and Reward Products on page 402

2 Creating Promotion Group Definitions on page 403

3 Adding Membership Definitions to a Promotion Group Definition on page 405

4 Adding Reward Definitions to a Promotion Group Definition on page 409

5 Mapping Promotion Groups to Oracle Communications Billing and Revenue Management Sharing Groups on page 410

6 Adding Promotion Group Definitions, Membership Definitions, and Reward Definitions to Price Lists on page 414

7 Setting Pricing Adjustments for Memberships, Rewards, and Assets on page 414

8 Adding Commitments to a Promotion Group Definition on page 422

9 Creating Eligibility Rules for Promotion Group Definitions on page 427

10 Creating Compatibility Rules in Promotion Group Definitions on page 429

11 Defining Asset Membership Cardinality Rules on page 433

12 Applying Validation Rules to Promotion Group Definitions on page 434

13 Defining Access Control Rules for Promotion Group Members on page 438

14 Associating Promotion Group Definitions with Catalog Categories on page 439

15 Setting Up Notifications to Promotion Group Members on page 440

16 Releasing a Promotion Group Definition on page 441

17 Deactivating a Promotion Group Definition on page 442

Creating Promotion Group Membership and Reward Products

Before you can add membership definitions and reward definitions to a promotion group definition, you must create promotion group membership products and reward products.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To create a promotion group membership or reward product

1 Navigate to the Administration - Product screen, then the Products view.

2 In the Products list, create a new record, and complete the necessary fields.

3 With the new product record selected, in the link bar above the Products list, click the Product Definitions link.

4 In the Type field of the selected product record, do one of the following:

- To create a membership product, select Promotion Group Membership.
- To create a reward product, select any value that is appropriate for the product.

5 Complete the other fields as necessary.

6 Click Release to release the membership or reward product.

For more information about creating a product record, see *Siebel Product Administration Guide*.

Creating Promotion Group Definitions

To create a promotion group definition, which contains general information for generating promotion groups, follow this procedure.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To create a promotion group definition

1 Navigate to the Administration - Product screen, Promotion Groups view.

2 In the Promotion Group Definition list, add a new record, and complete the fields.

Some fields are described in the following table.

Field	Comments
Name	Enter a name for the promotion group definition.
Instances	Select a value that specifies how many times a customer is allowed to use instances of this promotion group definition. The options are: One Per Customer, One Per Order, and No Limit.
Effective Dates	This field displays the start date and end date of the period when this promotion group definition is effective. Users can edit these dates in the Versions view. For more information about promotion versions, see the topic on versions of product promotions in *Siebel Pricing Administration Guide*.
Show in Catalog	Select this check box to display this promotion group definition in the product catalogs, so users can select the promotion group definition in quotes and orders in the same way as selecting a product.
Promotion Group ID	This field displays a unique ID that the Siebel application generates for the promotion group definition.

Field	Comments
Image	Select an image file that appears if this promotion group definition is shown in a catalog. Before you can select this image file, you must set it up. For more information, see the topic on setting up image files for product promotions in *Siebel Pricing Administration Guide*.
Organization	Select one or more organizations to give them visibility to this promotion group definition. Users who are not in these organizations cannot see this promotion group definition in the Siebel application. For more information about organizations, see *Siebel Security Guide*.
Campaign	If the promotion group definition is part of one or more marketing campaigns, then select the campaigns. For more information about campaigns, see *Siebel Marketing Installation and Administration Guide*.
Message	Enter a message for the promotion group definition.
Track as Agreement	Select this check box to track this promotion group definition as an agreement. This option is necessary if an associated agreement involves an ongoing commitment to the customer that must be referenced in the future. For more information about agreements, see *Siebel Project and Resource Management Administration Guide*.
Ownership	Select the scope of assets that can be associated with the promotion group memberships. The values include the following: ■ **Customer Account.** Only assets belonging to the promotion group owner account can be associated with the memberships. ■ **Account Hierarchy.** Assets belonging to any account in the promotion group owner account hierarchy can be associated with the memberships. ■ **Across Organizations.** Any asset belonging to any account can be associated with the memberships. The selection that you make in this field determines which accounts are available in the Account field above the Assets List on the Promotion Group Details view of the quote or order line items. Consequently, the selection controls which assets are available to associate with memberships of promotion groups generated from this promotion group definition. For more information, see "Associating Assets with a Promotion Group Membership" on page 447.
Notification Account	Select which member account will receive the notification. The options are: Billing Account and Service Account.

Adding Membership Definitions to a Promotion Group Definition

Every promotion group definition is associated with specific membership definitions. To add a membership definition to a promotion group definition, follow this procedure.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To add a membership definition to a promotion group definition

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying the membership definitions.
3. Click the Products view tab.
4. If necessary, in the link bar of the Products view, click the Memberships link.

5 For each membership definition that is covered by the promotion group definition, add a new record to the Memberships list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Product Name	Select a membership product. Products are available in the dialog box if they have a Type field value of Promotion Group Membership.
Description	Enter a description of the membership definition.
Min	If a minimum requirement exists, then enter the minimum number of associated memberships that the customer must buy to qualify for this promotion.
Max	If a maximum requirement exists, then enter the maximum number of associated memberships that the customer can buy to get the discount for this promotion.
Default	Enter the default quantity of this membership definition that is included in the promotion group definition if you want to display a default quantity. If the customer selects this promotion group in a quote or order, then the default quantity of all membership definitions in the promotion group is added as line items to the quote or order. This field is optional. If you do not enter a value, then your Siebel application uses the value entered in the Min field as the default value.
Customizable	Read only. This check box is selected if the membership definition selected in the Product field is a customizable product.
Validate Member	Select this check box to add the member asset to the quote or order when the membership definition is added. This option is necessary when a promotion group pricing adjustment has been created for the associated asset.
Delete Member	Select this check box to delete the member asset when the membership definition is disconnected.
Default Owner Account	This field defines the default membership definition owner account. The values are: Promotion Group Owner Account and Associated Asset Owner Account.
Default Billing Account	This field defines the default membership definition billing account. The values are: Promotion Group Billing Account and Associated Asset Billing Account.
Default Service Account	This field defines the default membership definition service account. The values are: Promotion Group Service Account and Associated Asset Service Account.

The Min and Max fields define the asset *membership cardinality*, the cardinality that applies to the association of assets with memberships. Asset membership cardinality defines how many product instances can be associated with a particular membership of a particular promotion

group. Min and Max cardinality values limit the number of product instances over all promotion group instances that are generated from this promotion group definition.

The Default Owner Account, Default Billing Account, and Default Service account fields define the default accounts for the memberships that are created from this membership definition. These fields can have all the same values or a combination of different values.

A promotion group owned by a hierarchy or organization might have a large number of memberships, and it might link together assets from multiple different accounts. In such a case, manually changing the accounts of all the assets to the accounts prescribed by the promotion group can be tedious and time-consuming. These fields automate the process. When an asset is associated with a membership at run time, your Siebel application changes the owner, billing, and service accounts of the membership to the accounts in the membership definition.

If necessary, users can change these default values manually at run time.

6 For a membership definition that is associated with the Promotion Group definition, define the membership domain by adding a new record to the Membership Domain list, and completing the necessary fields.

Some fields are described in the following table.

Field	Comments
Product Name	Select the simple product, customizable product, or promotion associated with this membership domain.
Class	This field displays the product class associated with this membership domain.
Product Line	This field displays the product line associated with this membership domain.
Min	This field defines the minimum asset membership definition cardinality. Enter the minimum number of instances of the selected promotion group in which an asset of the product or aggregate in the selected membership domain must be associated with this membership definition.
Max	This field defines the maximum asset membership definition cardinality. Enter the maximum number of instances of the selected promotion group in which an asset of the product or aggregate in the selected membership domain can be associated with this membership definition.

The Min and Max fields define the *asset membership cardinality*, the cardinality that applies to the association of assets with memberships. Asset membership cardinality defines how many product instances can be associated with a particular membership of a particular promotion group.

As an example, consider a promotion group definition named Connect Family. This promotion group definition includes a membership definition called Sponsor Mobile, which is associated with the Talk 200 membership domain. If the Max field value of the Talk 200 membership domain is 1, then an asset of a Talk 200 membership domain product can be associated with the Sponsor Mobile membership of only one instance of a Connect Family promotion group.

NOTE: For a membership that is destined to generate group members (and *not* the group owner) of a promotion group to be mapped to an Oracle Communications Billing and Revenue Management charge sharing group, you are not required to add any domain products. Instead, you assign the group owner account to that membership. If no domain is assigned to the membership, then charge sharing is calculated at the account level. That is, all charges for that membership are borne by the promotion group owner (charge sharing group sponsor) account. If a domain is assigned to the membership, then only the service instance of that membership will participate in the charge sharing group.

For more information about promotion group mapping to Oracle Communications Billing and Revenue Management sharing groups, see "Mapping Promotion Groups to Oracle Communications Billing and Revenue Management Sharing Groups" on page 410.

7 If necessary, enter translations of descriptions of the membership definition to be shown in catalogs that are not in the default language. For each language your company supports, add a record to the Translations list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Language Code	Select the language code, for example, select ENU for American English.
Language Name	After you select the language code, this field displays the name of the language.
Description	Enter the description to be shown in catalogs and promotion recommendations using this language.

Adding Reward Definitions to a Promotion Group Definition

You can add the reward definitions that are part of the selected promotion group definition, either as components (individual products) or as aggregates (product lines or product classes). To add reward definitions to the selected promotion group definition, follow this procedure.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To add reward definitions to a promotion group definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition for which you are specifying rewards.

3 Click the Products view tab.

4 In the link bar of the Products view, click the Group Rewards link.

5 Add a new record to the Group Rewards list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Product Name	Select a component product as a reward for the current promotion group definition.
Class	Select an aggregate product as a reward for the current promotion group definition.
Product Line	Select an aggregate product as a reward for the current promotion group definition.
Min	This field defines the minimum reward cardinality. Enter the minimum number of instances of the selected promotion group in which an asset of the product or aggregate reward can be associated with this reward.
Max	This field defines the maximum reward cardinality. Enter the maximum number of instances of the selected promotion group in which an asset of the product or aggregate reward can be associated with this reward.
Default	If you want to display a default quantity, then enter the default quantity of this reward that is associated with the promotion group definition. If the customer selects this promotion group in a quote or order, then the default quantity of all rewards in the promotion group is added as line items to the quote or order. This field is optional. If you do not enter a value, then your Siebel application uses the value entered in the Min field as the default value.
Customizable	Read only. If this check box is selected, then the reward is a customizable product.

NOTE: The Default Product list below the Group Rewards list displays the default product for each reward that is defined as an aggregate product in the Class and Product Line fields.

6 To enter translations of descriptions of the membership definition to be shown in catalogs that are not in the default language, add a record to the Translations list for each language your company supports, and complete the necessary fields.

For information about the fields in the Translations list, see “Adding Membership Definitions to a Promotion Group Definition” on page 405.

Mapping Promotion Groups to Oracle Communications Billing and Revenue Management Sharing Groups

Your Siebel application provides pre-built integration between Siebel Communications promotion groups and Oracle Communications Billing and Revenue Management sharing groups. Oracle Communications Billing and Revenue Management supports the following types of sharing groups:

- **Discount sharing groups** provide a way to share a discount or resource (for example, free or discounted minutes) among multiple accounts or services. Discount sharing occurs when an account or service shares its discounts with the services of other accounts. The account that shares its discounts is the owner of a discount sharing group. Figure 142 illustrates a discount sharing group.

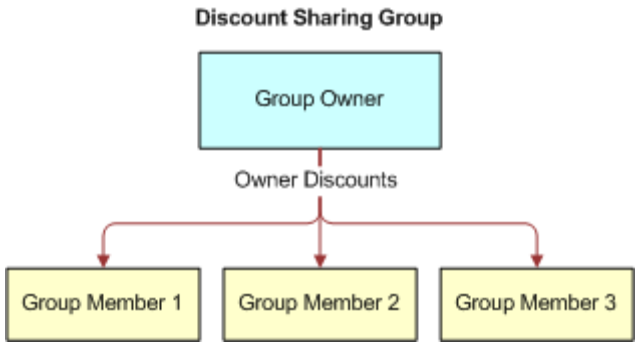

Figure 142.Discount Sharing Group

- **Charge sharing groups** provide a way for an account to sponsor the charges of one or more of its member accounts. For example, a charge sharing group can allow a company to pay for all its employees' voice services, or enable a parent to pay for his child's SMS services.

  The account that sponsors the charges is the owner of a charge sharing group. Within the owner account, one of the balance groups serves as the owning balance group. The owning balance group receives the balance impact of any shared charges incurred by the member accounts.

  The owning balance group is determined by whether the charge sharing group owner is the account or a service of the account. If the group owner is the account, then the owning balance group is the default balance group for that account. If the group owner is a service of the account, then the owning balance group is the associated service-level balance group.

  Figure 143 illustrates a charge sharing group.

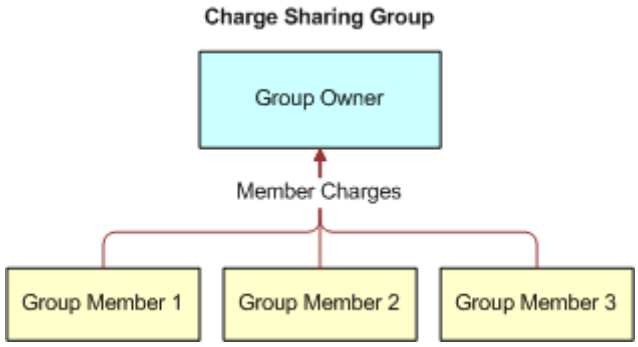

Figure 143.Charge Sharing Group

- **Profile sharing groups** enable the service of an account to share a profile with other accounts or services. A profile stores Extended Rating Attributes (ERAs) or other types of information about an account. For more information about the Extended Rating Attribute feature of Oracle Communications Billing and Revenue Management, consult the documentation for your Oracle Communications Billing and Revenue Management system.

  The group owner can be an account or a service. If an account is the owner, then profiles from all the services owned by the account are available for sharing. If a service is the owner, then only profiles of that service are available for sharing. Only service-level profiles can be shared, but the members of a profile sharing group can be accounts or services.

  Figure 144 illustrates a profile sharing group. This group has an owner account and three group members. The service is /service/telco/gsm/telephony. The group includes the Friends and Family ERA.

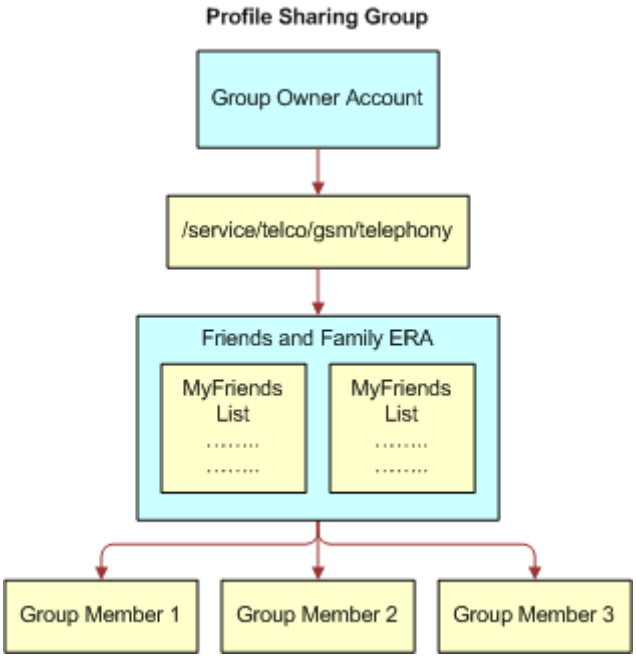

Figure 144.Profile Sharing Group

A Siebel CRM promotion group can be mapped to only one instance of an Oracle Communications Billing and Revenue Management sharing group type; for example, one Siebel CRM promotion group only be used for a specific discount sharing plan. The same Siebel CRM promotion group cannot be used for any other discount sharing plans. However, the same Siebel CRM promotion group can also be used for a charge sharing plan or a profile sharing plan.

To map Siebel CRM promotion groups to Oracle Communications Billing and Revenue Management sharing groups, follow this procedure. For more information about mapping, see *Oracle Application Integration Architecture Oracle Communications Order to Cash Integration Pack Implementation Guide for Siebel CRM, Oracle Communications Order and Service Management, and Oracle Communications Billing and Revenue Management*.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To map a Siebel promotion group to an Oracle Communications Billing and Revenue Management sharing group

1. Navigate to the Administration - Product screen, then the Products view.
2. In the Products list, find and select a promotion group membership product (that is, a product with a Type value of Promotion Group Membership) that you want to map to an Oracle Communications Billing and Revenue Management sharing group.
3. In the Fulfillment Item Code field, perform one of the following operations:
   - To map a promotion group membership product to an Oracle Communications Billing and Revenue Management sharing group member, select Group Member.
   - To map a promotion group membership product to an Oracle Communications Billing and Revenue Management sharing group owner, select Group Owner.

   NOTE: If a membership has a one-time or recurring fee, then that membership might have been synchronized from Oracle Communications Billing and Revenue Management, along with any associated fees. In this case, you must ensure that the resulting membership product record has all necessary fields and associations completed correctly in your Siebel application.
4. In the Products list, find and select a promotion group reward product to map to an Oracle Communications Billing and Revenue Management sharing group component.
5. Click the More Info subview tab.
6. To map the promotion group to a specific type of sharing group in Oracle Communications Billing and Revenue Management, under the Billing heading, make one of the combinations of field value entries indicated in the following table.

Sharing Group Type	Billing Type Field	Billing Service Type Field
Discount Sharing Group	Discount	Indicate the service from the group owner that is shared.
Charge Sharing Group	Sponsorship	■ If the charge sharing is at the account level, then enter the following: /account ■ If the charge sharing is for a specific service, then enter the following: /service/telco/gsm/telephony
Profile Sharing Group	Special Rating	If the profile sharing is for a specific service, then enter the following: /service/telco/gsm/telephony For a profile sharing group, only service-level profiles can be shared.

Adding Promotion Group Definitions, Membership Definitions, and Reward Definitions to Price Lists

Promotion group definitions, membership definitions, and reward definitions are all products. As such, each one can have a recurring price, a nonrecurring price, or both. To offer a promotion group and its associated memberships and rewards to customers, you must add the promotion group definition, membership definition, and reward definition products to one or more price lists as line items.

You can model a membership definition or a reward definition as one item in a price list and use that membership definition or reward definition in multiple promotion group definitions. Alternatively, you can model a membership definition or a reward definition as separate items for different promotion group definitions.

NOTE: The promotion group definition (the header) and each of its components (membership definitions and reward definitions) have independent prices. Your Siebel application calculates the price of a promotion group as the total of the prices of the header and its components.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To add a promotion group definition or a membership definition to a price list

1. For each promotion group definition, membership definition, and reward definition, follow the steps of the procedure for adding price list line items for products in *Siebel Pricing Administration Guide*.
2. In the Product field of each new record, select a promotion group definition, a membership definition, or a reward definition.

Setting Pricing Adjustments for Memberships, Rewards, and Assets

Promotion groups can offer other benefits besides their associated rewards. You can also apply pricing adjustments to promotion group memberships, assets, and rewards by defining these pricing adjustments for membership definitions and reward definitions associated with the promotion group definition. Additionally, for reward products that have components, you can create pricing adjustments for the components.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

Setting Pricing Adjustments for Memberships and Assets

A benefit offered by a promotion group might be a discount on a membership that is associated with the promotion group. Therefore, you can define membership price adjustments, which are applied to memberships when they are associated with promotion groups. You can also define asset price adjustments, which are applied to assets when they are associated with memberships.

To set a price adjustment for promotion group memberships or assets, follow this procedure.

To set a pricing adjustment for a membership or an asset

1 If you are setting a pricing adjustment for assets associated with a membership, then make sure the Validate Member check box in the membership definition record is selected.

For more information, see "Adding Membership Definitions to a Promotion Group Definition" on page 405.

To reprice an asset and apply a discount, that asset must be added to a quote or order. When you select the Validate Member check box, your Siebel application adds the member asset to the quote or order when the membership definition is added.

2 Navigate to the Administration - Product screen, then the Promotion Groups view.

3 In the Promotion Group Definitions list, select the promotion group definition for which you are specifying membership definition pricing.

4 Click the Pricing view tab.

5 If necessary, in the link bar of the Pricing view, click the Memberships link.

6 For each membership definition for which you want to define a price adjustment, add a new record to the Memberships list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Type	This field specifies the price adjustment type for the adjustment record. The options are as follows: ■ **Member Component.** This option defines a pricing adjustment for a single membership product. ■ **Member Aggregate - Conditional.** This option applies an adjustment to a product class or product line. ■ **Member Aggregate - Default.** This option defines a default pricing adjustment. If a membership product does not match any member component pricing or conditional member aggregate pricing, then the price is adjusted with this default.
Membership Product	Use this field to select a membership product to which you want to apply a pricing adjustment. Available membership selections are restricted to the membership products associated with the current promotion group definition.
Promotion	This field enables you to select a promotion to which you want to apply the price adjustment.
Product Name	Select the product to which the price adjustment applies. If you select a customizable product, then clicking the link in this field takes you to the Pricing Designer, where you can perform pricing adjustments for the product components. For more information, see the chapter on setting up pricing for products with components in *Siebel Pricing Administration Guide*.

Field	Comments
Class	If you selected Aggregate - Conditional in the Type field, then use this field to select a class to which the adjustment applies.
Product Line	If you selected Aggregate - Conditional in the Type field, then use this field to select a product line to which the adjustment applies.
Adjustment Type	Select the type of price adjustment applied to this product. The options are as follows: ■ **Discount Amount.** The adjustment is subtracted from the product price. ■ **% Discount.** The adjustment is a percentage of the product price, which is then subtracted from the product price. ■ **Markup Amount.** The adjustment is added to the product price. ■ **% Markup.** The adjustment is a percentage of the product price, which is then added to the product price. ■ **Price Override.** The adjustment is used as the product price, overriding the original price. ■ **Multiplicative Amount.** Multiplies the target price by the specified adjustment value. ■ **Power (Target Price, Power).** Raises the target price to the specified exponential value. For example, if the target price is 4, and the adjustment value is 2, then the new price will be 4 to the 2nd power (4 multiplied by 4), which is 16. ■ **Round (Current, Decimal Places).** Sets the number of decimal places to which the price will be rounded.
Value	Enter the amount or percentage of the adjustment. How this value is used depends on the selection in the Adjustment Type field. For example, if the Adjustment Type field is set to % Discount and you enter 10 in this field, then the adjusted price is 10 percent less than the list price.

Memberships list fields and their interactions to create membership and asset price adjustments are described in "About Adjusting Membership and Asset Pricing" on page 420.

Setting Pricing Adjustments for Reward Definitions

You can define price adjustments in a reward definition that will be applied to promotion group rewards. You can create both component-type and aggregate-type price adjustments for reward products.

To set a pricing adjustment for a promotion group reward

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying the reward definition pricing.
3. Click the Pricing view tab.
4. In the link bar of the Pricing view, click the Reward link.
5. For each reward definition for which you want to define a price adjustment, add a new record to the Reward list, and complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Type	This field specifies the price adjustment type for the adjustment record. The options are as follows: ■ **Reward Component.** This option defines a pricing adjustment for a single reward product. ■ **Reward Aggregate - Conditional.** This option applies an adjustment to a product class or product line. ■ **Reward Aggregate - Default.** This option defines a default pricing adjustment. If a reward product does not match any reward component pricing or conditional reward aggregate pricing, then the price is adjusted with this default.
Product Name	Select the reward product to which the price adjustment applies.
Class	If you selected Aggregate - Conditional in the Type field, then use this field to select a product class to which the adjustment applies.
Product Line	If you selected Aggregate - Conditional in the Type field, then use this field to select a product line to which the adjustment applies.
Customizable	Read only. This check box is selected if the product in the Product Name field is a customizable product.

Field	Comments
Adjustment Type	Select the type of price adjustment applied to this reward product. The options are as follows: ■ **Discount Amount.** The adjustment is subtracted from the product price. ■ **% Discount.** The adjustment is a percentage of the product price, which is then subtracted from the product price. ■ **Markup Amount.** The adjustment is added to the product price. ■ **% Markup.** The adjustment is a percentage of the product price, which is then added to the product price. ■ **Price Override.** The adjustment is used as the product price, overriding the original price. ■ **Multiplicative Amount.** Multiplies the target price by the specified adjustment value. ■ **Power (Target Price, Power).** Raises the target price to the specified exponential value. For example, if the target price is 4, and the adjustment value is 2, then the new price will be 4 to the 2nd power (4 multiplied by 4), which is 16. ■ **Round (Current, Decimal Places).** Sets the number of decimal places to which the price will be rounded.
Value	Enter the amount or percentage of the adjustment. How this value is used depends on the selection in the Adjustment Type field. For example, if the Adjustment Type field is set to % Discount and you enter 10 in this field, then the adjusted price is 10 percent less than the list price.

6 If you want to define the price adjustments for components of the product associated with this reward, then follow the steps in Setting Pricing Adjustments for Reward Components on page 418.

Setting Pricing Adjustments for Reward Components

You can define price adjustments for components of a customizable reward product in a promotion group.

To set a pricing adjustment for a promotion group reward component

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition for which you are specifying reward definition pricing.

3 Click the Pricing view tab.

4 In the link bar of the Pricing view, click the Rewards link.

5 Select a reward definition that has components for which you want to define a price adjustment, and drill down on the link in the Product Name field.

NOTE: The Customizable check box is selected for the products that you can customize.

Your Siebel application displays the Promotion Group Price List Item view. The Promotion Group Price List Item form displays details of the selected product. The Pricing Designer list shows the components of the selected product.

6 In the Pricing Designer list, select a component product.

7 In the Adjustments list below the Pricing Designer list, add an adjustment record for the selected component, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Adjustment Type	Select the type of price adjustment applied to this product. The options are as follows: ■ **Discount Amount.** The adjustment is subtracted from the product price. ■ **% Discount.** The adjustment is a percentage of the product price, which is then subtracted from the product price. ■ **Markup Amount.** The adjustment is added to the product price. ■ **% Markup.** The adjustment is a percentage of the product price, which is then added to the product price. ■ **Price Override.** The adjustment is used as the product price, overriding the original price. ■ **Tier Based.** The adjustment is defined differently for different tiers, where the volume of purchases determines the tier. For example, Tier 1 (5 to 10 items) receives a 10 percent discount, and Tier 2 (11 to 20 items) receives a 15 percent discount.
Adjustment Value	Enter the amount or percentage of the adjustment. How this value is used depends on the selection in the Adjustment Type field. For example, if the Adjustment Type field is set to % Discount and you enter 10 in this field, then the adjusted price is 10 percent less than the list price.
Maximum Price	Enter the price that the adjusted price cannot exceed.
Minimum Price	Enter the price that the adjusted price cannot go below.

8 (Optional) Click Verify Adjustments to view the adjusted prices of the selected component for various time intervals.

About Adjusting Membership and Asset Pricing

The interactions of the fields on the Pricing view, Memberships list allow you to define the context for price adjustments. Guidelines for defining various kinds of price adjustments for memberships and assets are described in this topic.

Membership Price Adjustment Guidelines

A membership price adjustment can only be a component adjustment. You cannot create an aggregate price adjustment for a promotion group membership product. Consequently, the value in the Type field can only be Member Component.

Possible use cases for membership price adjustments are as follows:

- **All memberships.** The price adjustment applies to all memberships in the promotion group.
- **Specific membership.** The price adjustment applies to a specific membership in the promotion group.
- **Promotion, any membership.** The price adjustment applies to a specific promotion associated with any membership in the promotion group.
- **Promotion, specific membership.** The price adjustment applies to a specific promotion associated with a specific membership in the promotion group.

Table 105 describes which fields to complete and leave blank to define the various types of membership price adjustments. The cell contents signify the following meanings:

- **Value.** Enter a value in the field.
- **Empty.** Leave the field blank.

Table 105. Membership Price Adjustment Field Interactions

Field Use Case	Membership	Product Name	Promotion	Class	Product Line
All Memberships	Empty	Empty	Empty	Empty	Empty
Specific Membership	Value	Empty	Empty	Empty	Empty
Promotion, Any Membership	Empty	Empty	Value	Empty	Empty
Promotion, Specific Membership	Value	Empty	Value	Empty	Empty

Asset Price Adjustment Guidelines

A member asset price adjustment can be either a component adjustment or an aggregate adjustment. Consequently, you can select any value in the Type field. For a component adjustment, complete the Product Name field, the Promotion field, or both the fields. For an aggregate adjustment, complete the Class field or the Product Line field.

Possible use cases for member asset price adjustments are as follows:

- **Any Asset, any membership.** The price adjustment applies to the specified asset regardless of the membership with which the product is associated.
- **Promotion asset, any membership.** The price adjustment applies to a specific promotion asset associated with any membership in the promotion group.
- **Promotion asset, specific membership.** The price adjustment applies to a specific promotion asset associated with a specific membership in the promotion group.
- **Product asset, any membership.** The price adjustment applies to a specific product asset associated with any membership in the promotion group.
- **Product asset, specific membership.** The price adjustment applies to a specific promotion asset associated with a specific membership in the promotion group.
- **All assets, product class.** The price adjustment applies to all assets of products in the product class.
- **All assets, product line.** The price adjustment applies to all assets of products in the product line.

Table 106 describes which fields to complete and leave blank to define the various types of asset price adjustments. The cell contents signify the following meanings:

- **Value.** Enter a value in the field.
- **Empty.** Leave the field blank.

Table 106. Asset Price Adjustment Field Interactions

Field Use Case	Membership	Product Name	Promotion	Class	Product Line
Any Asset, Any Membership	Empty	Empty	Empty	Empty	Empty
Promotion Asset, Any Membership	Empty	Empty	Value	Empty	Empty
Promotion Asset, Specific Membership	Value	Empty	Value	Empty	Empty
Product Asset, Any Membership	Empty	Value	Empty	Empty	Empty
Product Asset, Specific Membership	Value	Value	Empty	Empty	Empty

Table 106. Asset Price Adjustment Field Interactions

Field Use Case	Membership	Product Name	Promotion	Class	Product Line
All Assets, Product Class	Empty	Empty	Empty	Value	Empty
All Assets, Product Line	Empty	Empty	Empty	Empty	Value

Adding Commitments to a Promotion Group Definition

Some promotion group definitions require customers to accept certain terms and conditions. In some industries, these are called *commitments*. If your promotion group definition includes terms and conditions, then you must specify them. For example, a customer commits to a promotion group subscription for 12 months. If the customer cancels the promotion group subscription before the end of the 12-month period, then there might be a penalty.

In addition to setting up commitments at the promotion group definition level, you can define commitments for individual membership definitions that are associated with the promotion group definition. You can define commitments for the promotion group only, for one or more memberships only, or for the promotion group and one or more memberships.

When a customer disconnects a promotion group member asset, your Siebel application checks to see if the customer is breaking the terms and conditions of the promotion group and the memberships. If a violation of the terms and conditions has occurred, then your Siebel application displays a warning message telling how much the penalty is. If a penalty is generated, then your Siebel application calculates the amount.

A commitment can allow a penalty to be prorated. A commitment can include recurring credit and cancellation charges. Cancellation charges and credits can be prorated for partial periods. A penalty can be a nonrecurring charge to be paid once, or it can be a recurring charge to be paid periodically during a specified time period.

You can use promotion group commitments to give customers ongoing benefits, as well to assign penalties. For example, if you want to set up a promotion group definition to give customers a credit every month for a year, which reduces the monthly bills of those customers, then you can record this credit as a commitment.

You can enter customer commitments for promotion groups as charge plans, penalties, or terms. You can specify customer commitments for memberships as commitment periods, termination charges, and proration plans. To set up commitments for promotion group definitions and membership definitions, follow the procedures in this topic.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

Entering Customer Charge Plans

You can enter the charges for customers' ongoing commitments associated with a promotion group definition. For credits, you enter negative amounts. Before entering customer charges, you must first create schedules and plans for the recurring, nonrecurring, and usage charges that the customer must pay. For more information, see the topic about contracts and agreements in *Siebel Field Service Guide*.

After you have created the necessary recurring and nonrecurring charge plans, you can enter the amounts that customers are committed to pay.

To enter a customer charge plan

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying commitments.
3. Click the Commitment view tab.
4. If necessary, in the link bar of the Commitment view, click the Charge Plan link.

   The Charge Plan form is displayed with several groups of fields for setting up various types of charges.
5. In the Non-Recurring Charge Details section, complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
NRC Schedule	Select a schedule for the nonrecurring charge. For example, a schedule might specify that the customer pays the recurring charge by the fifteenth of each month.
Non-Recurring	Enter the total amount of the nonrecurring charge.
NRC Plan	Select a nonrecurring charge plan. For example, the plan might allow the customer to pay off the nonrecurring charge in three monthly payments.
NRC Qty	If you do not select a value in the NRC Plan field, then you can enter a specific number of payments. The charge calculation engine then divides the charge into equal payments of the quantity specified. If you do select a value in the NRC Plan field, then this field displays the number of payments in the plan and is read-only.

6. In the Recurring Charge Details section, complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
RC Schedule	Select a schedule for the recurring charge. For example, a schedule might specify that the customer pays the recurring charge by the fifteenth of each month.
Recurring	Enter the amount of the recurring charges.
RC Adjust	If the usage period is less than the entire billing period, then specify an adjustment for a recurring charge. For example, if the customer starts cable TV service on June 16, then the customer is charged for only 15 days in the month of June. In this case, enter the charge for the day in this field, and select Per Day in the RC Adjust U/M field. The Siebel application calculates the adjustment for the 15 days in June.
RC Adjust U/M	Enter the period to which the recurring charge adjustment (the value in the RC Adjust field) applies. The options are: Per Day and Per Week.

7 In the Charges, Adjustments, and Usage Plan Details section, complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Adjust Charge	Enter a special adjustment to the amount the customer is charged. For example, if a customer reports that the cell phone service has not been working for the last several days, then your company might agree to a one-time adjustment. You enter the adjustment in this field.
Adjust Reason	Enter the reason for the special adjustment.
Commit	Select this check box when you are done making changes to the record.
Charge Basis	Specify when the charge for a period is generated. The options are as follows: ■ **Schedule.** Charges are generated after the usage period. For example, June charges are generated on July 1. ■ **Advance.** Charges are generated before the usage period. For example, June charges are generated on June 1.
Use Plan	Select the usage payment plan for this promotion group. For example, different usage payment plans might exist for regular, gold, and platinum customers.
Usage Schedule	Select a schedule for the usage charge. For example, a schedule might specify that the customer pays the usage charge by the fifteenth of each month.

Entering Customer Penalty Charges

You can enter the penalties that the customer must pay for canceling this commitment. You can also use this view to enter credits that the customer receives.

A penalty might depend on the amount of time that the customer used the service before canceling it. In this case, before you enter a penalty, you must create a plan for prorating the penalty charge. Create the prorate plan as a nonrecurring charge plan, as described in the topic about contracts and agreements in *Siebel Field Service Guide*.

At run time, your Siebel application totals all penalty charges that result from a cascading delete action, such as a disconnect. These penalty charges roll up to the account from which the action was initiated (that is, the account specified in the order header).

To enter a customer penalty charge

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying commitments.
3. Click the Commitment view tab.
4. In the link bar of the Commitment view, click the Charges/Credits link.
5. In the Charges/Credits list, add a record for each penalty that the customer must pay, and complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Type	Select the type of charge. For a penalty charge, select Penalty.
Amount	Enter the amount of the penalty. If you enter a negative amount, then the customer will receive a credit instead of being charged a penalty.
Plan	Select the nonrecurring charge plan used to prorate the penalty.

Entering Terms Displayed to the Customer

You can enter the list of terms that will be displayed and included in the promotion group contract that the customer receives. You can select a term template instead of entering terms manually if you first define term templates. For more information about defining term templates, see *Siebel Field Service Guide*.

To enter terms displayed to the customer

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying commitments.
3. Click the Commitment view tab.

4 In the link bar of the Commitment view, click the Terms link.

5 For each term to be displayed to customers, do one of the following:

To...	Go to...
Enter terms from a template	Step 6
Enter terms manually	Step 7

6 To generate terms from a template, perform the following steps:

a Click Pick from Template.

b In the Pick Template dialog box, select the template for this term, and click OK.

A new term record with field values derived from the template appears in the Terms list.

c Go to Step 8.

7 To enter terms manually, add a record to the Terms list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Number	Enter a number to control the order in which this text will be displayed within the list of terms.
Type	Select a type value for the term. The options are: Standard, Non-Standard, and Special. When you design screens and reports, you might decide to display only terms of certain types.
Section	Enter the text that will be displayed to the customer.

8 Save the term record.

Defining Commitments for Membership Definitions

In addition to setting up commitments at the promotion group definition level, you can define commitments for individual membership definitions that are associated with the promotion group definition. You can specify a commitment period, termination charge, and proration plan for each membership definition.

To define a commitment for a membership definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 Select the promotion group definition for which you want to add membership commitments.

3 Navigate to Products, then Memberships.

4 In the Memberships list, select the membership definition for which you want to define commitments.

5 Complete the fields that define the commitment.

Some fields are described in the following table.

Field	Comments
Commitment Period	Enter a number for the duration of the commitment period.
Commitment Period UOM	Enter a unit of measure for the commitment period.
Grace Period	Enter a number for the duration of the grace period.
Grace Period UOM	Enter a unit of measure for the grace period.
Termination Charge	Enter the penalty charge for terminating the membership outside of the commitment and grace periods.
Prorate Plan	If there is a penalty for terminating the membership, then select the prorate plan used to prorate this penalty.

Creating Eligibility Rules for Promotion Group Definitions

Eligibility to receive promotion group offerings might be restricted to a subset of your customers. For example, a promotion group might be offered only to customers in certain states or provinces. You can define the rules that specify which customers are eligible for the promotion group. For more information, see the topic about eligibility rules in *Siebel Order Management Guide*.

NOTE: You can also create eligibility rules for individual promotion group membership definitions. Because a membership definition is a product, you create eligibility rules for a membership definition as you would for any product. For more information, see the topic on defining product eligibility rules in *Siebel Product Administration Guide*.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To create eligibility rules for a promotion group definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition for which you are specifying eligibility rules.

3 In the selected promotion group definition record, do the following:

- Select the Check Eligibility check box.
- If you are using inclusive eligibility, then select the Inclusive Eligibility check box.

4 Click the Eligibility and Compatibility Rules view tab.

5 If necessary, in the link bar of the Eligibility and Compatibility Rules view, click the Eligibility link.

6 Complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Matrix Name	Select the eligibility group used for grouping this rule. For more information about eligibility groups, see the topic on defining eligibility groups in *Siebel Product Administration Guide*.
Rule Type	Select the type of the rule. The options are as follows: ■ **Available.** The rule specifies customers who are eligible for the promotion group. For example, if the criteria depend on State, then the rule specifies a state where customers are eligible for the promotion group. ■ **Unavailable.** The rule specifies the customers who are not eligible to for the promotion group. For example, if the criteria depend on State, then the rule specifies a state where customers are eligible for the promotion group.
Account	If the rule depends on account, then select the name of an account that is or is not eligible for the promotion group.
Account Type	If the rule depends on account type, then select the name of an account that is or is not eligible for the promotion group.
City	If the rule depends on city, then enter the name of a city where customers are or are not eligible for the promotion group.
State	If the rule depends on state, then select the name of a state where customers are or are not eligible for the promotion group.
Country	If the rule depends on country, then select the name of a country where customers are or are not eligible for the promotion group.
Postal Code	If the rule depends on postal code, then enter the name of a postal code where customers are or are not eligible for the promotion group.
Effective Start	Enter the date when this rule goes into effect.
Effective End	Enter the date when this rule is no longer in effect.

7 Continue to add records until you have specified all eligibility rules that determine whether customers are eligible for this promotion group.

Creating Compatibility Rules in Promotion Group Definitions

Compatibility rules state that products require or exclude other products. A *subject compatibility rule* identifies the product that requires or excludes another product. An *object compatibility rule* identifies the product that is required or excluded. For more information, see the topic about compatibility rules in *Siebel Product Administration Guide*.

You can define compatibility rules for promotion groups, for promotion group memberships, and for promotion group assets, as described in the procedures in this topic. You can also define compatibility rules for bundled promotions and customizable products that are included in promotion groups. For more information about bundled promotion compatibility rules, see "Defining Bundled Promotion Compatibility Rules" on page 98. For more information about customizable product compatibility rules, see "Defining Customizable Product Compatibility Rules" on page 117.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

Defining Promotion Group Compatibility Rules

Promotion group compatibility rules are rules that apply to compatibility between promotion groups. For example, Promotion Group A excludes Promotion Group B, or in other words, if an account subscribes to Promotion Group A, then that account cannot subscribe to Promotion Group B.

To define promotion group compatibility rules

1. Navigate to the Administration - Product screen, then the Products view.
2. In the Products list, select the promotion group definition for which you want to define compatibility rules.
3. Follow the steps for defining compatibility rules for a product in *Siebel Product Administration Guide*.

Defining Membership Compatibility Rules

Membership compatibility rules are compatibility rules that apply to the association of memberships with promotion groups. These rules apply to compatibility between memberships. Membership compatibility rules apply to all memberships in a promotion group and are defined at the promotion group definition level.

CAUTION: Do not define compatibility rules for membership definitions in the Administration - Products screen, Products view, Eligibility and Compatibility Rules subviews. Records defined in this area of your Siebel application are not visible in the Promotion Group views.

To define membership compatibility rules

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying promotion group compatibility rules.

3 Click the Eligibility and Compatibility Rules view tab.

4 In the link bar of the Eligibility and Compatibility Rules view, click the Compatibility link.

5 For each rule you want to create that has the current promotion record as the subject, add a new record to the Subject Compatibility Rules list, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Subject - Membership	Select a membership definition to apply as the subject of this compatibility rule. The options include all membership definitions that are associated with the current promotion group definition. If no value is specified, then the rule applies to all membership definitions in the current promotion group.
Subject - Product	If a value exists in the Subject - Membership field, then select a specific product to apply as the subject of this compatibility rule.
Type	Select the type of this compatibility rule. The options are as follows: ■ **Requires.** If the subject product is purchased, then the object product must be purchased. ■ **Excludes.** If the subject product is purchased, then the object product must *not* be purchased.
Object - Membership	Select a membership definition to apply as the object of the compatibility rule. The options include all membership definitions that are associated with the current promotion group definition. If no value is specified, then the rule applies to all membership definitions in the current promotion group.
Object - Product	If a value exists in the Object - Membership field, then select a specific product to apply as the object of this compatibility rule.
Matrix Name	Select the compatibility group used for grouping this rule. For more information about compatibility groups, see the topic on defining compatibility groups in *Siebel Product Administration Guide*.

6 Click Clear Cache to clear the cache.

Defining Asset Membership Compatibility Rules

Asset membership compatibility rules are compatibility rules that apply to the association of assets with promotion group memberships. These rules apply to the compatibility between assets associated with memberships but not to the compatibility between the memberships themselves. Asset membership compatibility rules apply to all assets in a promotion group and are defined at the promotion group definition level.

Examples of membership compatibility rules include the following:

- An asset cannot be associated with the Sponsor Mobile membership of the Family Connect promotion group and the Mobile membership of the Fixed Mobile Convergence promotion group at the same time.
- If an instance of Product A is associated with a membership of Promotion Group B, then the instance of Product A cannot be associated with a membership of Promotion Group C.
- Any asset can participate in only one family plan promotion group as the main member.
- An asset of Product A can be sold only if it is associated with a membership of only one instance of Promotion Group B.

NOTE: To restrict whether a product can participate in specific promotion groups, it might not be necessary to write a compatibility rule. For example, an instance of Product A cannot be associated with any membership of Promotion Group B. In this case, make sure that the product does not occur in any membership domains of the promotion group definition.

To define promotion group membership compatibility rules, follow this procedure.

To define asset membership compatibility rules

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying promotion group membership rules.
3. Click the Eligibility and Compatibility Rules view tab.
4. If necessary, in the link bar of the Eligibility and Compatibility Rules view, click the Asset Membership Compatibility link.
5. For each rule you want to create that has the current membership definition record as the subject, add a new record to the Subject Compatibility Rules list, and complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Subject - Promotion Group	Read only. This field identifies the promotion group that is the subject of the rule. By default, the field value is the name of the current promotion group.
Subject - Membership	Select the membership definition that applies as the subject of the compatibility rule. The options include all membership definitions that are associated with the current promotion group definition. If no value is specified, then the rule applies to all membership definitions in the subject promotion group.
Type	Select the type of this compatibility rule. The options are as follows: ■ **Requires.** If the subject membership is purchased, then the object membership must be purchased. ■ **Excludes.** If the subject membership is purchased, then the object membership must *not* be purchased.

Field	Comments
Object - Promotion Group	Use this field to select the promotion group that is the object of the rule.
Object - Membership	Select the membership definition that applies as the object of the compatibility rule. The options include all membership definitions that are associated with the promotion group definition selected in the Object - Promotion Group field. If no value is specified, then the rule applies to all membership definitions in the object promotion group.
Matrix Name	Select the compatibility group used for grouping this rule. For more information about compatibility groups, see the topic on defining compatibility groups in *Siebel Product Administration Guide*.

6 For each rule you want to create that has the current membership definition record as the object, add a new record to the Object Compatibility Rules list, and complete the necessary fields.

The fields in this list are similar to those in the Subject Compatibility Rules list described in the table under Step 5. Differences are described in the following table.

Field	Comments
Subject - Promotion Group	Use this field to select the promotion group that is the subject of the rule.
Subject - Membership	Select the membership definition that applies as the subject of the compatibility rule. The options include all membership definitions that are associated with the promotion group definition selected in the Subject - Promotion Group field. If no value is specified, then the rule applies to all membership definitions in the subject promotion group.
Object - Promotion Group	Read only. This field identifies the promotion group that is the object of the rule. By default, the field value is the name of the current promotion group.
Object - Membership	Select the membership definition that applies as the object of the compatibility rule. The options include all membership definitions that are associated with the current promotion group definition. If no value is specified, then the rule applies to all membership definitions in the object promotion group.

7 Click Clear Cache to clear the cache.

Defining Asset Membership Cardinality Rules

Asset membership cardinality rules are cardinality rules that apply to the association of assets with promotion group memberships. These rules apply to the cardinality of the assets associated with memberships but not to the cardinality of the memberships themselves. Membership cardinality rules apply to all assets associated with a promotion group membership and are defined at the membership definition level. Examples of asset membership cardinality rules include the following:

- An asset can be associated with the Sponsor Mobile membership of one Family Connect promotion group and with the Invitee Mobile membership of up to four Family Connect promotion groups.
- An asset cannot exist unless it is associated with the Invitee Mobile membership of a Family Connect promotion group.

To define asset membership cardinality rules, follow this procedure.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To define asset membership cardinality rules

1. Navigate to the Administration - Product screen, then the Product Definitions view.
2. In the Products list, query for records with any Type field value *except* Promotion Group Membership.
3. Select a membership product for which you are specifying cardinality rules, and click the link in the Product field.
4. Click the Eligibility and Compatibility Rules view tab.
5. In the link bar of the Eligibility and Compatibility Rules view, click the Asset Membership Cardinality link.
6. In the Products form, select the Check Asset Member Compatibility check box.

   Selecting this field enables your Siebel application to assess asset membership cardinality rules for this product.
7. For each cardinality rule you want to create, in the Asset Membership Cardinality list, add a new record, and complete the necessary fields.

   Some fields are described in the following table.

Field	Comments
Promotion Group	Use this field to select a promotion group to which to apply this rule.
Membership	Use this field to select a membership definition to which to apply this rule. The options include the membership definitions that are associated with the selected promotion group.

Field	Comments
Minimum	Use this field to specify the minimum number of times an instance (asset) of the current product can be associated with the selected membership of an instance of the selected promotion group.
Maximum	Use this field to specify the maximum number of times an instance (asset) of the current product can be associated with the selected membership of an instance of the selected promotion group.

8 Click Clear Cache to clear the cache.

Applying Validation Rules to Promotion Group Definitions

To validate a promotion group, you might have to check all the assets associated with the promotion group for a common value or for unique values, for example:

- All associated members of a promotion group must have the same billing profile.
- Each membership in a promotion group is associated with a different asset.

To implement these rules, validation services exist for promotion groups. Each of these validation services takes a set of field values as an input and verifies whether these field values are all the same for the first rule and whether they are all different for the second rule.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To apply validation rules to a promotion group definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition for which you are specifying the validation rules.

3 Click the Validation view tab.

4 For each validation that you want to define for this promotion group definition, perform the following steps:

a In the Validation list, select a validation business service.

Some fields of the Validation list records are described in the following table.

Field	Comments
Sequence	Specifies the order in which the validation rule is to be processed at run time.
Business Service	The business services that apply promotion group validations are as follows: ■ **ISS Promotion Group Member Distinct Value Checker Business Service.** This business service validates that its input arguments are unique. ■ **ISS Promotion Group Member Common Value Checker Business Service.** This business service validates that its input arguments are the same. ■
Active	Select this check box to activate the validation rule.

b In the Parameters list below the Validation list, enter values for parameters of the selected business service by completing the Value fields of the parameter records.

Some fields of the Parameters list records are described in the following table.

Name	Value
Attribute1	Can be any field that is allowed in the Query method of the Project Asset service.
Member Field	A list of fields that are allowed in the Query method of the Project Asset service, separated by vertical bars (|).
Message	The UMF (Universal Media Format) message type that is displayed if a violation is found.

For information about how validation business services and parameter values interact to form validation rules, see "About Validation Business Services and Parameters" on page 435.

About Validation Business Services and Parameters

This topic covers the business services that apply validation rules to promotion group definitions and the parameters you can set for each business service. This topic covers the following subjects:

- PG Member Distinct Value Checker Business Service on page 436
- Example of Setting Distinct Value Checker Parameters on page 436
- PG Member Common Value Checker Business Service on page 437
- Example of Setting Common Value Checker Parameters on page 438

PG Member Distinct Value Checker Business Service

This business service validates that its input arguments are unique. Input arguments for this business service can include one or more fields in the asset business component, for example, Billing Account and Service Account. If the billing account and service account of a member are not unique, then the business service generates an exception. The parameters and parameter values for this business service are shown in Table 107.

Table 107. PG Member Distinct Value Checker Values

Parameter	Sample Value	Comments
Attribute1	Member Asset Id	(Optional) This parameter value can be any field that is allowed in the Query method of the Project Asset service. Examples include: Billing Account Id, Service Account Id, Billing Profile Id, Member Asset Id, and so on. The validation check is performed on the fields of each membership in the current promotion group, in numeric order. **NOTE:** You can create multiple parameters such as Attribute2, Attribute3, and so on. The value of any such additional parameter can likewise be any field that is allowed in the Query method of the Project Asset service.
Member Field	Service Account Id|Billing Account Id	(Optional) This parameter value is a list of the fields that are allowed in the Query method of the Project Asset service, separated by vertical bars (|). The validation check is performed on the fields of the members that are associated with each membership in the current promotion group.
Message	Promotion Group Membership Distinct Values	This parameter value is the UMF message type that is displayed if a violation is found.

If the same field, for example, Billing Account Id, is defined in both the Member Field parameter and the Attribute1 parameter, then the Member Field parameter overrides the Attribute1 parameter. Consequently, this field is validated in the member records and not in the membership records.

Example of Setting Distinct Value Checker Parameters

This topic gives one example of setting the parameters for the PG Member Distinct Value Checker Business Service. You might use this feature differently, depending on your business model.

A product administrator is setting up promotion group validation rules to verify unique field values. The product administrator navigates to the Administration - Product screen, Promotion Groups view, Validation subview for that promotion group definition and performs the following steps:

1. In the Validation list, the product administrator selects the PG Member Distinct Value Checker Business Service record.

2 In the Parameters list, she selects the Attribute1 record and enters Member Asset Id in the Value field.

3 In the Parameters list, she selects the Member Field record and enters Service Account Id|Billing Account Id in the Value field.

As a result, your Siebel application applies the following validation rules at run time:

- Each member of a promotion group must have a different service account and a different billing account.
- Each membership of a promotion group is associated with a different asset; that is, each membership has a different Member Asset Id.

PG Member Common Value Checker Business Service

This business service validates that its input arguments are the same. The input arguments for this business service can include one or more fields in the asset business component, for example, Billing Account and Service Account. If the billing account and service account of a member are not the same, then the business service generates an exception.

The parameters and parameter values for this business service are shown in Table 108.

Table 108. PG Member Common Value Checker Parameters

Parameter	Sample Value	Comments
Attribute1	Member Asset Id	(Optional) This parameter value can be any field that is allowed in the Query method of the Project Asset service. Examples include: Billing Account Id, Service Account Id, Billing Profile Id, Member Asset Id, and so on. The validation check is performed on the fields of each membership in the current promotion group, in numeric order. **NOTE:** You can create multiple parameters such as Attribute2, Attribute3, and so on. The value of any such additional parameter can likewise be any field that is allowed in the Query method of the Project Asset service.
Member Field	Service Account Id|Billing Account Id	(Optional) This parameter value is a list of fields that are allowed in the Query method of the Project Asset service, separated by vertical bars (|). The validation check is performed on the fields of the members that are associated with each membership in the current promotion group.
Message	Promotion Group Membership Common Values	This parameter value is the UMF message type that is displayed if a violation is found.

If the same field, for example, Billing Account Id, is defined in both the Member Field parameter and Attribute1 parameter, then the Member Field parameter overrides the Attribute1 parameter. Consequently, this field is validated in the member records and not in the membership records.

Example of Setting Common Value Checker Parameters

This topic gives one example of setting the parameters for the PG Member Common Value Checker Business Service. You might use this feature differently, depending on your business model.

A product administrator is setting up promotion group validation rules to verify equal field values. The product administrator navigates to the Administration - Product screen, Promotion Groups view, Validation subview for that promotion group definition and performs the following steps:

1. In the Validation list, the product administrator selects the PG Member Common Value Checker Business Service record.
2. In the Parameters list, she selects the Attribute1 record and enters Member Asset Id in the Value field.
3. In the Parameters list, she selects the Member Field record and enters Service Account Id|Billing Account Id in the Value field.

As a result, your Siebel application applies the following validation rules at run time:

- All members of a promotion group must have the same service account and the same billing account.
- All memberships of a promotion group are associated with the same asset, that is, all memberships have the same Member Asset Id.

Defining Access Control Rules for Promotion Group Members

To control who is authorized to add members to or remove members from a promotion group, you can create access control rules for a promotion group definition. Your Siebel application enforces those rules at run time, when users add or remove members at the request of customers. To set up access rights for the promotion groups generated from a promotion group definition, follow this procedure.

This task is a step in “Process of Setting Up Promotion Groups (Administrators)” on page 402.

To define access control rules for promotion group members

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying access rules.
3. Click the Access Control view tab.

4 In the Access Control list, add a new record and complete the fields.

Some fields are described in the following table.

Field	Comments
Membership	This field lists all the membership definitions for the selected promotion group definition.
Access Type	Use this field to define the type of access for the selected membership definition. The options are as follows: **Manage Members.** This option defines the ability to add, disconnect, and modify members in the entire promotion group. **Manage Self.** This option defines the ability to disconnect or modify one's own membership. This option does not include the ability to add oneself to the membership. **Add Self.** This option defines the ability to add oneself to the membership. **View Members.** This option defines the ability to view the promotion group members. **Modify Self.** This option defines the ability to modify the membership. **Disconnect Self.** This option defines the ability to disconnect oneself from the membership.

5 (Optional) If you want to attach more than one set of access rights to a membership, then create additional records with the same value in the Membership fields and different values in the Access Rights fields.

NOTE: More than one access control record can include the same access right for the same membership without generating any errors. The design-time screen does not prevent you from creating such rules, and the run-time engine ignores the redundancies. For information about how access control rules affect the run-time behavior of your Siebel application, see "Promotion Group Access Control Reference" on page 460.

Associating Promotion Group Definitions with Catalog Categories

To allow users to select a promotion group definition for a quote or to see the promotion group definition in a catalog, you must associate the promotion group definition with at least one catalog category. You can assign a promotion group definition to multiple categories, and thus to multiple catalogs.

Catalog administrators create product catalogs, which are subdivided into product categories. The catalog administrator sets up access controls by assigning user access groups to a catalog and to its associated categories. The recommended method for assigning users to access groups is to assign the users to organizations and then assign the organizations to the access groups. For more information about creating catalogs and categories and giving users visibility to them, see *Siebel Order Management Guide*.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To associate a promotion group definition with a catalog category

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you want to set up user access.
3. Click the Category view tab.
4. Click Add to create a new record in the Category list.
5. In the Add Category dialog box, select a category to associate with the current promotion group definition, and click OK.
6. Click Refresh Cache to refresh the cache.
7. Repeat Step 4 through Step 6 to add all the categories necessary to give users visibility to this promotion group definition.

Setting Up Notifications to Promotion Group Members

As part of a promotion group life cycle, your company might want to notify some of its members when a membership in the promotion group is added, disconnected, or modified.

NOTE: By default, your Siebel application supports the functionality for notifying promotion group members only as a design-time feature. For notifications to be delivered to subscribers, run-time functionality must be implemented according to the business model, security requirements, and email applications of your company.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To set up notifications to promotion group members

1. Navigate to the Administration - Product screen, then the Promotion Groups view.
2. In the Promotion Group Definitions list, select the promotion group definition for which you are specifying notifications.
3. Click the Notification view tab.

   The Notification Account field in the promotion group definition header indicates which account of the member will receive the notification. The available values are Billing Account and Service Account.

4 In the Notification list, add a new record, and complete the fields.

Some fields are described in the following table.

Field	Comments
Action Code	Use this field to select the action that starts the notification.
Notification Type	This field defines the set of members who receive the notification. The options are as follows: ■ **All Members.** This option notifies all members of the promotion group that are associated with the specified Notification Account. ■ **Selected Members.** This option notifies all members of the promotion group that are associated with the selection in the Membership field. ■ **Impacted Member.** This option notifies only the member who is the object of the action.
Membership	Use this field to specify the membership definition when Selected Members is selected in the Notification Type field.
Template	This field specifies the communications template used by the notification. For more information, see the topic about configuring communications templates in *Siebel CTI Administration Guide*.
Method	Read only. Displays the communication method by which the notification will be sent. The value is populated from the communications template selected in the Template field. The possible values are: E-mail, Phone, Fax, and SMS.

Releasing a Promotion Group Definition

When you created a new promotion group definition record, a version of it named Work Space was automatically created and the Locked check box was automatically selected for the version record. After you finish setting up the promotion group definition, you must release this version and refresh the cache to make the promotion group definition available to users.

Promotion group versions affect only the Start Date, End Date, and Active fields of the promotion group. Every other aspect of promotion groups is uniform for all active versions. You must refresh the cache after making any changes to the promotion group definition.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To release a promotion group definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition that you want to release.

3 Click the Versions view tab.

4 In the Versions list, select and lock the Work Space record, and complete the necessary fields.

Some fields are described in the following table.

Field	Comments
Start Date	Enter the date for the promotion group definition to become available.
Active	Select this check box to make the promotion group definition available.

5 Click Release New Version.

Your Siebel application creates a numbered, active version record with the Start Date value you entered in the Work Space version.

6 From the Versions form menu, select Refresh Cache.

Deactivating a Promotion Group Definition

You can deactivate a promotion group definition by creating and releasing an inactive version that starts when you want the promotion group definition to become inactive.

This task is a step in "Process of Setting Up Promotion Groups (Administrators)" on page 402.

To deactivate a promotion group definition

1 Navigate to the Administration - Product screen, then the Promotion Groups view.

2 In the Promotion Group Definitions list, select the promotion group definition that you want to deactivate.

3 Click the Versions view tab.

4 In the Versions list, select and lock the Work Space record, and complete the following steps:

a Deselect the Active check box.

b In the Start Date field, enter the date on which you want this promotion group definition to be deactivated.

c Click Release New Version.

Your Siebel application performs the following actions:

- Adds an inactive version record with the Start Date value you entered in the Work Space version.
- Sets the End Date of the active version record to the Start Date value of the inactive version record.

5 From the Versions form menu, select Refresh Cache.

About Managing Promotion Groups

This topic provides a general description of the run-time user tasks for creating and managing promotion groups. The categories of user tasks are as follows:

- **Creation actions.** Users perform these actions to create promotion groups and their associated objects. Creation actions primarily include creating promotion groups, adding memberships to promotion groups, associating assets with memberships, and updating membership attributes.
- **Top-down actions.** Users perform these actions on behalf of the promotion group owner or on behalf of promotion group subscribers with the Manage Members or View Members access rights. Top-down actions involve the overall management of a promotion group and its memberships. Top-down actions most often include adding and modifying promotion group memberships, and of disconnecting promotion groups and memberships. Modifying a promotion group membership mainly includes changing its attributes, billing account, or service account.
- **Bottom-up actions.** Users perform these actions on behalf of promotion group subscribers with the Manage Self, Add Self, Modify Self, or Disconnect Self access rights. Top-down actions involve subscribers managing their own member assets. Bottom-up actions most often include subscribing to or unsubscribing from an existing promotion group, that is, associating an asset with or disassociating an asset from a promotion group membership.

For more information about promotion group subscriber access rights, see "Promotion Group Access Control Reference" on page 460.

NOTE: In the following topics, promotion group owners are sometimes referred to as *owners,* and promotion group subscribers are sometimes referred to as *subscribers* for the sake of brevity.

Roadmap for Managing Promotion Groups (Users)

To create and manage promotion groups, users perform the following processes and tasks:

- Process of Creating Promotion Groups on page 443
- Process of Managing Promotion Groups on page 450
- Process of Managing Promotion Group Members on page 454

Process of Creating Promotion Groups

To create promotion groups, users perform the following tasks:

1. Creating New Promotion Group Instances on page 444
2. Adding Memberships to a Promotion Group on page 446
3. Associating Assets with a Promotion Group Membership on page 447
4. Defining Promotion Group Membership Attribute Values on page 449

This process is a step in "Roadmap for Managing Promotion Groups (Users)" on page 443.

Creating New Promotion Group Instances

You can create a new promotion group instance from a promotion group definition by adding it to a quote or order as a line item. You can create a promotion group instance starting from an account, a quote, or an order.

This task is a step in "Process of Creating Promotion Groups" on page 443.

Adding a Promotion Group to an Account

To generate a promotion group for an account, follow this procedure.

To add a promotion group to an account

1. Navigate to the Accounts screen, then the Accounts List view.
2. Find the account for which you want to generate a promotion group, and click the link in the Account Name field.
3. If necessary, click the Account Summary view tab.
4. In the Installed Assets list, add a new record.
   - If the Account Type value of the current account is Residential, then an open order is created and displayed in the Sales Order screen, Line Items view, Totals subview.
   - If the Account Type value of the current account is any value other than Residential, then an open quote is created and displayed in the Quotes screen, Line Items view, Totals subview.
5. In the Totals list, add a new record, and select a promotion group definition in the Product field.

   From the selected promotion group definition and its associated membership definitions and reward definitions, your Siebel application generates a promotion group record, along with default membership and reward records, and adds them to the current quote or order as line items.
6. In the link bar of the Line Items view, click Promotion Group Details to display the details of the promotion group.

   For more information, see "About the Promotion Group Details View" on page 445.

Adding a Promotion Group to a Quote or Order

To add a promotion group to an existing quote or order, follow this procedure.

To add a promotion group to a quote or order

1. Do one of the following:
   - To add a promotion group to a quote, navigate to the Quotes screen, then the List view.
   - To add a promotion group to an order, navigate to the Sales Order screen, then the List view.
2. In the List view, select the quote or order to which you want to add a promotion group.

3 Click the Line Items view tab.

4 If necessary, in the view link bar, click the Totals link.

5 In the Totals list, add a new record, and select a promotion group definition in the Product field.

From the selected promotion group definition and its associated membership definitions and reward definitions, your Siebel application generates a promotion group record, along with default membership and reward records, and adds them to the current quote or order as line items.

6 In the link bar of the Line Items view, click Promotion Group Details to display the details of the promotion group.

For more information, see "About the Promotion Group Details View" on page 445.

About the Promotion Group Details View

This topic describes the sections of the Promotion Group Details view and how they function together.

Line Items list. This list shows all the line items currently in the quote or order. If a line item is part of a promotion group, then the Promotion Group field displays the name of that promotion group.

If a line that is not part of a promotion group is selected in this list, then the Assets List, the Associated Member form, and the Promotion Group Definition list are empty. If a selected product has attributes, then the Line Item Attributes list is populated regardless of whether that product is part of a promotion group.

Assets List. If the selected line item is a promotion group membership, then the Assets List displays all the assets that can be associated with the selected membership. The listed assets include installed assets and the contents of the Projected Asset Cache, which contains products in the open quote or order.

Account field. The value in this field filters the Assets List contents according to the value of the Owner Account field in the promotion group record, as follows:

- If the ownership of the promotion group is Customer Account, then by default the field value is the account in the quote or order header, and the field is read-only. The Assets List displays all the assets under the root customer account using the Service Account relationship, filtered by the membership domain (in other words, assets generated from the parent products in the membership domain of the selected membership).
- If the ownership of the promotion group is Account Hierarchy, then by default the field value is the account in the quote or order header, and the field is enabled. The available options include the accounts in the account hierarchy of the current promotion group. If you select a different account, then the Assets List is refreshed with all the assets for the selected account, filtered by the membership domain.
- If the ownership of the promotion group is Across Organizations, then by default the field value is the account in the quote or order header, and the field is enabled. Available options include all the account records in your Siebel application. If you select a different account, then the Assets List is refreshed with all the assets for the selected account, filtered by the membership domain.

Associate button. This button is enabled if a membership is selected in the Line Items list and an asset is selected in the Asset List. Clicking this button associates the selected asset with the selected membership, initiating the following actions:

- An association is created between the selected membership and the selected asset.
- The owner, billing, and service accounts of the membership are defaulted to owner, billing, and service accounts of the promotion group or to owner, billing, and service accounts of the associated asset, depending on the value specified in the membership definition.
- The Associated Member form is refreshed.
- If the Validate Member Asset check box is selected in the membership record, then the associated asset is added to the current quote or order as a new line item. If promotion group pricing adjustments are applied to the product, then the Action code will be Update.

Associated Member form. This form displays details about an asset associated with the membership that is selected in the Line Items list. If the selected line item is a promotion group membership with an associated asset, then the form contains the asset information. If the selected line item is a promotion group membership with no associated asset, then the form is empty. If the selected line item is not a promotion group membership, then the form is empty.

Promotion Group Definition list. This list displays the structure and content of a promotion group that is part of the current quote or order, as follows:

- If the selected line in the Line Items list is a promotion group, a promotion group membership, or a promotion group reward, then the list displays the promotion group definition and is read-only.
- If the selected line in the Line Items list is not involved in a promotion group, or if it is a promotion group member, then the list is empty.

Line Item Attributes list. If a membership is selected in the Line Items list, then the list displays the values of the attributes defined for the class in which the selected membership product is included. To modify these values, you click the Customize button above the Line Items list to start Siebel Configurator.

Adding Memberships to a Promotion Group

When you generate a promotion group, your Siebel application adds the default memberships that are defined by the membership definitions associated with the promotion group definition. You can also add other memberships to the promotion group.

This task is a step in "Process of Creating Promotion Groups" on page 443.

To add a membership to a promotion group

1. Do one of the following:
   - To access a promotion group in an open quote, navigate to the Quotes screen, then the List view.

- To access a promotion group in an open order, navigate to the Sales Order screen, then the List view.

2 In the List view, select the quote or order that includes the promotion group to which you want to add a membership.

3 Click the Line Items view tab.

4 In the link bar of the Line Items view, click Promotion Group Details.

5 In the Promotion Group Definition list, select a membership record.

6 Click Add.

7 In the Pick Products dialog box, select the membership to add to the current promotion group.

8 In the Order Qty field, enter a number of the selected memberships to add to the order, and click OK.

The membership is added to the Line Items list.

Associating Assets with a Promotion Group Membership

You can associate an asset with a promotion group membership. The associated asset becomes a member of the promotion group. Depending on the account ownership of the promotion group, the asset can be an existing asset in the same account hierarchy, an existing asset in a different account hierarchy, or a new asset.

This task is a step in "Process of Creating Promotion Groups" on page 443.

To associate an asset with a promotion group

1 Do one of the following:

- To access a promotion group in an open quote, navigate to the Quotes screen, then the List view.
- To access a promotion group in an open order, navigate to the Sales Orders screen, then the List view.

2 In the List view, select the quote or order that includes the promotion group with which you want to associate assets.

3 Click the Line Items view tab.

4 In the view link bar, click the Promotion Group Details link.

The Line Items list of the Promotion Group Details subview shows all the lines currently in the quote or order.

5 In the Line Items list, select a promotion group membership with which to associate an asset.

Some fields in the Line Items list are described in the following table.

Field	Comments
Promotion Group	If the line item is part of a promotion group, for example, a membership, then this field displays the name of that promotion group.
Owner Account	Membership owner account. The default value is the owner account of the type designated by the administrator when the membership definition was set up. The value can be either the owner account of the promotion group or the owner account of the associated asset.

When you select a line item that is a promotion group membership, the Assets List displays the assets that can be associated with that membership. These assets include assets that are already installed and assets that can be associated with the selected membership in the open quote or order.

6 In the Account field above the Asset List, select the account that owns the asset.

The value of the Account field above the Assets List is determined by the Owner Account field value in the promotion group record. The Account field value controls the display in the Asset List, as described in the following table.

If the promotion group owner account is...	Then the Account field...	Comments
Customer Account	Has a default value of the quote or order account and is read-only.	The Assets List displays all the assets for the promotion group owner account.
Account Hierarchy	Has a default value of the quote or order account and is enabled.	You can select any account in the owner account hierarchy. The Assets List displays all the assets for the selected account.
Across Organizations	Has a default value of the quote or order account and is enabled.	You can select any account in your Siebel database. The Assets List displays all the assets for the selected account.

Additionally, for all options, the displayed assets are filtered by the Membership Domain value. In other words, all assets are displayed whose parent products are in the membership domain of the selected membership.

7 In the Asset List, select the asset that you want to associate with the selected membership, and click Associate.

Your Siebel application associates the asset with the current promotion group membership. If the Validate Member flag in the associated membership is set to Yes, then the selected asset is added to the Line Items list.

If a pricing adjustment for this membership has been defined by the administrator, then the adjustment is applied at this time, and it is displayed in the Pricing Waterfall. If the Validate Member Asset flag is selected in the membership definition when you associate the asset with the membership, then the asset is brought into the quote or order and repriced.

Defining Promotion Group Membership Attribute Values

You can define attribute values for a promotion group membership by following this procedure.

This task is a step in "Process of Creating Promotion Groups" on page 443.

To define promotion group membership attribute values

1 Do one of the following:

- To access a promotion group in an open quote, navigate to the Quotes screen, then the List view.
- To access a promotion group in an open order, navigate to the Sales Orders screen, then the List view.

2 In the List view, select the quote or order that includes the promotion group in which you want to define attribute values.

3 Click the Line Items view tab.

4 In the view link bar, click the Promotion Group Details link.

The Line Items list of the Promotion Group Details subview shows all the lines currently in the quote or order.

5 In the Line Items list, select a promotion group membership for which you want to define the attribute values.

If the selected membership is a customizable product, then the Line Item Attributes list displays the attributes defined for that membership.

6 To modify the attributes of the selected membership, click the Customize button above the Line Items list to start a Siebel Configurator session.

NOTE: If the membership is a customizable product, then you can also use this procedure to modify the child items of that membership. For more information about using Siebel Configurator to modify product attribute values and child items, see *Siebel Product Administration Guide*.

Process of Managing Promotion Groups

To manage promotion groups using a top-down approach on behalf of the promotion group owner or on behalf of promotion group subscribers with the Manage Members and View Members access rights, users perform the following tasks:

1. Viewing the Details of a Promotion Group on page 450
2. Accessing the Promotion Group Components on page 451
3. Adding Memberships to a Promotion Group on page 452
4. Modifying Promotion Group Memberships on page 452
5. Disconnecting Promotion Groups on page 453
6. Disconnecting Promotion Group Memberships on page 454

This process is a step in "Roadmap for Managing Promotion Groups (Users)" on page 443.

Viewing the Details of a Promotion Group

To view the details of a promotion group, follow this procedure.

This task is a step in "Process of Managing Promotion Groups" on page 450.

To view the details of a promotion group

1. Navigate to the Accounts screen, then the Accounts List view.
2. Find the account for the promotion that you want to view, and click the link in the Account Name field.

   The Account Summary view appears.
3. If necessary, update the Customer Dashboard by performing the following steps:
   a. Click the View menu.
   b. Choose the Update Customer Dashboard menu option.
4. In the Installed Assets list, find the promotion group you want to view, and click the link in the Product field.

   The Promotion Groups screen appears.
5. If necessary, click the All Components view tab to see the components of the current promotion group. Note the following points:
   - The All Components list is a read-only display of all the components of the selected promotion group, regardless of any access control rules that might prevent the caller from accessing the promotion group contents.
   - The Promotion Group Definition list contains the read-only definition of the selected promotion group, so that you can see its structure.

6 To display more details of a specific asset, in the All Components list, click the link in an Associated Member Asset # field.

The Installed Assets view appears for the account that is associated with the asset.

7 To display a view of promotion group components that is tailored to the caller, return to the Promotion Groups screen, and click the Restricted Components view tab. Note the following:

- The contents of the Components list is partly controlled by the account context as set in the Customer Dashboard, in other words, the person with whom you are currently speaking. This allows you to set the account context, select a promotion group that belongs to another account, but that the caller is a subscriber of or wants to subscribe to.
- The Components list displays only the memberships and reward products that the account context is entitled to see as defined by the access rules of the selected promotion group.

  If the account context is the promotion group owner or a promotion group subscriber with Manage Members or View Members access rights, then all components of the promotion group are displayed in the list. Otherwise, only those components that belong to the account context are displayed. If the account context is not the owner of or a subscriber to the selected promotion group, then the list is empty.
- The action controls in the view are disabled or enabled by the access control rules of the promotion group and the account context of the caller. For more information about access control, see "Promotion Group Access Control Reference" on page 460.

8 To display all member assets that are part of open orders, click the Open Orders view tab.

You can view the order in which a member is included by clicking the link in the Order # field for that member.

Accessing the Promotion Group Components

To perform tasks on behalf of the promotion group owner and the promotion group subscribers, you must access the view in which the promotion group components are displayed and operations involving the promotion group components are enabled. To access the components of a promotion group, follow this procedure.

This task is a step in "Process of Managing Promotion Group Members" on page 454.

To access the components of a promotion group

1 Navigate to the Accounts screen, then the Accounts List view.

2 Find the account for the promotion group subscriber who is requesting an operation involving the promotion group components, and click the link in the Account Name field.

The Account Summary view appears.

3 If necessary, update the Customer Dashboard by performing the following steps:

a Click the View menu.

b Choose the Update Customer Dashboard menu option.

4 In the Installed Assets list, select the promotion group that you want to manage, and click the link in the Product field.

The Promotion Groups screen appears.

5 Click the Restricted Components view tab.

The Restricted Components view allows you to manage the promotion group components on behalf of the subscribers. Your Siebel application determines the account context of the subscriber who is requesting the change from the Customer Dashboard, and it applies the access control rules for that account to the Restricted Components view. If the account has the necessary access permissions, then the required options are enabled. For more information about promotion group subscriber access rights, see "Promotion Group Access Control Reference" on page 460.

Adding Memberships to a Promotion Group

You can add memberships to a promotion group by generating additional memberships from the membership definitions that are associated with the promotion group definition. To add memberships to promotion groups on behalf of the promotion group owner, follow this procedure.

This task is a step in "Process of Managing Promotion Groups" on page 450.

To add a membership to a promotion group

1 Follow the steps in "Accessing the Promotion Group Components" on page 451.

2 In the Promotion Group Definition list below the Restricted Components list, select the membership that you want to add, and click Add.

3 In the Pick Products dialog box, Order Qty field, enter the number of memberships to add, and click OK.

A sales order is generated for the additional promotion group memberships. The Sales Order screen, Line Items view appears.

4 Submit the order.

Modifying Promotion Group Memberships

You can modify a promotion group membership by changing its service account, changing its billing account, or modifying its attributes. To modify memberships of promotion groups on behalf of the promotion group owner, follow this procedure.

This task is a step in "Process of Managing Promotion Groups" on page 450.

To modify a promotion group membership

1 Follow the steps in "Accessing the Promotion Group Components" on page 451.

2 In the Restricted Components list, select a membership, and click Modify.

The Sales Order screen, Line Items view, Totals subview appears. The Line Items list displays all the line items for the current order.

3 In the Line Items list, select the membership you want to modify and do the following:

a To modify the service account, change the selection in the Service Account field.

b To modify the billing account, change the selection in the Billing Account field.

4 To modify the attributes, do the following:

a Click Attributes in the view link bar.

b In the Line Item Attributes list at the bottom of the view, select an attribute record and change the field values as needed.

Disconnecting Promotion Groups

You can disconnect a promotion group by following this procedure. Disconnecting a promotion group disconnects all the memberships associated with that promotion group.

This task is a step in "Process of Managing Promotion Groups" on page 450.

To disconnect a promotion group

1 Navigate to the Accounts screen, then the Accounts List view.

2 Find the account for which you want to disconnect a promotion group, and click the link in the Account Name field.

3 Click the Account Summary view tab.

4 In the Installed Assets list, find the promotion group that you want to disconnect.

5 Click Disconnect.

Your Siebel application performs the following processing:

- If the Delete Member flag of the membership is set to Y, then it checks for commitments of the promotion group, all its membership products, and its member assets. If a violation is detected, then your Siebel application displays a warning message prompting you to accept or reject the commitment.
- Calculates penalty charges if appropriate.
- If the Delete Member flag of the membership is set to Y, then it checks whether the member asset is associated with more than one membership. If the asset is associated with more than one membership, then your Siebel application displays a warning message to the user.
- Generates one order to disconnect the promotion group, its associated memberships, and its associated members.

For more information about the internal processing involved in disconnecting a promotion group, see "Promotion Group Disconnect" on page 458.

Disconnecting Promotion Group Memberships

You can disconnect a promotion group membership by following this procedure.

This task is a step in "Process of Managing Promotion Groups" on page 450.

To disconnect a promotion group membership

1. Follow the steps in "Accessing the Promotion Group Components" on page 451.
2. In the Restricted Components list, select a membership, and click Disconnect.

   The Sales Order screen, Line Items view, Totals subview appears. Your Siebel application creates an order to disconnect the membership.
3. Submit the order.

For information about the internal processing involved in disconnecting a promotion group membership, see "Membership Disconnect" on page 459.

Process of Managing Promotion Group Members

To manage promotion group members, using a bottom-up approach on behalf of promotion group subscribers with the Manage Self, Add Self, Modify Self, and Disconnect Self access rights, users perform the following tasks:

1. Viewing Membership Information for an Asset on page 454
2. Adding Members to a Promotion Group on page 455
3. Disconnecting Promotion Group Members on page 455

This process is a step in "Roadmap for Managing Promotion Groups (Users)" on page 443.

Viewing Membership Information for an Asset

You can display membership information for any member asset of a promotion group.

This task is a step in "Process of Managing Promotion Group Members" on page 454.

To view membership information for an asset

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts List, find the account associated with the asset for which you want to view the promotion group membership information, and click the link in the Account Name field.
3. Click the Installed Assets view tab.

4 In the Installed Assets list, select the promotion group member asset for which you want to view membership information.

   If the Promotion Group Member field check box for an asset record is selected, then the asset is a member of at least one promotion group.

5 In the Installed Assets link bar near the bottom of the view, click the Attributes link.

   The Attributes list displays all the dynamic attributes for the selected member.

6 In the Installed Assets link bar near the bottom of the view, click the Memberships link.

   The Memberships list displays all the memberships of the selected promotion group member asset. The action buttons in the view are disabled or enabled, depending on the access control rules of the promotion group and the account context of the caller. For more information about access control, see "Promotion Group Access Control Reference" on page 460.

Adding Members to a Promotion Group

A customer can add an asset that the customer controls as a member of a promotion group by associating the asset with a membership. The customer thus becomes a subscriber. A customer can subscribe to the membership of a promotion group if at least one of the following conditions apply:

- The customer is the holder of the owner, billing, or service account of the promotion group.
- The customer is the holder of the owner, billing, or service account of an asset that is already associated with a membership of that promotion group, and that membership has the Manage Members access right.
- The customer is the holder of the owner, billing, or service account of an asset that is already associated with a membership of that promotion group, and that membership has the Add Self access right.

To add a member to a promotion group membership, follow the procedure described in "Associating Assets with a Promotion Group Membership" on page 447.

This task is a step in "Process of Managing Promotion Group Members" on page 454.

Disconnecting Promotion Group Members

You can disconnect a promotion group member asset by following this procedure.

This task is a step in "Process of Managing Promotion Group Members" on page 454.

To disconnect promotion group members

1 Navigate to the Accounts screen, then the Accounts List view.

2 Find the account for which you want to disconnect a promotion group member, and click the link in the Account Name field.

3 Click the Account Summary view tab.

4 In the Installed Assets list, select a promotion group member.

5 Click Disconnect to disconnect the member.

For information about the internal processing involved in disconnecting promotion group members, see "Membership Asset Disconnect" on page 460.

NOTE: Deleting a member from a quote or order line item does not remove the association of that member from the membership product. To remove the association, you must disconnect either the membership or the member.

About Promotion Group Memberships in Upgraded and Downgraded Promotions

When a promotion in a promotion group membership domain is upgraded or downgraded, the memberships and the promotion group can be affected. If the target promotion is in the promotion group membership domain, then its memberships are updated. If the target promotion is not in the promotion group membership domain, then its memberships are deleted. Additionally, if mandatory memberships of the target promotion are disconnected, then the promotion group itself must be disconnected as well. The scenarios in this topic demonstrate these facts.

For more information about upgrading and downgrading promotions, see "Upgrading Promotions" on page 71 and "Upgrading Promotions in Quote and Order Lines" on page 200.

Scenario for Creating Promotion and Promotion Group Definitions at Design Time

A product administrator for a telecommunications company creates the Millennium Max 200 Package, Millennium Max 500 Package, and Millennium Max 1000 Package promotions. The product administrator defines the following upgrade paths:

- Millennium Max 200 Package to Millennium Max 1000 Package
- Millennium Max 500 Package to Millennium Max 1000 Package

The product administrator also defines the following downgrade paths and penalties:

- Millennium Max 500 Package to Millennium Max 200 Package, with a penalty of 30.00
- Millennium Max 1000 Package to Millennium Max 500 Package, with a penalty of 50.00
- Millennium Max 1000 Package to Millennium Max 200 Package, with a penalty of 100.00

NOTE: Upgrade and downgrade paths for promotions are defined in the Administration - Products screen, Product Promotions, Upgrade view.

The product administrator then creates a promotion group called Family Package, with the memberships described in Table 109.

Table 109. Family Package Promotion Group Definition

Membership	Cardinality (Minimum, Maximum, Required)	Domain
Main Membership	1, 1, 1	Millennium Max 1000 Package
Partner Membership	1, 1, 1	Millennium Max 200 Package Millennium Max 500 Package
Teen Membership	0, 7, 0	Millennium Max 200 Package Millennium Max 500 Package

Scenarios for Downgrading Promotions in a Promotion Group at Run Time

A promotion group instance called Family Package has been created with assets as follows:

- Main Membership associated with Millennium Max 1000 Package
- Partner Membership associated with Millennium Max 500 Package
- Teen Membership associated with Millennium Max 200 Package
- Millennium Max 1000 Package
- Millennium Max 500 Package
- Millennium Max 200 Package

Downgrading the Partner Membership Millennium Max 500 Package to a Millennium Max 200 Package

A sales representative is modifying the Family Package promotion group instance. At the customer's request, she downgrades the Millennium Max 500 Package that is associated with the Partner Membership to a Millennium Max 200 Package.

The Siebel application displays a warning message that a penalty charge for the promotion downgrade penalty will be applied. Because the Millennium Max 200 Package is part of the Partner Membership promotion group domain, the constraints of the promotion group are not violated. Consequently, the message contains no mention of any promotion group membership disconnect. The customer accepts the penalty charges. The sales representative creates a sales order to downgrade the Partner Membership. The order lines appear as follows:

- Partner Membership associated with Millennium Max 200 Package - Update
- Millennium Max 500 Package - Delete
- Millennium Max 200 Package - Add
- Penalty Charge for the downgrade - 30.00 prorated

Downgrading the Main Membership Millennium Max 1000 Package to a Millennium Max 500 Package

A sales representative is modifying the Family Package promotion group instance. At the customer's request, she downgrades the Millennium Max 1000 Package that is associated with the Main Membership to a Millennium Max 500 Package.

Because the Millennium Max 500 Package is not part of the Main Membership promotion group domain, the constraints of the promotion group are violated. The Siebel application displays a warning message that the promotion group will be disconnected and penalty charges for both the promotion and the promotion group membership applied. The customer accepts the promotion group disconnect and the penalty charges. The sales representative creates a sales order to delete the Main Membership. Because a membership of the promotion group is being disconnected, the promotion group itself is included in the delete action. The order lines appear as follows:

- Main Membership - Delete
- Millennium Max 1000 Package - Delete
- Millennium Max 500 Package - Add
- Family Package - Delete
- All remaining memberships - Delete

  This is because the promotion group (which includes the memberships) is deleted.
- Penalty Charge - 230.00 prorated

  This is because there is a $200 penalty for cancelling memberships and a $30 penalty for the downgrade, both prorated.

For information about the effects of disconnecting a promotion group, see "Promotion Group Disconnect Reference" on page 458.

Promotion Group Disconnect Reference

This topic describes the internal processes that occur in your Siebel application when promotion groups and their components are disconnected. This topic covers the following subjects:

- Promotion Group Disconnect on page 458
- Membership Disconnect on page 459
- Membership Asset Disconnect on page 460

NOTE: A promotion associated with a promotion group membership cannot be split or merged.

Promotion Group Disconnect

When a promotion group is disconnected, your Siebel application performs the following steps and validations:

1. If a promotion group commitment is broken, then your Siebel application calculates the penalty charge for the promotion group.

2 For each membership,

   a If the Delete Member Asset flag is set to Yes:

      ❑ If the asset is associated with other memberships, then it stops the process and displays a message saying that the asset must be disconnected first.

      ❑ Otherwise, if the asset is a bundled promotion, and if its commitment is broken, then it calculates the bundled promotion penalty charge.

   b If a membership commitment is broken, then it calculates the membership penalty charges.

3 If a commitment has been broken in Step 1 or Step 2, then it displays a warning message.

4 If the user confirms the disconnect action, then it does the following:

   a Creates a new order.

   b Adds the promotion group and its memberships and rewards as line items, each with an Action Code of Delete.

   c For each membership, it does the following:

      ❑ If the Delete Member Asset flag is set to Yes, then it adds the member as a line item with an Action Code of Delete.

      ❑ Otherwise, if the Validate Member Asset flag is set to Yes, then it adds the member as a line item. If a pricing adjustment is defined for the member asset, then the line item has an Action Code of Update.

   d Adds the rolled-up penalty charges with an Action Code of Add.

Membership Disconnect

When a promotion group membership is disconnected, your Siebel application performs the following steps and validations:

1 If a membership commitment is broken, then your Siebel application calculates the penalty charge.

2 If the Delete Member Asset flag is set to Yes:

   ■ If the asset is associated with other memberships, then it stops the process and displays a message saying that the asset must be disconnected first.

   ■ Otherwise, if the asset is a bundled promotion, and if its commitment is broken, then it calculates the bundled promotion penalty charge.

3 If a commitment has been broken in Step 1 or Step 2, then it displays a warning message.

4 If the user confirms the disconnect action, then:

   a Creates a new order.

   b Adds the membership as line item with an Action Code of Delete.

      ❑ If the Delete Member Asset flag is set to Yes, then it adds the member as a line item with an Action Code of Delete.

- Otherwise, the if Validate Member Asset flag is set to Yes, then it adds the member as a line item. If a pricing adjustment is defined for the member asset, then the line item has an Action Code of Update.

c. Adds the rolled-up penalty charges with an Action Code of Add.

Membership Asset Disconnect

When an asset associated with a promotion group membership is disconnected, then your Siebel application performs the following steps and validations:

1. If the asset is a bundled promotion and its commitment is broken, then your Siebel application calculates the penalty charge.
2. For each associated membership, if a commitment is broken, then it calculates the penalty charge.
3. If a commitment has been broken in Step 1 or Step 2, then it displays a warning message.
4. If the user confirms the disconnect action, then it does the following:
   a. Creates a new order.
   b. Adds the asset as a line item with an Action Code of Delete.
   c. If the asset is a bundled promotion, then it adds its components with an Action Code of Delete or Update, depending on how the bundled promotion is set up.
   d. For each associated membership, it adds the membership as a line item with an Action Code of Delete.
5. Adds all the rolled-up penalty charges with an Action Code of Add.
6. If cardinality is violated, then it displays a warning message about a cardinality violation.

Promotion Group Access Control Reference

To control who is entitled to add members to or remove members from a promotion group, product administrators create access control rules when setting up the promotion group definition. Your Siebel application enforces these rules when call center agents add members to or remove members from promotion groups.

Member access right values are summarized in Table 110.

Table 110. Member Access Right Values

Access Right	Defines the Ability to...
Manage Members	Add, disconnect, and modify members in the entire promotion group.
Manage Self	Disconnect and modify one's own membership. Does not include the ability to add oneself to the membership.

Table 110. Member Access Right Values

Access Right	Defines the Ability to...
Add Self	Add oneself to the membership.
Modify Self	Modify one's own membership.
View Members	View the promotion group members.
Disconnect Self	Disconnect oneself from the membership.

At run time, by default, only promotion group owners can manage the memberships. In addition, your Siebel application enforces access control rules as follows:

- The owner, billing, and service accounts of the promotion group have full access rights to the entire promotion group.
- The owner, billing, and service accounts of an asset associated with a membership that has the Manage Members access right have full access rights to the entire promotion group.
- The owner, billing, and service accounts of an asset associated with a membership that has the Manage Self access right can modify and disconnect that membership. However, these accounts cannot perform these actions on other memberships in the promotion group.
- The owner, billing, and service accounts of an asset associated with a membership that has the Modify Self access right can modify that membership.
- A customer can subscribe to the membership of a promotion group if one of the following statements is true:
  - The customer is the holder of the owner, billing, or service account of the promotion group.
  - The customer is the holder of the Owner, Billing, or Service Account of an asset already associated with a membership of that promotion group, with the Manage Members access right.
  - The membership has the Add Self access right.
- The owner, billing, and service accounts of an asset associated with a membership that has the View Members access right can see all members of the promotion group.

The enforcement of access control rules affects the Promotion Groups screen, Restricted Components view and the Accounts screen, Installed Assets view, as described in the topics that follow.

Access Control Rules and the Restricted Components View

In the Promotion Groups screen, Restricted Components view, the access control rules affect the contents of the Components list, the Modify and Disconnect buttons of the Components list, and the Add button of the Promotion Group Definition list.

Components list contents. The Components list displays all membership and reward products of the promotion group only in the following cases:

- The account context is the owner, billing, or service account of the promotion group.

- The account context is the owner, billing, or service account of an asset associated with a membership of the promotion group that has the Manage Members access right.
- The account context is the owner, billing, or service account of an asset associated with a membership of the promotion group that has the View Members access right.

Components list menu options. If the account context is the owner, billing, or service account of the promotion group or of an asset associated with a membership that has the Manage Members access right, then the options are enabled regardless of which list row is selected. If these conditions do not apply, then the state of each option depends on the access rights of the selected row, as follows:

- If the account context of the selected row is the owner, billing, or service account of an asset associated with the selected membership and the membership has the Manage Self access right, then all options are enabled.
- If the account context of the selected row is the owner, billing, or service account of an asset associated with the selected membership and the membership has the Modify Self access right, then the Modify option is enabled.

Promotion Group Definition Add button. If the account context is the owner, billing, or service account of the promotion group or of an asset associated with a membership that has the Manage Members access right, then the Add button is enabled regardless of which list row is selected. If these conditions do not apply, then the Add button is enabled only if the selected membership has the Add Self access right. These facts have the following consequences:

- If the account context is the owner, billing, or service account of an asset associated with a membership that has the Add Self access right, then you can create a new instance of this membership in the same promotion group on behalf of the holder of that account.

  However, the validity of this action is subject to the cardinality and validation rules. These rules are applied when the order that includes the promotion group is processed.
- If the account context does not have a membership in the promotion group, then the holder of that account can subscribe only to a membership that has the Add Self access right. Subscription to other memberships can be granted by the promotion group owner, billing, or service account, or by a member that has the Manage Members access right.

The effects of access control rules on this view are summarized in Table 111, where the cell contents signify the following meanings:

- **All.** All components of a promotion group are displayed.
- **Account.** Only the promotion group components that belong to the current account context are displayed.
- **Enabled.** The object is enabled.

- **Disabled.** The object is disabled.

Table 111. Access Control Rules and the Restricted Components View

UI Object Access Right	Components List	Modify Button	Disconnect Button	Add Button
Promotion Group Owner	All	Enabled	Enabled	Enabled
Manage Members	All	Enabled	Enabled	Enabled
Manage Self	Account	Enabled	Enabled	Disabled
Disconnect Self	Account	Disabled	Enabled	Disabled
Modify Self	Account	Enabled	Disabled	Disabled
Add Self	Account	Disabled	Disabled	Enabled
View Members	All	Disabled	Disabled	Disabled

Access Control Rules and the Installed Assets View

In the Accounts screen, Installed Assets view, whether the Modify and Disconnect buttons are enabled or disabled varies according to the access rights of the selected membership row. The effects of access control rules on this view are summarized in Table 112, where the cell contents signify the following meanings:

- **Enabled.** The option is enabled.
- **Disabled.** The option is disabled.

Table 112. Access Control Rules and the Memberships Subview

Button Access Right	Modify	Disconnect
Promotion Group Owner	Enabled	Enabled
Manage Members	Enabled	Enabled
Manage Self	Enabled	Enabled
Disconnect Self	Disabled	Enabled
Modify Self	Enabled	Disabled
Add Self	Disabled	Disabled
View Members	Disabled	Disabled

7 Task UI Flows

This chapter describes operations that you can perform with the Task UI. It contains the following topics:

- About the Task UI on page 465
- Creating a New Promotion Group Instance on page 465
- Resuming a Paused Task UI Operation on page 469

About the Task UI

Your Siebel application includes several Task UI flows to streamline the process of performing selected activities. These repeatable procedures automatically convey you through a series of screens and views, where you can enter records with fewer decisions and keystrokes than by manually navigating through the individual screens and views.

To enable a Task UI flow to run, you must activate the corresponding object in Siebel Tools. You can customize a Task UI flow so that it runs according to the specific requirements of your company. For information about activating and customizing Task UI flows, see *Siebel Business Process Framework: Task UI Guide*.

Creating a New Promotion Group Instance

This topic describes how to create a promotion group instance for an account with the New Promotion Group Task UI. It covers the following information:

- About Creating a Promotion Group Instance with the Task UI on page 465
- Scenario for Creating a Promotion Group Instance with the Task UI on page 466
- Creating a Promotion Group Instance with the Task UI on page 467

About Creating a Promotion Group Instance with the Task UI

A *promotion group* is an offering that groups existing contracts, assets, or services for shared benefits. A *promotion group definition* acts as the template from which specific promotion groups are generated. Thus, a promotion group is a specific instance of a promotion group definition.

A promotion group *membership* identifies the subscription of a specific asset to a promotion group. Promotion group memberships are generated from a *membership definition*, which defines a type of customer asset that can or must be a member of a promotion group. One or more membership definitions can be associated with a promotion group definition. A *membership domain* defines the products and services that can be associated with a membership.

A promotion group *reward* is a product or promotion that conveys a benefit to promotion group subscribers. Promotion group rewards are generated from a *reward definition*, which is a type of product or promotion that is associated with a promotion group definition as a reward. One or more reward definitions can be associated with a promotion group definition.

A *promotion group subscriber* is a person or entity that owns or controls one or more assets (members) of the promotion group. The subscriber that controls all the assets of a promotion group is known as the *promotion group owner*.

Your Siebel application provides a seeded Task-based User Interface to create a new promotion group from a promotion group definition and subscribe members to that promotion group by associating existing assets with the promotion group memberships. For more information about promotion groups and their components, see "About Promotion Groups" on page 397.

To enable users to run the New Promotion Group Task UI, you must activate the ISS Promotion Group Create Order task in Siebel Tools. For information about working with objects in Siebel Tools, see *Using Siebel Tools*.

Scenario for Creating a Promotion Group Instance with the Task UI

This topic gives one example of how to create a new promotion group for an account with the Task UI application. You might create a promotion group with the Task UI application differently, depending on your business model.

A service representative receives a call from an existing customer who wants to save on monthly charges by grouping the various services and assets that he has ordered over time. The service representative uses the Task UI application to qualify the customer for a promotion group offered by her company by clicking New Promotion Group in the Task UI pane.

In the New Promotion Group Task UI, the service representative first selects a promotion group definition that matches the caller's mix of services and assets and offers appropriate rewards. She generates a promotion group instance from the definition. Next, the service representative associates the existing assets of the caller account with the default (required) memberships of the promotion group. She then associates other existing assets of the caller account with the optional memberships allowed by the promotion group.

Lastly, the service representative submits an order for the new promotion group, with its memberships and rewards constituting the line items of the order.

Creating a Promotion Group Instance with the Task UI

The New Promotion Group Task UI guides you through the process of creating a new promotion group for a caller and selecting existing assets to associate with the promotion group memberships. Cues on the Task UI screens suggest questions to ask the caller while you are creating the promotion group and selecting the assets. To create a promotion group and associated assets with the New Promotion Group Task UI, follow this procedure.

CAUTION: You cannot create assets from within the New Promotion Group Task UI. You can use only those assets that are already associated with the caller's account. Therefore, before performing this procedure, you must verify or create all assets for the caller account that will be necessary for the new promotion group.

To create a promotion group instance with the Task UI

1 Access the New Promotion Group Task UI by performing these steps:

   a Navigate to the Accounts screen, then the Account List view.

   b Click the Tasks icon.

   c In the Tasks pane on the left side of the view, click the New Promotion Group Task UI link.

      The New Promotion Group Task UI is started and the Select Promotion Group view appears. This view enables users to select a promotion group definition from which to create a new promotion group instance.

2 In the Select Promotion Group view, perform the following actions:

   a In the Promotion Groups list, view the promotion group definitions to determine which one to use to create the new promotion group instance.

      The Promotion Group Definition list displays the membership definitions and reward definitions that are associated with each selected promotion group definition.

      When a membership definition is selected in Promotion Group Definition list, the Membership Domain list displays the products that are eligible to be defined for the selected membership. When a reward definition is selected in the Promotion Group Definition list, the Membership Domain list is empty.

   b In the Promotion Groups list, select the promotion group definition from which to create the new promotion group instance.

   c Click Next.

      A new promotion group instance is created from the selected promotion group definition. The Add Default Members view appears. This view enables users to associate existing assets with the default memberships of the promotion group.

      In the Add Default Members view, the Promotion Group list displays the default memberships and reward products of the new promotion group instance that has been created from the promotion group definition.

NOTE: On any screen of the Task UI, you can stop the operation and return later to complete it. For more information, see "Resuming a Paused Task UI Operation" on page 469.

3 In the Add Default Members view, perform the following actions:

a In the Account field, select an account with which to associate the promotion group, and click Go.

The Assets list is populated with the assets that are owned by the selected account and that match the membership domain of the membership selected in the Promotion Group list. An exclamation point (!) in each row signifies that the membership has not yet been linked to an asset.

b Select a membership in the Promotion Group list, select an asset in the Assets list to link with that membership, and click Associate.

When the selected membership is associated with an asset, that membership becomes a member of the promotion group and appears in the Members list. The exclamation point (!) for the membership in the Promotion Group list that has been associated with an asset disappears.

c Repeat Step b for each membership in the Promotion Group list from which you want to create a member.

d Click Next.

The Add Optional Members view appears. This view enables users to add additional, optional memberships and associate them with existing assets.

In the Add Optional Members view, the Promotion Group Definition list displays the content of the promotion group instance, in other words, its list of memberships and reward products, along with the cardinality information for each item. Some fields are displayed in the following table.

Field	Comments
Min	Minimum number of associated memberships that the customer must buy to qualify for this promotion.
Max	Maximum number of associated memberships that the customer can buy to get the discount for this promotion.
#	Quantity of memberships included in the promotion group. Initially, this number is the default quantity from the promotion group definition.

At this stage, the Members list contains all the mandatory members that you added in Step 3.

4 In the Add Optional Members view, perform the following actions:

a To create an additional membership and associate it with an existing asset, select a membership in the Promotion Group Definition list, select an asset in the Assets list to link with that membership, and click Associate.

The selected membership becomes an additional member of the promotion group and appears in the Members list. The quantity of the membership in the Promotion Group Definition list is incremented by 1.

b Repeat Step a for each membership in the Promotion Group Definition list from which you want to create an optional member.

c Click Next.

The Submit Order view appears.

5 In the Submit Order view, perform the following actions:

a In the Account Information form, view the information about the account you selected when creating the promotion group.

b In the Order list, view the order lines generated as a result of creating the promotion group, its product rewards, its memberships, and the associated assets for those memberships.

If an error appears in the account information or the order lines, then click Previous one or more times to go back to the appropriate view, correct the error, and then click Next one or more times to return to this view.

c Click Next.

The order for the new promotion group is submitted.

Resuming a Paused Task UI Operation

On any Task UI screen, you can stop the operation that you are working on and return later to complete it.

NOTE: You cannot pause tasks within Siebel Configurator. After completing a Configurator session, your Siebel application returns control to the Task UI, where the task can be paused.

To resume a paused Task UI operation

1 On any view of a Task UI operation that you want to save and exit before it is completed, click Pause.

Your Siebel application saves the incomplete operation to your Inbox.

2 When you are ready to continue the operation, navigate to the Inbox screen, then the Inbox Items List view.

3 In the Inbox Items list, find the Task UI operation that you want to resume, and click the link in the Name field.

The Task UI view where you paused is redisplayed. The data that you entered and the objects that you created previously are saved intact.

4 Continue the Task UI operation where it was paused before.

8 Workflows for Promotion Groups

This chapter describes the workflows for promotion groups functionality that are specific to Siebel Order Management for Industry Applications. It includes the following topics:

- About Workflows for Promotion Groups on page 471
- Workflows That Process Promotion Group Assets on page 471
- Workflow That Modifies the Promotion Group on page 484
- Workflows That Verify Product Compatibility on page 485
- Workflows That Process Compatibility Rules on page 493
- Workflows That Process Agreements on page 499
- Workflows That Validate Quotes and Orders on page 504
- Workflows That Calculate Promotion Group Pricing on page 510

About Workflows for Promotion Groups

This chapter describes the workflows for employee asset-based ordering that is specific to industry applications, as applied to promotion groups functionality. This chapter supplements the information about workflows for employee asset-based ordering in Chapter 5, "Workflows for Employee Asset-Based Ordering" and in *Siebel Order Management Guide*.

Each subtopic in this chapter describes one workflow process. If you cannot see all of the detail in some of the larger workflow diagrams in this chapter, then you can view these workflows in Siebel Tools to see a clearer image.

Many of the processes and subprocesses use business service methods that are specific to Siebel Order Management. The descriptions of workflows include tables listing the names of any methods the workflows call. For information about these methods, see *Siebel Order Management Infrastructure Guide*.

Workflows That Process Promotion Group Assets

This group of workflows processes promotion group assets. It includes the following workflow processes:

- "ISS Promotion Group Asset List Sub Process Workflow" on page 472
- "ISS Promotion Group Associate Member Sub Process Workflow" on page 472
- "ISS Promotion Group Associated Member Sub Process Workflow" on page 474

- "ISS Promotion Group Membership Disconnect Process Workflow" on page 475
- "ISS Promotion Group Disconnect Process Workflow" on page 479

ISS Promotion Group Asset List Sub Process Workflow

This workflow gets the list of assets that can be associated with the membership product. The workflow gets this list by querying the Projected Asset Cache (PAC). It is called when the user selects a membership line item in the Promotion Group Details view of a quote or order.

Figure 145 shows this workflow.

Figure 145.ISS Promotion Group Asset List Sub Process Workflow

Workflow Description. This workflow performs the following action:

- **Retrieve List of Member Asset**. This step gets the list of member assets that can be associated with the membership product using the PAC query.

Table 113 shows the step in this workflow that call business service methods.

Table 113. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Retrieve List of Member Asset	Retrieve	VORD Projected Asset Cache

ISS Promotion Group Associate Member Sub Process Workflow

This workflow adds an associated member asset as a new line item in the active order or quote. If the member asset does not exist in the active order or quote, then the member asset is added to the active order or quote. If the member asset is a promotion, then the promotion components are added to the order or quote if they do not exist in the active order or quote. This workflow is called when the user associates a member asset with the membership product and the Validate Member Flag field of that membership product has a Y value.

Figure 146 shows this workflow.

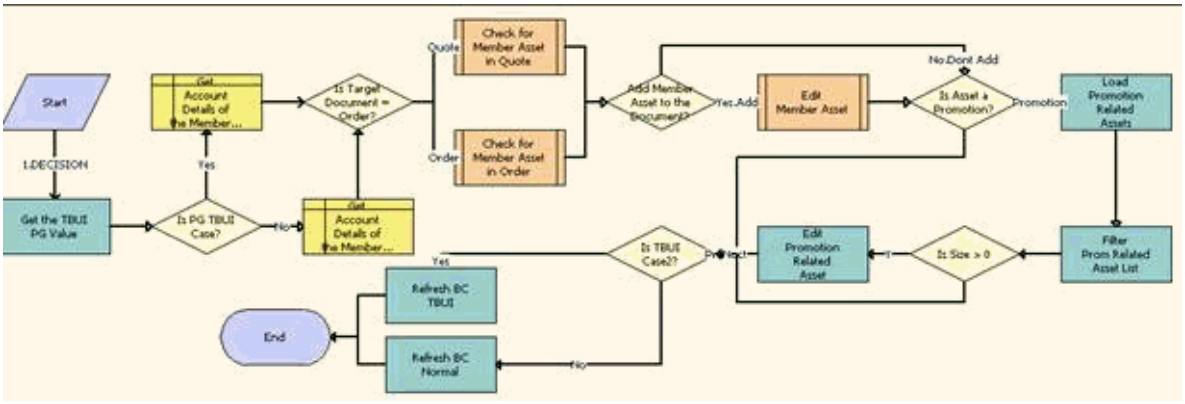

Figure 146.ISS Promotion Group Associate Member Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get the TBUI PG Value.** This step gets the Is PG TBUI Case profile attribute.
2. **Is PG TBUI Case?** This step checks for the value in the Is PG TBUI profile attribute to determine whether processing applies to a task-based user interface.
3. **Get Account Details of the Member Asset in TBUI Case.** This step gets the account details when processing applies to a task-based user interface.
4. **Get Account Details of the Member Asset in Normal Case.** This step gets the account details when processing does not apply to a task-based user interface
5. **Is Target Document = Order?** This step checks for the value of the target order or quote.
6. **Check for Member Asset in Quote**. If the target is a quote, then this step calls the ISS Promotion Check Quote Item Sub Process workflow to check whether the member asset associated with the membership product already exists in the active quote.
7. **Check for Member Asset in Order**. If the target is an order, then this step calls the ISS Promotion Check Order Item Sub Process workflow to check whether the member asset associated with the membership product already exists in the active order.
8. **Add Member Asset to the Document?** This step checks whether the member asset will be brought into the active quote or order.
9. **Edit Member Asset**. This step calls the ISS Promotion Check Order Item Sub Process workflow to bring the member asset into the active quote or order. This step is called if the member asset does not already exist in the active quote or order.
10. **Is Asset a Promotion?** This step checks the product type of the member asset.
11. **Load Promotion Related Assets**. This step loads the asset that is related to a promotion into a list. This step is called if the Product Type value of the member asset is Promotion.

12 **Filter Prom Related Asset List**. In the active quote or order, this step filters the asset list created in Step 11. If the asset is found in the active quote or order, then the asset is removed from the list.

13 **Is Size > 0.** This step checks the size of the filtered asset list.

14 **Edit Promotion Related Asset.** If the size of the filtered asset list is greater than zero, then this step calls the SIS OM Edit Complex Asset workflow for each asset in the filtered asset list.

15 **Is PG TBUI Case?** This step checks for the value in the Is PG TBUI profile attribute to determine whether processing applies to a task-based user interface.

16 **Refresh BC TBUI.** This step refreshes the business component for the Order Entry line item when processing applies to a task-based user interface.

17 **Refresh BC Normal.** This step refreshes business component for the Quote Item or Order Entry line item when processing does not apply to a task-based user interface. The refresh action is based on the values contained in the target quote or order.

Table 114 shows the steps in this workflow that call business service methods.

Table 114. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Load Promotion Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service
Filter Prom Related Asset List	FilterListByActiveDoc	ISS Promotion Management Service
Edit Promotion Related Asset	Iterate Process For Selected Rows	SIS OM PMT Service

ISS Promotion Group Associated Member Sub Process Workflow

This workflow is used to get the details of the member asset associated with the membership product by querying the Projected Asset Cache (PAC). This workflow is called when the user selects a membership line item in the Promotion Group Details view of a quote or order.

Figure 147 shows this workflow.

Figure 147.ISS Promotion Group Associated Member Sub Process Workflow

Workflow Description. This workflow performs the following action:

- **Retrieve List of Member Asset**. This step uses a PAC query to get the details of the member asset that is associated with the membership product.

Table 115 shows the steps in this workflow that call business service methods.

Table 115. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Retrieve List of Member Asset	Retrieve	VORD Projected Asset Cache

ISS Promotion Group Membership Disconnect Process Workflow

This workflow is used to disconnect a membership asset and the associated member asset if the Delete Member Flag field has a Y value. This workflow is called when the user disconnects any membership asset.

Figure 148 shows this workflow.

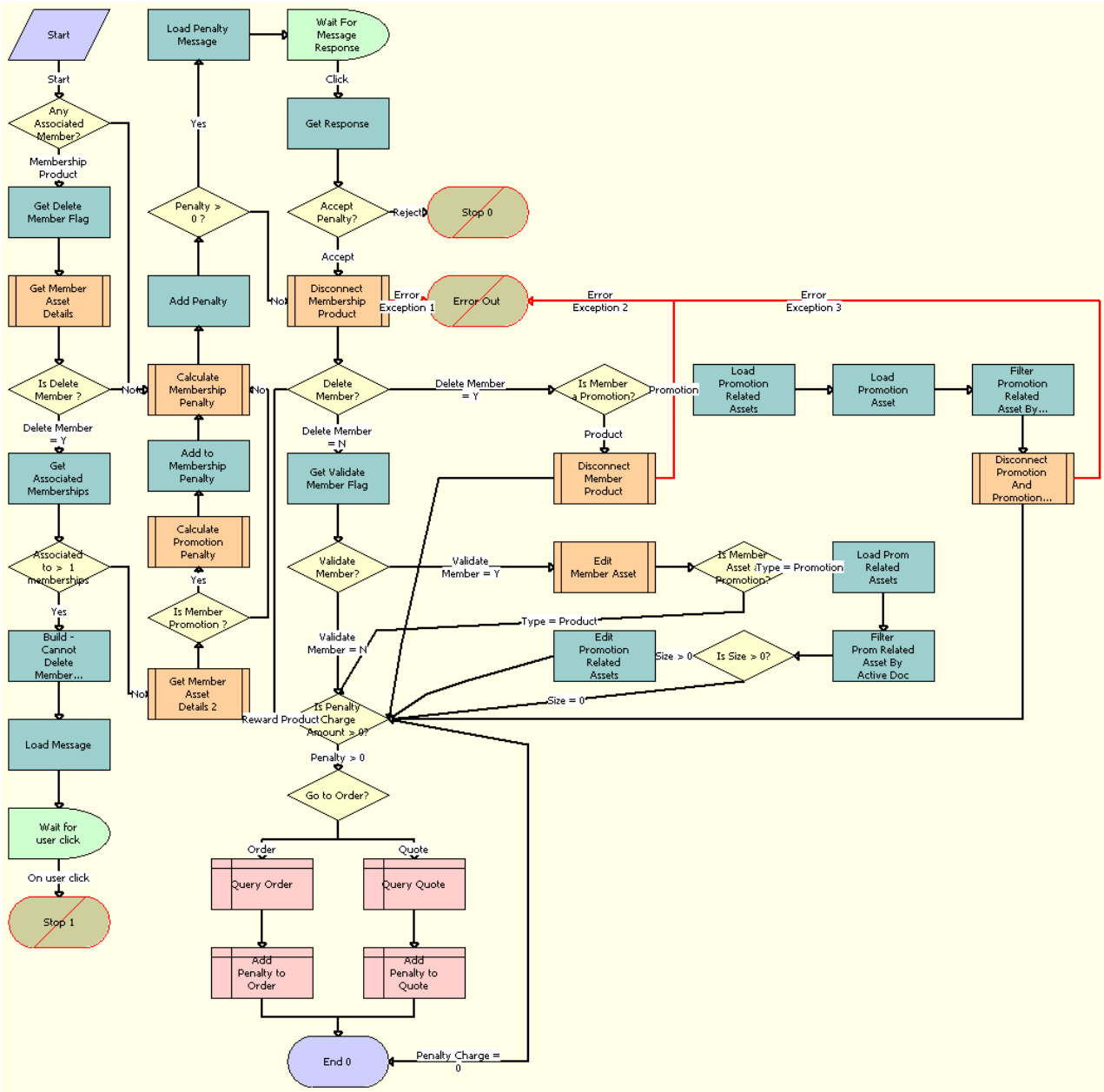

Figure 148.ISS Promotion Group Membership Disconnect Process Workflow

Workflow Description. This workflow performs the following actions:

1 **Any Associated Member?** This step checks the Integration Id value of the member asset.

2 **Get Delete Member Flag.** This step gets the Delete Member Flag field value from the selected membership product. This step is called if the value of the member asset Integration Id is not null.

3 **Get Member Asset Details.** This step gets the Product Type value of the asset associated with the membership.

4 **Is Delete Member?** This step checks the Delete Member flag value of the membership product.

5 **Get Associated Memberships.** This step gets the count and the list of membership assets associated with the member asset. The member asset is associated with the selected membership product for deletion. This step is called if the Delete Member flag in the membership product has a Y value.

6 **Associated to > 1 memberships.** This step checks the number of the membership assets associated with a member asset.

7 **Build - Cannot Delete Member Message.** This step creates a warning message indicating that the member asset cannot be disconnected because it is associated with more than one membership asset. This step is called if the member asset is associated with more than one membership asset.

8 **Load Message.** This step loads the user warning message.

9 **Wait for user click.** This step waits for the user response to the warning message.

10 **Get Product Type of Member Asset 2.** This step gets the Product Type value of the asset associated with the membership.

11 **Is Member Promotion?** This step checks for the product type of the member asset.

12 **Calculate Promotion Penalty.** This step calls the ISS Promotion Calculate Promotion Penalty Charges SubProcess workflow to calculate the penalty for the promotion and its components. This step is called if the Product Type value in the member asset is Promotion.

13 **Add to Membership Penalty.** This step adds the promotion penalty charge to the total penalty charge.

14 **Calculate Membership Penalty.** This step calls the ISS Promotion Group Check Commitment Sub Process workflow to calculate the membership asset penalty charge.

15 **Add Penalty.** This step adds the membership penalty charge to the total penalty charge.

16 **Penalty > 0?** This step checks the value of the total penalty charge.

17 **Load Penalty Message.** This step loads the user penalty warning message. This step is called if the Total Penalty Charge value is greater than zero.

18 **Wait For Message Response.** This step waits for the user response to the penalty warning message.

19 **Get Response.** This step gets the user response to the penalty warning message.

20 **Accept Penalty?** This step checks the Total Penalty Charge value.

21 **Disconnect Membership Product.** This step calls the SIS OM Disconnect Asset Sub-process workflow to disconnect the membership product.

22 **Delete Member?** This step checks the Delete Member flag value in the membership product.

23 **Is Member a Promotion?** This step checks the Product Type value in the member asset. This step is called if the Delete Member flag field has a Y value.

24 **Load Promotion Related Assets.** This step loads the assets related to a promotion into a list. This step is called if the Product Type value in the member asset is Promotion.

25 **Load Promotion Asset.** This step loads the promotion asset into a list.

26 **Filter Promotion Related Asset By Active Doc.** This step filters the asset list from Step 24 with the current quote or order. If the asset is found in the current quote or order, then it is removed from the list.

27 **Disconnect Promotion And Promotion Related Assets.** This step calls the ISS Promotion Disconnect Process workflow to disconnect the promotion and its related assets.

28 **Disconnect Member Product.** This step calls the SIS OM Disconnect Asset Sub-process workflow to disconnect the member product. This step is called if the Product Type value in the member asset is Product.

29 **Get Validate Member Flag.** This step gets the Validate Member flag value in the membership product. This step is called if the Delete Member flag field has an N value.

30 **Validate Member?** This step checks for the Validate Member flag value in the membership product.

31 **Edit Member Asset.** This step calls the SIS OM Edit Complex Asset Workflow to bring the member asset to the active quote or order. This step is called if the Validate Member flag field has a Y value.

32 **Is Member Asset a Promotion?** This step checks for the Product Type value in the member asset.

33 **Load Prom Related Assets.** This step loads the assets related to a promotion into a list. This step is called if the Product Type value in the member asset is Promotion.

34 **Filter Prom Related Asset By Active Doc.** This step filters the asset list from Step 33 with the current quote or order. If the asset is found in the current quote or order, then it is removed from the list.

35 **Is Size > 0?** This step checks the size of the filtered asset list.

36 **Edit Promotion Related Assets.** This step calls the SIS OM Edit Complex Asset Workflow for each asset listed in the filtered asset list. This step is called if the size of the filtered asset list is greater than zero.

37 **Is Penalty Charge Amount > 0?** This step checks the total penalty charge value.

38 **Go to Order?** This step checks the value of the target quote or order. This step is called if the value of the total penalty charge is greater than zero.

39 **Query Order.** This step queries the active quote. This step is called if the target is Order.

40 **Add Penalty to Order**. This step adds the penalty product to the active order.

41 **Query Quote.** This step queries the active quote. This step is called if the target is Quote.

42 **Add Penalty to Quote.** This step adds the penalty product to the active quote.

Table 116 shows the steps in this workflow that call business service methods.

Table 116. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Delete Member Flag	GetMembershipRuleSettings	ISS Promotion Group Management Service
Get Associated Memberships	CollectListOfMemberships	ISS Promotion Group Management Service
Build - Cannot Delete Member Message	Echo	Workflow Utilities
Load Message	UpdateMessages	Unified Messaging Service
Add to Membership Penalty	Echo	Workflow Utilities
Add Penalty	Echo	Workflow Utilities
Load Penalty Message	LoadMessage	ISS Promotion Management Service
Get Response	GetResponseType	ISS Promotion Management Service
Load Promotion Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service
Load Promotion Asset	LoadPromAsset	ISS Promotion Management Service
Filter Promotion Related Asset By Active Doc	FilterListByActiveDoc	ISS Promotion Management Service
Get Validate Member Flag	GetMembershipRuleSettings	ISS Promotion Group Management Service
Load Prom Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service
Filter Prom Related Asset By Active Doc	FilterListByActiveDoc	Filter Prom Related Asset By Active Doc
Edit Promotion Related Assets	Iterate Process For Selected Rows	SIS OM PMT Service

ISS Promotion Group Disconnect Process Workflow

This workflow is used to disconnect a promotion group and all its memberships. It is called when the user selects a promotion group in the Installed Assets screen and clicks the Disconnect button.

Figure 149 shows this workflow.

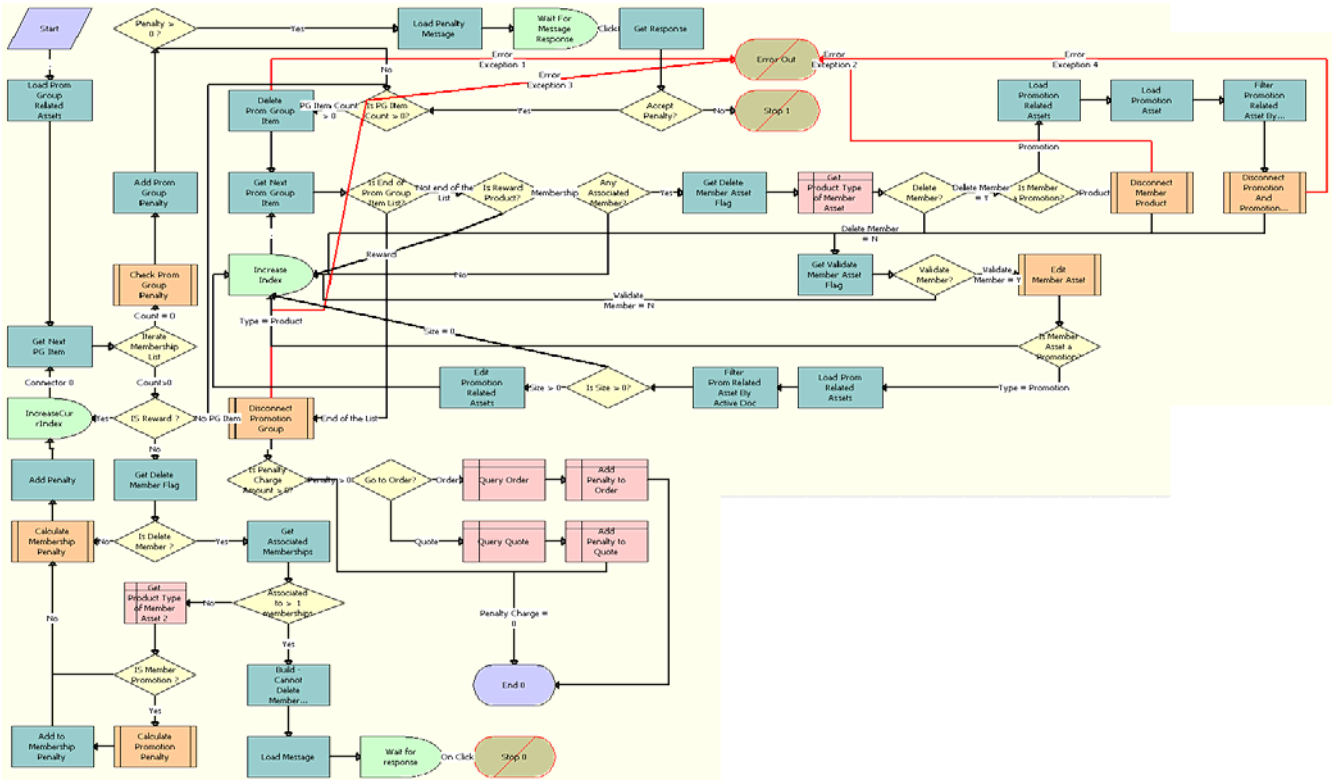

Figure 149.ISS Promotion Group Disconnect Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Load Prom Group Related Assets.** This step gets the list of promotion group memberships and rewards.
2. **Get Next PG Item.** This step iterates through the list of promotion group items.
3. **IS Reward?** This step checks whether the promotion group item is a reward.
4. **Get Delete Member Flag.** This step checks whether the Delete Member flag is selected for the membership.
5. **Is Delete Member?** This step checks the Delete Member flag value of the membership product.
6. **Get Associated Memberships.** This step gets all the associated memberships for this asset if the Delete Member flag has a Y value.
7. **Associated to > 1 Membership.** This step checks whether the asset is associated with more than one membership.
8. **Build - Cannot Delete Member Message.** This step creates a message to indicate that the asset cannot be disconnected if the asset is associated with more than one membership.
9. **Load Message.** This step loads the message from Step 8 in the UMF applet.

10 **Wait for response.** This step waits for the user response to the warning message.

11 **Get Product Type of Member Asset 2.** This step gets the Product Type value of the asset associated with the membership.

12 **Is Member Promotion?** This step checks for the product type of the member asset.

13 **Calculate Promotion Penalty.** This step calculates the penalty if the member asset is a promotion.

14 **Add to Membership Penalty.** This step adds the promotion penalty charge to the total penalty charge.

15 **Calculate Membership Penalty.** This step calculates the penalty for membership

16 **Add Penalty.** This step adds all the penalties for disconnecting the membership.

17 **Add Prom Group Penalty.** This step adds the penalty to the promotion group.

18 **Penalty > 0.** This step checks whether the penalty is greater than zero.

19 **Load Penalty Message.** This step loads the penalty message in the UMF applet.

20 **Wait For Message Response.** This step waits for the user response to the penalty warning message.

21 **Get Response.** This step gets the accept or reject response for the penalty message.

22 **Accept Penalty?** This step checks the Total Penalty Charge value.

23 **Is PG Item Count > 0.** This step determines whether the number of Promotion Group items is greater than 0.

24 **Delete Promotion Group Item.** This step deletes the membership or reward Promotion Group item.

25 **Get Next Promotion Group Item.** This step gets the next Promotion Group item, either a membership or reward from the list.

26 **Is End Of Promotion Group Item List?** This step checks whether the Promotion Group Item list is empty.

27 **Is Reward Product?** This step checks whether the Promotion Group item is a reward.

28 **Any Associated Member?** This step checks whether the membership has associated member assets.

29 **Get Delete Member Asset Flag.** This step checks whether the Delete Member flag is selected for a membership.

30 **Get Product Type of Member Asset.** This step gets the Product Type value of the asset associated with the membership.

31 **Delete Member?** This step checks whether the Delete Member flag is selected for a membership.

32 **Is Member Promotion?** This step checks whether the associated member asset is a promotion.

33 **Disconnect Member Product.** This step disconnects the member asset.

34 **Load Promotion Related Assets.** This step loads the promotion related assets if the promotion is the member asset.

35 **Load the Promotion Asset.** This step loads the promotion asset if the promotion is the member asset.

36 **Filter Promotion Related Asset By Active Doc.** This step filters the asset list from Step 34 with the current quote or order. If the asset is found in the current quote or order, then it is removed from the list.

37 **Disconnect Promotion and Promotion related Assets.** This step disconnects the promotion and its related assets.

38 **Get Validate Member Asset Flag.** This step verifies if the Validate Member flag is selected for the membership.

39 **Validate Member?** This step verifies if the Validate Member flag is selected.

40 **Edit Member Asset.** This step edits the member asset.

41 **Is Asset a Promotion?** This step checks whether the member asset is a promotion.

42 **Load Prom Related Assets.** This step loads the promotion related assets if the promotion is the member asset.

43 **Filter Prom Related Asset By Active Doc.** This step filters the asset list from Step 42 with the current quote or order. If the asset is found in the current quote or order, then it is removed from the list.

44 **Is Size > 0?** This step checks the size of the filtered asset list.

45 **Edit Promotion Related Assets.** This step brings the promotion related assets to the quote or order.

46 **Is Penalty Charge Amount > 0?** This step checks the total penalty charge value.

47 **Go to Order?** This step checks the value of the target quote or order. This step is called if the value of the total penalty charge is greater than zero.

48 **Query Order.** This step gets the active order.

49 **Query Quote.** This step gets the active quote.

50 **Add Penalty to Order.** This step adds the penalty item to an order.

51 **Add Penalty to Quote.** This step adds the penalty item to a quote.

Table 117 shows the steps in this workflow that call business service methods.

Table 117. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Load Prom Group Related Assets	LoadPromGroupRelatedAssets	ISS Promotion Group Management Service
Get Next PG Item	GetPGItemFromList	ISS Promotion Group Management Service
Add Penalty	Echo	Workflow Utilities

Table 117. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Add to Membership Penalty	Echo	Workflow Utilities
Add Prom Group Penalty	Echo	Workflow Utilities
Get Delete Member Flag	GetMembershipRuleSettings	ISS Promotion Group Management Service
Delete Prom Group Item	Iterate Process For Selected Rows	SIS OM PMT Service
Get Next Prom Group Item	GetPGItemFromList	ISS Promotion Group Management Service
Get Associated Memberships	CollectListOfMemberships	ISS Promotion Group Management Service
Build - Cannot Delete Member Message	Echo	Workflow Utilities
Load Message	UpdateMessages	Unified Messaging Service
Load Penalty Message	LoadMessage	ISS Promotion Management Service
Edit Promotion Related Assets	Iterate Process For Selected Rows	SIS OM PMT Service
Get Response	GetResponseType	ISS Promotion Management Service
Get Delete Member Asset Flag	GetMembershipRuleSettings	ISS Promotion Group Management Service
Get Validate Member Asset Flag	GetMembershipRuleSettings	ISS Promotion Group Management Service
Filter Prom Related Asset By Active Doc	FilterListByActiveDoc	ISS Promotion Management Service
Load Prom Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service
Load Promotion Related Assets	LoadPromRelatedAssets	ISS Promotion Management Service
Load Promotion Asset	LoadPromAsset	ISS Promotion Management Service
Filter Promotion Related Asset By Active Doc	FilterListByActiveDoc	ISS Promotion Management Service

Workflow That Modifies the Promotion Group

This workflow modifies promotion groups. It includes one workflow process, "ISS Modify Promotion Group Workflow" on page 484.

ISS Modify Promotion Group Workflow

This workflow is used to modify promotion groups. It is called when the user selects a membership in the Promotion Group Management view and clicks the Add button.

Figure 150 shows this workflow.

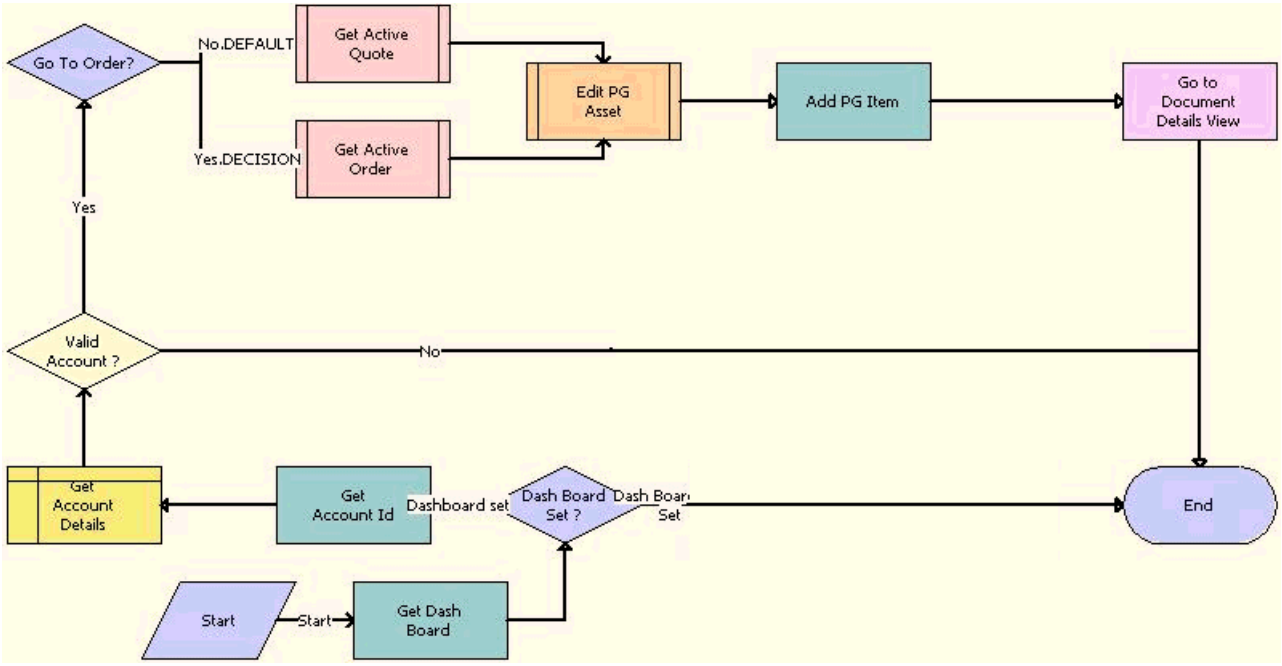

Figure 150.ISS Modify Promotion Group Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Dash Board.** This step gets the customer dashboard.
2. **Dash Board Set?** This step checks whether the customer dashboard is set.
3. **Get Account Id.** This step gets the account ID from the customer dashboard.
4. **Get Account Details.** This step gets the account details.
5. **Valid Account?** This step checks whether the account set in the customer dashboard is a valid account.

6 **Go To Order?** This step determines whether to go to the active order.

7 **Get Active Quote.** This step gets the active quote.

8 **Get Active Order.** This step gets the active order.

9 **Edit PG Asset.** This step edits the promotion group asset.

10 **Add PG Item.** This step adds the promotion group item, either a membership or reward, to the order or quote.

11 **Go to Document Details View.** This step navigates to the quote or order.

Table 118 shows the steps in this workflow that call business service methods.

Table 118. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Add PG Item	AddPromotionGroupItem	ISS Promotion Group Management Service
Get Account Id	GetCurrentContactId	Persistent Customer Dashboard
Get Dash Board	IsDashboardOn	Persistent Customer Dashboard
Add PG Item	AddPromotionGroupItem	ISS Promotion Group Management Service

Workflows That Verify Product Compatibility

This group of workflows verifies the compatibility of all the products in a quote or order. It includes the following workflow processes:

- "Product Compatibility - Default Workflow" on page 485
- "Product Compatibility - Exclude Rules SubProcess Workflow" on page 487
- "Product Compatibility - Require Rules SubProcess Workflow" on page 490

Product Compatibility - Default Workflow

This workflow determines the required and excluded products, promotions, or promotion groups based on compatibility rules set up in the administration views. The workflow takes a row set of products, promotions, or promotion groups and flags each row with compatibility status and with a comment detailing related products that are either required or excluded.

Figure 151 shows this workflow.

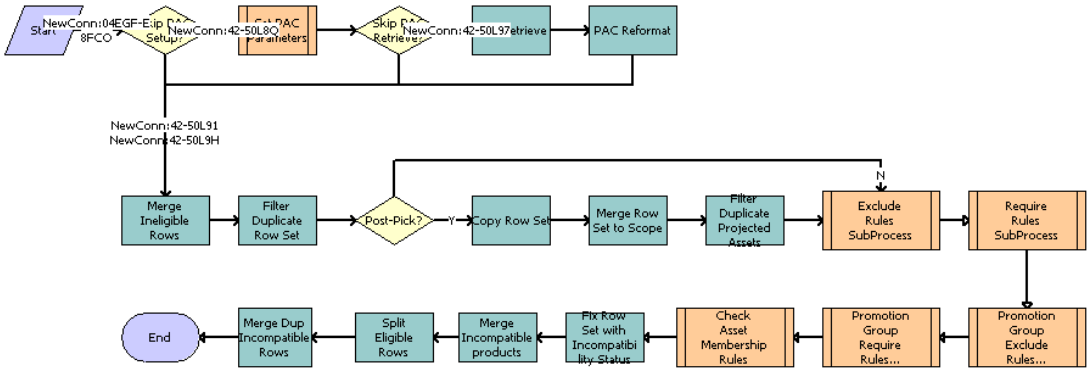

Figure 151.Product Compatibility - Default Workflow

Workflow Description. This workflow performs the following actions:

1. **Skip PAC Setup?** This step determines whether the projected asset cache (PAC) setup will be skipped.
2. **Set PAC Parameters.** This step calls the Product Compatibility - Set PAC Parameters workflow.
3. **Skip PAC Retrieve?** This step determines whether the retrieve step of the PAC will be skipped.
4. **PAC Retrieve.** This step calls the retrieve step of the PAC.
5. **PAC Reformat.** This step reformats the PAC output row set.
6. **Merge Ineligible Rows.** This step merges the input arguments from the row set and ineligible row set.
7. **Filter Duplicate Row Set.** This step filters and removes any duplicate products in the row set.
8. **Post-Pick?** This step determines whether the workflow is run in post-pick mode, which means a record has been added to the quote or order, and therefore all validations will be run on the record.
9. **Copy Row Set.** This step makes a copy of the unique row set created in the Filter Duplicate Row Set step.
10. **Merge Row Set to Scope.** This step merges the row sets to form the scope row sets. The scope row set is all the products that the input row set will be checking the compatibility rules against.
11. **Filter Duplicate Projected Assets.** This step filters any duplicate products in the projected assets row set.
12. **Exclude Rules SubProcess.** This step calls the Product Compatibility - Exclude Rules SubProcess workflow.
13. **Require Rules SubProcess.** This step calls the Product Compatibility - Require Rules SubProcess workflow.
14. **Promotion Group Exclude Rules SubProcess.** This step calls the ISS Promotion Group Compatibility - Exclude Rules SubProcess workflow.

15 **Promotion Group Require Rules SubProcess.** This step calls the ISS Promotion Group Compatibility - Require Rules SubProcess workflow.

16 **Check Asset Membership Rules.** This step calls the ISS Promotion Asset Membership Compatibility Workflow.

17 **Fix Row Set with Incompatibility Status.** This step removes from the row set all the rows that exist in the incompatible row set.

18 **Merge Incompatible products.** This step merges the incompatible row set with the row set.

19 **Split Eligible Rows.** This step splits the rows with compatibility violations from the row set and adds them to the ineligible row set. The Ineligible Row Set now contains a row set of all the products that have eligibility violations or compatibility violations.

20 **Merge Dup Incompatible Rows.** This step merges the Incompatible Row Set with the Row Set.

Table 119 shows the steps in this workflow that call business service methods.

Table 119. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
PAC Retrieve	Retrieve	VORD Projected Asset Cache
PAC Reformat	Conditional Action Transform	Row Set Transformation Toolkit
Merge Ineligible Rows	Merge Transform	Row Set Transformation Toolkit
Filter Duplicate Row Set	Filter Duplicate Row Set	Row Set Transformation Toolkit
Copy Row Set	CopyInput	ISS Compatibility Multi-Popup Service
Merge Row Set to Scope	Merge Transform	Row Set Transformation Toolkit
Filter Duplicate Projected Assets	Aggregate Transform	Row Set Transformation Toolkit
Fix Row Set with Incompatibility Status	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Incompatible products	Merge Transform	Row Set Transformation Toolkit
Split Eligible Rows	Split Transform	Row Set Transformation Toolkit
Merge Dup Incompatible Rows	Merge Ineligible Rows	ISS Promotion Group Validation Service

Product Compatibility - Exclude Rules SubProcess Workflow

This workflow checks product compatibility, using the exclude rules.

Figure 152 shows this workflow.

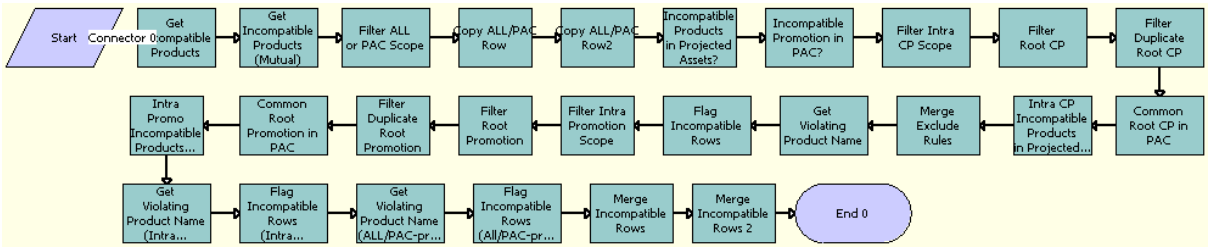

Figure 152.Product Compatibility - Exclude Rules SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Incompatible Products.** This step loads the A-Excludes-B rules for the products.
2. **Get Incompatible Products (Mutual).** This step loads the B-Excludes-A rules for the products.
3. **Filter ALL or PAC Scope.** This step filters ALL or Projected Asset Cache (PAC) Scope from the compatibility rules.
4. **Copy ALL/PAC Row.** This step makes a copy of the ALL/PAC row.
5. **Copy ALL/PAC Row2.** This step makes a different copy of the ALL/PAC row.
6. **Incompatible Products in Projected Assets.** This step joins the excluded products list to the projected assets and keeps any rule that is broken.
7. **Incompatible Promotion in PAC.** This step joins the excluded promotions list to the projected assets and keeps any rule that is broken.
8. **Filter Intra CP Scope.** This step filters the Intra Customizable Product Scope from the compatibility rules.
9. **Filter Root CP.** This step filters the row set that shares the customizable product root.
10. **Filter Duplicate Root CP.** This step removes any duplicate row set from Step 8.
11. **Common Root CP in PAC.** This step generates a new row set of items that share the customizable product common root in the projected asset cache.
12. **Intra CP Incompatible Products in Projected Assets?** This step joins the excluded intra-customizable products list to the projected assets and keeps any rule that is broken.
13. **Merge Exclude Rules.** This step merges All/PAC Scope violations with Intra-CP Scope violations.
14. **Get Violating Product Name.** This step gets the product name for all excluded products in the Intra-CP Scope check.
15. **Flag Incompatible Rows.** This step flags rows in the row set with Status and Comment for incompatibilities found in the previous step.
16. **Filter Intra Promotion Scope.** This step filters Intra Customizable Product Scope from the compatibility rules.

17 **Filter Root Promotion.** This step filters the row set that shares the same root promotion instance.

18 **Filter Duplicate Root Promotion.** This step removes any duplicate row set from the previous step.

19 **Common Root Promotion in PAC.** This step generates a new row set of items that share the common root promotion instance in the PAC.

20 **Intra Promo Incompatible Products in Projected Assets?** This step joins the excluded intra-promotion products list to the projected assets and keeps any rule that is broken.

21 **Get Violating Product Name (Intra Promo).** This step gets the product name for all excluded products in the Intra-Promotion Scope check.

22 **Flag Incompatible Rows (Intra Promo).** This step flags any products that are incompatible with one of the projected assets.

23 **Get Violating Product Name (ALL/PAC-promo).** This step gets the product name for all excluded products in the All/PAC Scope check and that are associated with a promotion instance.

24 **Flag Incompatible Rows (All/PAC-promo).** This step flags any products that are incompatible with one of the projected assets.

25 **Merge Incompatible Rows.** This step merges the Intra-Promotion Scope violations with previous violations.

26 **Merge Incompatible Rows 2.** This step merges All/Pac Scope and promotion instance violations with previous violations.

Table 120 shows the steps in this workflow that call business service methods.

Table 120. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Incompatible Products	Simple Look-Up Transform	Row Set Transformation Toolkit
Get Incompatible Products (Mutual)	Simple Look-Up Transform	Row Set Transformation Toolkit
Filter ALL or PAC Scope	Split Transform	Row Set Transformation Toolkit
Copy ALL/PAC Row	Echo	Workflow Utilities
Copy ALL/PAC Row2	Echo	Workflow Utilities
Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Incompatible Promotion in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Intra CP Scope	Split Transform	Row Set Transformation Toolkit
Filter Root CP	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Root CP	Aggregate Transform	Row Set Transformation Toolkit
Common Root CP in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit

Table 120. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Intra CP Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Exclude Rules	Merge Transform	Row Set Transformation Toolkit
Get Violating Product Name	Simple Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Intra Promotion Scope	Split Transform	Row Set Transformation Toolkit
Filter Root Promotion	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Root Promotion	Aggregate Transform	Row Set Transformation Toolkit
Common Root Promotion in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Intra Promo Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get Violating Product Name (Intra Promo)	Simple Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows (Intra Promo)	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get Violating Product Name (ALL/PAC-promo)	Simple Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows (All/PAC-promo)	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Incompatible Rows	Merge Transform	Row Set Transformation Toolkit
Merge Incompatible Rows 2	Merge Transform	Row Set Transformation Toolkit

Product Compatibility - Require Rules SubProcess Workflow

This workflow checks product compatibility, using the require rules.

Figure 153 shows this workflow.

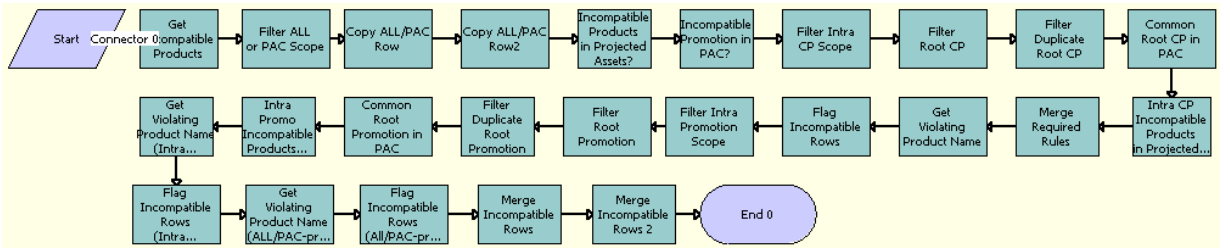

Figure 153.Product Compatibility - Require Rules SubProcess

Workflow Description. This workflow performs the following actions:

1. **Get Incompatible Products.** This step loads the A-Requires-B rules for the products.
2. **Filter ALL or PAC Scope.** This step filters the ALL or PAC Scope from the compatibility rules.
3. **Copy ALL/PAC Row.** This step makes a copy of the ALL/PAC Row for later use.
4. **Copy ALL/PAC Row2.** This step makes a different copy of the ALL/PAC Row for later use.
5. **Incompatible Products in Projected Assets.** This step joins the required products list to the projected assets and keeps any rule that is broken.
6. **Incompatible Promotion in PAC.** This step joins the required promotions list to the projected assets and keeps any rule that is broken.
7. **Filter Intra CP Scope.** This step filters the Intra Customizable Product Scope from the compatibility rules.
8. **Filter Root CP.** This step filters the row set that shares the same customizable product root.
9. **Filter Duplicate Root CP.** This step removes any duplicate row set from the previous step.
10. **Common Root CP in PAC.** This step generates a new row set of items that share the Customizable Product common root in the PAC.
11. **Intra CP Incompatible Products in Projected Assets?** This step joins the required intra-customizable products list to the projected assets and keeps any rule that is broken.
12. **Merge Required Rules.** This step merges All/PAC Scope violations with Intra-CP Scope violations.
13. **Get Violating Product Name.** This step gets the product name for all required products in the Intra-CP Scope check.
14. **Flag Incompatible Rows.** This step flags any products that are incompatible with one of the projected assets.
15. **Filter Intra Promotion Scope.** This step filters Intra Customizable Product Scope from the compatibility rules.
16. **Filter Root Promotion.** This step filters the row set that shares the same root promotion instance.

17 **Filter Duplicate Root Promotion.** This step removes any duplicate row sets from the previous step.

18 **Common Root Promotion in PAC.** This step generates a new row set of items that share the common root promotion instance in the PAC.

19 **Intra Promo Incompatible Products in Projected Assets?** This step joins the required intra-promotion products list to the projected assets and keeps any rule that is broken.

20 **Get Violating Product Name (Intra Promo).** This step gets the product name for all required products in the Intra-Promotion Scope check.

21 **Flag Incompatible Rows (Intra Promo).** This step flags any products that are incompatible with one of the projected assets.

22 **Get Violating Product Name (ALL/PAC-promo).** This step gets the product name for all required products in the All/PAC Scope check and that are also associated with a promotion instance.

23 **Flag Incompatible Rows (All/PAC-promo).** This step flags any products that are incompatible with one of the projected assets.

24 **Merge Incompatible Rows.** This step merges the incompatible row set with the row set.

25 **Merge Incompatible Rows 2.** This step merges the All/Pac Scope and promotion instance violations with previous violations.

Table 121 shows the steps in this workflow that call business service methods.

Table 121. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Incompatible Products	Simple Look-Up Transform	Row Set Transformation Toolkit
Filter ALL or PAC Scope	Split Transform	Row Set Transformation Toolkit
Copy ALL/PAC Row	Echo	Workflow Utilities
Copy ALL/PAC Row2	Echo	Workflow Utilities
Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Incompatible Promotion in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Intra CP Scope	Split Transform	Row Set Transformation Toolkit
Filter Root CP	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Root CP	Aggregate Transform	Row Set Transformation Toolkit
Common Root CP in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Intra CP Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Required Rules	Merge Transform	Row Set Transformation Toolkit
Get Violating Product Name	Simple Look-Up Transform	Row Set Transformation Toolkit

Table 121. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Flag Incompatible Rows	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Intra Promotion Scope	Split Transform	Row Set Transformation Toolkit
Filter Root Promotion	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Root Promotion	Aggregate Transform	Row Set Transformation Toolkit
Common Root Promotion in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Intra Promo Incompatible Products in Projected Assets?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get Violating Product Name (Intra Promo)	Simple Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows (Intra Promo)	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get Violating Product Name (ALL/PAC-promo)	Simple Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows (All/ PAC-promo)	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Incompatible Rows	Merge Transform	Row Set Transformation Toolkit
Merge Incompatible Rows 2	Merge Transform	Row Set Transformation Toolkit

Workflows That Process Compatibility Rules

This group of workflows processes the compatibility exclude rules. It includes the following workflows:

- “ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow” on page 493
- “ISS Promotion Group Compatibility - Require Rules SubProcess Workflow” on page 496
- “ISS Promotion Asset Membership Compatibility Workflow” on page 498

ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow

This workflow checks for promotion group compatibility exclude rules.

Figure 154 shows this workflow.

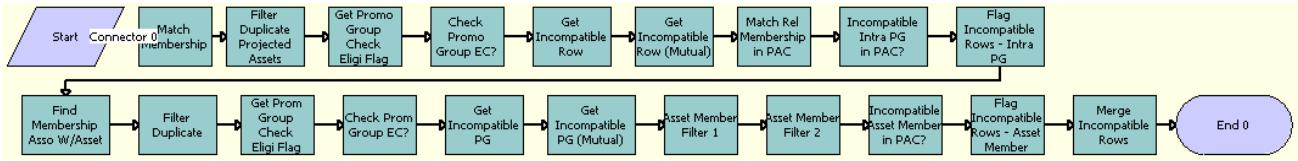

Figure 154.ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Match Membership.** This step loads the new row sets from the PAC with member assets that have a membership association.
2. **Filter Duplicate Projected Assets.** This step removes any duplicate rows from the previous step.
3. **Get Promo Group Check Eligi Flag.** This step uses the Promotion Group Id to get the Check Eligibility flag for the promotion group.
4. **Check Promo Group EC?** This step filters rows that have the Promotion Group Check Eligibility set to Y.
5. **Get Incompatible Row.** This step loads the A-Excludes-B rules for the promotion group with an Intra-Promotion Group Scope.
6. **Get Incompatible Row (Mutual).** This step loads the B-Excludes-A rules for the promotion group with an Intra-Promotion Group Scope.
7. **Match Rel Membership in PAC.** This step finds items in the PAC that have the same related membership.
8. **Incompatible Intra PG in PAC?** This step joins the excluded products list to the projected assets and keeps any rule that is broken.
9. **Flag Incompatible Rows - Intra PG.** This step flags any products that are incompatible with one of the projected assets.
10. **Find Membership Asso W/Asset.** This step finds memberships that are associated with member assets.
11. **Filter Duplicate.** This step removes any duplicate rows from the previous step.
12. **Get Prom Group Check Eligi Flag.** This step uses the Promotion Group Id to get the Check Eligibility flag for the promotion group. The returned row set in this check includes only memberships that are associated with member assets.
13. **Check Prom Group EC?** This step filters rows that have the Promotion Group Check Eligibility set to Y.
14. **Get Incompatible PG.** This step loads the A-Excludes-B rules for the promotion group with an Inter-Promotion Group Scope.
15. **Get Incompatible PG (Mutual).** This step loads the B-Excludes-A rules for the promotion group with an Inter-Promotion Group Scope.

16 **Asset Member Filter 1.** This interim step finds the common memberships.

17 **Asset Member Filter 2.** This interim step finds the common member associations.

18 **Incompatible Asset Member in PAC?** This step joins the excluded member asset product list to the projected assets and keeps any rule that is broken.

19 **Flag Incompatible Rows - Asset Member.** This step flags any products that are incompatible with one of the projected assets.

20 **Merge Incompatible Rows.** This step merges incompatible row sets.

Table 122 shows the steps in this workflow that call business service methods.

Table 122. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Match Membership	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Projected Assets	Aggregate Transform	Row Set Transformation Toolkit
Get Promo Group Check Eligi Flag	Simple Look-Up Transform	Row Set Transformation Toolkit
Check Promo Group EC?	Conditional Action Transform	Row Set Transformation Toolkit
Get Incompatible Row	Simple Look-Up Transform	Row Set Transformation Toolkit
Get Incompatible Row (Mutual)	Simple Look-Up Transform	Row Set Transformation Toolkit
Match Rel Membership in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Incompatible Intra PG in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows - Intra PG	Row Set Look-Up Transform	Row Set Transformation Toolkit
Find Membership Asso W/Asset	Conditional Action Transform	Row Set Transformation Toolkit
Filter Duplicate	Aggregate Transform	Row Set Transformation Toolkit
Get Prom Group Check Eligi Flag	Simple Look-Up Transform	Row Set Transformation Toolkit
Check Prom Group EC?	Conditional Action Transform	Row Set Transformation Toolkit
Get Incompatible PG	Simple Look-Up Transform	Row Set Transformation Toolkit
Get Incompatible PG (Mutual)	Simple Look-Up Transform	Row Set Transformation Toolkit
Asset Member Filter 1	Row Set Look-Up Transform	Row Set Transformation Toolkit
Asset Member Filter 2	Row Set Look-Up Transform	Row Set Transformation Toolkit
Incompatible Asset Member in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit

Table 122. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Flag Incompatible Rows - Asset Member	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Incompatible Rows	Merge Transform	Row Set Transformation Toolkit

ISS Promotion Group Compatibility - Require Rules SubProcess Workflow

This workflow checks for promotion group compatibility require rules.

Figure 155 shows this workflow.

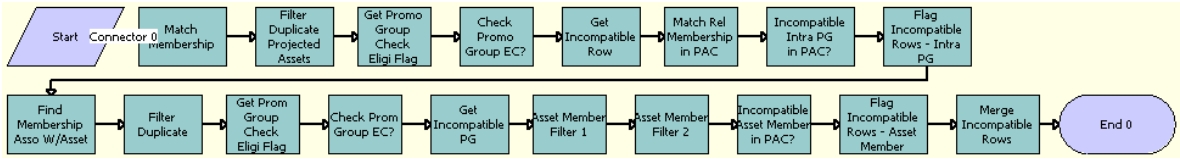

Figure 155.ISS Promotion Group Compatibility - Require Rules SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Match Membership.** This step loads the new row sets from the PAC with member assets that have a membership association.
2. **Filter Duplicate Projected Assets.** This step removes any duplicate rows from the previous step.
3. **Get Promo Group Check Eligi Flag.** This step uses the Promotion Group Id to get the Check Eligibility flag for the promotion group.
4. **Check Promo Group EC?** This step filters rows that have the Promotion Group Check Eligibility set to Y.
5. **Get Incompatible Row.** This step loads the A-Requires-B rules for the promotion group with an Intra- Promotion Group Scope.
6. **Match Rel Membership in PAC.** This step matches items in the PAC that have the same related memberships.
7. **Incompatible Intra PG in PAC?** This step joins the required products list to the projected assets and keeps any rule that is broken.
8. **Flag Incompatible Rows - Intra PG.** This step flags any products that are incompatible with one of the projected assets.
9. **Find Membership Asso W/Asset.** This step finds memberships that are associated with member assets.
10. **Filter Duplicate.** This step removes any duplicate rows from the previous step.

11 **Get Prom Group Check Eligi Flag.** This step uses the Promotion Group Id to get the Check Eligibility flag for the promotion group. The row set returned in this check includes only memberships that are associated with member assets.

12 **Check Prom Group EC?** This step filters rows that have the Promotion Group Check Eligibility set to Y.

13 **Get Incompatible PG.** This step loads the A-Requires-B rules for the promotion group with an Inter- Promotion Group scope.

14 **Asset Member Filter 1.** This interim step finds the common memberships.

15 **Asset Member Filter 2.** This interim step finds the common member associations.

16 **Incompatible Asset Member in PAC?** This step joins the required member asset product list to the projected assets and keeps any rule that is broken.

17 **Flag Incompatible Rows - Asset Member.** This step flags any products that are incompatible with one of the projected assets.

18 **Merge Incompatible Rows.** This step merges incompatible row sets.

Table 123 shows the steps in this workflow that call business service methods.

Table 123. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Match Membership	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Projected Assets	Aggregate Transform	Row Set Transformation Toolkit
Get Promo Group Check Eligi Flag	Simple Look-Up Transform	Row Set Transformation Toolkit
Check Promo Group EC?	Conditional Action Transform	Row Set Transformation Toolkit
Get Incompatible Row	Simple Look-Up Transform	Row Set Transformation Toolkit
Match Rel Membership in PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Incompatible Intra PG in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows - Intra PG	Row Set Look-Up Transform	Row Set Transformation Toolkit
Find Membership Asso W/Asset	Conditional Action Transform	Row Set Transformation Toolkit
Filter Duplicate	Aggregate Transform	Row Set Transformation Toolkit
Get Prom Group Check Eligi Flag	Simple Look-Up Transform	Row Set Transformation Toolkit
Check Prom Group EC?	Conditional Action Transform	Row Set Transformation Toolkit
Get Incompatible PG	Simple Look-Up Transform	Row Set Transformation Toolkit
Asset Member Filter 1	Row Set Look-Up Transform	Row Set Transformation Toolkit
Asset Member Filter 2	Row Set Look-Up Transform	Row Set Transformation Toolkit

Table 123. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Incompatible Asset Member in PAC?	Row Set Look-Up Transform	Row Set Transformation Toolkit
Flag Incompatible Rows - Asset Member	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Incompatible Rows	Merge Transform	Row Set Transformation Toolkit

ISS Promotion Asset Membership Compatibility Workflow

This workflow is used to check for asset membership cardinality.

Figure 156 shows this workflow.

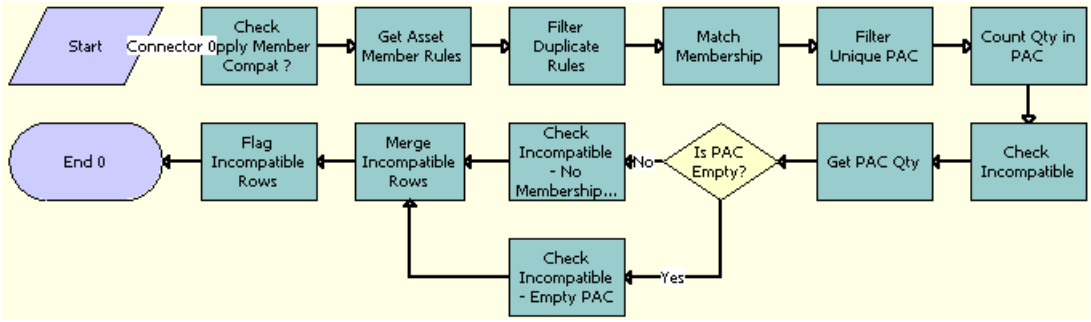

Figure 156.ISS Promotion Asset Membership Compatibility Workflow

Workflow Description. This workflow performs the following actions:

1. **Check Apply Member Compat?** This step filters elements with the Check Asset Membership Cardinality flag turned off.
2. **Get Asset Member Rules.** This step loads asset membership cardinality rules for the products.
3. **Filter Duplicate Rules.** This step removes duplicate rows from the previous step.
4. **Match Membership.** This step loads the new row sets from the projected asset cache with member assets that have membership associations.
5. **Filter Unique PAC.** This step gets member assets that are associated with memberships in the PAC.
6. **Count Qty in PAC.** This step gets a count of instances in a row set.
7. **Check Incompatible.** This step checks for incompatible products.
8. **Get PAC Qty.** This step checks whether the row set has any child rows.
9. **Is PAC Empty?** This step checks whether the row set has any child rows.

10 **Check Incompatible - No Membership Association.** For row sets that are not empty, this step assigns search specifications to get incompatible rows.

11 **Check Incompatible - Empty PAC.** For empty row sets, this step assigns search specifications to get incompatible rows.

12 **Merge Incompatible Rows.** This step merges incompatible rows.

13 **Flag Incompatible Rows.** This step flags any products that are incompatible.

Table 124 shows the steps in this workflow that call business service methods.

Table 124. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Check Apply Member Compat?	Split Transform	Row Set Transformation Toolkit
Get Asset Member Rules	Simple Look-Up Transform	Row Set Transformation Toolkit
Filter Duplicate Rules	Aggregate Transform	Row Set Transformation Toolkit
Match Membership	Row Set Look-Up Transform	Row Set Transformation Toolkit
Filter Unique PAC	Row Set Look-Up Transform	Row Set Transformation Toolkit
Count Qty in PAC	Aggregate Transform	Row Set Transformation Toolkit
Check Incompatible	Row Set Look-Up Transform	Row Set Transformation Toolkit
Get PAC Qty	GetNextChild	ISS Promotion Management Service
Check Incompatible - No Membership Association	Row Set Look-Up Transform	Row Set Transformation Toolkit
Check Incompatible - Empty PAC	Conditional Action Transform	Row Set Transformation Toolkit
Merge Incompatible Rows	Merge Transform	Row Set Transformation Toolkit
Flag Incompatible Rows	Row Set Look-Up Transform	Row Set Transformation Toolkit

Workflows That Process Agreements

This group of workflow process agreements. It includes the following workflows:

- Configurator Product Info Lookup Workflow on page 500
- ISS Promotion Agreement Management Sub Process Workflow on page 501
- ISS Promotion Create Agreement Details Workflow on page 503

Configurator Product Info Lookup Workflow

This workflow queries non-versioned product information, which is used for internal instance loading. A document in the context of order management can be a quote, order, asset, or agreement. Internally the documents are converted into property sets that can be updated, added, removed, or merged. The workflow takes agreement documents into one path from the other three document types into another path. This is because some fields that exist in quotes, orders, and assets do not exist in agreements. This workflow is called from the Cfg Product Info signal, which is generated internally when a customizable product is added.

Figure 157 illustrates this workflow.

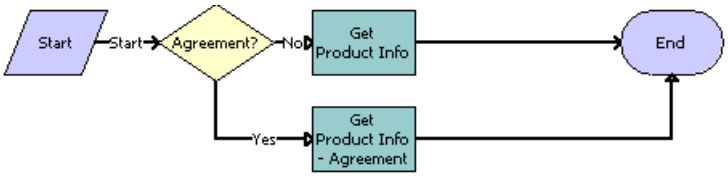

Figure 157.Configurator Product Info Lookup workflow

Workflow Description. This workflow performs the following actions:

1. **Agreement?** According to the document type, this step checks whether the document being processed is an agreement.
2. **Get Product Info.** If this document is not an agreement, then this step queries on the Cfg Product Info Query business component to look up all product information values in the S_PROD_INT table, which stores product information.
3. **Get Product Info - Agreement.** If this document is an agreement, then this step queries on the Cfg Product Info Query business component to look up all product information values *except* Service Length and Service Length UoM in the S_PROD_INT table, which stores product information. Values for Service Length and Service Length UoM do not exist in agreements.

Table 125 describes the steps in this workflow that call a business service method.

Table 125. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Product Info	Simple Look-Up Transform	Row Set Transformation Toolkit
Get Product Info - Agreement	Simple Look-Up Transform	Row Set Transformation Toolkit

ISS Promotion Agreement Management Sub Process Workflow

This workflow is used to create an agreement record for the current installed asset. This workflow is called by a user choosing the Auto Asset menu item or clicking the Auto Asset button in the Sales Order screen when a sales order is converted into an installed asset.

Figure 158 illustrates this workflow.

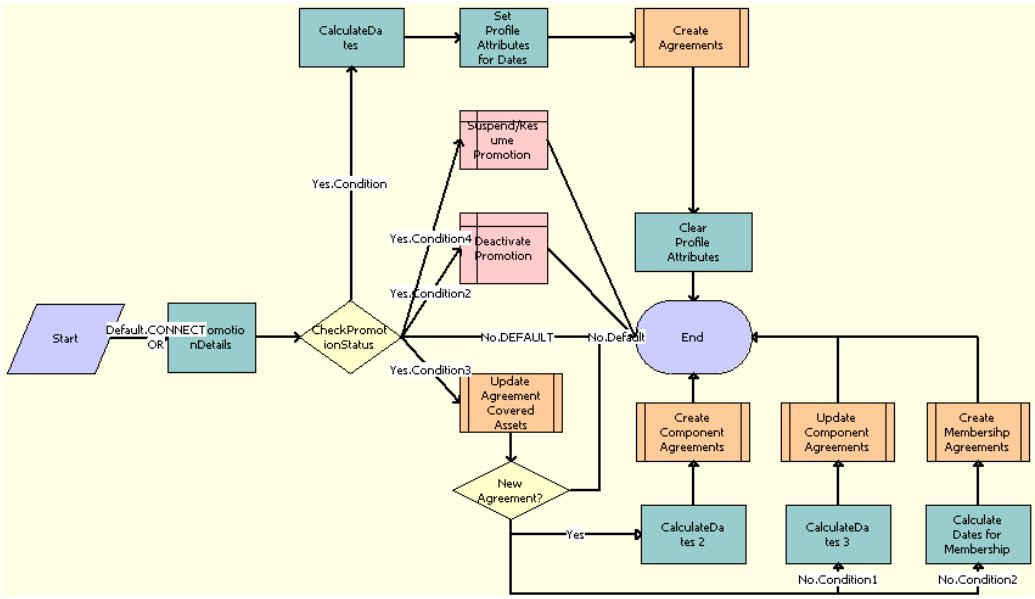

Figure 158.ISS Promotion Agreement Management Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **GetPromotionDetails.** This step loads the promotion-related fields from the SiebelMessage input and sets the promotion status.
2. **CheckPromotionStatus.** This step checks the Status Code given by the caller in the input arguments.
3. **CalculateDates.** This step calculates the Start Date and the End Date values for an agreement. The input arguments for this step are Document Id, Promotion Operation Id, Status, Promotion Source Instance Id, Root Product Id (from the Root Product Id user property), and Promotion Operation Type. These input arguments are all part of the output arguments from Step 1.
4. **Set Profile Attributes for Dates.** This step saves the promotion Start Date, End Date, and Effective Date to the profile attribute.
5. **Create Agreements.** This step calls the ISS Promotion Create Agreement Details subprocess to create the agreement details.

6 **Suspend/Resume Promotion.** For a suspend promotion action, this step updates the Status value of the agreement to Suspended. For a resume promotion action, this step sets the Status value of the agreement to Active to resume the agreement.

7 **Deactivate Promotion.** This step sets the Status value of the agreement to Inactive.

8 **Clear Profile Attributes.** This step clears the Start Date, End Date, and Effective Date values from the profile attributes.

9 **Update Agreement Covered Assets.** This step calls the ISS Promotion Agreement Covered Assets Sub Process workflow to update the status of the asset covered by the promotion.

10 **New Agreement?** This step checks whether to create a new agreement or to modify an existing agreement.

11 **CalculateDates 2.** This step calculates the Start Date and the End Date values for an agreement. The input arguments for this step are Document Id, Promotion Operation Id, Promotion Source Instance Id, Root Product Id, and Promotion Operation Type.

12 **Create Component Agreements.** This step calls the ISS Promotion Create Agreement Details subprocess to create the agreement details for the promotion components.

13 **CalculateDates 3.** This step calculates the Start Date and the End Date values for an agreement. The input arguments for this step are Document Id, Promotion Operation Id, Promotion Source Instance Id, Root Product Id, and Promotion Operation Type.

14 **Update Component Agreements.** This step calls the ISS Promotion Create Agreement Details subprocess to update the existing agreement details for the promotion components.

15 **Calculate Dates for Membership.** This step calculates the Start Date and the End Date values for an agreement. The input arguments for this step are Document Id, Promotion Operation Id, Status, Promotion Source Instance Id, Root Product Id (from the Promotion Group Id user property), and Promotion Operation Type.

16 **Create Membership Agreements.** This step calls ISS Promotion Create Agreement Details subprocess to create agreement details for the memberships.

Table 126 shows the steps in this workflow that call business service methods.

Table 126. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
GetPromotionDetails	GetPromotionDetails	ISS Promotion Agreement Manager
CalculateDates	CalculateDates	ISS Promotion Agreement Manager
Set Profile Attributes for Dates	SetProfileAttributes	ISS Promotion Agreement Manager
Clear Profile Attributes	RemoveProfileAttributes	ISS Promotion Agreement Manager
CalculateDates 2	CalculateDates	ISS Promotion Agreement Manager
CalculateDates 3	CalculateDates	ISS Promotion Agreement Manager
Calculate Dates for Membership	CalculateDates	ISS Promotion Agreement Manager

ISS Promotion Create Agreement Details Workflow

This workflow is used to update assets that are covered by agreements. This workflow is called from ISS Promotion Agreement Management Sub Process to create new agreement items or update existing agreement items, and to update assets that are covered by agreements.

Figure 159 illustrates this workflow.

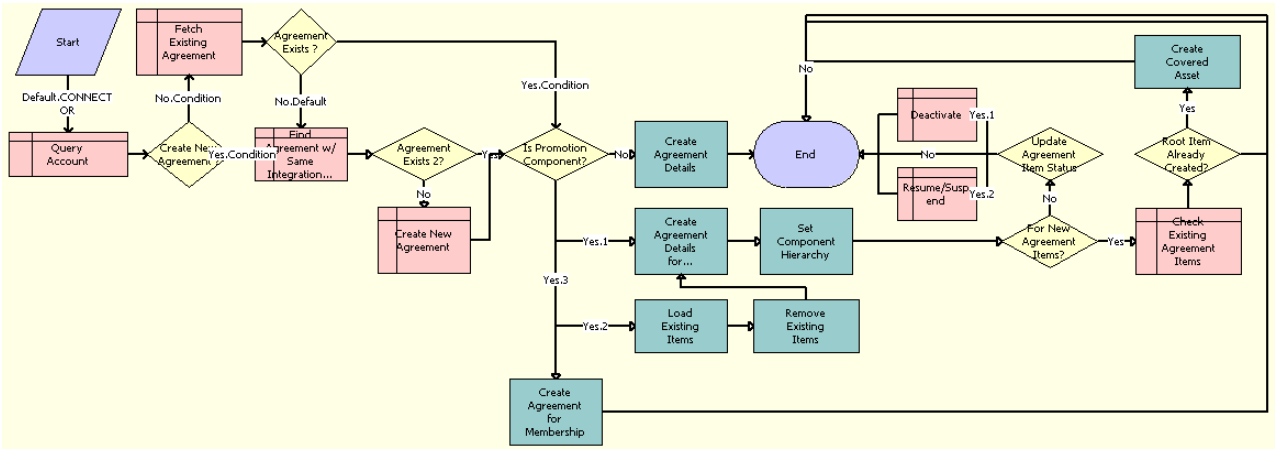

Figure 159. ISS Promotion Create Agreement Details Workflow

Workflow Description. This workflow performs the following actions:

1. **Query Account.** This step queries the current account to get the correct account context.
2. **Create New Agreement?** This step checks the CreateNewAgreementFlag value to see whether to create a new agreement or to update an existing agreement.
3. **Fetch Existing Agreement.** This step queries for an existing agreement.
4. **Find Agreement w/ Same Integration Id.** This step queries for an agreement.
5. **Agreement Exists?** This step checks the Agreement Id value to see if the agreement exists.
6. **Agreement Exists 2?** This step checks the Agreement Id value to see if the agreement exists.
7. **Create New Agreement.** This step creates a new agreement record and sets the field values.
8. **Is Promotion Component?** This step checks whether the installed asset is a component of the promotion.
9. **Create Agreement Details.** Using the Copy Service business service, this step creates the items covered by the agreement.
10. **Create Agreement Details for Promotion Components.** Using the Copy Service business service, this step creates the items with Type values of Promotion Component that are covered by the agreement.
11. **Create Agreement for Membership.** Using the Copy Service business service, this step creates the items with Type values of Membership that are covered by the agreement.

12 **Load Existing Items.** This step loads the existing agreement items.

13 **Remove Existing Items.** This step removes existing, invalid agreement items.

14 **Set Component Hierarchy.** This step sets up the hierarchical relationship of the components in the agreement.

15 **For New Agreement Items?** This step checks whether the current agreement item is a new item.

16 **Update Agreement Item Status.** This step checks whether to update the Status value of the agreement item.

17 **Check Existing Agreement Items.** This step gets the existing agreement items.

18 **Root Item Already Created?** This step checks whether the root agreement item has been created.

19 **Create Covered Asset.** This step creates a covered asset for the root promotion item.

20 **Deactivate.** This step deactivates a component by setting the Status value of the agreement item to Inactive.

21 **Resume/Suspend.** For a suspend component action, this step updates the status of the agreement item to Suspended. For a resume component action, this step updates the status of the agreement item to Active.

Table 127 shows the steps in this workflow that call business service methods.

Table 127. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Create Agreement Details	InvokeCopyService	ISS Promotion Agreement Manager
Create Agreement Details for Promotion Components	CopyAgreementItem	ISS Promotion Agreement Manager
Create Agreement for Membership	CopyMembershipAgreementItem	ISS Promotion Agreement Manager
Load Existing Items	Query	EAI Siebel Adapter
Remove Existing Items	Delete	EAI Siebel Adapter
Set Component Hierarchy	SetHierarchy	ISS Promotion Agreement Manager
Create Covered Asset	InvokeCopyService	ISS Promotion Agreement Manager

Workflows That Validate Quotes and Orders

This group of workflows validates quotes and orders. It includes the following workflows:

- "ISS Promotion Verify SubProcess Workflow" on page 505
- "ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow" on page 506
- "ISS Promotion Group Check Commitment Sub Process Workflow" on page 508
- "ISS Promotion Group Validate (Order) Workflow" on page 508
- "ISS Promotion Group Validate (Quote) Workflow" on page 509

ISS Promotion Verify SubProcess Workflow

This workflow is used to check invalid promotions and promotion groups in the current quote or order. This workflow is called by the VerifyPromotion signal.

Figure 160 illustrates this workflow.

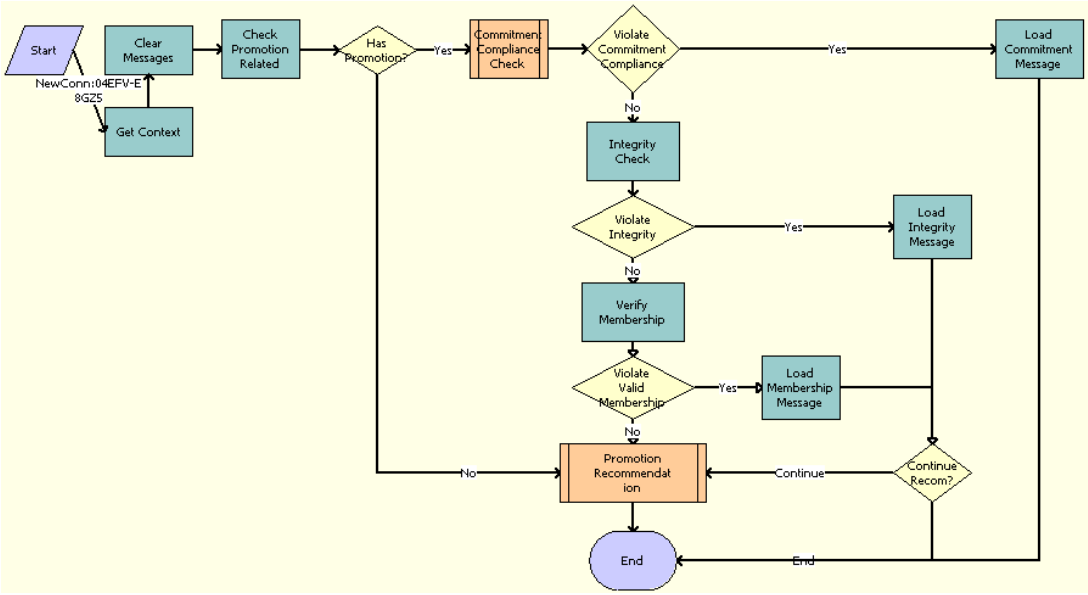

Figure 160.ISS Promotion Verify SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Context.** This step gets the necessary parameters from the Context Service when the workflow is called by the Signal mechanism.
2. **Clear Messages.** This step clears the previous UMF messages.
3. **Check Promotion Related.** This step checks whether the current quote or order includes a promotion or promotion-related items.
4. **Has Promotion?** This step checks whether any unverified promotions or promotion groups exist.
5. **Commitment Compliance Check.** This step checks whether any commitment is broken by calling the ISS Promotion Commitment Compliance Check SubProcess workflow.

6 **Violate Commitment Compliance.** This step checks whether any commitment is broken.

7 **Integrity Check.** This step checks the integrity of the items in the current quote or order.

8 **Violate Integrity.** This step checks whether any integrity violations exist.

9 **Verify Membership.** This step checks the integrity of the membership items in the current quote or order.

10 **Violate Valid Membership.** This step checks whether any membership integrity violations exist.

11 **Load Commitment Message.** This step loads the UMF message for a commitment.

12 **Load Integrity Message.** This step loads the UMF message for an integrity check.

13 **Load Membership Message.** This step loads the UMF message to check the membership integrity.

14 **Promotion Recommendation.** This step creates promotion recommendations that are based on items in the current quote or order, by calling the ISS Promotion Recommendation SubProcess workflow.

15 **Continue Recom?** This step checks whether to continue with the promotion recommendation.

Table 128 shows the steps in this workflow that call business service methods.

Table 128. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Context	GetContext	ISS Promotion Management Service
Clear Messages	ClearMessages	ISS Promotion Management Service
Check Promotion Related	CheckPromInCurrDoc	ISS Promotion Management Service
Integrity Check	IntegrityCheck	ISS Promotion Management Service
Verify Membership	VerifyMembership	ISS Promotion Agreement Manager
Load Commitment Message	LoadMessage	ISS Promotion Agreement Manager
Load Integrity Message	LoadMessage	ISS Promotion Agreement Manager
Load Membership Message	LoadMessage	ISS Promotion Agreement Manager

ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow

This workflow is triggered during the disconnection of promotion groups or memberships to calculate any applicable additional penalty charges that originated with the associated bundled promotion.

Figure 161 shows this workflow.

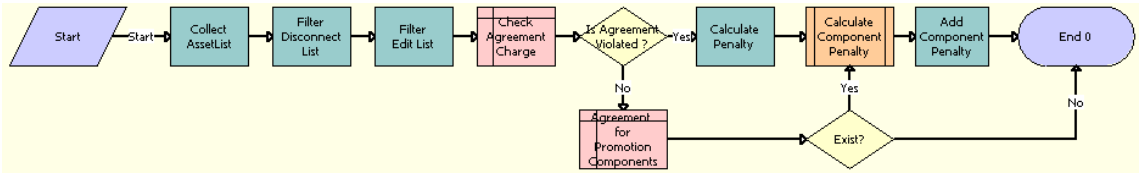

Figure 161.ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow

Workflow Description. This workflow performs the following actions:

1. **Collect Asset List.** This step collects promotion related items from the selected promotions.
2. **Filter Disconnect List.** This step takes the Delete list and item values as input and returns only those items in the list whose value is same as the input item value.
3. **Filter Edit List.** This step takes the Edit list and item values as input and returns only those items in the list whose value is the same as the input item value.
4. **Check Agreement Charge.** This step queries if an agreement is associated with the current promotion.
5. **Is Agreement Violated?** This step checks whether there is an agreement found.
6. **Agreement for Promotion Components.** This step queries to see if there is an agreement associated with the promotion components.
7. **Calculate Penalty.** This step calculates the normal penalty for a normal disconnect.
8. **Calculate Component Penalty.** This step calls the ISS Promotion Calculate Related Objects Penalty Charges SubProcess workflow.
9. **Exist?** This step checks whether any records are found.
10. **Add Component Penalty.** This step adds the component penalty and the promotion penalty.

Table 129 shows the steps in this workflow that call business service methods.

Table 129. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Collect AssetList	CollectAssetList	ISS Promotion Agreement Manager
Filter Disconnect List	FilterDisconnectListByValue	ISS Promotion Agreement Manager
Filter Edit List	FilterEditListByValue	ISS Promotion Management Service
Calculate Penalty	GetCondCharge	FS Conditional Charge
Add Component Penalty	Echo	Workflow Utilities

ISS Promotion Group Check Commitment Sub Process Workflow

This workflow calculates the penalty, if any, from the agreement for the promotion group or membership.

Figure 162 shows this workflow.

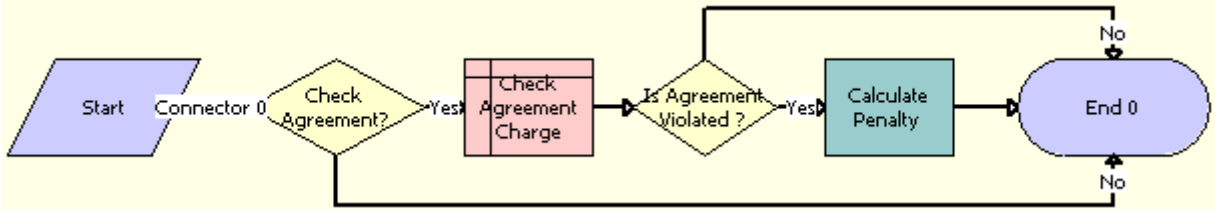

Figure 162.ISS Promotion Group Check Commitment Sub Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Check Agreement?** This step checks the Agreement flag to verify if the agreement must be checked.
2. **Check Agreement Charge.** This step queries if an agreement charge is associated with the current promotion group or membership.
3. **Is Agreement Violated?** This step checks whether an agreement has been found.
4. **Calculate Penalty.** This step calculates the normal penalty for a normal disconnect.

Table 130 shows the steps in this workflow that call business service methods.

Table 130. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Calculate Penalty	GetCondCharge	FS Conditional Charge

ISS Promotion Group Validate (Order) Workflow

This workflow validates promotion group specific validation services, such as the ISS Promotion Group Member Distinct Value Checker Business Service and the ISS Promotion Group Member Common Value Checker Business Service. It can be called from an order line item in a product promotion group.

Figure 163 illustrates this workflow.

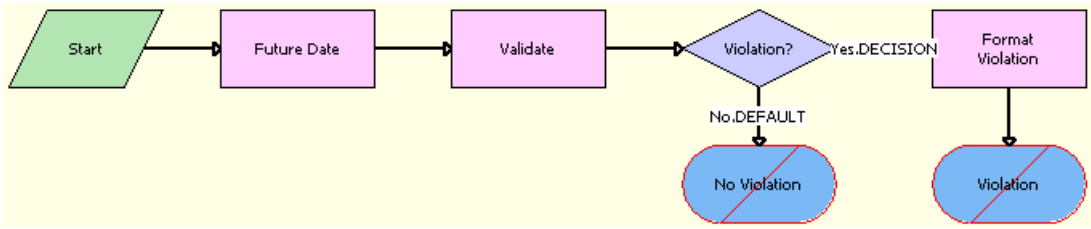

Figure 163.ISS Promotion Group Validate (Order) Workflow

Workflow Description. This workflow performs the following actions:

1. **Future Date.** This step calculates the future date when the promotion group will be validated.
2. **Validate.** This step calls the Validate method of the Promotion Group validation service.
3. **Violation?** This step checks whether there are any rules violations.
4. **No Violation.** This step displays the valid compound product message and terminates the workflow.
5. **Format Violation.** This step concatenates the violation messages into a single string.
6. **Violation.** This step displays the violation messages and terminates the workflow.

Table 131 shows the steps in this workflow that call business service methods.

Table 131. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Future Date	Find Future Date	VORD CPVE Validation Service
Validate	Find Rule	ISS Promotion Group Validation Service
Format Violation	Format Violation	VORD CPVE Validation Service

ISS Promotion Group Validate (Quote) Workflow

This workflow validates the specific validation services of the promotion group, such as the ISS Promotion Group Member Distinct Value Checker Business Service and the ISS Promotion Group Member Common Value Checker Business Service. It can be called from the Quote Line item in a product promotion group.

Figure 164 show this workflow.

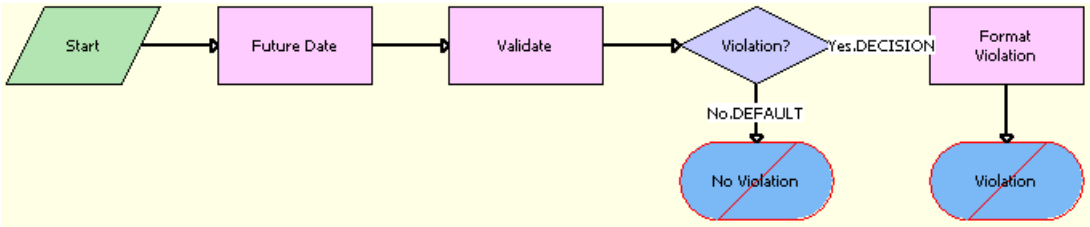

Figure 164.ISS Promotion Group Validate (Quote) Workflow

Workflow Description. This workflow performs the following actions:

1. **Future Date.** This step calculates the future date when the promotion group will be validated.
2. **Validate.** This step calls the Validate method of the Promotion Group validation service.
3. **Violation?** This step checks whether there are any rule violations.
4. **No Violation.** This step displays the valid compound product message and terminates the workflow.
5. **Format Violation.** This step concatenates the violation messages into a single string.
6. **Violation.** This step displays the violation messages and terminates the workflow.

Table 132 shows the steps in this workflow that call business service methods.

Table 132. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Future Date	Find Future Date	VORD CPVE Validation Service
Validate	Find Rule	ISS Promotion Group Validation Service
Format Violation	Format Violation	VORD CPVE Validation Service

Workflows That Calculate Promotion Group Pricing

This group of workflows performs price calculations for promotion groups. It includes the following workflow processes:

- "PSP Driver Workflow Process Workflow" on page 511
- "Pricing Promotion Group - Asset Membership Sub Process Workflow" on page 512
- "Pricing Procedure - Promotion Group Discount Workflow" on page 513

PSP Driver Workflow Process Workflow

This workflow acts as the controller workflow for the pricing and eligibility Product Selection and Pricing (PSP) procedures and supports Promotion Group pricing functionality. It is called when the user selects a membership line item of a quote or order and clicks Reprice. For more information about this workflow, see *Siebel Order Management Infrastructure Guide*.

Figure 165 illustrates this workflow.

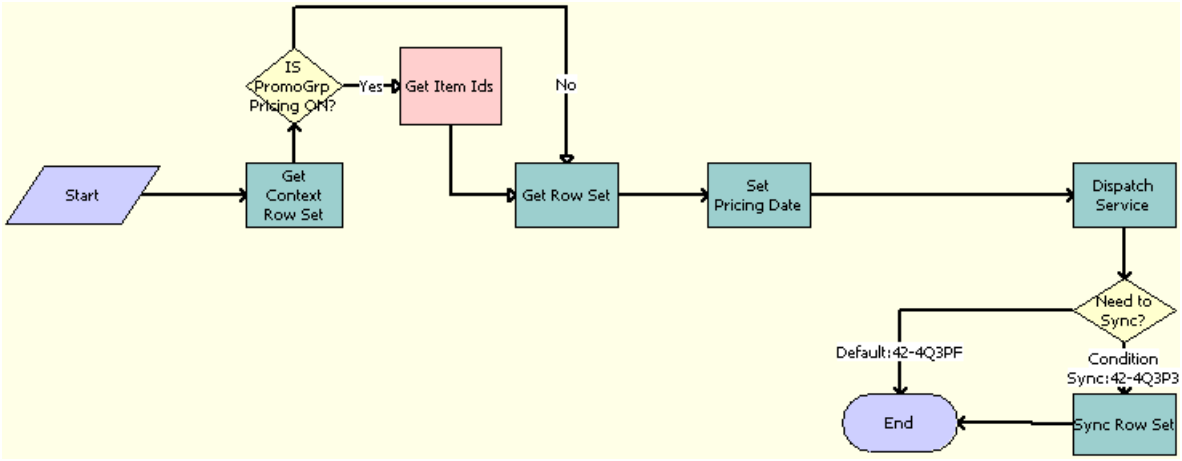

Figure 165.PSP Driver Workflow Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Context Row Set.** This step calls the Context Service business service method GetRowSetData to retrieve header-level information using the Context variable map (Variable Map - Context).
2. **Is PromoGrp Pricing On?** This step checks for the Promotion Group system preference, the Sub Workflow Name, and the Row Scope. If the Promotion Group system preference is set to Yes, the Sub Workflow Name is Dynamic Pricing Procedure, and the Row Scope is either Current or Selected, then this step calls the step Step 3. Otherwise, it proceeds to Step 4.
3. **Get Item Ids.** This step gets the list of member assets that are associated with the membership product, using the PAC query.
4. **Get Row Set.** This step calls the Context Service business service method, GetRowSetData, to retrieve row-level information, using the Row Set variable map (Variable Map - Row Set) and to scope input arguments.
5. **Set Pricing Date.** This step sets the pricing date according to whether it is for scenario testing, that is, whether the Active JWS Test DT profile attribute is set. If this attribute is set, then the PSP Driver sets the effective pricing date to the value of this profile attribute. If this attribute is not set, then the PSP driver sets the pricing date to the current time and date.
6. **Dispatch Service.** This step calls the subprocess workflow defined in the calling signal and passes the input argument to the subprocess workflow.

7 **Need to Sync?** This step determines whether synchronization is needed.

8 **Sync Row Set.** This step calls the Context Service business service method, SyncRowSetData, to write any updates to the database, for example, updates to prices.

Table 133 shows the steps in this workflow that call business service methods.

Table 133. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Get Context Row Set	GetRowSetData	Context Service
Get Item Ids	GetItemIds	ISS Promotion Group Management Service
Get Row Set	GetRowSetData	Context Service
Dispatch Service	CallPSPWorkflow	ISS PSP Dispatch Service
Set Pricing Date	Conditional Action Transform	Row Set Transformation Toolkit
Sync Row Set	SyncRowSetData	Context Service

Pricing Promotion Group - Asset Membership Sub Process Workflow

This workflow is used to get the details of the membership products that are associated with the member asset product by querying the PAC. It is called when the user clicks the Reprice or Reprice All buttons in the Quote or Orders view.

Figure 166 illustrates this workflow.

Figure 166.Pricing Promotion Group - Asset Membership Sub Process Workflow

Workflow Description. This workflow performs the following actions:

■ **Retrieve List of Membership for Asset**. This step uses a PAC query of the order or quote to get the details of the membership products associated with the member assets.

Table 134 shows the steps in this workflow that call business service methods.

Table 134. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Retrieve List of Membership for Asset	Retrieve	VORD Projected Asset Cache

Pricing Procedure - Promotion Group Discount Workflow

This workflow evaluates the discounts defined for the promotion group membership products, reward products, and member domain products. This workflow calculates the Net Price by starting from the Start Price, and then applying various discounts including Volume Discounts, Promotion Discounts, Bundle Discounts, Min/Max Price, and so on. If the Promotion Group system preference is set to Yes, then this workflow is called from the Pricing Procedure - Calculate Net Price Workflow workflow.

Figure 167 shows this workflow.

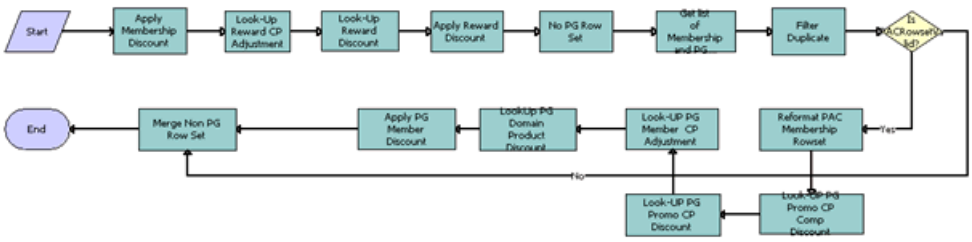

Figure 167.Pricing Procedure - Promotion Group Discount Workflow

Workflow Description. This workflow performs the following actions:

1. **Apply Membership Discount.** This step evaluates the discount defined for membership products in the promotion group and applies it to the net price of the membership product.
2. **Look-Up Reward CP Adjustment.** This step evaluates the discounts defined for customizable product components of reward products for a promotion group.
3. **Look-Up Reward Discount.** This step evaluates the discounts defined for the reward product of a promotion group.
4. **Apply Reward Discount.** This step applies matching discounts to the reward product of a promotion group.
5. **No PG Row Set.** This step filters the row sets that are not part of the promotion group.
6. **Get list of Membership and PG Association.** This step gets the details of all the membership products associated with a member asset product in the quote or order by querying the PAC.
7. **Filter Duplicate.** This step removes duplicate in-memory row sets so that all rows are unique.
8. **Reformat PAC Membership Rowset.** This step prepares a new row set, which details the product and its associated membership product.
9. **Look-UP PG Promo CP Comp Discount.** This step evaluates the discounts defined for customizable product components of a bundled promotion that is a member asset of a promotion group.
10. **Look-UP PG Promo CP Discount.** This step evaluates the discounts defined for a bundled promotion that is a member asset of a promotion group.
11. **Look-UP PG Member CP Adjustment.** This step evaluates the discounts defined for customizable product components of a member asset product for a promotion group.

12 **Look Up PG Domain Product Discount.** This step evaluates the discounts defined for the member asset product (CP or Bundled Promotion) of a promotion group.

13 **Apply PG Member Discount.** This step applies discount to the member asset products.

14 **Merge Non PG Row Set.** This step merges the row set that is not part of the promotion group and the promotion group row set into a single row set.

Table 135 shows the steps in this workflow that call business service methods.

Table 135. Associated Business Service Methods

Workflow Step	Method Called	In Business Service
Apply Membership Discount	Simple Look-Up Transform	Row Set Transformation Toolkit
Look-Up Reward CP Adjustment	Simple Look-Up Transform	Row Set Transformation Toolkit
Look-Up Reward Discount	Simple Look-Up Transform	Row Set Transformation Toolkit
Apply Reward Discount	Conditional Action Transform	Row Set Transformation Toolkit
No PG Row Set	Split Transform	Row Set Transformation Toolkit
Get list of Membership and PG Association	CollectMembershipList	ISS Promotion Group Management Service
Filter Duplicate	Aggregate Transform	Row Set Transformation Toolkit
Reformat PAC Membership Rowset	Row Set Look-Up Transform	Row Set Transformation Toolkit
Look-UP PG Promo CP Comp Discount	Simple Look-Up Transform	Row Set Transformation Toolkit
Look-UP PG Promo CP Discount	Simple Look-Up Transform	Row Set Transformation Toolkit
Look-UP PG Member CP Adjustment	Simple Look-Up Transform	Row Set Transformation Toolkit
Look Up PG Domain Product Discount	Simple Look-Up Transform	Row Set Transformation Toolkit
Apply PG Member Discount	Row Set Look-Up Transform	Row Set Transformation Toolkit
Merge Non PG Row Set	Merge Transform	Row Set Transformation Toolkit

9 Partner Asset-Based Ordering

This chapter describes asset-based ordering in Oracle's Siebel Partner Relationship Management applications and includes information about the tasks a partner user completes for quote and order management. This chapter includes the following topics:

- "About Order Management in Siebel Partner Relationship Management" on page 515
- "Scenario for Partner Asset-Based Ordering" on page 515
- "Order Management with Standard Partner Commerce" on page 517
- "Order Management with Power Partner Commerce" on page 528

About Order Management in Siebel Partner Relationship Management

Siebel Partner Relationship Manager allows your partners to resell and purchase the products of your organization and allows your partners to communicate and collaborate with your organization. For more information about Siebel Partner Relationship Manager, see *Siebel Partner Relationship Management Administration Guide*.

Siebel Partner Relationship Manager order management processing provides support for the following types of partner users in the Siebel Partner Relationship Manager module:

- **Standard Partner Commerce User.** This partner user employs the Shopping Cart view to purchase products and services for the partner organization or their customers. This order capture interface is similar to the interface in the Siebel eSales application, is designed for ease of use, and is most appropriate for business to consumer transactions. The Standard Partner Commerce user has access to the product catalog. For more information about Standard Partner Commerce, see "Order Management with Standard Partner Commerce" on page 517.
- **Power Partner Commerce User.** This partner user employs the same quote and order modules that employees use. This user supports the partner user who assists customers with specialized needs. For more information about Power Partner Commerce, see "Order Management with Power Partner Commerce" on page 528.

Scenario for Partner Asset-Based Ordering

This scenario provides an example of how a partner organization can establish a partnership with a brand owner organization and complete sales channel. You and your partners might follow a different process according to the business requirements of your organization and your partnership program.

Brand Owner Recruits Partners

The channel manager for TeleMedia Inc. Mobile developed a partnership campaign to use channel partners to resell TeleMedia mobile phone packages.

Prospective partners receive a campaign email message that directs them to the TeleMedia Partner Portal. On the portal, partners can view information about available TeleMedia partner programs and apply to become partners.

The TeleMedia channel manager reviews and approves these applications. After the manager approves an application, the partner organization has full access to the Partner Portal. TeleMedia assigns accounts and responsibilities to the organization and assigns the appropriate user type (power user or standard user) to employees of the organization.

Partners Order Through the Partner Portal

After TeleMedia partner approval, the electronics department manager for ComTel Networks can expand his store selections by offering TeleMedia products. The partner store manager logs in to the TeleMedia Partner Portal. The Home Page displays a partner alert about a promotional campaign for the TeleMedia mobile package. This package includes partner resell 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 to find the best deals that TeleMedia offers partners. He adds the 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 that TeleMedia offers is a family package that provides primary phone service with 1500 plan minutes and 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, his daughter, and himself. The next morning, this customer calls and wants to add two new mobile products with service options to his account.

A partner employee who is a Power Commerce user handles this call. The employee finds the customer account showing all the products and services that the customer requested.

The employee orders two more phone products with the service options that the customer requests. 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 with the service options.

The product Configurator appears showing all of the installed products for the 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 essentially creates a supplemental order, which is an order that revises an existing open order. When you submit the revised order, an entirely new order (and not the difference between the revised order and the previous order) is submitted. For more details, see the topic about revising a submitted order in *Siebel Order Management Guide*.

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 account and sees the three mobile phones and service plan options in this customer account. The employee uses Configurator to change the service options for one phone, and then submits the order. This employee modifies an order that was already fulfilled. For more details, "Revising an Order (Standard Partner Commerce)" on page 526.

NOTE: This ordering process is different if the employee is a Standard Partner Commerce user. The employee works with eCatalog and the shopping cart. For more information, see "Order Management with Standard Partner Commerce" on page 517.

Order Management with Standard Partner Commerce

This topic 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. This interface includes eCatalog, the shopping cart, and other simplified quote to order features.

This topic covers the following tasks for quote and order management:

- Quote management tasks for Standard Partner Commerce:
  - "Adding Items to a Shopping Cart (Standard Partner Commerce)" on page 518
  - "Customizing an Item (Standard Partner Commerce)" on page 519
  - "Revising Shopping Cart Contents (Standard Partner Commerce)" on page 520
  - "Adding Bulk Items to the Shopping Cart (Standard Partner Commerce)" on page 521
  - "Saving a Shopping Cart as a Quote or Quote Template (Standard Partner Commerce)" on page 521
- Order placement tasks for Standard Partner Commerce:
  - "Converting a Quote to an Order (Standard Partner Commerce)" on page 522
  - "Processing an Order Checkout (Standard Partner Commerce)" on page 523
  - "Adding Quote Template Items to the Shopping Cart (Standard Partner Commerce)" on page 523
  - "Entering Shipping Information (Standard Partner Commerce)" on page 524
  - "Using the Credit Card Payment Method (Standard Partner Commerce)" on page 524
  - "Using the Bill Me Payment Method (Standard Partner Commerce)" on page 525
  - "Using the Billing Account Payment Method (Standard Partner Commerce)" on page 525
  - "Using the Purchase Order Method (Standard Partner Commerce)" on page 525
  - "Reviewing and Submitting an Order (Standard Partner Commerce)" on page 526

- Order change tasks for Standard Partner Commerce:
  - “Revising an Order (Standard Partner Commerce)” on page 526
  - “Selecting Billing and Service Accounts (Standard Partner Commerce)” on page 526
  - “Modifying an Order (Standard Partner Commerce)” on page 527
  - “Disconnecting an Order (Standard Partner Commerce)” on page 527

Adding Items to a Shopping Cart (Standard Partner Commerce)

Standard Partner users can add items to the shopping cart in the following ways:

- By selecting items from a catalog.
- By selecting items saved to Favorites.
- By selecting 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 from a catalog to the shopping cart, the user remains in the catalog view, and the item appears in the Last Item Added area.

If the shopping cart contains items when the user exits the session, then 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 to an order and to save the shopping cart as a quote or quote template.

The types of shopping cart pricing include:

- **Non-recurring charge (NRC)**. This price is charged only once. Examples include items such as hardware and one-time installation charges.
- **Monthly recurring charge (MRC)**. This price is charged on a subscription basis, such as once a week or once a month. The unit of measurement (UoM) field specifies the time period. Examples include monthly telephone line service charges.

Each price type has a separate total.

To add items to a shopping cart from a catalog

1. Log in to the Partner Portal and navigate to the Product Catalog screen.
2. In the Browse list, click the catalog that you want.

   The catalog screen displays all the items in the catalog.
3. Click the name of a catalog item.

   A view appears showing item information. You can also perform the following tasks:

- Enter an item quantity.
- For customizable products, click Customize to select components and attributes.

4 In the Catalog Items list, enter the quantity in the Qty field of the item that you want.

5 Click the Add Item button next to the item name.

The item is added to the shopping cart. The Last Item Added display shows the item name, the number of line items in the shopping cart, and the total price of all items in the shopping cart.

6 In the real-time shopping cart, click View Details.

The Shopping Cart form displays the item that you select, and a Recommended Items form appears listing other items that you might need.

7 Verify that the items you select appear correctly.

The following table describes some of the shopping cart fields.

Field	Description
Line #	The Siebel application assigns a number to each line item. If an item has components, then a file folder appears in this field. Click the file folder to see the components for the item.
Item	Item name. Click this field to see additional product information, such as product literature and related products.
Qty	Quantity of the item. Click this field to revise the quantity.
MRC Subtotal	Subtotal of monthly recurring charges for the item.
NRC Subtotal	Subtotal of non-recurring charges for the item.
Options	Product attributes.
Action	Action code.
Unit	Unit of measurement (for each month, year, and 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: Users can customize only customizable or complex products.

If the quantity of a configurable item is greater than one, then 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, 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.

You must have a Configurator license to configure customizable products.

To customize an item

1. In the Catalog screen, in the Items list, click Customize.

   Selection pages appear showing customizable components and attributes.

2. In each category, select the component and enter a quantity (if applicable).

   If a component has customizable attributes, then an icon appears in the Customize column.

3. Click the icon to configure the attributes for the component.

   If you select quantities or combinations of components that are incompatible, then a configuration message appears showing alternative selections.

4. After you configure the item, click Save.

5. When you finish, click Done.

   The shopping cart appears.

Revising Shopping Cart Contents (Standard Partner Commerce)

Standard Partner Commerce users can remove single items from the shopping cart or remove all items at the same time. Users can also change the quantity of items. In addition, 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 actions, as appropriate:
   - To delete an item, click the active record indicator for the item (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 an item, enter the Item Name, Item Code, or Manufacturer Code and click Add to Cart.
   - To add an item from the Recommended Items form, click the item name. When the view showing item information appears, click Add To Cart. 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 order customizable items in bulk. For example, a business user might order 20 customizable phone lines for installation at the same location. Rather than configure each phone line separately, the user can configure one phone line and apply that configuration to all the phone lines. The user can then adjust as needed the configuration of individual phone lines.

This procedure uses the workflow described in "Workflow That Ungroups Quotes" on page 550.

To add bulk items to the shopping cart

1. Add a customizable item to the shopping cart.
2. Navigate to the shopping cart and click the active record indicator for the item (the diamond button in the left column).
3. In the Qty field for the item, enter the quantity.
4. Click Update Quantity.
5. If necessary, click the active record indicator to select the item again.
6. Click Customize.

   Selection pages display the customizable components and attributes of the item.
7. Select components and attributes, and then click Done.

   The shopping cart appears.
8. Verify that the active record indicator for the item is highlighted, and then click Ungroup.
9. To adjust the configuration of an ungrouped instance of the item, click the active record indicator for the item, 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 Siebel application prompts the user to log in if the user is not logged in. If the user is not a registered user, then the Siebel application prompts the user to register.

When the user saves the shopping cart as a quote, the quote is added to My Quotes. The user can later convert the quote to an order. 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 later use the template to create orders. When the user uses a template from My Templates, the template is not removed from My Templates.

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.

   My Quotes appears listing the quote. The shopping cart is empty.
5. To save the shopping cart as a quote template, click Save as Template.

   The shopping cart appears. The shopping cart contents are unchanged.

Converting a Quote to an Order (Standard Partner Commerce)

The user converts a quote to an order by transferring a quote from My Quotes to the shopping cart. This transfer removes the quote from My Quotes.

If the quote is not expired, then the items in the quote are transferred to the shopping cart and the checkout process starts. If the quote is expired, then the Siebel application verifies the shopping cart contents:

- If the shopping cart is not empty, then the Siebel application presents the shopping cart contents to the user. The user can cancel the process, save the shopping cart, or discard the shopping cart.
- If the shopping cart is empty, discarded, or saved, then the Siebel application transfers the quote to the shopping cart. The Siebel application recalculates prices and 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 quote.
3. In the My Quotes or My Customer Quotes list, select the quote.
4. In the Quote view, verify that the quote contains all the needed items and that customizable items are configured correctly.
5. Click Order.

   If the quote contains items to be shipped, then the Shipping Information view appears for you to select the shipping address. If you did not set up a payment method, then 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 the user is not logged in, then the user must register and log in.
- Verifies that a complete shipping address is available. If no shipping address is available, then the user must enter or select a shipping address.
- Verifies that a payment method is selected. If no payment method is selected, then the user must select a payment method.
- Computes taxes and shipping costs.
- Presents an order summary. The user can edit the shipping and payment details in the order summary before submitting the order. For example, the user can assign service IDs to items.

This procedure uses the workflows described in "Workflows That Process an Order Checkout" on page 538.

You convert the shopping cart to an order when you check out the order.

To check out an order

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

   If the shopping cart contains items to be shipped, then the Shipping Information view appears for you to select the shipping address. If you did not set up a payment method, then the Payment Method view appears.
4. In the Payment Method form, either enter a credit card and click Continue, or click Bill Me.
5. If you select the Bill Me option, then enter a 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. The user can add quote items to an empty shopping cart to a shopping cart that 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 the Name field.

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

5 In Template, click Order Template.

The shopping cart appears containing the items from the quote template. The Siebel application corrects prices for these items.

6 Click Check Out.

If the shopping cart contains items to be shipped, then the Shipping Information view appears for you to select the shipping address. If you did not set up a payment method, then the Payment Method view appears.

Entering Shipping Information (Standard Partner Commerce)

If an order contains items to be shipped, then the Siebel application verifies that a complete shipping address is available. If no shipping address is available, then 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 edit button for a record 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)

Users who elect to pay with a credit card 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)

Users who elect to be billed later 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 showing the billing address.

Using the Billing Account Payment Method (Standard Partner Commerce)

Users who elect to have their account billed 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 task, see *Siebel eSales Administration Guide* and *Siebel eSales Administration Guide Addendum for Industry Applications*.

Reviewing and Submitting an Order (Standard Partner Commerce)

The user can 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 a Pending status.
4. Review the shipping information, payment information, requested items, and total cost to verify that the information is correct.
5. Select or confirm the Shipping address.
6. Click Submit.

Revising an Order (Standard Partner Commerce)

The user can change an existing order. In this task, the user creates a supplemental order by changing an order that is not yet provisioned.

This procedure uses the workflows described in "Workflows That Revise an Order" on page 552.

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.
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 revise.
5. Click Customize.
6. Change the item and click Checkout.

Selecting Billing and Service Accounts (Standard Partner Commerce)

The user can 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)

The user can change a service item that is already provisioned. The user can change product attributes, features, and components of the service item.

This procedure uses the workflows described in "Workflows That Modify Products and Installed Assets" on page 554.

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, if necessary, select the account with service items to change.

   You might have to select an account for this service if you have multiple accounts.
3. In the Service Items list, select the item to change.
4. Click Modify.
5. When the selection pages appear, change the product attributes, features, and components, as needed.
6. Click Done.

   When the shopping cart appears, you can see the changed action codes.

Disconnecting an Order (Standard Partner Commerce)

The user can disconnect a complete service item and all of its components. This task disconnects the parent product and all child products on lower levels of the hierarchy. You cannot disconnect a child product without disconnecting the parent product.

NOTE: In Standard Partner Commerce, orders and services are the same. When you select Service Items under the Products & Services tab, you access screens to work with existing orders.

This procedure uses the workflows described in "Workflows That Disconnect Products and Services" on page 557.

To disconnect an order

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, if necessary, select the account with service items to disconnect.

You might have to select an account for this service if you have multiple accounts.

3 In the Service Items list, select the item to disconnect.

4 Click Disconnect.

When the shopping cart appears, you can see the product and all of its components with delete action codes.

If a violation is generated, then a message notifies the user of any penalty and asks whether the user wants to accept or reject the penalty. If the user clicks Reject, then the disconnection is canceled. If the user clicks Accept, then the penalty charges are applied. For more information on configuring penalty charges, see "Configuring the Workflow for Promotion Penalties" on page 119.

5 Click Check Out.

Order Management with Power Partner Commerce

This topic 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 those in Oracle's Siebel Communications and Oracle's Siebel Media. This order-entry interface gives the user full access to the Quotes and Orders modules that employees use.

NOTE: The topic about asset-based ordering in *Siebel Order Management Guide* covers the processes and procedures that use the Quotes and Orders modules.

The Power User can help customers who need more assistance. For example, to upgrade the existing service for a customer, a Power Commerce user might need access to the customer account to compare the customer's existing entertainment service package to a new service offering.

After identifying the customer and accessing the customer account, the Power Commerce user can then create a quote and fax, email, or mail the quote to the customer.

Later, the customer might call again to add or delete items from the order or to get additional comparative information. The Power Commerce user can access the appropriate screens based on 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 in the same way that an employee manages them. For more information about managing customer quotes and orders, see the topic about asset-based ordering in *Siebel Order Management Guide*.

10 Workflows for Partner Asset-Based Ordering

This chapter explains the Siebel workflows that are specific to Siebel Partner Relationship Manager order management. Many workflows are common to Siebel Partner Relationship Manager and employee or customer management. These workflows are covered in *Siebel Order Management Guide* and in Chapter 12, "Workflows for Customer Asset-Based Ordering."

This group of workflows, specific to Oracle's Siebel Partner Relationship Manager, directs users to the Power Partner Commerce user interface or the Standard Partner Commerce user interface. It includes one workflow process and one subprocess.

This chapter includes the following topics:

- "CUT eChannel - New Products & Services Process Workflow" on page 529
- "CUT eChannel - Goto Product Catalog View Workflow" on page 531

CUT eChannel - New Products & Services Process Workflow

This workflow identifies the user role as either a Partner Power Commerce user or a Standard Partner Commerce user and then routes the appropriate user interface to the user. Figure 168 shows this workflow. For more information about this workflow, see the topic about workflows for employee asset-based ordering in *Siebel Order Management Guide*.

The user initiates this workflow by logging in at the Partner Portal login screen, selecting the New button from the Installed Assets applet in the Customer Portal view, and selecting New from the Service Items view.

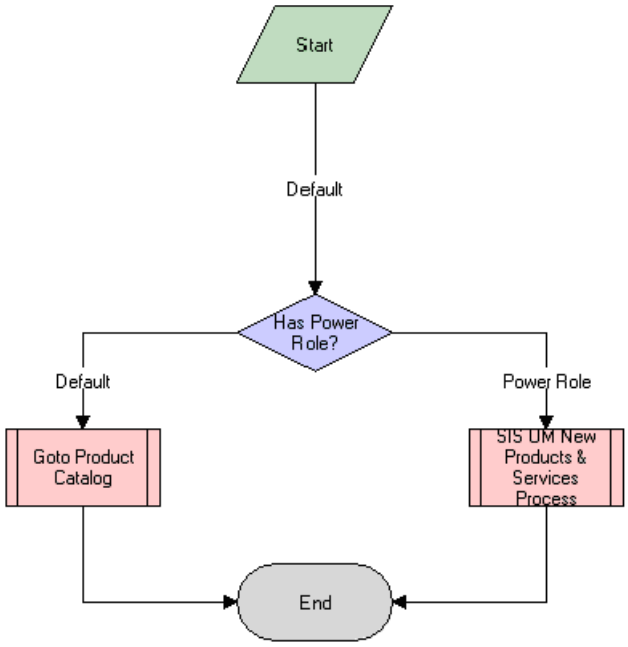

Figure 168.CUT eChannel - New Products & Services Business Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Has Power Role.** This step identifies the user role.
2. **Goto Product Catalog.** This step calls the process to display the appropriate interface for quotes and orders. It calls the "CUT eChannel - Goto Product Catalog View Workflow" subprocess if the user is identified as a Standard Partner Commerce user.
3. **SIS OM New Products & Services Process.** This step calls the process to display the appropriate interface for quotes and orders. It calls the SIS OM New Products & Services Process workflow if the user is identified as a Power Partner Commerce user.

Related Topics

About Order Management in Siebel Partner Relationship Management

CUT eChannel - Goto Product Catalog View Workflow

If the user is identified as a Standard Partner Commerce user, then this workflow displays the product catalog for Standard Partner Commerce. The user can browse eCatalog, select products, and add products to the shopping cart. Figure 169 shows this workflow.

The CUT eChannel - New Products & Services Process workflow calls this workflow as a subprocess.

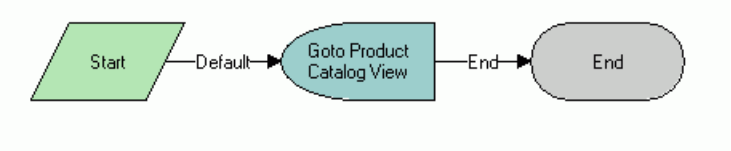

Figure 169.CUT eChannel - Goto Product Catalog View Workflow

Workflow Description. This workflow performs the following action:

- **Goto Product Catalog View.** If the CUT eChannel - New Products & Services Process workflow identifies the user role as Standard Partner Commerce user, then this step displays the product catalog for Standard Partner Commerce users.

Related Topics

About Order Management in Siebel Partner Relationship Management

11 Customer Asset-Based Ordering

This chapter provides information about customer user tasks in asset-based ordering for industry applications. Employee users perform many order management tasks, such as creating accounts, creating quotes, placing orders, and changing orders. Customer users can perform many of these same tasks on the Web. This Web user interface is suitable for customer use. This chapter includes the following topics:

- "About Customer Asset-Based Ordering" on page 533
- "Scenarios for Customer Asset-Based Ordering" on page 534
- "Adding Bulk Items to the Shopping Cart" on page 535
- "Modifying a Service Item" on page 535
- "Disconnecting a Service Item" on page 536

About Customer Asset-Based Ordering

Using asset-based ordering, customer users can perform all the tasks employee users commonly perform using Siebel eSales, including:

- Creating new addresses for an existing account
- Adding items to a shopping cart
- Customizing an item
- Saving a shopping cart as a quote or quote template
- Processing an order checkout
- Converting a quote to an order
- Adding quote template items to the shopping cart
- Entering shipping information
- Using payment methods
- Reviewing and submitting an order
- Revising an order

For more information about the tasks users commonly perform using Siebel eSales, see *Siebel eSales Administration Guide*. In addition, customer users can perform the following tasks that are specific to asset-based ordering:

- "Adding Bulk Items to the Shopping Cart" on page 535
- "Modifying a Service Item" on page 535
- "Disconnecting a Service Item" on page 536

Scenarios for Customer Asset-Based Ordering

These scenarios provide examples of processes that customers of a telecommunications company perform. Your customers might follow a different process according to the business requirements of your company.

Create a Quote and Convert It to an Order

A telecom analyst for a small corporation wants to establish 10 local telephone lines for a new company office. He accesses the GCI Telecom Web site and enters a username and password to see the account information for his company. He creates a new location and enters details for the new service account for the new company office.

He finds that the GCI Small Business Enabler bundle is the most cost-effective solution for his company. This bundle offers five to twenty local telephone lines with voice mail and call waiting for $5.99 for each month for each line and one additional optional feature in the base price. The bundle base price is $25 for each month and includes consolidated billing.

Using Configurator, the analyst customizes the GCI Small Business Enabler bundle of products. He specifies a quantity of 10 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.

Place a Supplemental Order

A residential customer receives an email message about a GCI marketing campaign. The message explains the advantages of the local phone service offered by GCI, and suggests that the customer consider switching from her current phone company to the GCI Oregon Local Breakthrough package. She clicks on the link in the email message to access the GCI Web site.

At the Web site, she sees that the package offered by GCI includes a local telephone line, caller ID, and call forwarding. She decides to place an order, selects the package, and configures the service.

She provides a forwarding number to forward calls to her office number after six rings. She also adds voice mail service to the base package for an additional $6.95 for each month. She clicks Checkout, enters new account and payment information, and confirms the order.

The Siebel application sends the order request to the GCI provisioning system and sends the customer a confirmation email message summarizing the purchased service. Twenty minutes later, the customer reads the email message and decides that $6.95 for each month is too much to pay for voice mail service, so she clicks the link in the email message to access the GCI Web site again.

At the Web site, she reviews 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 original order information 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 wants to change the call forwarding number (that she provided earlier) to her cell phone number, so she selects the forwarding number attribute of the call forwarding service and changes the number. Then, she saves the new configuration for the supplemental order and submits the order. She receives an email message indicating her order confirmation.

Adding Bulk Items to the Shopping Cart

Business customers working on the Web frequently order customizable items in bulk. For example, a business customer might order 20 customizable phone lines for installation at the same location. Rather than configure each phone line separately, the customer can configure one phone line and apply that configuration to all the phone lines. The customer can then adjust as needed the configuration of individual phone lines.

To add bulk items to the shopping cart

1. Add a customizable product to the shopping cart.
2. Navigate to the shopping cart.
3. In the product Qty field, enter the quantity.
4. Click Update Quantity.
5. If necessary, select the product record.
6. Click Customize.

   Selection pages display the customizable components and attributes of the item.
7. Select components and attributes, and then click Done.

   The shopping cart appears.
8. Verify that the product record is selected, and then click Ungroup.

   One record is created for each instance of the customizable item.
9. To adjust the configuration of an ungrouped instance of the item, click the item record, and then click Customize.

Modifying a Service Item

A customer working on the Web can change a service item. The customer can change product attributes, features, and components of the service item.

NOTE: In Oracle's Siebel eSales for Communications, Media, and Energy, orders and services are the same. When you select Service Items under the Products & Services tab, you access 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.

   The Service Items screen appears.

2. In the Select Account list, if necessary, select the account with service items to change.

   You might have to select an account for this service if you have multiple accounts.

3. In the Service Items list, select the item to change.
4. Click Modify.
5. When the selection pages appear, change the product attributes, features, and components, as needed.
6. Click Done.

   When the shopping cart appears, you can see the changed action codes.

Disconnecting a Service Item

A customer working on the Web can disconnect a complete service item and all of its components. This task disconnects the parent product and all child products on lower levels of the hierarchy. You cannot disconnect a child product without disconnecting the parent product.

NOTE: In Oracle's Siebel eSales for Communications, Media, and Energy, orders and services are the same. When you select Service Items under the Products & Services tab, you access screens to work with existing orders.

To disconnect a 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, if necessary, select the account with service items to disconnect.

   You might have to select an account for this service if you have multiple accounts.

3. In the Service Items list, select the item to disconnect.
4. Click Disconnect.

   When the shopping cart appears, you can see the product and all of its components with delete action codes.

5. Click Check Out.

12 Workflows for Customer Asset-Based Ordering

This chapter describes the workflows for customer asset-based ordering.

The workflows are grouped in topics that denote automated business processes. Each topic describes at least one main workflow process and can describe one or more subprocesses that a main process calls. Subprocesses can call additional subprocesses. The workflow listings for each group show how the process and subprocesses are related to each other. In the workflow listings, subprocesses are indented and listed under their corresponding processes.

NOTE: If you cannot see all of the detail in some of the larger workflow diagrams in this chapter, then you can view these workflows in Siebel Tools to see a clearer image.

Many of the 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 the workflows call. For information about these methods, see *Siebel Order Management Infrastructure Guide*.

This chapter includes the following topics:

- "About Workflows for Customer Ordering" on page 537
- "Workflows That Process an Order Checkout" on page 538
- "Workflow That Ungroups Quotes" on page 550
- "Workflow That Creates an Order for a Quote" on page 551
- "Workflow That Edits a Delta Quote Line Item" on page 552
- "Workflows That Revise an Order" on page 552
- "Workflow That Rejects an Order" on page 553
- "Workflows That Modify Products and Installed Assets" on page 554
- "Workflows That Disconnect Products and Services" on page 557

About Workflows for Customer Ordering

Workflows are a central feature of Oracle's Siebel Order Management. They automate the business processes for managing accounts, quotes, orders, and assets. You can modify workflows to suit your business model using Oracle's Siebel Business Process Designer. For more information, see *Siebel Business Process Framework: Workflow Guide*.

Some customer workflows for Oracle's Siebel Communications, Media, and Energy can override the functions specified by certain Siebel Business Applications subprocesses. Table 136 shows these possible overrides.

Table 136. Workflow Overrides for Oracle's Siebel Communications, Media, and Energy

CME Customer Workflow	Subprocess
CUT eSales - Order Quote Process	Display Error Message
CUT eSales - Checkout Process	Login View
CUT eSales - Prepare Shopping Cart View	Display Error Message

Workflows That Process an Order Checkout

This group of workflows processes an order checkout. It includes the following workflow process and subprocesses:

- "CUT eSales - Checkout Process Workflow" on page 538
- "CUT eSales - Set Quote Account Info Workflow" on page 539
- "eSales - Complete Checkout Process Workflow" on page 541
  - "eSales - Enter Shipping Details Process Workflow" on page 542
    - "eSales - Set Primary Account Address Workflow" on page 544
    - "eSales - Save Shipping Address Workflow" on page 544
  - "eSales - Enter Payment Details Process Workflow" on page 545
    - "CUT eSales - Bill Me Process Workflow" on page 547
  - "CUT eSales - Prepare Quote Process Workflow" on page 548
  - "eSales - Authorize Order Process Workflow" on page 549

CUT eSales - Checkout Process Workflow

This workflow calls multiple subprocesses to process an order checkout. Figure 170 shows this workflow.

The user initiates this workflow by clicking the Checkout button in the Shopping Cart view.

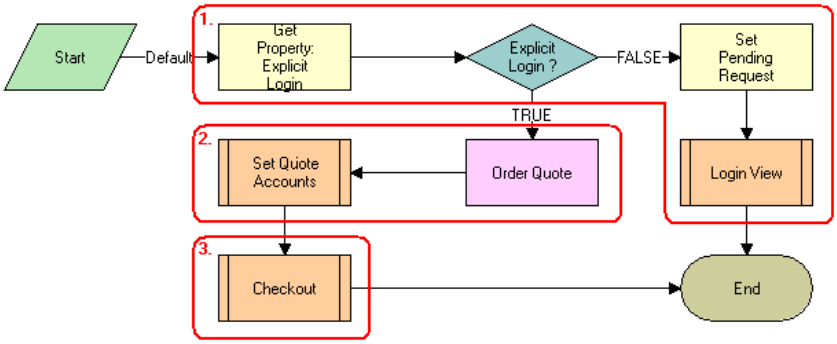

Figure 170.CUT eSales - Checkout Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks to determine whether the user is logged in. If the user is not logged in, then 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 step to redefine the checkout process to meet your business needs.

2. If the user is logged in, then stores the quote ID in the Current Checkout Quote Profile attribute and sets the account information for the quote. For more details, see "CUT eSales - Set Quote Account Info Workflow" on page 539.

3. Completes the checkout process.

CUT eSales - Set Quote Account Info Workflow

This workflow sets account information for a quote. Figure 171 shows this workflow.

The CUT eSales – Checkout Process workflow calls this workflow as a subprocess.

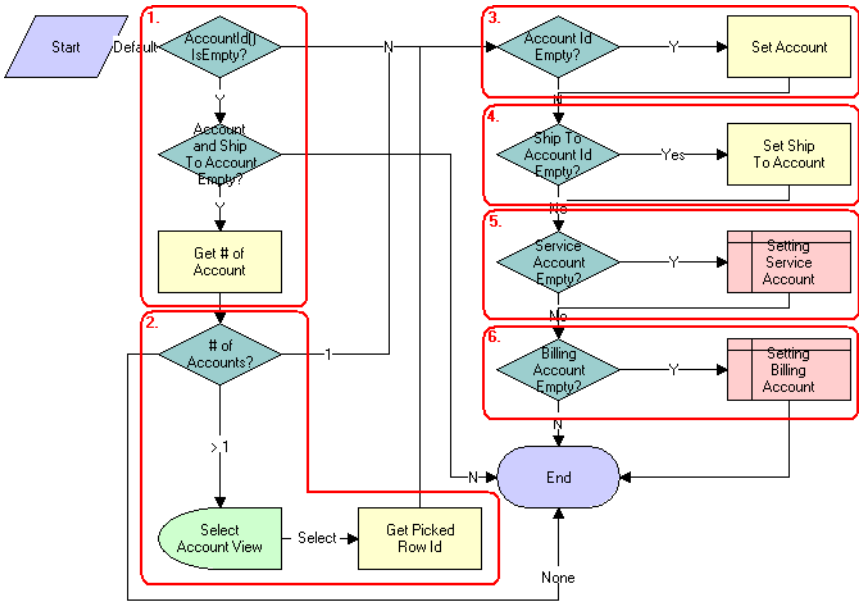

Figure 171.CUT eSales - Set Quote Account Info Workflow

Workflow Description. This workflow performs the following actions:

1. Retrieves the account for the user. If the user does not have an account and the user does not specify a ship-to account for the quote, then counts the number of accounts for which the user is a contact. The Get # of Account step calls the GetBCCount method.
2. If the user is a contact of more than one account, then displays the Select Account view.

   The user must select an account.
3. If the user has an account, if an account is identified as the only account, or if the user selects the account, then fills in the account.
4. If the user specifies the ship-to account, then sets the account to the current account and fills in the account ID information with the quote.
5. If the service account is empty, then sets the service account to the current account and fills in the account ID information with the quote.
6. If the billing account is empty, then sets the billing account to the current account and fills in the account ID information with the quote.

eSales - Complete Checkout Process Workflow

This workflow displays the Order Summary view to allow the user to change shipping and payment details, cancel the order, and confirm the order. If the user continues shopping, then the Shopping Cart view appears. If the user cancels the order, then the Home Page appears. If the user continues with the order, then depending on the order items, the CUT eSales – Auto Select Billing, Service Accounts Process, and CUT eSales – Authorize Order Process initialize to complete the order process. Figure 172 shows this workflow.

The CUT eSales - Checkout Process workflow calls this workflow as a subprocess.

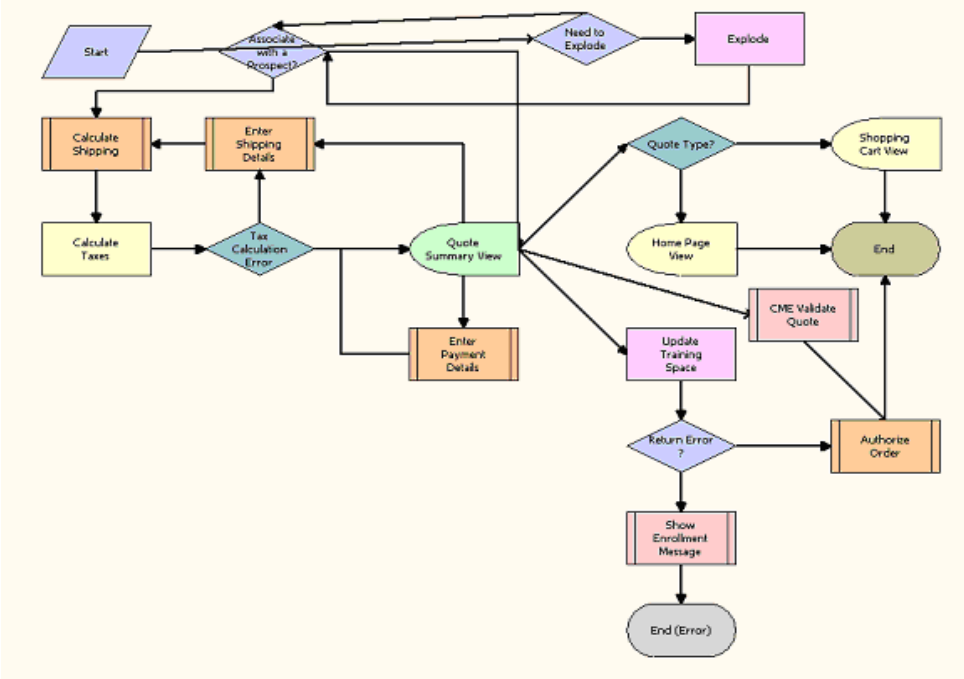

Figure 172. eSales - Complete Checkout Process Workflow

Workflow Description. This workflow performs the following actions:

1. Ungroups any item in the shopping cart that has a quantity of more than one. Ungroups items into multiple items with a quantity of one.

   CAUTION: If you expect orders with large quantities (more than 200 items), then move this ungroup step to after order submission because ungrouping large quantities can adversely affect performance.

2. Checks to determine whether any products are to be shipped. If any products are to be shipped, then calculates the shipping costs.
3. Calculates the taxes.

   If an error occurs, then the user must enter shipping details again.

4. Saves the error message that the prior step returns.

5 If the tax calculation is successful, then displays the Order Summary view.

   In this view, the user can change shipping details, change payment details, proceed with the order, and cancel the checkout.

6 If the user changes the shipping details, then calls the Enter Payment Details subprocess. For more details, see “eSales - Enter Payment Details Process Workflow” on page 545.

7 If the user cancels the checkout, then returns the user to the Home Page if the user initiated the checkout from a quote or to the Shopping Cart view if the user initiated the checkout from the shopping cart.

8 If the user continues with the order, then calls the Prepare Quote and Authorize Order processes to complete the checkout. For more details, see “CUT eSales - Prepare Quote Process Workflow” on page 548 and “eSales - Authorize Order Process Workflow” on page 549.

eSales - Enter Shipping Details Process Workflow

This workflow specifies a destination address for shipping products. Figure 173 shows this workflow.

The CUT eSales - Complete Checkout Process workflow calls this workflow as a subprocess.

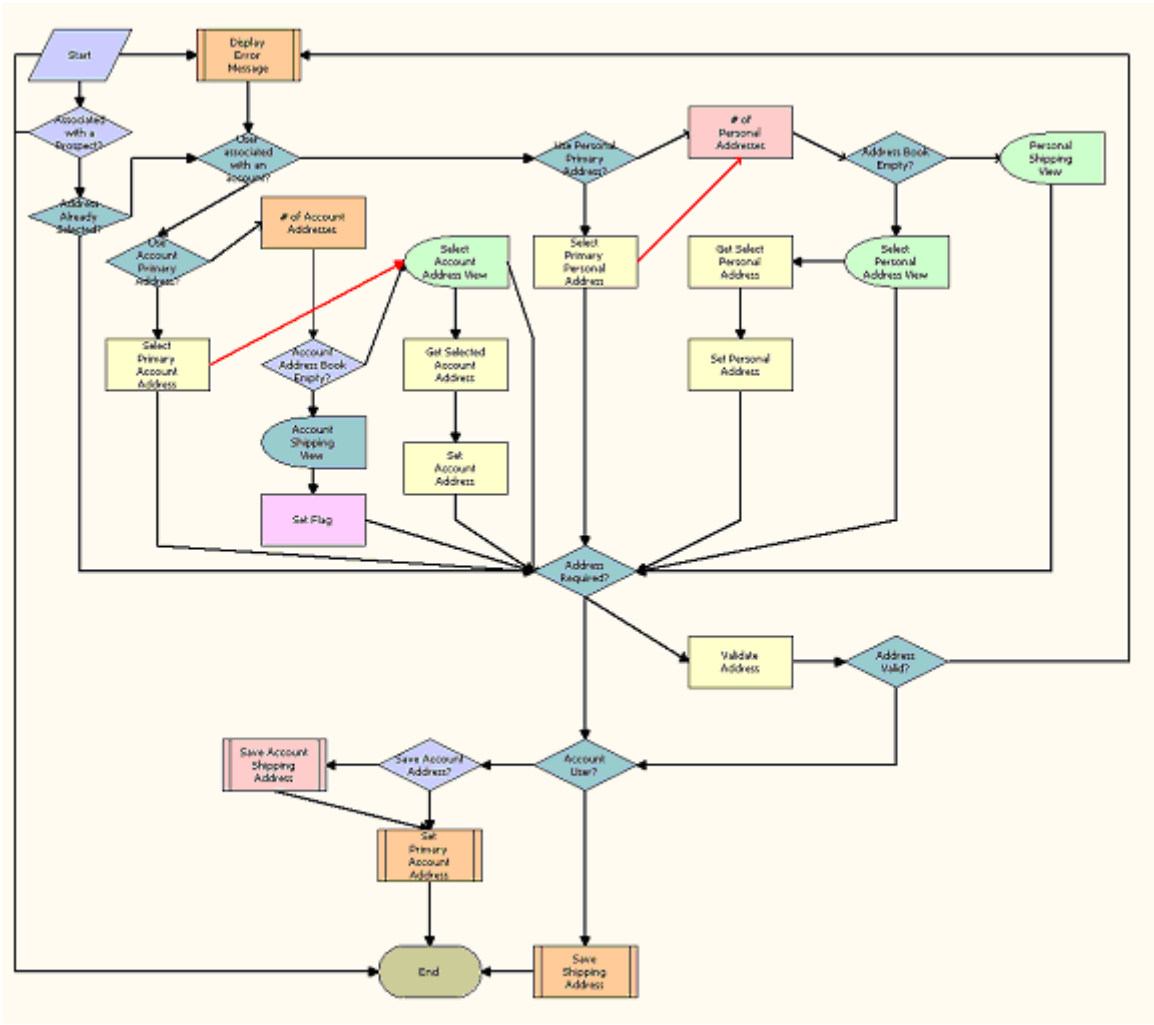

Figure 173.eSales - Enter Shipping Details Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks to determine whether an address is selected.
2. If no address is selected, then checks to determine whether the user has an account. If the user has an account, then checks to determine whether the primary address of the account is used.
3. If the user has an account but the primary address is not used, then displays the Select Account Address view. When the user selects an address, sets the selected address as the account address.
4. If the user has no account, then checks the personal addresses for the user. The # of Personal Addresses step calls the GetBCCount method.

5 If the user has no personal address, and the user's address book is empty, then displays the Personal Shipping view.

   The user enters a shipping address.

6 If the user's address book is not empty, then displays the Select Personal Address view. When the user selects an address, sets the selected address as the user's personal address.

7 If an address is required, then validates the address. If an address is not required, then displays an error message.

8 If the address is valid and the user has an account, then sets the address as the primary address of the account. For more details, see "eSales - Set Primary Account Address Workflow" on page 544.

9 If the user has no account and if the user selects the Save check box in the Personal Shipping view, then saves the shipping address. For more details, see "eSales - Save Shipping Address Workflow" on page 544.

eSales - Set Primary Account Address Workflow

This workflow specifies a primary account address. Figure 174 shows this workflow.

The CUT eSales - Enter Shipping Details Process workflow calls this workflow as a subprocess.

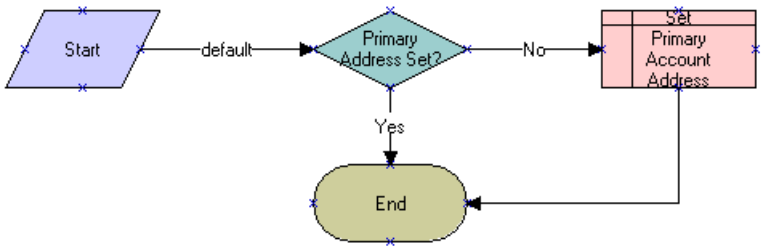

Figure 174.eSales - Set Primary Account Address Workflow

Workflow Description. This workflow performs the following actions:

1 **Primary Address Set?** This step checks for a primary account address.

2 **Set Primary Account Address.** If no primary account address exists, then this step sets the specified account address as the primary account address.

eSales - Save Shipping Address Workflow

This workflow saves a shipping address for an account. Figure 175 shows this workflow.

The CUT eSales - Enter Shipping Details Process workflow calls this workflow as a subprocess.

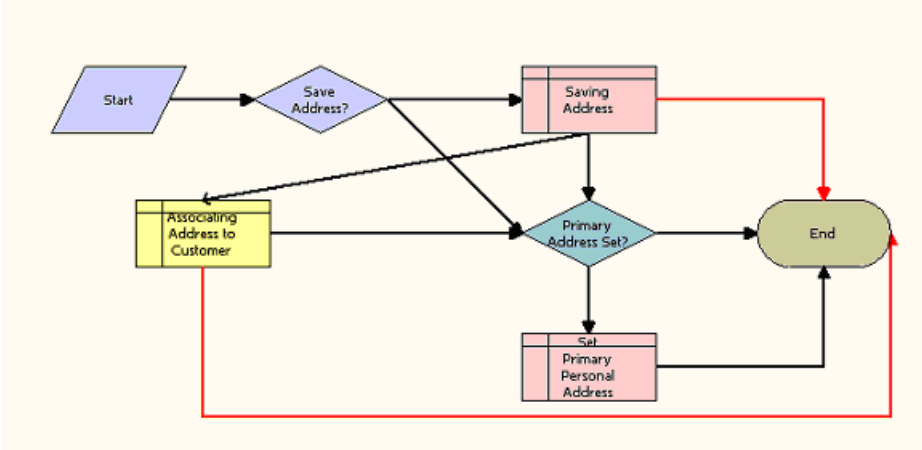

Figure 175.eSales - Save Shipping Address Workflow

Workflow Description. This workflow performs the following actions:

1. **Save Address?** This step determines whether to save the address.
2. **Saving Address.** For an address to save, this step saves the address. If an error occurs in this step, then the workflow terminates.
3. **Associating Address to Customer.** This step associates the address with the customer. If an error occurs in this step, then the workflow terminates.
4. **Primary Address Set?** This step determines whether the account has a set primary address.
5. **Set Primary Personal Address.** If the account does not have a set primary address, then this step sets the new address as the primary address.

eSales - Enter Payment Details Process Workflow

This workflow specifies the type of payment (credit card, purchase order, or future billing). Figure 176 shows this workflow.

The eSales - Complete Checkout Process workflow calls this workflow as a subprocess.

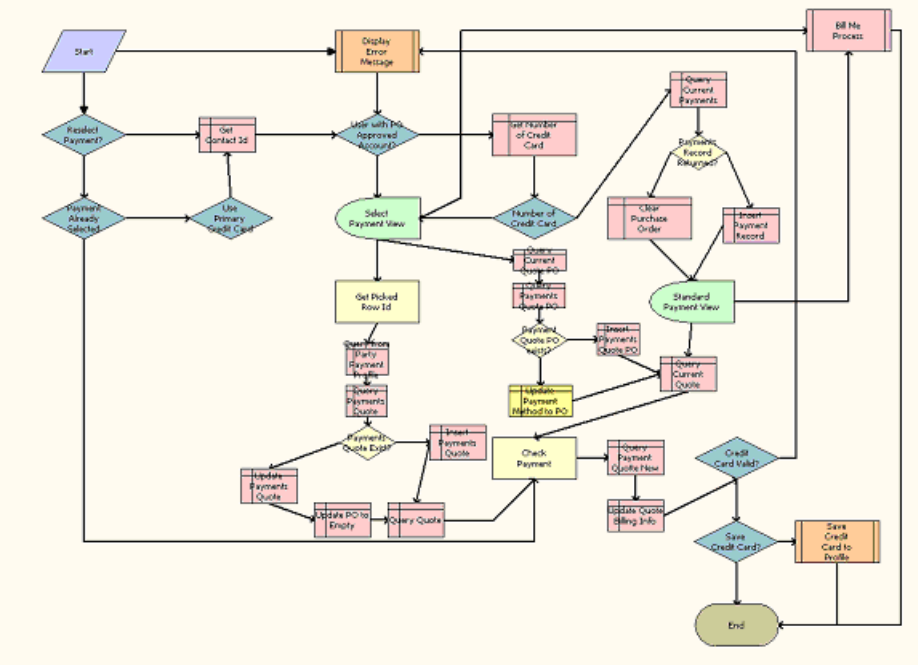

Figure 176.eSales - Enter Payment Details Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks the caller workflow. If the caller workflow passed an error message, then the user must reselect the payment.
2. If a payment option is selected, the verifies the payment option.
3. If the user has a primary credit card, then selects the credit card payment option.
4. Checks to determine whether the user has an approved account for purchase orders.
5. If the user has no approved account for purchase orders, then retrieves the user's credit card information.
6. If the user does not specify a credit card, then displays the Standard Payment view.
7. If the user specifies one or more credit cards or has an approved account for purchase orders, then displays the Select Payment view.

   In the view, the user can pay by credit card, pay by purchase order, or request a future billing.
8. If the user requests a future billing, then calls the Bill Me Process. If the Siebel application definition (evaluated at the applet level) is eSales for CME, and if at least one of the products in the shopping cart is a service item (as defined in the Product Administration), then displays the Bill Me applet. For more details, see "CUT eSales - Bill Me Process Workflow" on page 547.

9 If the user selects the credit card payment method, then clears the purchase order number and the retrieves selected credit card details.

10 If the user selects the purchase order payment method, then clears the credit card details and sets the purchase order payment method.

11 If the user clicks Continue in the Standard Payment view, then clears the purchase order number.

12 Validates the payment method. If the payment method is not valid, then displays an error message.

13 If the credit card is valid, then saves the credit card in the user's profile.

CUT eSales - Bill Me Process Workflow

This workflow identifies and validates a billing address for the user. Figure 177 shows this workflow.

The CUT eSales - Enter Payment Details Process workflow calls this workflow as a subprocess.

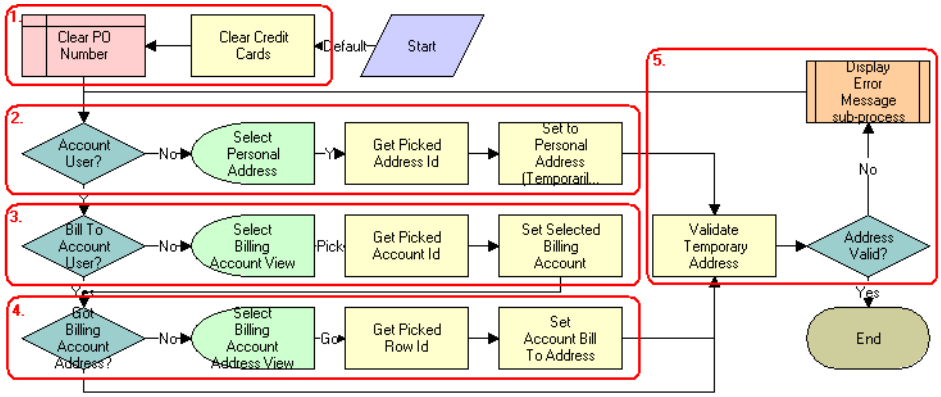

Figure 177.CUT eSales - Bill Me Process Workflow

Workflow Description. This workflow performs the following actions:

1 Clears any credit card and purchase order details.

2 If the users has no account, then gets an address from the address book and sets the billing address to this address.

NOTE: This address information is used to create a billing account for the user.

3 If the user has an account but does not have a billing account, then displays the Select Billing Account view.

The user selects the billing account to use.

4 When the user selects a billing account, if the account has no address, 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 blank, then displays an error message.

The user enters a valid address.

CUT eSales - Prepare Quote Process Workflow

This workflow generates and returns the necessary event information for an order. Figure 178 shows this workflow.

The eSales - Complete Checkout Process workflow calls this workflow as a subprocess.

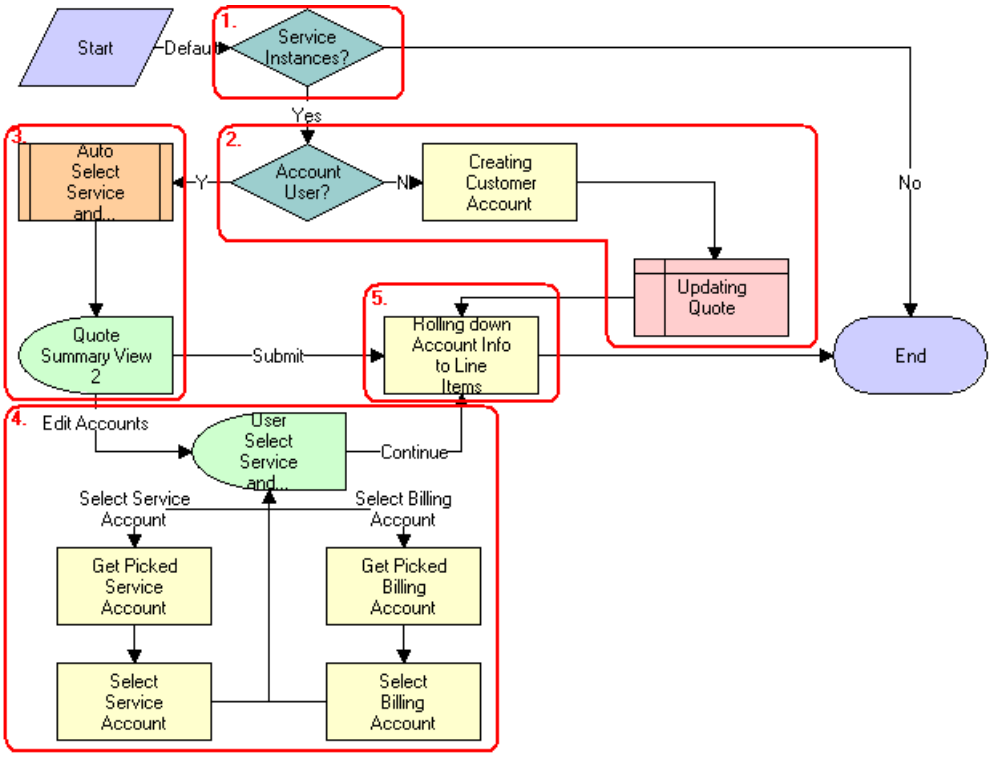

Figure 178.CUT eSales - Prepare Quote Process Workflow

Workflow Description. This workflow performs the following actions:

1 Checks to determine whether any item in the shopping cart is a service instance. If no item is a service instance, then terminates.

2 Checks to determine whether the user has an account. If the user does not have an account, then creates a customer account for the user (based on the shipping and billing address the user provided earlier in the checkout process) and sets the billing and service accounts for the quote to this new account. The Creating Customer Account step calls the CreateOrder method.

3 If the user has an account, then selects the billing and service account and displays these accounts in the Quote Summary view.

   In this view, the user can accept the selected accounts and confirm the order by clicking Submit, or the user can edit the accounts.

4 If the user edits the accounts, then displays the User Select Service and Billing Account view.

   The user selects the required service and billing accounts.

5 If the Service and Billing Account fields do not change (the fields are still NULL), then includes the default values for these fields in the service and billing information in the order header. If either the Service or Billing Account fields change, then retains the current (non-NULL) value. The SetLIAccounts method is called.

eSales - Authorize Order Process Workflow

This workflow verifies payment details and creates a credit card order or purchase order, sends an email message for order approved, and displays the Order Confirmation view. Figure 179 shows this workflow.

The eSales - Complete Checkout Process workflow calls this workflow as a subprocess.

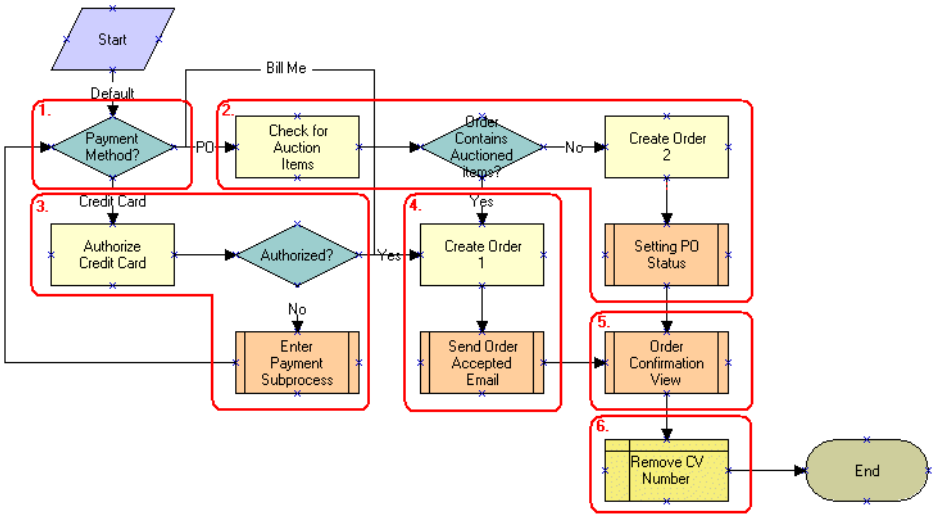

Figure 179.eSales - Authorize Order Process Workflow

Workflow Description. This workflow performs the following actions:

1 Checks the payment method that the user selects.

2 If the user pays by purchase order, then checks to determine whether the order includes any auctioned items. If the order includes no auctioned items, then creates a purchase order.

3 If the user pays by credit card, then authorizes the credit card. If the workflow cannot authorize the credit card, then calls the Enter Payment subprocess.

   The user specifies an another payment method.

4 If the user pays using an authorized credit card, then creates a credit card order and sends a confirmation email message to the user.

5 Explodes the order line items and creates multiple copies of any line item with a quantity greater than one.

6 Removes the card validation number for the credit card.

Workflow That Ungroups Quotes

This workflow ungroups the items of a quote (shopping cart). It includes one workflow process, "CUT eSales - Ungroup Quote Workflow" on page 550.

CUT eSales - Ungroup Quote Workflow

This workflow decomposes all or some line items into multiple instances with a quantity of one when the original quantity is greater than one. This workflow decomposes the root item for the selected item and all the children for this root item into multiple instances.

If the user selects some line items and clicks the Ungroup button, then FrameEventMethodUgroupSelected is called to ungroup only the selected line items. If the user selects no line items and clicks the Ungroup button, then FrameEventMethodUngroupAll is called to ungroup all the line items. Figure 180 shows both variations of this workflow.

NOTE: If you use the variation to ungroup all items, then you must change the configuration by removing the select item column from the shopping cart.

The user initiates this workflow by clicking the Ungroup button in the Shopping Cart view.

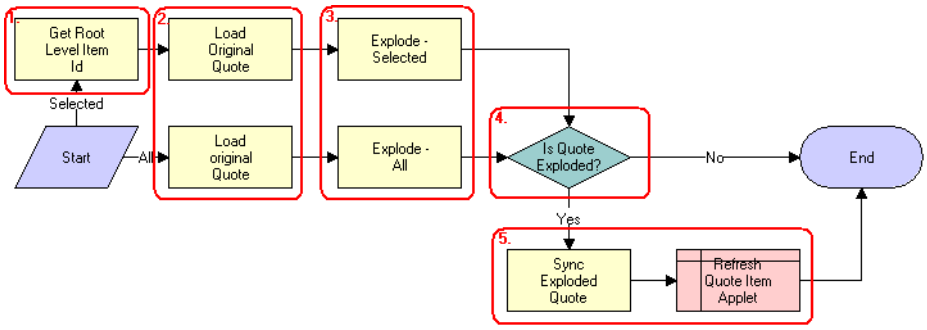

Figure 180.CUT eSales - Ungroup Quote Workflow

Workflow Description. This workflow performs the following actions:

1. If the user selects a quote line, then retrieves the ID for the root level item.
2. Reads the quote from the database.
3. If the user selects some line items, and if the quantity of any component of a selected line item is greater than one, then creates multiple copies of that line item, each with a quantity of one. If the user selects no line items, and if the quantity of any component of all line items is greater than one, then creates multiple copies of that line item, each with a quantity of one. The Explode method is called.
4. If the quote is not completely ungrouped, then terminates.
5. If the workflow does not terminate, then writes line items to the database and refreshes the Shopping Cart view.

Workflow That Creates an Order for a Quote

This workflow creates an order from a saved quote. It includes one workflow process, "CUT eSales - Order Quote Process Workflow" on page 551.

CUT eSales - Order Quote Process Workflow

This workflow creates an order from the current quote by copying the line items from the quote to the order. Figure 181 shows this workflow.

The user initiates this workflow by clicking the Order button in the Quote Detail view in the Siebel eSales application.

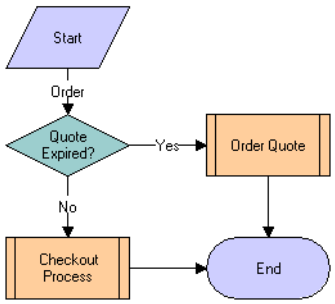

Figure 181.CUT eSales - Order Quote Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Quote Expired?** This step checks to determine whether the quote is expired.

2 **Checkout Process.** If the quote is not expired, then this step calls the Checkout process. For more details, see "CUT eSales - Checkout Process Workflow" on page 538.

3 **Order Quote.** If the quote is expired, then this step calls the Order Quote subprocess.

Workflow That Edits a Delta Quote Line Item

This workflow edits a delta quote line item. It includes one workflow process, "CUT eSales - Edit Delta Quote Line Item Workflow" on page 552.

CUT eSales - Edit Delta Quote Line Item Workflow

This workflow applies open and pending orders to the asset for the selected line item and displays the asset in the Product Configurator view. The user makes changes to define the requested state of the asset and clicks the Done button. The workflow writes the difference between the current and requested state of the asset to the current quote as one or more line items. Figure 182 shows this workflow.

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

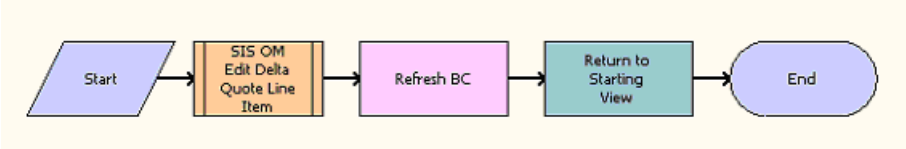

Figure 182.CUT eSales - Edit Delta Quote Line Item Workflow

Workflow Description. This workflow performs the following actions:

1 **SIS OM Edit Delta Quote Line Item.** This step calls SIS OM Edit Delta Quote Line Item to perform configuration.

2 **Refresh BC.** This step refreshes the business component.

3 **Return to Starting View.** This step returns to the shopping cart.

Workflows That Revise an Order

This group of workflows displays the latest version of a revised order. It includes the following workflow process and subprocess:

- "CUT eSales - Revise Order Process Workflow" on page 553
  - "CUT eSales - Goto Revise Order View Workflow" on page 553

CUT eSales - Revise Order Process Workflow

This workflow calls a subprocess to refresh the display. Figure 183 shows this workflow.

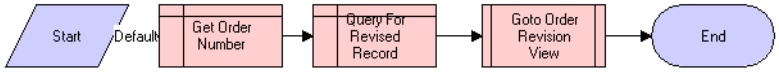

Figure 183.CUT eSales - Revise Order Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Get Order Number.** This step calls Get Order Number.
2. **Query For Revised Record**. This step calls Query For Revised Record.
3. **Goto Order Revision View.** This step calls Goto Order Revision View. For more details, see "CUT eSales - Goto Revise Order View Workflow" on page 553.

   The new view appears.

CUT eSales - Goto Revise Order View Workflow

This workflow displays the Revise Order view. Figure 184 shows this workflow.

The CUT eSales - Revise Order Process workflow calls this workflow as a subprocess.

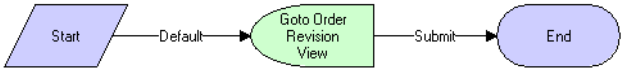

Figure 184.CUT eSales - Goto Revise Order View Workflow

Workflow Description. This workflow performs the following actions:

- **Goto Order Revision View.** This step retrieves the order number of the revised order, retrieves the latest revision of that order, and displays this revision in the Order Revision view.

  NOTE: Revising orders that are PO approved does not change the PO approval amount.

Workflow That Rejects an Order

This workflow rejects an order. It includes one workflow process, "eSales - Reject Order Process Workflow" on page 554.

eSales - Reject Order Process Workflow

This workflow processes an order that a power user (Purchasing Manager or Delegated Administrator) rejects. Figure 185 shows this workflow.

The user initiates this workflow by clicking the Reject button in the Order Approval view.

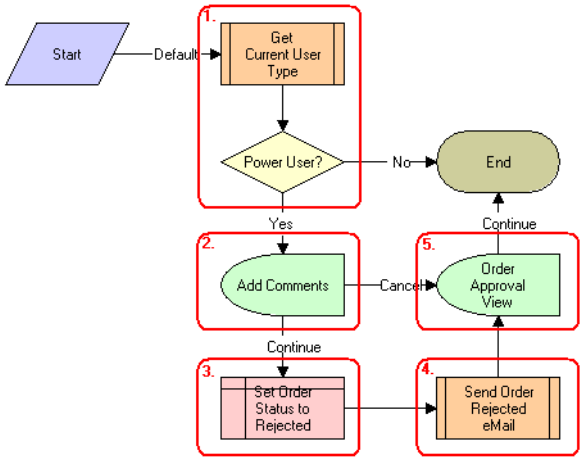

Figure 185.eSales - Reject Order Process Workflow

Workflow Description. This workflow performs the following actions:

1. Checks the type of user who rejects the order. If the user is not a power user (not a Purchasing Manager or Delegated Administrator), then displays a message and terminates.
2. If the user is a power user, then displays the Add Comments view.

   The user enters comments explaining the reason for order rejection or cancels the process.
3. If the user cancels the process, then sets the order status to Rejected.
4. Sends an email message to the contact for the order to inform the contact of the rejection.
5. If the user continues the process, then returns the user to the Order Approval view.

Workflows That Modify Products and Installed Assets

This group of workflows modifies products and installed assets. It includes the following workflow process and subprocess:

- "CUT eSales - Modify Products and Services Process Workflow" on page 555
  - "CUT eSales - Prepare Shopping Cart Process - Interactive Workflow" on page 555

CUT eSales - Modify Products and Services Process Workflow

This workflow calls the SIS OM Edit Complex Asset Workflow to generate a quote line item to change the selected asset and displays the Quote Detail view. Figure 186 shows this workflow.

The user initiates this workflow by clicking on the Modify button on the Installed Assets or Billing Items view in the Oracle's Siebel eSales application.

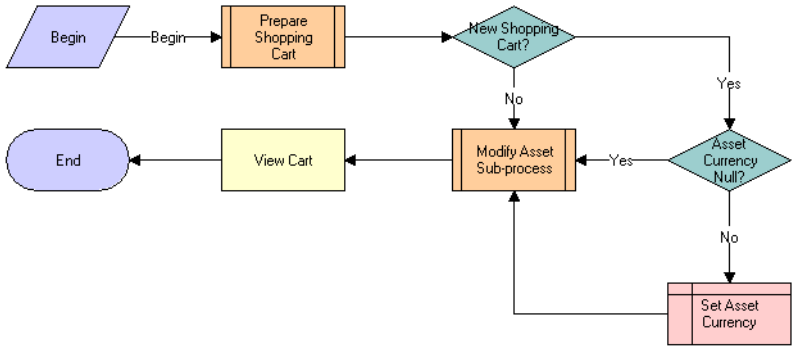

Figure 186.CUT eSales - Modify Products and Services Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Prepare Shopping Cart.** This step prepares the shopping cart so that users can add to the shopping cart the line items that specify the changes to the installed assets. For more details, see "CUT eSales - Prepare Shopping Cart Process - Interactive Workflow" on page 555.
2. **New Shopping Cart?** This step determines whether the shopping car is new.
3. **Asset Currency Null?** If the shopping cart is new, then this step checks the currency code for the asset.
4. **Set Asset Currency.** If no currency is specified, then this step sets the currency to the default.
5. **Modify Asset Sub-process.** This step calls the Modify Asset subprocess to modify the asset that is selected in the Installed Assets or Billing Items view.
6. **View Cart.** When the asset is modified, this step displays the line items that specify the changes in the Shopping Cart view. This step calls the ViewCart method.

CUT eSales - Prepare Shopping Cart Process - Interactive Workflow

This workflow prepares the Shopping Cart view. Figure 187 shows this workflow.

The CUT eSales - Modify Products and Services Process workflow calls this workflow as a subprocess.

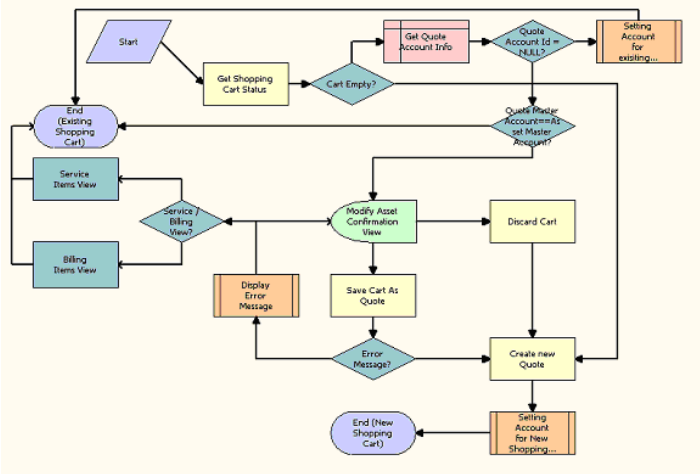

Figure 187.CUT eSales - Prepare Shopping Cart Process - Interactive Workflow

Workflow Description. This workflow performs the following actions:

1. Checks the status of the current shopping cart. If the shopping cart is empty, then creates a new quote (shopping cart).
2. If the shopping cart is not empty and does not have an associated account, then sets the account for the quote to the account to which the modified asset belongs. Then, the workflow terminates.
3. If the shopping cart is not empty and has an associated account, then determines whether the master account for the quote matches the master account to which the modified asset belongs. If the master accounts are the same, then the workflow terminates.
4. If the master accounts are not the same, then displays the Modify Asset Confirmation view.

   The user can save or discard the existing shopping cart, or cancel the modify process.
5. If the user cancels the modify process, then displays the Installed Assets or Billing Items view depending on where the original process was called.
6. If the user saves the shopping cart, then saves the shopping cart. If an error occurs, then displays an error message and returns the user to the Modify Asset Confirmation view. If the cart is saved successfully, then creates a new quote.
7. If the user discards the shopping cart, then creates a new quote.
8. Sets the account for the quote to the account to which the modified asset belongs.

Workflows That Disconnect Products and Services

This group of workflows disconnects products and services. It includes the following workflow process and subprocess:

- "CUT eSales - Disconnect Products and Service Process Workflow" on page 557
  - "CUT eSales - Prepare Shopping Cart Process Workflow" on page 558

CUT eSales - Disconnect Products and Service Process Workflow

This workflow calls the SIS OM Disconnect Asset subprocess to generate a quote line item to disconnect the selected asset and displays the Quote Detail view. Figure 188 shows this workflow.

The user initiates this workflow by clicking the Disconnect button in Installed Assets or Billing Items view.

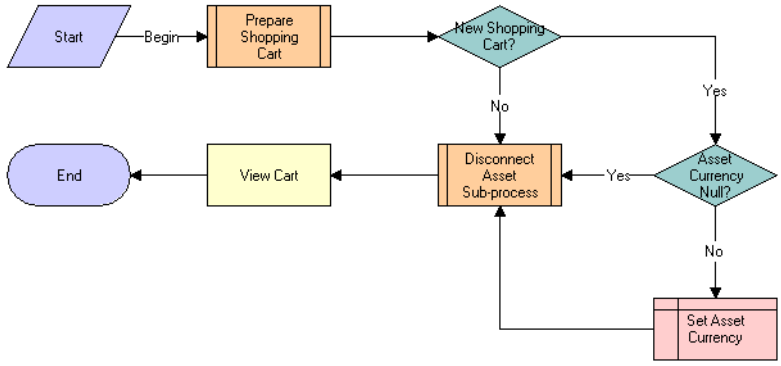

Figure 188.CUT eSales - Disconnect Products and Service Process Workflow

Workflow Description. This workflow performs the following actions:

1. **Prepare Shopping Cart.** This step prepares the shopping cart so that the user can add to the shopping cart the line items that specify the disconnected installed assets. For more details, see "CUT eSales - Prepare Shopping Cart Process Workflow" on page 558.
2. **New Shopping Cart?** This step determines whether the shopping cart is new.
3. **Asset Currency Null?** If the shopping cart is new, then this step checks the currency code for the asset.
4. **Set Asset Currency.** If no currency is specified, then this step sets the currency to the default.
5. **Disconnect Asset Sub-process.** This step calls the Disconnect Asset subprocess to disconnect the asset that is selected in the Installed Assets or Billing Items view.

6 **View Cart.** When the asset is disconnected, this step displays the line items that specify the changes in the Shopping Cart view. This step calls the ViewCart method.

CUT eSales - Prepare Shopping Cart Process Workflow

This workflow prepares the Shopping Cart view.

The CUT eSales - Disconnect Products and Services Process calls this workflow as a subprocess. This workflow is identical to "CUT eSales - Prepare Shopping Cart Process - Interactive Workflow" on page 555, except that this workflow does not use the Interactive Flow workflow mode.

13 Setting Up Network Ordering

This chapter describes how to set up network ordering. It includes the following topics:

- About Network Ordering on page 559
- About Cross-Network Validation on page 560
- Process of Defining Compound Products for a Network on page 562
- Setting Up Premises on page 567
- About the Compound Product Validation Engine on page 568
- Example of Defining Compound Products for a Network on page 571
- About Configuring Network Ordering on page 577
- Enabling and Disabling Cross-Network Validation on page 578
- User Property Reference for Cross-Network Validation on page 579
- Configuring Cascade Deletion for a Disconnected Network on page 581
- About Creating Custom Rule Checkers on page 582

NOTE: In addition to completing the tasks in this chapter, you must activate the appropriate workflows to set up network ordering. For more information about activating workflows, see "Activating Workflows for Order Management for Industry Applications" on page 22.

About Network Ordering

You use the network order entry process to configure products that are too large to configure in real time with Siebel Configurator.

Large telecommunications networks might have 500 nodes and 1,000 connections. Each of these components might have 30 attributes. Use Siebel Configurator for small telecommunications networks that are less than about one-hundredth of this size. Configurator validates configuration in real time, and configuring large networks requires so much processing that real-time validation is not possible.

Network order entry configures products 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 189 illustrates part of a network that uses a frame relay as its network product and several ports and PVCs as its components. Network order entry defines the network and its components as separate products. A foreign key field in the component products relates the components to the network product. Configurator validates the configuration of the individual network product and component products. The Compound Product Validation Engine validates the network across products.

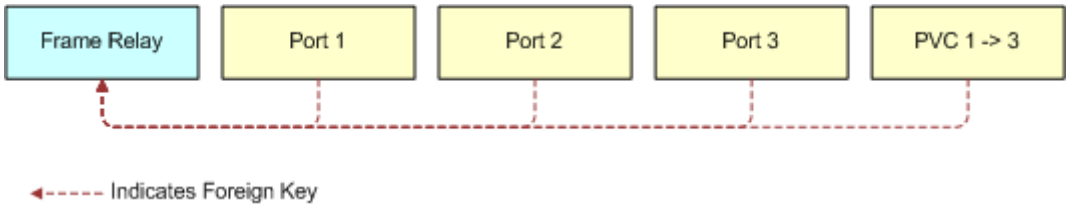

Figure 189.A Network and Its Components

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. Workflows that you can customize run these business services.

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.
- Any two ports can have only one connection.
- 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.

About Cross-Network Validation

In addition to validating the network across products in the current order, network order entry validates the newly ordered products across the customer's existing assets and open orders. This is called cross-network validation, and it allows the Siebel application to validate that the network and network elements in the current quote or order are compatible with other networks that this customer has.

Cross-network validation validates the network and network elements in the current quote or order along with the network and network elements associated with the current network, using the compound validation rules specified in administration screen. The two networks are linked using a configurable user property called ValidateFieldName

NOTE: You might have to install and configure a product patch to use cross-network validation. For more information, see the documentation for the patch.

Example of Cross-Network Validation

Here is a simple example of cross-network validation.

The product administrator has defined the products in Table 137 with compound product validation rules.

Table 137. Products for Cross-Network Validation Example

Product Name	Compound	Network Element Type
Network	Y	Network
Port	N	Network Node
Connection	N	Network Connection

After purchasing these products, the customer has assets with the following structure:

Network 1

Port A

Port B

Now customer wants to add another network with additional nodes and link the existing network nodes with the new network nodes, so the customer creates a quote or order with the following elements:

Network 2

- Port C

- Port D

- Connection X (Port C to Port A).

The ValidateFieldName user property is used to configure the name of the field that connects two networks.

In this example, if cross-network validation is enabled, when the sales representative validates Network 2, then Network 1 is also validated.

Cascade Deletion with Cross-Network Validation

When a node is disconnected, all associated connections are included in the disconnect order or disconnect quote based on the account type. When cross-network validation is used, cascade deletion on a node can also trigger deletion of connections belonging to other networks.

Using the example in this topic, disconnection of Port A triggers the disconnection of Connection X. Similarly, disconnection of Port C triggers the disconnection of Connection X.

Process of Defining Compound Products for a Network

A *network* is a compound product or a loose group of products that a common key ties together. The following component types make up the compound product structure:

- **Network.** The root network product in which you define values that apply across the entire network.
- **Network Node.** A point or a location in a network.
- **Network Connection.** A circuit connecting two points in a network.

Each of these network product components is a self-contained product that can be a customizable product, so users can configure each component of the network separately using Oracle's Siebel Configurator. The compound product structure facilitates validation across all the individual products (cross-element validation).

To define a network as products, perform the following tasks:

1. "Defining Products for the Network" on page 562. Define the network root product, the network node product, and the network connection product.
2. "Defining Business Services for Rule Checkers" on page 564. Define the business services to call to validate the compound product.
3. "Defining Maximum and Minimum Quantities for Network Components" on page 565. Optionally, define maximum and minimum quantities that components require.
4. "Defining Error Messages for Compound Product Rules" on page 565. Create error messages that the simple expression rules use. You create simple expression rules in the next step.
5. "Defining Simple Expression Rules for Compound Products" on page 566. Create simple expression rules that validate the entire network and display messages if errors occur.

Defining Products for the Network

You must define all the network elements, including the network product and the network components, as products.

This task is a step in "Process of Defining Compound Products for a Network" on page 562.

Defining the Network Product

You can define the network product for network ordering (for example, the frame relay) in the same way that 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 you can use these rules if needed.

For more information about defining customizable products, see *Siebel 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 the same way that you define other products.
3. In the More Info form, use the fields described in the following table.

Field	Description
Compound Product	Select this check box to define this product as a compound product.
Network Element Type	Select Network.

Defining Network Components as Products

When customers order networks, salespeople add nodes and connections (for example, ports and PVCs) to the network.

You must set up each of these products using Administration - Products screen, Customizable Products view, Product Designer and Rule Designer subviews to make sure that salespeople select 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 might create a product for Port that has Installation and Local Access Line as child components. Set the Network Element Type of the root of the customizable product to Network Node. Do not set the Compound Product flag.
  - Model each connection as an individual customizable product. For example, you might create a product for PVC with components that include CIR, Diversity, and so on. Set the Network Element Type of the root of the customizable product to Network Connection. Do not set the Compound Product flag.
- 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 *Siebel 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 the same way that you define other products.

3 In the More Info form, use the fields described in the following table.

Field	Description
Network Element Type	Select Network Node or Network Connection.
Compound Product	Deselect this check box.

Defining Business Services for Rule Checkers

The Compound Product Validation Engine business service executes the cross-product validation rules for a compound product and returns any rule violations. The product administrator defines the rules for each of the compound products.

Table 138 shows the rule-checker business services that are available without any product customization.

Table 138. Business Services for Checking Compound Product Validation Rules

Business Service	Description
VORD CPVE Component Cardinality Checker Service	This business service validates that the quantity of network component is between the minimum and maximum allowed.
VORD CPVE Simple Validation Expression Checker Service	This business service executes rules defined in Oracle's Siebel Query Language.

This task is a step in "Process of Defining Compound Products for a Network" on page 562.

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 Product Validation view tab.

4 In the link bar, click Validation Services.

5 In the Validation Services list, add a new record for each rule checker to execute and complete the fields described in the following table.

Field	Description
Sequence	The sequence in which the rule is 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.

The Compound Validation Engine passes these values to the PreValidate and Validate methods of the rule checker business service. For more information, see the topic about creating custom rule checkers in *Siebel Product Administration Guide*.

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 Compound Products for a Network" on page 562.

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 compound product for the network.

3 Click the Product Validation view tab.

4 In the link bar, click Cardinality Rules.

The Cardinality Rules 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	Description
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, then an unlimited quantity of this component is allowed.

NOTE: You must include the compound product in this list, with Min Qty of 1 and Max Qty of 1.

Defining Error Messages for Compound Product Rules

Before you create simple expression rules for compound products, you must use the Unified Messaging Service to define the error messages that these rules display. For more information about using the Unified Messaging Service to define messages, see *Siebel Order Management Infrastructure Guide*.

This task is a step in "Process of Defining Compound Products for a Network" on page 562.

To define error messages for compound product rules

1. Navigate to the Administration - Order Management screen, then the Message Types view.
2. In the All Message Types list, add a new record and complete the necessary fields, as described in *Siebel Order Management Infrastructure Guide*.

   The message that you enter in the Full Text field appears.

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 the Siebel application uses to validate a compound product. For each rule, you define a simple expression and select an error message that you define using the Unified Messaging Service. If the expression is true, then the Siebel application displays the error message to the user and does not validate the compound product.

For more information about Siebel Query Language, see the topic about operators, expressions, and conditions in *Siebel Developer's Reference*.

This task is a step in "Process of Defining Compound Products for a Network" on page 562.

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 compound product for the network.
3. Click the Product Validation view tab.
4. In the link bar, click Product Validation Expression Rules.
5. In the Product Validation Expression Rules list, add one or more new records and complete the necessary fields. Some fields are described in the following table.

Field	Description
Sequence	The sequence in which the rule is executed.
Message	Select the error message that appears if the expression is true.

Field	Description
Search Expression	Enter an expression in Oracle's Siebel Query Language. The expression can refer to fields in the following business components. ■ Asset Mgmt – Asset ■ Asset Mgmt - Asset XA ■ Quote Item ■ Order Item XA ■ Order Entry – Line Item ■ Order Item XA
Aggregate Function	Enter the type of query to 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, then enter the name of the field to aggregate.
Group By Fields	If the expression uses an aggregate function, then optionally enter a comma separated list of fields by which to group the Aggregate function.
Having Expression	If the expression uses an aggregate function, then enter an expression that generates an error message. For example, if you use the [Count] function to count the number of records with an error, then you do not want to generate an error message when [Count] = 0, so in this field, enter [Count] >= 1.

Setting Up Premises

This optional task automatically populates fields when the salesperson captures the customer network locations or creates the customer network. When creating a network node, a salesperson enters the location service address, and the Siebel application populates the LATA, CLLI, and other fields based on the information that you enter when you set up premises.

NOTE: The user can also enter this data 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 All 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	Description
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 term is used in the United States and defines a geographic area that a local telephone carrier covers.
Rate Center	Enter the rate center. A rate center is a geographic area that contains one or more NPA NXX codes. A rate center helps determine the cost of traffic to and from two points.
Local Operating Company	Select the local telecommunications service provider. The dialog box displays all accounts for which Wireline Operating Company is in the Account Type field.

About the Compound Product Validation Engine

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 an 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

Figure 190 illustrates how the Compound Product Validation Engine and its supporting components validate a compound product when a user clicks Validate.

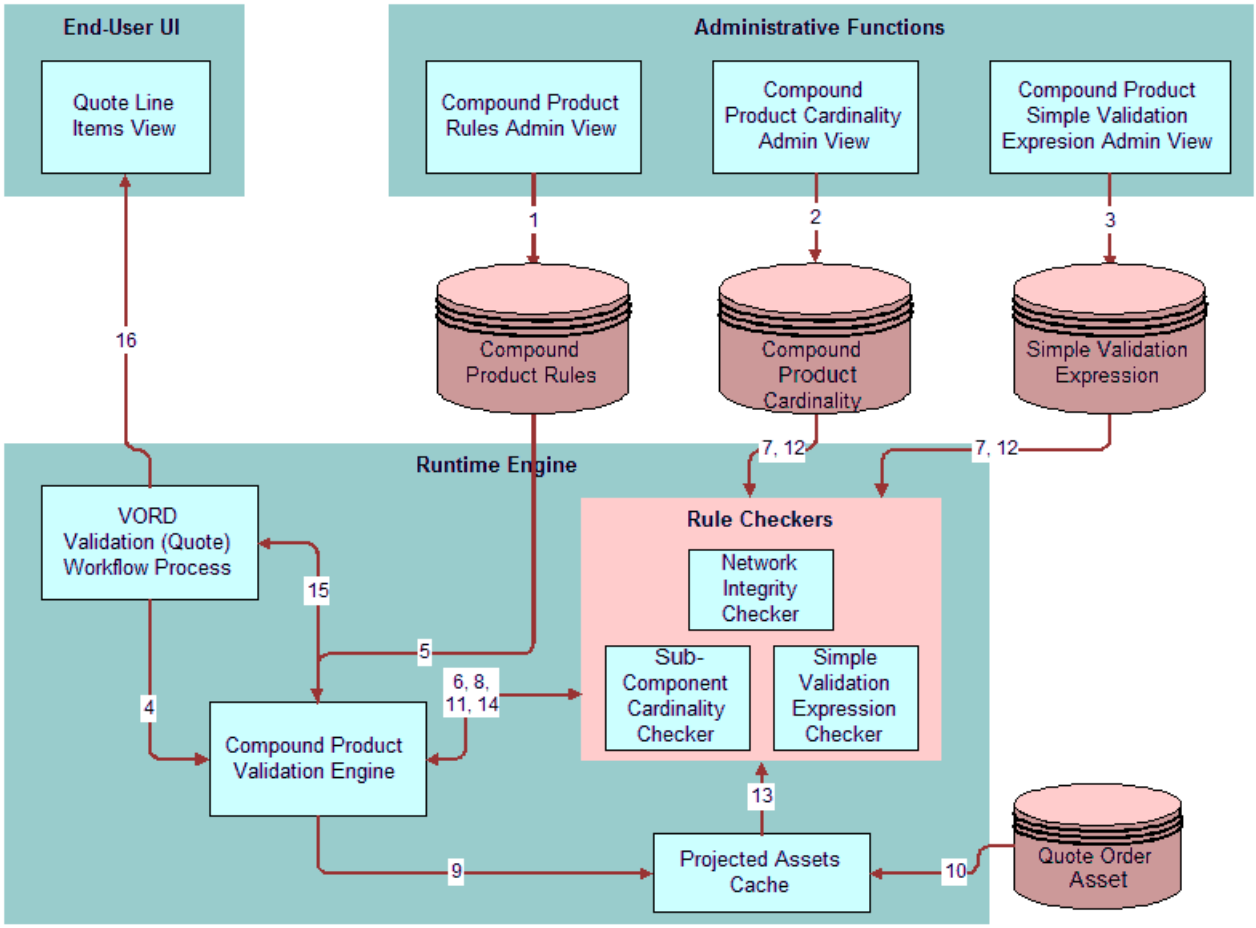

Figure 190.Steps in Compound Product Validation

As Figure 190 illustrates, Compound product validation includes the following steps:

1. Product manager defines the cross-product validation business services rules for the top-level product in the Product Validation view, Validation Services subview. For more information, see "Defining Business Services for Rule Checkers" on page 564.
2. Product manager defines the component cardinality rules for the top-level product in the Product Validation view, Cardinality Rules subview and enters basic validation rules in the Product Validation view, Product Validation Expression Rules subview. For more information, see "Defining Maximum and Minimum Quantities for Network Components" on page 565 and "Defining Simple Expression Rules for Compound Products" on page 566.

3 The 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 calls a named method on the Quote Item business component, which calls the VORD Validate (Quote) workflow process.

4 The VORD Validate (Quote) workflow process determines the selected compound product instance. This workflow process also determines the future date for which to validate the network based on the latest requested date of quote line items for the network. For more information, see the Future Date step in VORD Validate (Quote) in the topic about creating custom rule checkers in *Siebel Product Administration Guide*. This workflow process then calls the Compound Product Validation Engine business service.

5 The Compound Product Validation Engine retrieves the compound product validation rules for the top-level product. For more information, see the Validate step in VORD Validate (Quote) in the topic about creating custom rule checkers in *Siebel Product Administration Guide*.

6 For each rule, the Compound Product Validation Engine calls the Pre-Validate method on the corresponding business service.

7 If necessary, the rule checker business service retrieves product specific data related to the rule (for example, the cardinality constraints for sub components of the compound product).

8 The rule checker determines the fields and attributes it requires and returns them to the Compound Product Validation Engine, which accumulates a list of fields and attributes that all rule checkers require.

9 The Compound Product Validation Engine prompts the Projected Assets Cache to retrieve the compound product instance limited to fields and attributes that the business service validation rules for the compound product require.

10 The Projected Assets Cache retrieves all asset records for the compound product. The cache 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. All changes to the compound product instance in the current quote or current order are applied to generate the true future requested state.

11 For each rule, the Compound Product Validation Engine calls the associated rule checker business service method.

12 If necessary, the rule checker business service retrieves product specific data related to the rule (for example, the cardinality constraints for sub components of the compound product).

13 The rule checker business service queries the Projected Assets Cache to evaluate the rule (for example, the rule checker gets the bandwidth for each PVC connected to a node).

14 The rule checker business service returns a list of rule violations to the Compound Product Validation Engine.

15 The Compound Product Validation Engine accumulates the violations for each rule and returns them to the VORD Validate (Quote) workflow process.

16 The Compound Product Validation Engine business service displays the error message that the user defines in Message Types view.

NOTE: The Compound Product Validation Engine operates independently of a customizable product definition. Furthermore, the engine validates only the top-level component and its immediate attributes. This note affects your modeling of network products.

Tasks of the Compound Product Validation Engine

The Compound Product Validation Engine is a business service that performs these major steps:

1 Finds and sets the future date to pass to the Projected Asset Cache so that only line items with a due date prior to the future date are loaded to the Projected Asset Cache.

2 Calls all the compound product business service rules for the product ID of the passed compound product and accumulates all the required unique fields and attributes in these business service rules.

3 Initializes the Projected Asset Cache and passes the cache the required fields and attributes as parameters. The Projected Asset Cache builds the in-memory future requested compound product instance.

4 Calls all associated business services and rules to operate on the in-memory object instance containing the future projected state of the compound product.

5 Aggregates the error messages for all the rule violations into a single error message to display to the user.

For details about each of rule checker business service methods, see the topic about creating validation rules for compound products in *Siebel Product Administration Guide*.

Projected Asset Cache

The Projected Asset Cache holds an in-memory version of the future requested state of the compound product instance. For information about the Projected Asset Cache, see *Siebel Order Management Infrastructure Guide*.

Example of Defining Compound Products for a Network

This example shows you 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 method of defining compound products for a Network. Depending on your business requirements, you might use a different method.

To define a compound product for a network, perform the following tasks:

1 “Defining the Frame Relay Network Product” on page 572

2 “Defining the Frame Relay Port Product” on page 572

3 “Defining the Frame Relay PVC Product” on page 573

4 “Defining Business Services for Rule Checkers” on page 574

5 “Defining Maximum and Minimum Quantities for Network Components” on page 574

6 “Defining Error Messages for Compound Product Rules” on page 575

7 “Defining Simple Expression Rules for Compound Products” on page 576

Defining the Frame Relay Network Product

The Frame Relay Network is the network product for this sample network. All compound product rules are associated with this product.

In the network product, you can define attributes that apply across the entire network. For example, if the same hardware vendor applies to all the products in the network, then you can define the vendor 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, model the Frame Relay Port product as an individual customizable product.

NOTE: Although in most cases you must model the Frame Relay Port product as an individual customizable product to model valued added services such as reports and installation, you can model the Frame Relay Port product as a simple product and still use the Compound Product Validation Engine.

The attributes of the product can include port speed, level for quality of service, and so on. If you model your nodes as customizable products, then you must make sure that the attributes to use in cross-product validation rules are associated to the root component.

The sub components of the product might include 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
Compound Product	False
Network Element Type	Network Node

3 For a customizable product, set up Configurator rules to define the valid combinations in the product.

For more information about creating products and configuration rules, see *Siebel Product Administration Guide*.

Defining the Frame Relay PVC Product

In most cases, model the Frame Relay PVC product as an individual customizable product.

NOTE: Although in most cases you must model the Frame Relay PVC product as an individual customizable product to model valued added services such as reports and installation, you can model the Frame Relay Port product as a simple product and still use the Compound Product Validation Engine.

The attributes of the product can include Committed Information Rate (CIR), Diversity, and PVC Type (Symmetrical or Asymmetrical).

The sub components of the product might 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 For a customizable product, set up Configurator rules to define the valid combinations in the product.

For more information about creating products and configuration rules, see *Siebel Product Administration Guide*.

Defining Business Services for Rule Checkers

After you define 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 for network ordering. In other cases, you might create and use custom business services to validate the network. For more information, see the topic about creating custom rule checkers in *Siebel Product Administration Guide*.

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 Product Validation view tab.

3 In the link bar, click Validation Services.

4 In the Validation Services list, add a new record and complete the fields described in the following table.

Field	Value
Sequence	1
Business Service	VORD CPVE Component Cardinality Checker Service

5 In the Validation Services list, add another new record and complete the 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. The VORD Validation (Quote) and VOR Validation (Order) workflow processes or other services call these two services. If you add these services, then an error occurs.

Defining Maximum and Minimum Quantities for Network Components

In this example:

- The Frame Relay Network is the compound product. The compound product must have a minimum quantity of 1 and a maximum quantity of 1.
- The Frame Relay Port product is the node. A network has at least two nodes. A network cannot exist without at least two nodes. Therefore, you define a minimum quantity of 2 for the Frame Relay Port product.
- The Frame Relay PVC product (the circuit connecting the two ports) is the connection. Because the two nodes must be connected, you define a minimum quantity of 1 for the Frame Relay PVC product.

Because this network can be as large as the customer wants in the boundaries of the network reach of the provider, you 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 assets. For example, if a customer has five Frame Relay Ports and attempts to disconnect four of them, then the validation displays an error message indicating that the customer no longer has the minimum quantity 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 compound product for the network (the Frame Relay Network product).
3. Click the Product Validation view tab.
4. In the link bar, click Cardinality Rules.

   The Cardinality Rules 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 in the following table.

Product	Minimum Quantity	Maximum Quantity
Frame Relay Network	1	1
Frame Relay Port	2	None.
Frame Relay PVC	1	None.

Defining Error Messages for Compound Product Rules

In this example, you define an error message. A rule that validates if all nodes have a service address uses this error message.

To define error messages for compound product rules

1. Navigate to the Administration - Order Management screen, then the Message Types view.

2 In the All Message Types list, add a new record and complete the fields in the following table.

Field	Value
Name	Service Address Error Message
Title	Validation that All Nodes Have a Service Address
Full Text	[Count] [Product]s are missing service addresses

Defining Simple Expression Rules for Compound Products

Finally, you define simple expression rules that validate across the product and that generate error messages. In this example, the rule checks to determine whether all nodes have a service address and then displays the error message that you defined in the previous step.

To define simple validation expression rules for compound products

1 In the Administration - Product screen, in the Product Validation view, in the link bar, click Product Validation Expression Rules.

2 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	Value
Seq	1
Search Expression	([Network Element Type] = "Network Node" AND [Service Address] = "")
Aggregate Function	Count
Group By Fields	[Product Name]
Having Expression	[Count]>0
Message	Service Address Error Message

Other Samples of Validation Rules and Messages

Table 139 includes more samples of simple expression rules that you can use to validate network ordering. The first column contains the message that you enter in the Short Text and Long Text fields of the Message Type record. The next four columns contain the values that you enter in each Simple Validation Expression Rule record. The last column contains an explanation of the rule.

The first row in the table repeats the example in the previous step. You create the samples in the other rows in the same way you create the previous example. You enter the text of the message in the Message Type record, and then, when you enter values in the Simple Validation Rule record, you select the name of the appropriate Message Type record.

Table 139. Samples of Simple Expression Rules

Message Text	Search Expression	Aggregate Function	Group By Fields	Having Expression	Explanation
[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.
[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 for each end of the connection.
[Product] at [Service Address] must have a different "To Service Address"	([Network Element Type] = "Network Connection" AND ([Service Address] = [To Service Address]))	None.	None.	None.	Validates that the addresses for each end of a connection are different.
[Count] [Product] are missing a from node, a to node, or both	([Network Element Type] = "Network Connection" AND ([Node] = "" OR [To Node] = ""))	Count	[Product Name]	[Count]>0	Validates that all connections have a node for each end of the connection.

About Configuring Network Ordering

You can configure network ordering in the following ways:

- Enabling or disabling cross-network validation. See "Enabling and Disabling Cross-Network Validation" on page 578.
- Modifying the workflows that drive product validation. See:
  - "VORD Validate (Quote) Workflow" on page 246
  - "VORD Validate (Order) Workflow" on page 248
- Modifying user properties. See "User Property Reference for Cross-Network Validation" on page 579.

- Configuring cascade deletion. See "Configuring Cascade Deletion for a Disconnected Network" on page 581.
- Creating custom rule checkers. See "About Creating Custom Rule Checkers" on page 582.

Enabling and Disabling Cross-Network Validation

You enable and disable cross-network validation by setting the ValidateOtherNetwork user property. By default, it is enabled.

NOTE: You might also have to install and configure a product patch to enable cross-network validation. For more information, see the documentation for the patch.

Enabling Cross-Network Validation

Use the following procedure to enable cross-network validation.

To enable cross-network validation

1. Log in to Siebel Tools.
2. Query for the VORD CPVE Validation Service business service.
3. Navigate to the Business Service user properties.

   NOTE: By default, not all object types are visible in the Object Explorer. For information on how to show and hide object types, see the topic on showing and hiding object types in the Object Explorer in *Using Siebel Tools*.
4. Select ValidateOtherNetwork and change the value to Y.
5. Compile the changes.
6. Copy the compiled Siebel repository file (SRF) to the Siebel Server.

For more information about changing user property values, see *Using Siebel Tools*.

Disabling Cross-Network Validation

Use the following procedure to disable cross-network validation.

To disable cross-network validation

1. Log in to Siebel Tools.
2. Query for the VORD CPVE Validation Service business service.

3 Navigate to the Business Service user properties.

NOTE: By default, not all object types are visible in the Object Explorer. For information on how to show and hide object types, see the topic on showing and hiding object types in the Object Explorer in *Using Siebel Tools*.

4 Select ValidateOtherNetwork and change the value to N.

5 Compile the changes.

6 Copy the compiled SRF to the Siebel Server.

For more information about changing user property values, see *Using Siebel Tools*.

User Property Reference for Cross-Network Validation

Cross-network validation uses the following user properties:

- ValidateOtherNetwork on page 579
- ValidateFieldName on page 580
- NestedValidationQuoteSearchSpec on page 580
- VORDConnectionToNodeSearchSpec on page 581

ValidateOtherNetwork

The ValidateOtherNetwork user property allows you to enable and disable cross-network validation.

Table 140 describes the ValidateOtherNetwork user property.

Table 140. ValidateOtherNetwork User Property

Property Information	Comments
Value	Y or N
Usage	To enable cross-network validation, set the ValidateOtherNetwork user property value to Y. To disable this feature, set the value to N.
Parent Object Type	Business Service
Functional Area	VORD CPVE Validation Service

ValidateFieldName

When cross-network validation is enabled, the ValidateFieldName user property allows you to configure a field to contain the nested network name.

Table 141 describes the ValidateFieldName user property.

Table 141. ValidateFieldName User Property

User Property Information	Comments
Value	A user-configurable field that contains the nested network name when cross-network validation is enabled.
Usage	The ValidateFieldName user property allows you to configure a field whose value is the name of the nested network considered for validation. For example, if you want to configure the Service Id field to hold the nested network, then the value of the ValidateFieldName user property must be set to Service Id.
Parent Object Type	Business Service
Functional Area	VORD CPVE Validation Service

NestedValidationQuoteSearchSpec

The NestedValidationQuoteSearchSpec user property allows you to configure a search specification to filter quotes that are not considered for cross-network validation when validating Networks document type Quotes.

Table 142 describes the NestedValidationQuoteSearchSpec user property.

Table 142. NestedValidationQuoteSearchSpec User Property

User Property Information	Comments
Value	A search specification
Usage	The NestedValidationQuoteSearchSpec user property allows you to filter quotes that are not considered when validating quote document type networks. For example, if this user property contains the following value: `'[Status] <> LookupValue('QUOTE_STATUS','Order Placed')'` then cross-network validation does not consider the quotes with an Order Placed status.

Table 142. NestedValidationQuoteSearchSpec User Property

User Property Information	Comments
Parent Object Type	Business Service
Functional Area	VORD CPVE Validation Service

VORDConnectionToNodeSearchSpec

The VORDConnectionToNodeSearchSpec user property allows you to configure a search specification for use with cascade deletion. That is, if you disconnect a network node, then the corresponding network connection is disconnected.

Table 143 describes the VORDConnectionToNodeSearchSpec user property.

Table 143. VORDConnectionToNodeSearchSpec User Property

User Property Information	Comments
Value	A search specification
Usage	You must modify the VORDConnectionToNodeSearchSpec user property when you enable a nested validation for cascade deletion to be invoked. For example, if you want to configure cascade deletion for the disconnected node and the ValidateFieldName user property is set to Service Id, then you modify the search specification as follows: `(Connection.[Node] = Node.[Node] OR Connection.[To Node] = Node.[Node]) AND ((Connection.[Compound Product Number] = Node.[Compound Product Number] OR Connection.[Compound Product Number] = Node. [Serial Number]) AND Connection.[Root Asset Id] = Connection.[Id] AND Connection.[Status] = LookupValue('IMPL_PHASE','Active'))`
Parent Object Type	Business Component
Functional Area	VORD Network Node

Configuring Cascade Deletion for a Disconnected Network

Use the following procedure to configure cascade deletion for a disconnected network. For more information about cascade deletion, see *Configuring Siebel Business Applications*.

To configure cascade deletion for a disconnected network

1. Log in to Oracle's Siebel Tools with administrator privileges.
2. Query for the VORD CPVE Node business component and lock the project.
3. Modify the Search Specification property based on the value of the ValidateFieldName user property.

   For example, the following search specification assumes the value of the ValidateFieldName user property is Service Id:

   ```
   (Connection.[Node] = Node.[Node] OR Connection.[To Node] = Node.[Node]) AND
   ((Connection.[Compound Product Number] = Node.[Compound Product Number] OR
   Connection.[Compound Product Number] = Node. [Serial Number]) AND
   Connection.[Root Asset Id] = Connection.[Id] AND Connection.[Status] =
   LookupValue('IMPL_PHASE','Active'))
   ```

4. Compile the project.

About Creating Custom Rule Checkers

To create custom rule checkers for network ordering, follow the same guidelines for creating custom rule checkers for product validation. For more information, see the topic about product validation in *Siebel Product Administration Guide*.

the Siebel application provides rule checkers that are the same for network ordering and for product validation.

14 Using Network Ordering

This chapter describes how users work with network ordering. It includes the following topics:

- "Process of Ordering New Networks" on page 583
- "Viewing a Network as a Billing or Service Item" on page 588
- "Process of Ordering New Sites in Existing Networks" on page 589
- "Process of Upgrading Bandwidth at Network Sites" on page 593
- "Process of Disconnecting a Site from a Network" on page 596

Process of Ordering New Networks

A salesperson can order a new network for a new customer. The salesperson adds the customer and all features of the network. For general information about network ordering and instructions for setting up network ordering, see Chapter 13, "Setting Up Network Ordering."

To order a new network, perform the following tasks:

1. "Creating an Account and Locations for a New Network" on page 583
2. "Creating a Quote for a New Network" on page 584
3. "Adding Nodes to a New Network" on page 585
4. "Adding Connections to a New Network" on page 586
5. "Validating a Quote for a Network" on page 587
6. "Creating an Order for a New Network" on page 587
7. "Converting a Completed Network Order to Assets" on page 588

Creating an Account and Locations for a New Network

When a salesperson orders a new network for a new customer, first the salesperson creates a new account representing the customer and add locations for all the nodes of the network. For more information about creating an account, see *Siebel Applications Administration Guide*.

This task is a step in "Process of Ordering New Networks" on page 583.

To create an account and locations for a new network

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts list, add a new record, and enter basic information about the account.

3 Click the name of the account.

4 Click the view tabs, and add more information about the contacts at the account, the account profile, and other data needed to create the account.

5 Click the Address Profile view tab.

6 In the Address Profile list, add a new record for each location of a node in 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 567.

Creating a Quote for a New Network

After adding records for all the locations of network nodes, the salesperson can create a quote for the new network. Later, the salesperson attaches all the components of the new network to this quote.

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 583.

To create a quote for a new network

1 Navigate to the Accounts screen, then the Accounts List view.

2 In the Accounts list, click the name of the appropriate account.

The Customer Portal view appears.

3 In the Installed Assets list, click New.

If the account type is not Residential, then the Line Item view of the Quotes screen appears.

4 In the Quote Header form, click the More button.

5 In the Network field, enter a name for the new network.

By default, the value of this field is the quote number. Enter a descriptive name to overwrite the number. The Siebel application uses this name as a key to link together components of the network and as the default for the Network field for all line items in the quote.

6 In the Line Items list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Description
Product	Select a product with a Network Element Type of Network. For example, select a Frame Relay.
Qty	Enter 1.

Adding Nodes to a New Network

After creating a quote 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 nodes. For example, if the network nodes are ports, then the salesperson must add a line item for each port.

Add nodes most efficiently by adding one line item with a quantity of the number of nodes in the entire network. Then configure that line item with the attributes and components that are applicable to all nodes. Then ungroup that item to create a separate line item for each node.

This task is a step in "Process of Ordering New Networks" on page 583.

To add nodes to a new network

1. Select the quote that represents the network.
2. Click the Line Items view tab.
3. In the Line Items list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Description
Product	Select a product with a Network Element Type of Network Node. For example, if Frame Relay is the network product, then select Frame Relay Port as the network node product.
Qty	Enter the number of nodes in the network.

4. For this line item, click Customize and use Configurator to enter the attributes that are common to all the nodes in the network.
5. In the Line Items list, click Ungroup.

   The line item is ungrouped, and a separate line item exists for each node in the network.
6. 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 the node.

      Enter a descriptive name, such as the name of the city in which this node is located. This name is used to connect to 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 automatically populated based on data for the premise.
   e. Enter attributes for the node that are different from the common attributes that you enter in Step 4.

      For a simple product, click the Attributes view tab and enter the attributes in the Attributes form. For a customizable product, click Customize to enter the attributes for the line item.

7 Repeat Step 6 for all of the nodes in the Line Items list.

Adding Connections to a New Network

After creating a quote 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 connections, for example, for each of the PVCs.

This task is a step in "Process of Ordering New Networks" on page 583.

To add connections to a new network

1 Select the quote that represents the network.

2 Click the Line Items view tab.

3 In the Line Items list, add a new record and complete the necessary fields. Some fields are described in the following table.

Field	Description
Product	Select a product with a Network Element Type of Network Connection. For example, select Frame Relay PVC as the network connection product.
Qty	Enter the number of connections in the network.

4 For this line item, click Customize and use Configurator to enter the attributes that are common to all the connections of the network.

5 In the Line Items list, click Ungroup.

The line item is ungrouped, and a separate line item exists for each connection in the network.

6 Enter details for each connection:

a In the Line Items list, select one of the connection line 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 a node for this connection.

In the dialog box, you can 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.

The To node must be different from the node you select as the From node.

e In the Service Address field, select a service address for the From and To Nodes.

Only addresses for the selected service account are available for selection.

f Enter any attributes of the connection that are different from the common attributes that you enter in Step 4.

For a simple product, click the Attributes view tab and enter the attributes in the Attributes form. For a customizable product, click Customize to enter the attributes for the line item.

7 Repeat Step 6 for all of the connections in the Line Items list.

Validating a Quote for a Network

After a salesperson enters 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 583.

To validate a quote for a network

1 In the Network Line Detail form, click Validate.

Though the network product or any network component record is selected, the entire network is validated.

A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

2 Change network line items to resolve any listed errors.

3 Repeat Step 1 and Step 2 until you correct all errors.

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 583.

To create an order for a new network

1 Navigate to the Quotes screen, then the List view.

2 In the Quotes list, click the Name field for the quote for the network.

3 In the Quote Header form, click Auto Order.

The quote is converted to an order.

4 Click the Network Line Detail view tab.

5 Add additional details (for example, the service ID and port number) to network components, as needed.

6 Click Validate.

A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

7 Change network components to resolve any listed errors.

8 Repeat Step 6 and Step 7 until you correct all errors.

9 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 that you can track these assets for service and change orders.

For more information about converting orders to assets, see the topic about the workflow that applies an order to the service profile in *Siebel Order Management Guide*.

NOTE: Before configuration, you can use the Auto Asset button 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 is available, then use the following procedure.

This task is a step in "Process of Ordering New Networks" on page 583.

To convert the network order to an asset

1 Navigate to the Sales Order screen, then the List view.

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 or Service Item

In the Billing Items view or Service Items view, only the network product appears.

This view does not list the other products that are components of this network. If you click the name of the network product, then the Networks screen displays the network product with all of the components.

To view a network as a billing item or a service item

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts list, click the name of the appropriate account.

   The Customer Portal view appears. The Billing Items list and Service Items list include the network products for the selected account.
3. 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 Networks screen to view network components and process changes orders for network components.

Process of Ordering New Sites in Existing Networks

A salesperson can take an order to add a new site to an existing customer 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 589
2. “Creating a Quote for a New Network Site” on page 590
3. “Adding a Node for a New Network Site” on page 590
4. “Adding a Connection for a New Network Site” on page 591
5. “Validating a Quote for a New Network Site” on page 591
6. “Creating an Order for a New Network Site” on page 592
7. “Converting an Order for a New Network Site to Assets” on page 592

Adding a Location for a New Network Site

When a salesperson takes an order to add a new site to an existing customer network, first the salesperson adds the location of the site.

For more information about working with accounts, see *Siebel Applications Administration Guide*.

This task is a step in “Process of Ordering New Sites in Existing Networks” on page 589.

To add a location for a new network site

1. Navigate to the Accounts screen, then the Accounts List view.
2. In the Accounts list, click the name of the account for the new site.
3. Click the Address Profiles view tab.

4 In the Addresses list, add a new record for the location to add 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 567.

Creating a Quote for a New Network Site

After adding a record for a location for the network site, the salesperson creates a quote for the network. The information about the products at the new site are line items of this quote.

This task is a step in "Process of Ordering New Sites in Existing Networks" on page 589.

To create a quote for a new network site

1 Navigate to the Networks screen.

2 In the Networks list, select the network to which to add a site.

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 populated with information about this account and network.

5 To confirm the selected network, 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 589.

To add a node for a new network site

1 In the Line Items view, add a line item for a product with the Network Element Type of Network Node.

For example, if you use Frame Relay as the network product, then 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 the node.

Enter a descriptive name, such as the name of the city in which this node is located. This name is used to connect to this node.

b In the Network Line Detail form, in the Service Address field, select the address of this node.

The Prefix and CLLI field are automatically populated based on data for the premise.

4 Click Customize and use Configurator to enter the attributes of this node.

Adding a Connection for a New Network Site

After creating a quote for a new network site, a 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 589.

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 with the Network Element Type of Network Connection.

For example, you can select Frame Relay PVC as the network connection product.

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 a node for this connection.

In the dialog box, you can select nodes from across the entire network.

b In the To section, in the Node field, select the other node for this connection.

The To node must be a different node you select as the From node.

NOTE: When selecting the From and To nodes, you can select from the existing nodes and the new sites just added to this quote.

4 Click Customize and use Configurator to enter the attributes for this connection.

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 589.

To validate a quote for a network site

1 In the Network Line Detail form, click Validate.

A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

2 Change network components at this site to resolve any listed errors.

3 Repeat Step 1 and Step 2 until you correct all errors.

Creating 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 589.

To create an order for a new network site

1 Navigate to the Quotes screen, then the List view.

2 In the Quotes list, click the Name field for the quote for the network site.

3 In the Quote Header form, click Auto Order.

The quote is converted to an order.

4 Click the Network Line Detail view tab.

5 Add additional details (for example, the service ID and port number) to network components, as needed.

6 Click Validate.

A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

7 Change network components to resolve any listed errors.

8 Repeat Step 6 and Step 7 until you correct all errors.

9 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 that you can track these assets for service and change orders.

For more information about converting orders to assets, see the topic about the workflow that applies an order to the service profile in *Siebel Order Management Guide*.

NOTE: Before configuration, you can use the Auto Asset button 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 is available, then use the following procedure.

This task is a step in "Process of Ordering New Sites in Existing Networks" on page 589.

To convert a line item representing a network component to an asset

1. Navigate to the Sales Order screen, then the List view.
2. Click the order number of the network order that you want to convert.
3. Click the Line Items view tab.
4. For each line item that represents a network component:
   a. Select Complete in the Status field.
   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 a port speed attribute.
- The Frame Relay PVC product has a Committed Information Rate (CIR) attribute.

These attributes represent the bandwidth.

The actual process of upgrading bandwidth depends on the attributes defined to represent bandwidth.

To upgrade bandwidth at a network site, perform the following tasks:

1. “Displaying a Network to Upgrade” on page 593
2. “Upgrading Bandwidth at a Network Site” on page 594
3. “Upgrading Bandwidth of a Network Connection” on page 594
4. “Validating a Network After Bandwidth Upgrade” on page 595
5. “Creating an Order to Upgrade Bandwidth” on page 595
6. “Converting a Completed Order to Upgrade Bandwidth to Assets” on page 595

Displaying a Network to Upgrade

To upgrade bandwidth at an existing network site, first you display the network to upgrade.

This task is a step in “Process of Upgrading Bandwidth at Network Sites” on page 593.

To display a network to upgrade

1. Navigate to the Networks screen.
2. In the Networks list, select the network to upgrade.

Upgrading Bandwidth at a Network Site

To upgrade the 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 593.

NOTE: If you model all of your network components as simple products, instead of using this procedure and the following procedure, then you can navigate to the All Network Elements view of the Networks screen and select both the Network Node and the Network Connection that you want to upgrade. After you select the two or more items, click Modify and a new change quote appears with all selected items as line items. Then navigate to the Attributes view tab and upgrade accordingly.

To upgrade bandwidth at a network site

1. After selecting the network to upgrade, 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.

   A Configurator session appears. You can increase the port speed as required.
4. Click Done.

   A change quote appears.

Upgrading Bandwidth of a Network Connection

To upgrade the Committed Information Rate (CIR) on a network connection, you use the change quote that appears after the last step in "Upgrading Bandwidth at a Network Site" on page 594.

This task is a step in "Process of Upgrading Bandwidth at Network Sites" on page 593.

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.

   A Configurator session appears. You can increase the speed of the network connection CIR.
4. Click Done.

   The change quote appears with a second line item you add.

Validating a Network After Bandwidth Upgrade

After upgrading bandwidth at an existing site, 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 Upgrading Bandwidth at Network Sites" on page 593.

To validate a quote for a network

1. In the Network Line Detail form, click Validate.

   A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

2. Change network components in the quote to resolve any listed errors.
3. If necessary, return to the network view and modify other components to make the components compatible with the changes at this site.
4. Repeat Step 1 though Step 3 until you correct all errors.

Creating 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 593.

To create an order to upgrade bandwidth at a network site

1. Navigate to the Quotes screen, then the List view.
2. In the Quotes list, click the Name field for the quote for the upgrade.
3. In the Quote Header form, click Auto Order.

   The quote is converted to an order.

4. To submit the order, click Submit.

Converting a Completed Order to Upgrade Bandwidth to Assets

As components to upgrade bandwidth are installed, convert the line items representing these components to assets so that you can track these assets for service and change orders.

For more information about converting orders to assets, see the topic about the workflow that applies an order to the service profile in *Siebel Order Management Guide*. For more information about assets, see *Siebel Field Service Guide*.

NOTE: Before configuration, you can use the Auto Asset button 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 is available, then use the following procedure.

This task is a step in "Process of Upgrading Bandwidth at Network Sites" on page 593.

To convert a line item representing a network component to an asset

1. Navigate to the Sales Order screen, then the List view.
2. Search to display the network order.
3. For each line item that represents a network component:
   a. Select Complete in the Status field.
   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 596
2. "Validating a Network After Site Disconnection" on page 597
3. "Creating an Order to Disconnect a Network Site" on page 597
4. "Updating Assets After Network Site Disconnection" on page 597

Disconnecting a Network Node and Connections

When a salesperson disconnects a node from a network, all connections for that node are automatically disconnected.

This task is a step in "Process of Disconnecting a Site from a Network" on page 596.

To disconnect a node and all associate connections

1. Navigate to the Networks screen.
2. In the Networks list, select the network for the node to disconnect.
3. Click the Nodes view tab.

4 In the Nodes list, select the node and click Disconnect.

A new quote is created. The node and any of its connections are copied to the quote and marked for deletion.

Validating a Network After Site Disconnection

After disconnecting a node, the salesperson validates the network to make sure that removing this node does not compromise the network integrity.

This task is a step in "Process of Disconnecting a Site from a Network" on page 596.

To validate a quote for a network

1 In the Network Line Detail form, click Validate.

A dialog box appears indicating that the network is valid, or a dialog box appears listing network errors. If this dialog box does not appear or appears with an unexpected message, then the product is not set up correctly. For more information, see Chapter 13, "Setting Up Network Ordering."

2 Change network components to resolve any listed errors.

3 Repeat Step 1 and Step 2 until you correct all errors.

Creating an Order to Disconnect a Network Site

After creating a quote to disconnect a network site, the salesperson summarizes the changes to make 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 596.

To an order to disconnect a network site

1 Navigate to the Quotes screen, then the List view.

2 In the Quotes list, click the Name field for the quote for the disconnection.

3 In the Quote Header form, click Auto Order.

The quote is converted to an order.

4 To submit the order, click Submit.

Updating Assets After Network Site Disconnection

When the work to disconnect each component at a network site is complete, update the customer assets so that these assets no longer include the component.

For more information about converting orders to assets, see the topic about the workflow that applies an order to the service profile in *Siebel Order Management Guide*.

NOTE: Before configuration, you can use the Auto Asset button 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 is available, then use the following procedure.

This task is a step in "Process of Disconnecting a Site from a Network" on page 596.

To update assets after disconnecting a network site

1. Navigate to the Sales Order screen, then the List view.
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.

A Ambiguity Resolution

This appendix gives examples of how ambiguity resolution might be used in promotion upgrades, splits, or merges. You might use ambiguity resolution differently, depending on your business model. This appendix includes the following topics:

- Sum of Assets Greater Than MAX Cardinality
- Same Product Component Twice
- Multiple Assets of the Same Product

Sum of Assets Greater Than MAX Cardinality

The promotion has a product component with multiple instances among the assets. If the sum of the assets is greater than the MAX cardinality defined in the promotion, then there is an ambiguity.

Sequence 1

Promotion Def

```
Prom1
|
|-> Prod1(1,1,1)
```

Installed Assets

```
Asset    Qty
--------     ----
Prod1     1
Prod1     1
```

Results in an Ambiguity

Sequence 2

Promotion Def

```
Prom1
|
|-> Prod1(,,)
```

Installed Assets

Asset	Qty
Prod1	1
Prod1	1

No Ambiguity

Sequence 3

Promotion Def

Prom1
|
|-> Prod1(2,,)

Installed Assets

Asset	Qty
Prod1	1
Prod1	1

No Ambiguity

Installed Assets

Asset	Qty
Prod1	1
Prod1	2

No Ambiguity

Sequence 4

Promotion Def

Prom1
|
|-> Prod1(,2,)

Installed Assets

Asset	Qty
Prod1	1
Prod1	1

No Ambiguity

Installed Assets

Asset	Qty
Prod1	2
Prod1	2

Results in an Ambiguity

Conclusion

- If no MAX cardinality is defined, then there is no ambiguity.
- If MAX cardinality is defined, then sum up the Qty (in assets). If the sum is:
  - Less than MAX, then there is no ambiguity
  - Greater than MAX, then it is ambiguous

Same Product Component Twice

The promotion has the same product component twice, which results in an ambiguity. The asset has one instance of the promotion component.

Sequence 1

Promotion Def

Prom1
|-> Prod1(1,1,1)
|-> Prod1(1,1,1)

Installed Assets

Asset	Qty
Prod1	1

Results in an Ambiguity

Sequence 2

Promotion Def

Prom1
|-> Prod1(1,1,1)
|-> Prod1(1,2,2)

Installed Assets

Asset	Qty
Prod1	1

Results in an Ambiguity

Installed Assets

Asset	Qty
Prod1	2

No Ambiguity

Sequence 3

Promotion Def

Prom1

|-> Prod1(,,)

|-> Prod1(,,)

Installed Assets

Asset	Qty
Prod1	1

Results in an Ambiguity

Sequence 4

Promotion Def

Prom1

|-> Prod1(,,)

|-> Prod1(1,1,1)

Installed Assets

Asset	Qty
Prod1	1

Results in an Ambiguity

Installed Assets

Asset	Qty
Prod1	2

No Ambiguity

Conclusion

If the Product quantity in the installed assets matches more than one Product cardinality (in the Promotion Def, that is, Asset QTY falls between MIN and MAX cardinalities of more than one Promotion Def), then treat it as ambiguous.

Multiple Assets of the Same Product

There is more than one asset of the same product and that product is in the promotion more than once. If there is a n::m relationship between installed assets and Promotion Def, then treat it as ambiguous. (This is the simplest solution.)

Index

A

ABO Bulk Request - Add Sub-Process Workflow 276
ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow 273
ABO Bulk Request - All Instances Sub Process Workflow 326
ABO Bulk Request - ApplyProductPromotion Workflow 304
ABO Bulk Request - Cancel Process Workflow 298
ABO Bulk Request - Check Eligibility & Compatibility Workflow 307
ABO Bulk Request - Clear Exception Process Workflow 296
ABO Bulk Request - Clear Exception Sub-Process Workflow 297
ABO Bulk Request - Delete Sub-Process Workflow 280
ABO Bulk Request - Disconnect Asset Sub-process Workflow 315
ABO Bulk Request - Disconnect Products & Services Process Workflow 307
ABO Bulk Request - Edit Complex Asset Workflow 299
ABO Bulk Request - Edit Order Line Item workflow 293
ABO Bulk Request - Edit Promotion Related Asset Workflow 317
ABO Bulk Request - Explode Driver Workflow 324
ABO Bulk Request - Explode Workflow 323
ABO Bulk Request - Inclusive Process Action Sub-Process Workflow 270
ABO Bulk Request - Modify Sub-Process Workflow 277
ABO Bulk Request - ModifyWebService-Order Workflow 306
ABO Bulk Request - Notify User Sub-Process Workflow 287
ABO Bulk Request - Parallel Sub Process Workflow 265
ABO Bulk Request - Prepare Action Set Sub-Process Workflow 269
ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow 302
ABO Bulk Request - Promotion - Update Matched Items Sub Process Workflow 319
ABO Bulk Request - Promotion Disconnect Integration SubProcess Workflow 308
ABO Bulk Request - Promotion Disconnect Process Workflow 321
ABO Bulk Request - Reset Process Sub-Process Workflow 298
ABO Bulk Request - Reset Process Workflow 297
ABO Bulk Request - Sub Process Workflow 267
ABO Bulk Request - Submit Driver Process Workflow 262
ABO Bulk Request - Submit Process Workflow 263
ABO Bulk Request - Suspend/Resume Sub-Process Workflow 282
ABO Bulk Request - Upgrade Sub-Process Workflow 285
ABO Bulk Request Add Item Customize Process workflow 288
ABO Bulk Request Add Item Customize SubProcess Quotes Workflow 327
ABO Bulk Request Add Item Customize SubProcess workflow 291
ABO Bulk Request Import Workflow 261
ABO Bulk Request Validate Process workflow 261
access control
for promotion groups 460
rules, defining for promotion group definitions 438
accounts, adding promotion groups 444
action codes, for bulk requests 162
action launchpad, configuring 27
action sets, bulk request
adding 163
changing processing 161
exception types 185
templates, about exploding 183
actions, bulk request
adding 169
exception types 186
agreement processing workflows
ISS Promotion Agreement Management Sub

Process Workflow 501
ISS Promotion Create Agreement Details Workflow 503
ambiguity resolution 108, 599
ambiguity resolution workflows
ISS Promotion Ambiguity Resolution Process - Upgrade 376
ISS Promotion Cancel Ambiguity Process 377
ISS Promotion Collect Eligible List 374
as submitted orders, about 135
asset processing workflows
ISS Promotion Group Asset List Sub Process Workflow 472
ISS Promotion Group Associate Member Sub Process Workflow 472
ISS Promotion Group Associated Member Sub Process Workflow 474
ISS Promotion Group Disconnect Process Workflow 479
ISS Promotion Group Membership Disconnect Process Workflow 475
Product Compatibility - Default Workflow 485
asset-based ordering
about 19
workflows 204
assets
associating with a promotion group 447
cardinality rules for promotion groups, defining 433
compatibility rules for promotion groups, creating 430
debundling components from a promotion 109
disconnect processing and validations 460
pricing for promotion groups, about adjusting 420
time-based offerings 144
viewing membership information 454

B

backward compatibility workflows
SIS OM Auto Select Order Billing and Service Accounts 218
SIS OM Auto Select Quote Billing and Service Accounts 218
Basic Pricing Procedure workflow 332
billing
items, overview 20
profiles, setting up for prepaid services 188
bulk ordering workflows
See bulk request workflows
bulk quotes and bulk orders
See bulk requests
bulk request workflows
ABO Bulk Request - Add Sub-Process Workflow 276
ABO Bulk Request - All Exclusive Process Action Sub-Process Workflow 273
ABO Bulk Request - All Instances Sub Process 326
ABO Bulk Request - ApplyProductPromotion 304
ABO Bulk Request - Cancel Process Workflow 298
ABO Bulk Request - Check Eligibility & Compatibility 307
ABO Bulk Request - Clear Exception Process Workflow 296
ABO Bulk Request - Clear Exception Sub-Process Workflow 297
ABO Bulk Request - Delete Sub-Process Workflow 280
ABO Bulk Request - Disconnect Asset Sub-process 315
ABO Bulk Request - Disconnect Products & Services Process 307
ABO Bulk Request - Edit Complex Asset Workflow 299
ABO Bulk Request - Edit Order Line Item 293
ABO Bulk Request - Edit Promotion Related Asset Workflow 317
ABO Bulk Request - Explode Driver Workflow 324
ABO Bulk Request - Explode Workflow 323
ABO Bulk Request - Inclusive Process Action Sub-Process Workflow 270
ABO Bulk Request - Modify Sub-Process Workflow 277
ABO Bulk Request - ModifyWebService-Order 306
ABO Bulk Request - Notify User Sub-Process Workflow 287
ABO Bulk Request - Parallel Sub Process Workflow 265
ABO Bulk Request - Prepare Action Set Sub-Process Workflow 269
ABO Bulk Request - Promotion - Add Missed Items Sub Process Workflow 302
ABO Bulk Request - Promotion - Update Matched Items Sub Process 319
ABO Bulk Request - Promotion Disconnect Integration SubProcess 308
ABO Bulk Request - Promotion Disconnect Process 321
ABO Bulk Request - Reset Process Sub-

Process Workflow 298
ABO Bulk Request - Reset Process Workflow 297
ABO Bulk Request - Sub Process Workflow 267
ABO Bulk Request - Submit Driver Process Workflow 262
ABO Bulk Request - Submit Process Workflow 263
ABO Bulk Request - Suspend/Resume Sub-Process Workflow 282
ABO Bulk Request - Upgrade Sub-Process Workflow 285
ABO Bulk Request Add Item Customize Process 288
ABO Bulk Request Add Item Customize SubProcess 291
ABO Bulk Request Add Item Customize SubProcess Quotes 327
ABO Bulk Request Import Workflow 261
ABO Bulk Request Validate Process 261

bulk requests
action codes 162
action exception types 186
action set exception types 185
action sets, adding 163
action sets, changing processing 161
actions, adding 169
bulk orders, viewing 181
bulk quotes, viewing 181
cancellation processing, configuring 148
creating with a target list 174
data, adding manually 163
eligibility and compatibility rules 186
exception data, about 185
exception data, managing 179
exploding action set templates 183
fields, adding to business components 152
fields, adding to integration components 153
header, creating 162
import process, configuring 159
import template files 153
import templates, adding custom fields 151
import templates, creating 149
import validation rules, configuring 156
importing data from a template file 173
instance exception types 185
instances, adding 166
managing, about 146
Mobile Web Client, setting up 160
process of managing 162
processing logic, about 182
processing, about 182
roadmap for configuring 147
status values 177
submitting 177
target list data, adding 175
template file validation 174
template quotes and orders 260
validating 177
validation, configuring 158
workflows 259
XLS source file fields 150
XLS source file macros 150
XLS source files, updating 154

bundled promotions
bundling components, about 96
bundling components, scenario 97
compatibility rules, defining 98
component assets, debundling 109
editing 92
user interfaces, defining 91

business components, adding custom fields 152

C

cancellation processing, configuring for bulk requests 148
cardinality rules, defining for promotion group assets 433
cascade deletion, configuring for disconnected networks 581
catalog categories, associating promotion group definitions 439

change orders
billing and service accounts, selecting 526
disconnecting an order 527
modifying an order 527
revising an order 526

changing SIM cards 29
charge plans, entering for promotion group definitions 423

commitments
adding to a promotion group definition 422
defining for promotion component agreements 104
defining for promotion component relationships 103
defining for promotion components 102
deleting a promotion component, scenario 105
disconnecting promotion component commitments 105
promotion component commitments, about 101
promotion component penalty charges, about 106

terms, in promotion group definitions 425
compatibility rules
in bulk requests 186
creating for promotion group assets 430
creating for promotion group definitions 429
creating for promotion group memberships 429
defining for bundled promotions 98
defining for customizable products 117
compatibility rules workflows
ISS Promotion Asset Membership Compatibility Workflow 498
ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow 493
ISS Promotion Group Compatibility - Require Rules SubProcess Workflow 496
Compound Product Validation Engine
about 568
overview 569
Projected Asset Cache 571
tasks of 571
compound products, defining for a network 562
CompProdLn Multi Value Search user property 89
configuring
action launchpad. 27
bulk requests 147
customer analytics 27
customer dashboard 26
navigation pane. 26
network ordering, about 577
cross-network validation
about 560
cascade deletion 561
enabling and disabling 578
example 561
user property reference 579
customer analytics, configuring 27
customer asset-based ordering
about 533
about workflows 537
customer dashboard
configuring 26
using 29
customer experience
adding bulk items to shopping cart 535
asset-based ordering, business scenarios 534
creating supplemental orders 534
disconnecting service items 536
modifying service items 535
quote-to-order process 534
customer orders, business scenario for partner experience 516
customer workflows
creating order from quote 551
disconnecting products and services 557
editing delta quote line items 552
modifying products and installed assets 554
order checkout 538
rejecting an order 553
revising orders 552
ungrouping quotes 550
customizable products, defining compatibility rules 117
CUT eChannel - Goto Product Catalog View Workflow 531
CUT eChannel - New Products & Services Process Workflow 529
CUT eSales - Bill Me Process 547
CUT eSales - Checkout Process 538
CUT eSales - Disconnect Products and Service Process 557
CUT eSales - Edit Delta Quote Line Item 552
CUT eSales - Goto Revise Order View 553
CUT eSales - Modify Products and Services Process 555
CUT eSales - Order Quote Process 551
CUT eSales - PC Enrollment Process workflow 255
CUT eSales - PC Prepare Cart Process workflow 257
CUT eSales - Prepare Quote Process 548
CUT eSales - Prepare Shopping Cart Process 558
CUT eSales - Prepare Shopping Cart Process - Interactive 555
CUT eSales - Reject Order Process 554
CUT eSales - Revise Order Process 553
CUT eSales - Set Quote Account Info 539
CUT eSales - Set Shopping Cart Price List workflow 257
CUT eSales - Ungroup Quote 550

D

delta quotes, workflow for editing line items 552
disconnected networks, configuring cascade deletion 581
disconnection, of promotions 67
discount products, creating for time-based offerings 140
discounts
about mapping to Oracle Communications Billing and Revenue Management 122

adding to a bundled promotion for a time-based offering 141
Dynamic Pricing Procedure workflow 335
dynamic transform workflows
ISS Promotion Dynamic Transform Order Reprice Sub Process 374
ISS Promotion Dynamic Transform Order Sub Process 371
ISS Promotion Dynamic Transform Process 368
ISS Promotion Dynamic Transform Quote Reprice Sub Process 371
ISS Promotion Dynamic Transform Quote Sub Process 369

E

Edit Promotion view, configuring product selection 89
editing bundled promotions 92
eligibility rules
in bulk requests 186
creating for promotion group definitions 427
employee workflows
ambiguity resolution 374
bulk requests 259
dynamic transform 367
enrollment 252
generating revenue line items 204
order cancellation 359
order price calculation 331
order processing 341
prepaid services 330
price comparison 249
promotion processing 393
quote processing 363
time-based offerings 366
user prompts 378
validating a network 246
enrollment workflows
CUT eSales - PC Enrollment Process 255
CUT eSales - PC Prepare Cart Process 257
CUT eSales - Set Shopping Cart Price List 257
SIS OM PC Create Account Subprocess 254
SIS OM PC Enrollment 252
SIS OM PC Go To Opportunity View 255
SIS OM PC Go to Order Entry - Line Items View (Sales) 258
SIS OM PC Set Opportunity Account 255
eSales - Authorize Order Process 549
eSales - Complete Checkout Process 541
eSales - Enter Payment Details Process 545
eSales - Enter Shipping Details Process 542
eSales - Save Shipping Address 544
eSales - Set Primary Account Address 544
exception data
in bulk requests, about 185
in bulk requests, managing 179
extensible product fields 66

F

fallout orders
about managing 196
viewing 198
follow-up task workflow 23
FrameEventMethodUgroupAll 550
FrameEventMethodUgroupSelected 550

H

hierarchies, building for orders 131

I

import process
configuring for bulk requests 159
validation rules, configuring 156
import templates
adding custom fields, process 151
creating for bulk requests 149
setting up version numbers 153
installed assets
overview 20
promotion group access control 463
service points 21
topping up balances for 189
workflows for modifying 554
instances
adding to a bulk request 166
exception types 185
of promotion groups, creating 444
integration
components, adding custom fields 153
discounts and price overrides, about mapping to Oracle Communications Billing and Revenue Management 122
orders, processing through Oracle Application Integration Architecture 124
products, setting up for Oracle Application Integration Architecture integration 120
quotes, processing through Oracle Application Integration Architecture 55
ISS Modify Promotion Group Workflow 484
ISS Promotion Agreement Management Sub Process Workflow 501
ISS Promotion Ambiguity Resolution Process - Upgrade workflow 376

ISS Promotion Asset Membership Compatibility Workflow 498
ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow 506
ISS Promotion Cancel Ambiguity Process workflow 377
ISS Promotion Collect Eligible List workflow 374
ISS Promotion Create Agreement Details Workflow 503
ISS Promotion Dynamic Transform Order Reprice Sub Process workflow 374
ISS Promotion Dynamic Transform Order Sub Process workflow 371
ISS Promotion Dynamic Transform Process workflow 368
ISS Promotion Dynamic Transform Quote Reprice Sub Process workflow 371
ISS Promotion Dynamic Transform Quote Sub Process workflow 369
ISS Promotion Group Asset List Sub Process Workflow 472
ISS Promotion Group Associate Member Sub Process Workflow 472
ISS Promotion Group Associated Member Sub Process Workflow 474
ISS Promotion Group Check Commitment Sub Process workflow 508
ISS Promotion Group Compatibility - Exclude Rules SubProcess Workflow 493
ISS Promotion Group Compatibility - Require Rules SubProcess Workflow 496
ISS Promotion Group Disconnect Process Workflow 479
ISS Promotion Group Membership Disconnect Process Workflow 475
ISS Promotion Group Validate (Order) Workflow 508
ISS Promotion Group Validate (Quote) Workflow 509
ISS Promotion Prompt Interactive Sub Process workflow 378
ISS Promotion Verify SubProcess Workflow 505

M

managing bulk requests
about 146
process 162
master accounts 21
members
adding to a promotion group 455
disconnecting from a promotion group 455
process of managing 454
membership definitions
adding to a promotion group definition 405
adding to price lists 414
commitments, defining 426
compatibility rules, creating 429
membership domains, defining 405
setting pricing adjustments 414
membership products, creating for promotion groups 402
memberships
adding to a promotion group 446, 452
defining attribute values 449
disconnect processing and validations 459
disconnecting from a promotion group 454
modifying 452
pricing for promotion groups, about adjusting 420
merged promotions
defining 81
example 81
messages
order management, processing 96
Mobile Web Client, setting up for bulk requests 160
modification workflow, ISS Modify Promotion Group Workflow 484
multiple price types, and opportunities 54

N

navigation pane, configuring 26
NestedValidationQuoteSearchSpec user property 580
network compound products
business services for rule checkers, defining 564
error messages, defining 565
example of defining 571
maximum and minimum quantities, defining 565
process of defining 562
products, defining 562
simple expression rules, defining 566
network ordering
about 19, 559
about configuring 577
network sites, disconnecting
creating an order for 597
disconnecting node and connections 596
updating assets after 597
validating a network after 597
network sites, new
adding a connection for 591

adding a location for 589
adding a node for 590
converting orders to assets 592
creating a quote for 590
creating an order for 592
validating a quote for 591
network validation workflows
VORD Validate (Order) 248
VORD Validate (Quote) 246
networks
disconnected, configuring cascade deletion 581
disconnecting sites from 596
nodes, associating with service accounts in a promotion 100
ordering new 583
ordering new sites in 589
upgrading bandwidth at sites 593
viewing as a billing or service item 588
networks, new
adding connections to 586
adding nodes to 585
converting orders to assets 588
creating a quote for 584
creating an account and locations for 583
creating an order for 587
validating a quote for 587
notifications, setting up for promotion group definitions 440

O

opportunities
multiple price types, effects 54
revenue line workflow, SIS OM Update Revenue Workflow 204
Oracle Application Integration Architecture
processing orders 124
processing quotes 55
products, setting up for integration 120
Oracle Communications Billing and Revenue Management, about mapping discounts and price overrides 122
Oracle Configurator Load workflow 344
Oracle Product Information Management Data Hub
extensible product fields 66
product attributes, synchronizing 60
product classes, synchronizing 61
product objects, synchronizing 58
products, synchronizing 62
promotions, synchronizing 63
order cancellation workflows
SWI Cancel Sales Order Line Item 361
SWI Cancel Sales Order_O2C 361
SWICancel Sales Order 359
order checkout workflows
CUT eSales - Bill Me Process 547
CUT eSales - Checkout Process 538
CUT eSales - Prepare Quote Process 548
CUT eSales - Set Quote Account Info 539
eSales - Authorize Order Process 549
eSales - Complete Checkout Process 541
eSales - Enter Payment Details Process 545
eSales - Enter Shipping Details Process 542
eSales - Save Shipping Address 544
eSales - Set Primary Account Address 544
order failures
See fallout orders
order line editing workflows
SIS OM Add Service Charge Order Sub-Process 212
SIS OM Edit Service Order Line Item 209
order line items
fallout, viewing 198
workflows for editing 209
workflows for updating 218
order line update workflows
SIS OM NSB Update Order Line 220
SIS OM Order Line Item Update Main 218
SIS OM UpdateOrderItem 219
order management
activating workflows 22
messages, processing 96
terminology 20
order placement tasks
adding quote template items to shopping cart 523
Bill Me payment method, using 525
Billing Account payment method, using 525
converting a quote to an order 522
Credit Card payment method, using 524
entering shipment information 524
processing an order checkout 523
Purchase Order method, using 525
reviewing and submitting an order 526
order price calculation workflows
Basic Pricing Procedure 332
Dynamic Pricing Procedure 335
Pricing Procedure - Calculate Net Price 338
order processing workflows
Oracle Configurator Load 344
SWI Configurator Load 343
SWI Initial Load Non CP Order Release Workflow 342
SWI TSQ Order Workflow 358
SWICopyOrder 351
SWIOrderUpsert 354

SWIOrderUpsert_O2C 342
SWIOrderUpsertSubProcess 355
SWIReviseOrderValidation 350
SWISendATPCheck 345
SWISendATPCheckLine 346
SWISendCalculateShippingCharge 347
SWISendOrder 349
SWIValidateDependentOrders 353
Verify Header (Order) 352
Verify Item (Order) 352
order submission workflows
SIS OM Submit Order Process 217
SISOMBillingSubmitOrderWebService 214
Submit Order ASI 213
orders
adding special rating items 194, 195
as submitted orders, about 135
bulk orders, viewing 181
creating from quote, workflow for 551
example of a time-based offering in 143
fallout orders, about managing 196
fallout orders, viewing 198
hierarchies, building 131
parent order, designating 132
parent-child relationship, restrictions and requirements 132
portal orders, business scenario 516
priority mapping, modifying 124
process workflows for backward compatibility 217
processing through Oracle Application Integration Architecture integration 124
promotion groups, adding 444
submitting for technical service qualification 135
supplemental order business scenario 534
telephone numbers, managing 130
time-based offerings 144
time-based offerings in 143
workflow for rejecting 553
workflows for checkout 538
orders, revising
about order revisions 133
CUT eSales - Goto Revise Order View workflow 553
CUT eSales - Revise Order Process 553
revised order line item IDs, about 134
revisions and as submitted orders, about 133
workflows for 552
order-to-installation task workflow 23
outbound Web services
creating 191
importing into Siebel application 194

P

parent-child orders
designating a parent for an order 132
restrictions and requirements 132
partner experience
asset-based ordering, business scenario 515
customer orders 516
portal orders 516
recruiting partners 516
partner workflows, directing users to an interface 529
penalty charges, entering for promotion group definitions 425
PG Member Common Value Checker business service 437
PG Member Distinct Value Checker business service 436
phone numbers, managing for an order 130
Power Partner Commerce
managing quotes and orders 528
users 515
premises, setting up 567
prepaid services
designating for products 187
designating for promotions 187
process of configuring 191
process of managing 187
setting up billing profiles for 188
topping up asset balances 189
workflow, SIA External Integration Process 330
prepaid transactions, viewing details 191
price comparison workflows
SIS OM Goto Price Comparison View Process 251
SIS OM PC Price Comparison Process 250
pricing
comparing with competitor prices 56
overrides, about mapping to Oracle Communications Billing and Revenue Management 122
pricing calculation workflows
Pricing Procedure - Promotion Group Discount Workflow 513
Pricing Promotion Group - Asset Membership Sub Process Workflow 512
PSP Driver Workflow Process Workflow 511
Pricing Procedure - Calculate Net Price workflow 338
Pricing Procedure - Promotion Group Discount Workflow 513

Pricing Promotion Group - Asset Membership Sub Process Workflow 512
priority mapping, modifying for orders 124
processing and validations
asset disconnect 460
membership disconnect 459
promotion group disconnect 458
product attributes
creating for time-based offerings 138
synchronizing 60
product classes
creating for time-based offerings 140
in promotion upgrades 78
synchronizing 61
Product Compatibility - Default Workflow 485
Product Compatibility - Exclude Rules SubProcess Workflow 487
Product Compatibility - Require Rules SubProcess 490
product compatibility workflows
Product Compatibility - Exclude Rules SubProcess Workflow 487
Product Compatibility - Require Rules SubProcess 490
product fields, extensible 66
product lines 78
product objects, synchronizing 58
product promotions, defining 66
products
designating prepaid services for 187
for service charges 57
setting up for Oracle Application Integration Architecture integration 120
synchronizing 62
workflows for disconnecting 557
workflows for modifying 554
Projected Asset Cache 571
promotion group definitions
access control, defining 438
adding 403
adding to a price list 414
applying validation rules 434
asset cardinality rules, defining 433
asset compatibility rules, creating 430
asset pricing adjustments 414
asset pricing, about adjusting 420
assets, setting pricing adjustments 414
catalog categories, associating with 439
charge plans, entering 423
commitment terms, entering 425
commitments, adding 422
commitments, defining for memberships 426
compatibility rules, creating 429
creating 403
deactivating 442
eligibility rules, creating 427
membership commitments, defining 426
membership compatibility rules, creating 429
membership definitions, adding 405
membership definitions, adding to a price list 414
membership domains, defining 405
membership pricing adjustments 414
membership pricing, about adjusting 420
memberships, setting pricing adjustments 414
notifications, setting up 440
penalty charges, entering 425
process of setting up 402
releasing 441
reward components, setting pricing adjustments 418
reward definitions, adding 409
reward definitions, adding to a price list 414
reward definitions, setting pricing adjustments 417
setting up, process 402
terms, defined 398
validation business services and parameters 435
version control 441, 442
promotion group workflows
agreement processing 499
asset processing 471
compatibility rules 493
pricing calculation 510
product compatibility 485
quote and order validation 504
promotion groups
about 397
access control 460
adding to a quote or order 444
adding to an account 444
administration, about 398
asset disconnect processing and validations 460
assets, associating 447
components, accessing 451
creating 444
design-time scenario 399
details, viewing 450
disconnect processing and validations 458
disconnecting 453
installed assets, access control 463
management, about 398

managing, about 443
members, adding 455
members, disconnecting 455
membership and reward products, creating 402
membership attributes, defining 449
membership disconnect processing and validations 459
membership information for an asset, viewing 454
memberships, adding 446, 452
memberships, disconnecting 454
memberships, modifying 452
process of creating 443
process of managing 450
process of managing members 454
Promotion Group Details view, about 445
restricted components, access control 461
roadmap for managing 443
run-time scenario 400
scenarios for using 399
terms, defined 398
workflows, about 471

promotions
asset-based recommendations, selecting 107
associating components with service accounts, scenario 100
associating nodes with service accounts, about 100
bundled promotion 92
bundling components, about 96
bundling components, scenario 97
component commitment agreements, defining 104
component commitments, about 101
component commitments, defining 102
component commitments, disconnecting 105
component relationship commitments, defining 103
debundling component assets 109
defining 66
deleting a committed component, scenario 105
designating prepaid services for 187
disconnections, about 67
disconnections, scenario 67
Edit Promotion product selection, configuring 89
example of merging 81
group upgrades, about 68
group upgrades, example 68
merged, about 81
penalties, configuring workflow for 119
penalty component charges for commitments, about 106
split promotions, about defining 83
synchronizing 63
upgrade aggregates, defining eligibility 78
upgrading 71

promotions, split
example of defining 84
scenario for defining 83

PSP Driver Workflow Process Workflow 511

Q

quote and order validation workflows
ISS Promotion Calculate Promotion Penalty Charges SubProcess Workflow 506
ISS Promotion Group Check Commitment Sub Process workflow 508
ISS Promotion Group Validate (Order) Workflow 508
ISS Promotion Group Validate (Quote) Workflow 509
ISS Promotion Verify SubProcess Workflow 505

quote line editing workflows
SIS OM Add Service Charge Quote Sub-Process 208
SIS OM Edit Delta Quote Line Item 205

quote line items
fields 21
ungrouping 550
workflow for editing delta 552
workflows for editing 205

quote management tasks
adding bulk items to the shopping cart 521
adding items to shopping cart 518
customizing an item 519
revising shopping cart contents 520
saving a shopping cart as a quote 521

quote processing workflows
Submit Quote ASI 363
SWIQuoteUpsert 364
SWISendQuote 364

quotes
adding special rating items 194, 195
bulk quotes, viewing 181
creating order from, workflow for 551
processing through Oracle Application Integration Architecture integration 55
promotion groups, adding 444
revenue generation, process of 54
workflow for ungrouping 550

quote-to-order process, customer experience business scenario 534

R

recommendations, selecting for asset-based promotions 107
recruiting partners, business scenario 516
restricted components, promotion group access control 461
revenue
computation, effects of multiple price types 54
line items, workflow for generating 204
reward definitions
adding to price lists 414
adding to promotion group definitions 409
pricing adjustments, setting 417
pricing adjustments, setting for components 418
reward products, creating for promotion groups 402
rule checkers, creating custom 582

S

service accounts
associating with components in a promotion, scenario 100
associating with nodes in a promotion, about 100
service charges, setting up for products 57
service ID, description 21
service item disconnection workflows
SIS OM Add Service Charge Sub-Process 225
SIS OM Disconnect Asset Sub-Process 230
SIS OM Disconnect Products & Services Process 228
service item modification workflows
SIS OM Add Service Charge Sub-Process 225
SIS OM Edit Complex Asset Workflow 222
SIS OM Modify Products & Services Process 226
service item suspend or resume workflows
SIS OM Suspend / Resume Asset Sub-Process 233
SIS OM Suspend / Resume Products & Services Process 232
service items
disconnecting, customer experience 536
modifying, customer experience 535
service points, description 21
service transfer workflows
SIS OM Move Display Quote 246
SIS OM Move Exception Handling 244
SIS OM Move Process 237
SIS OM Move Service Point Check 245
services
transferring 145
workflows for disconnecting 228, 557
workflows for modifying 221
workflows for resuming 231
workflows for suspending 231
workflows for transferring 236
shopping cart, adding bulk items 535
SIA External Integration Process workflow 330
Siebel Partner Relationship Management 515
SIM cards, changing 29
SIS OM Add Service Charge Order Sub-Process workflow 212
SIS OM Add Service Charge Quote Sub-Process workflow 208
SIS OM Add Service Charge Sub-Process workflow 225
SIS OM Auto Select Order Billing and Service Accounts workflow 218
SIS OM Auto Select Quote Billing and Service Accounts workflow 218
SIS OM Disconnect Asset Sub-Process workflow 230
SIS OM Disconnect Products & Services Process workflow 228
SIS OM Edit Complex Asset Workflow 222
SIS OM Edit Delta Quote Line Item workflow 205
SIS OM Edit Service Order Line Item workflow 209
SIS OM Goto Price Comparison View Process workflow 251
SIS OM Modify Products & Services Process workflow 226
SIS OM Move Display Quote workflow 246
SIS OM Move Exception Handling workflow 244
SIS OM Move Process workflow 237
SIS OM Move Service Point Check workflow 245
SIS OM NSB Update Order Line workflow 220
SIS OM Order Line Item Update Main workflow 218
SIS OM PC Create Account Subprocess workflow 254
SIS OM PC Enrollment workflow 252
SIS OM PC Go To Opportunity View

workflow 255
SIS OM PC Go to Order Entry - Line Items View (Sales) workflow 258
SIS OM PC Price Comparison Process workflow 250
SIS OM PC Set Opportunity Account workflow 255
SIS OM Submit Order Process workflow 217
SIS OM Suspend / Resume Asset Sub-Process workflow 233
SIS OM Suspend / Resume Products & Services Process workflow 232
SIS OM Update Revenue Workflow 204
SIS OM UpdateOrderItem workflow 219
SISOMBillingSubmitOrderWebService workflow 214
special rating items
adding to a quote 195
adding to a quote or order 194
adding to an order 195
split promotions
about defining 83
example of defining 84
scenario for defining 83
Standard Partner Commerce
change order tasks 517
order placement tasks 517
quote management tasks 517
users 515
Submit Order ASI workflow 213
Submit Quote ASI workflow 363
SWI Asset Status Update workflow 367
SWI Cancel Sales Order Line Item workflow 361
SWI Cancel Sales Order_O2C workflow 361
SWI Configurator Load workflow 343
SWI Initial Load Non CP Order Release Workflow 342
SWI TSQ Order Workflow workflow 358
SWICancel Sales Order workflow 359
SWICopyOrder workflow 351
SWIOrderUpsert workflow 354
SWIOrderUpsert_O2C workflow 342
SWIOrderUpsertSubProcess workflow 355
SWIQuoteUpsert workflow 364
SWIReviseOrderValidation workflow 350
SWISendATPCheck workflow 345
SWISendATPCheckLine workflow 346
SWISendCalculateShippingCharge workflow 347
SWISendOrder workflow 349
SWISendQuote workflow 364
SWISetTBOEndDate workflow 366
SWIValidateDependentOrders workflow 353
synchronizing
extensible product fields from Oracle Product Information Management Data Hub 66
product attributes with Oracle Product Information Management Data Hub 60
product classes with Oracle Product Information Management Data Hub 61
product objects with Oracle Product Information Management Data Hub 58
products with Oracle Product Information Management Data Hub 62
promotions with Oracle Product Information Management Data Hub 63

T

target lists
adding to bulk requests 175
creating 174
technical service qualification, submitting orders for 135
Telco Subscription Management in Open UI
about 25
workflows 34
telephone numbers, managing for an order 130
template files
importing into a bulk request 173
validation 174
templates
for bulk requests 260
time-based offering workflows
SWI Asset Status Update 367
SWISetTBOEndDate 366
time-based offerings
about 136
adding discounts to a bundled promotion 141
in assets 144
in changed orders 144
creating discount products 140
creating product attributes 138
creating product classes 140
defined 136
discount products, creating 140
discounts, adding to a bundled promotion 141
effects of processing 142
example, in a new order 143

in new orders 143
process of setting up 137
product attributes, creating 138
product classes, creating 140
setting up, process 137
top-up request activity, viewing 191
TOUI CSim Cancel Process workflow 51
TOUI CSim Delete Process workflow 52
TOUI Generate Order Process workflow 46
TOUI Get Delta Sub Process workflow 49
TOUI Get Selected Service Sub Process workflow 49
TOUI Installed Asset Select Process workflow 45
TOUI Set Value Sub Process workflow 50

U

Ungroup button, methods for 550
upgrade promotion aggregates 78
upgrading bandwidth
converting orders to assets 595
creating an order for 595
displaying a network for 593
for a network site 594
of a network connection 594
validating a network after 595
usage activity, viewing 191
user interfaces
defining for bundled promotions 91
workflows for directing users to 529
user properties
CompProdLn Multi Value Search 89
cross-network validation 579
NestedValidationQuoteSearchSpec 580
ValidateFieldName 580
ValidateOtherNetwork 579
VORDConnectionToNode 581

V

ValidateFieldName user property 580
ValidateOtherNetwork user property 579
validation
of bulk requests 177
configuring for bulk requests 158
cross-network 560
cross-network, enabling and disabling 578
rules, configuring for import process 156
validation business services
PG Member Common Value Checker 437
PG Member Distinct Value Checker 436
validation rules, applying to promotion group definitions 434
Verify Header (Order) workflow 352
Verify Item (Order) workflow 352
version control
deactivating a promotion group definition 442
releasing a promotion group definition 441
version numbers, setting up for import templates 153
virtual business components, configuring 192
VORD Validate (Order) workflow 248
VORD Validate (Quote) workflow 246
VORDConnectionToNodeSearchSpec user property 581

W

Web services
creating outbound 191
importing outbound into Siebel application 194
workflows
for asset-based ordering 204
for disconnecting services 228
for editing order line items 209
for editing quote line items 205
for modifying service 221
for resuming services 231
for suspending services 231
for transferring services 236
for updating order line items 218
order process, for backward compatibility 217
promotion groups, about 471
workflows for Telco Subscription Management in Open UI
TOUI CSim Cancel Process workflow 51
TOUI CSim Delete Process workflow 52
TOUI Generate Order Process workflow 46
TOUI Get Delta Sub Process workflow 49
TOUI Get Selected Service Sub Process workflow 49
TOUI Installed Asset Select Process workflow 45
TOUI Set Value Sub Process workflow 50
workflows, customer
creating order from quote 551
disconnecting products and services 557
editing delta quote line items 552
modifying products and installed assets 554
order checkout 538
rejecting an order 553
revising orders 552
ungrouping quotes 550
workflows, employee

about 204
ambiguity resolution 374
bulk requests 259
dynamic transform 367
enrollment 252
generating revenue line items 204
order cancellation 359
order price calculation 331
order processing 341
prepaid services 330
price comparison 249
promotion processing 393
quote processing 363
time-based offerings 366
user prompts 378
validating a network 246

workflows, partner, directing users to an interface 529
workflows, promotion group
agreement processing 499
asset processing 471
compatibility rules 493
pricing calculation 510
product compatibility 485
quote and order validation 504

X

XLS source files
macros 150
required fields 150
updating 154