



# **Siebel Service Handheld Guide**

Siebel Innovation Pack 2013

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# Contents

## **Chapter 1: What's New in This Release**

## **Chapter 2: Overview of Siebel Service Handheld**

Siebel Mobile Products	15
About Siebel Handheld Applications	17
Overview of Siebel Handheld Application Synchronization	18
Synchronization Methods and Architecture for Siebel Handheld Applications	19
Overview of Siebel Handheld Client Configuration	21

## **Chapter 3: Developing Siebel Handheld Applications**

Overview of Siebel Handheld Application Architecture	24
Unsupported Features for Siebel Handheld Client	24
About Defining User Functionality in the Siebel Handheld Client	26
Configuration Guidelines for the Siebel Handheld Client	26
About Creating Siebel Handheld Application Projects	28
Designing Screens and Views for Siebel Handheld Applications	30
Working With Different Handheld Device Specifications	33
Configuring User Interface Elements in the Siebel Handheld Client	34
Configuring List Applets for the Siebel Handheld Client	36
Configuring Fields to Display as Pop-Up Text Areas in List Applets	37
Configuring Alpha Tabs in List Applets for the Siebel Handheld Client	37
Configuring Form Applets for the Siebel Handheld Client	38
Configuring Form UI Applets for the Siebel Handheld Client	39
Using Auto Pop-Up Lists in the Siebel Handheld Client	40
Configuring Tree Applets for the Siebel Handheld Client	41
About Home Page Applets in Siebel Handheld Applications	43
About Buttons in Siebel Handheld Applications	43
About Multi-Value Groups in Siebel Handheld Applications	43
About the Menu Bar in Siebel Handheld Applications	44
About Toolbars in Siebel Handheld Applications	44
About the Status Bar in the Siebel Handheld Application	45

- About Hyperlinks in the Siebel Handheld Application 45
- Using the COM Interface with Siebel Handheld Applications 45
- Configuring Calendar Settings 45
  - User Properties for Calendar Settings 46
  - Configuring Calendar Color Codes and Descriptions 46
  - Configuring the Goto View Button 47
- Developing Tasks for Task UI in Siebel Handheld Applications 48
  - Designing a Task for Siebel Handheld Applications 49
  - Creating a Task for Siebel Handheld Applications 49
  - Example of Creating a Task for Siebel Handheld Application 50
- Scripting in the Siebel Handheld Application 51
- Compiling the Siebel Handheld Application 52
- Installing and Setting Up End User Translation Functionality 53
  - Performing Setup for Initial String Translation 53
  - Distributing Translated Strings 54
- Configuring Printing from the Siebel Handheld Application 55
  - Defining Documents for Siebel Handheld Applications 55
  - Designing Print Applets for Siebel Handheld Applications 56
  - Configuring Print Applets for the Siebel Handheld Application 57
  - Configuring Print Buttons for the Siebel Handheld Application 57
  - Creating Print Templates for the Siebel Handheld Application 58
  - Configuring a Printer Settings Dialog Box for the Siebel Handheld Application 58
  - Configuring Multiple Form and Multiple Quantity Printing for the Siebel Handheld Application 59
- Configuring Siebel Handheld Applications to Open Other Applications 60
- Configuring Signature Capture Capabilities in Siebel Handheld Applications 60
  - Enabling Signature Capture 61
  - Invoking Signature Capture Dialog Box and Display 61
  - Signature Capture Dialog Box and Signature Display 62
  - Example of Configuring Signature Capture in Activities More Info View in Siebel Handheld Applications 62
  - Adding a Signature Capture Button in Siebel Tools 64
  - User Properties for Signature Capture Applets 65
- Testing the Siebel Handheld Application 65

## **Chapter 4: Siebel Handheld Application Administration**

- Overview of Siebel Handheld Application Administration Screens 67
- Setting Up Users in Siebel Handheld Applications 69

Assigning User Responsibilities to Siebel Handheld Application Users	69
Creating Siebel Handheld Application Views	69
Specifying Views for the Siebel Handheld Application	70
About Business Component Filters	70
About Business Object Filters	72
About Thread Throttling in Siebel Handheld Applications	73
About Settings in the Administration Screens of Siebel Handheld Applications	74
Configuring Application Settings for Siebel Handheld Applications	75
Configuring Component Level Settings for Siebel Handheld Applications	81
Setting Up Inventory Locations in Siebel Service Handheld Applications	82
Administering Barcode Settings for Siebel Handheld Applications	82
Enabling Barcode Scanning in Siebel Handheld Applications	82
Setting New Record Behavior for Barcode Scans	83
Mapping a Button for Socket In-Hand Scan Card	84
Creating New Barcode Definitions for Siebel Handheld Applications	84
Enabling Applications Views for Barcode Scanning	89
Enhancing the Behavior of the Barcode Scan	89
Example of Creating a New Barcode Definition in the Siebel Handheld Application	92
About BatchSync for Siebel Handheld Applications	94
Process for Administering Batch Sync for Siebel Handheld Applications	95
Enabling BatchSync for Siebel Handheld Applications	95
Downloading a Database Extraction	96
Reviewing Batch Synchronization Status	97
Running a Batch Extract	99
Running a Batch Transaction Process	99
Load Balancing Support for Synchronization	100
Setting the ApplicationDirectory Parameter	101
Enabling Encryption for Siebel Handheld Applications	101
Enabling Application Lockout for a Siebel Handheld Application	102
Enabling Authentication for a Siebel Handheld Application	102
Enabling Local Database Encryption for a Siebel Handheld Application	103
Registering Store and Forward Messaging Device on First Synchronization	103
Storing Asynchronous Data	104
About Monitoring Synchronization Sessions for Siebel Handheld Applications	105
Monitoring Synchronization Sessions for Siebel Handheld Applications	105
Obtaining Error Details from Synchronization Sessions in Siebel Handheld Applications	107

- Obtaining Business Component Information from Synchronization Conflicts in Siebel Handheld Applications 107
- Obtaining an Audit Trail for Synchronization Sessions in Siebel Handheld Applications 107
- Responding to Synchronization Errors in Siebel Handheld Applications 108

#### Organization Enabled LOV Support 108

- Enabling Organization LOV Support in the Siebel Handheld Client 109
- Example of Configuring, Enabling, and Using Multiple Organization LOVs in Handheld Applications 109

## **Chapter 5: Data Filtering for Siebel Handheld Applications**

#### Developing Data Filters for Siebel Handheld Applications 113

#### Constructing Business Component and Business Object Filters for Siebel Handheld Applications 114

#### Business Object Filters for Siebel Handheld Applications 115

#### Recommendations for Managing Business Object Filters for Siebel Handheld Applications 115

- Direct Server Synchronization Deployments 116
- Examples of Default Business Object Declarations 116
- Designating Visibility 118
- Overriding the Popup Visibility 118
- Multiple Visibility Methods 119

#### Filters for Siebel Service Handheld 120

#### Primary Business Components for Siebel Service Handheld 120

- Action Business Component 121
- Accounts Business Component 122
- Service Requests Business Component 122
- Orders Business Component 123
- Assets Business Component 123
- Child Service Business Components 124
- Supporting Service Business Components 124
- Summary of Siebel Service Handheld Filters 125

## **Chapter 6: Deploying Siebel Handheld Applications**

#### Overview of Deployment for the Siebel Handheld Application Client 127

#### Installing the Siebel Server for Direct Server Synchronization 129

- Installing the Components for Direct Server Synchronization Using the Siebel Server Installer 129
- Siebel Server Component Parameters for Direct Server Synchronization 130

Configuring the Siebel Server for Direct Server Synchronization	132
Configuring Logging Levels for Direct Server Synchronization	132
Optimizing Siebel Server Process Management for Direct Server Synchronization	133
Performance and Scalability of Synchronization for Handheld Applications	134
Providing Synchronization Security with Secure Sockets Layer	134
Process of Installing the Siebel Handheld Application	136
Editing the Siebel Handheld Application Installation Configuration File	136
Enabling Back Up of Siebel Handheld Application Database	140
Installing Print Templates in the Siebel Handheld Install Directory	141
Setting Up Siebel Handheld Application Installation on a CompactFlash Card	142
Changing the SyncURL on Handheld Devices	142
Installing the Siebel Handheld Application from External Media	143
Distributing Siebel Handheld Application Patches	143
Deploying Patches to Handheld Applications with Direct Server Synchronization	144
Deploying Attachments to Handheld Applications with Direct Server Synchronization	146
Downloading Patches to the Handheld Device	148
Setting up PatchAgent on Windows 2003	148
Using PatchAgent to Distribute New Print Templates to the Handheld Device	149
<b>Chapter 7: Synchronization Conflict Handling and Recovery with Siebel Handheld Applications</b>	
Preventing Synchronization Transaction Conflicts with Handheld Applications	151
Extended Pick Processing in Siebel Handheld Applications	151
Insert Failure Processing in Siebel Handheld Applications	153
Recovering Error Data in Siebel Handheld Applications	155
<b>Chapter 8: Installing the Siebel Handheld Application</b>	
Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application	157
Uninstalling the Siebel Handheld Application	157
Installing the Siebel Handheld Application	158
<b>Chapter 9: Working with Siebel Handheld Applications</b>	
Components of the Siebel Handheld Application Interface	161
Navigating the Siebel Handheld Application Interface	163
Navigating a List of Records in the Siebel Handheld Application	164

Entering Data with the Siebel Handheld Application	166
Finding and Querying Data in the Siebel Handheld Application	166
About Find in Siebel Handheld Applications	167
About Asynchronous Query	167
About Queries in Siebel Handheld Applications	167
Printing with the Siebel Handheld Application	167
Exporting Data with the Siebel Handheld Application	168
Setting User Preferences in the Siebel Handheld Application	169
Backing Up and Restoring Data with the Siebel Handheld Client	169
Synchronizing Data on Your Handheld Device	171
Using Synchronization with the Siebel Handheld Application Client	171
Using Direct Server Synchronization with the Siebel Handheld Application Client	171
About Synchronization Options	172
Troubleshooting Synchronization with the Siebel Handheld Application Client	173
Guidelines for Improving Siebel Handheld Application Performance	174

## **Chapter 10: Using Siebel Service Handheld**

Scenario for Using Siebel Service Handheld	179
About Siebel Store-and-Forward Messaging	180
About Asynchronous Query in Siebel Service Handheld	180
Preparing for the Day Using Siebel Service Handheld	180
Preparing for a Visit with Siebel Service Handheld	183
Performing the Job with Siebel Service Handheld	184
Working with Non-Serialized Parts in Siebel Service Handheld	185
Working with Serialized Assets in Siebel Service Handheld	185
Closing Out the Visit with Siebel Service Handheld	187
Performing Miscellaneous Tasks with Siebel Service Handheld	188
Reviewing Customer History with Siebel Service Handheld	189
Logging a New Service Request with Siebel Service Handheld	189
Generating a Sales Order with Siebel Service Handheld	190
Adding an Activity in Siebel Service Handheld	191
Verifying Inventory Update in Siebel Service Handheld	191

## **Appendix A: Troubleshooting**

Troubleshooting Siebel Handheld Application Installation	193
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Troubleshooting Siebel Handheld Application Synchronization	194
Direct Server Synchronization Checklist	194
Resynchronizing Problems	195
Synchronization Timeout Parameters	195
Siebel Handheld Application Log Files	197
Direct Server Synchronization Log and Output Files	197
Handheld Device Log	198
Using SQLTrace with Siebel Handheld Applications	199
End User Error Messages	200
Web Server Timeout Errors	200
Handheld Device Timeout Errors	200
Siebel Handheld Application Performance	201
<b>Appendix B: Screens and Views</b>	
Screens and Views	205
<b>Appendix C: Business Components and Classes</b>	
Business Components for Siebel Service Handheld	209
Business Component Classes for Siebel Service Handheld	212
Applet Classes for Siebel Service Handheld	214
<b>Appendix D: User Properties and Methods</b>	
User Properties for Siebel Service Handheld Applications	215
Methods for Siebel Service Handheld	229
<b>Appendix E: Print Tagging Language</b>	
Overview of Print Tagging Language for Siebel Handheld Applications	233
Print Mode Tags	234
Absolute Tag	234
Relative Tag	234
Data Output Tags	235
Applet Tag	235
Cell Tag	237
Picture Tag	239
Static Text Tag	241
Print Formatting Tags	242

Background Tag	242
Comment Tag	243
Divider Tag	244
DrawRect Tag	244
EndOfLine Tag	245
EndOfPage Tag	246
Footer Tag	246
Format Tag	247
Frame Tag	248
Header Tag	249
Landscape Tag	250
List Tag	250
LineTo Tag	252
Margin Tag	253
PageBreak Tag	254
Portrait Tag	254
Title Tag	255
Get and Set Tags	256
GetCount Tag	257
GetDate Tag	257
GetDirect Tag	258
GetField Tag	259
GetRegistry Tag	260
GetTime Tag	260
GetTotal Tag	261
SetVariable Tag	262
Control Positioning Tags	262
GetX Tag	263
GetY Tag	263
Offset Tag	264
SetX Tag	265
SetY Tag	266
Data Manipulation and Logic Tags	267
Concat Tag	267
Conditional Tags	268
sql (WHERE) Tag	269
Variable Parameter Tags	270
Using Variables in Print Templates	271

## Appendix F: Print Configuration Settings

Overview of Print Configuration Settings for Siebel Handheld Applications	275
Print Configuration Settings	276
MarginBottom	276
MarginLeft	276
MarginRight	277
MarginTop	277
PaperHeight	277
PaperSize	277
PaperWidth	278
PrinterBaudrate	278
PrinterCompressed	278
PrinterDensity	279
PrinterDither	279
PrinterDraftMode	279
PrinterFormFeed	280
PrinterHandshake	280
PrinterOrientation	281
PrinterPort	281
PrinterType	282
PrinterUserSelect	283
Default Printing Settings	283

## Appendix G: COM Extensibility

About COM Extensibility	285
Overview of the SCEC Framework	285
Receiving Event Notifications	286
Invoking Siebel Methods (Action Requests)	288
Obtaining and Using Action Request Interface References	291
Process of Implementing a SCEC	292
Obtaining the SCEC Support Files	292
Generating and Configuring a SCEC	293
Modifying SCEC Files	294
Deploying SCEC Files to a PDA Device	303
Configuring SCEC User Properties in Siebel Tools	304
Configuring SCEC Registry Settings	305

## Index



# 1

## What's New in This Release

### **What's New in Siebel Service Handheld Guide, Version 8.1/8.2**

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



# 2

## Overview of Siebel Service Handheld

This chapter introduces Oracle's Siebel Service Handheld application. The following topics are covered in this chapter:

- "Siebel Mobile Products" on page 15
- "About Siebel Handheld Applications" on page 17
- "Overview of Siebel Handheld Application Synchronization" on page 18
- "Synchronization Methods and Architecture for Siebel Handheld Applications" on page 19
- "Overview of Siebel Handheld Client Configuration" on page 21

### Siebel Mobile Products

Several mobile applications are included in the Siebel product line. Each serves a different purpose and runs on different devices. Often, these applications complement each other. The mobile applications are as follows:

**Siebel Mobile Web Client and Siebel Remote.** A disconnected client and supporting server-side software, respectively. These applications provide intelligent transaction routing, data synchronization, and Store-and-Forward Messaging (SFM) capabilities.

**Siebel Handheld Application.** A disconnected client with data filtering, data synchronization, and Store-and-Forward Messaging capabilities.

**Siebel Wireless.** Siebel applications delivered to client browsers that connect to a Siebel Server through a wireless network.

Figure 1 illustrates the hardware platforms on which these products run.

**NOTE:** In Figure 1, *form factors* refers to the general capabilities, screen shapes, and sizes of the various devices shown in the illustration.

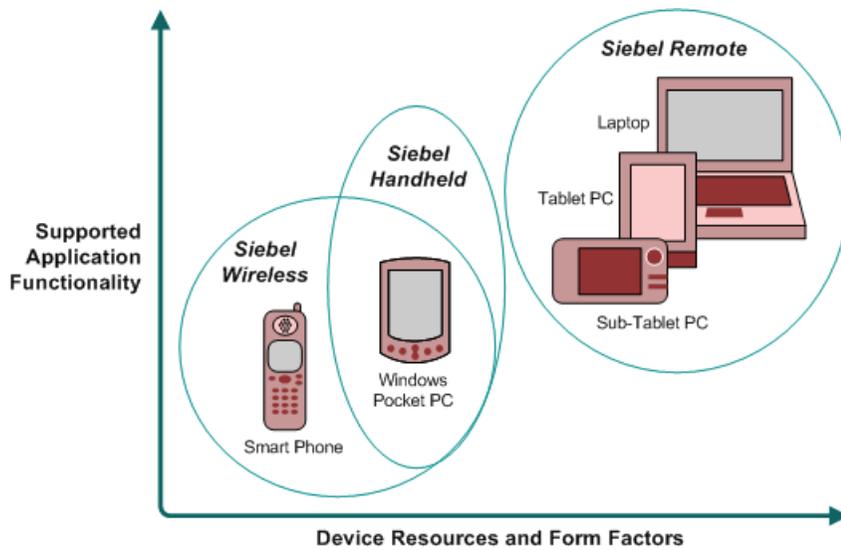


Figure 1. Siebel Mobile Product Platforms

Table 1 describes the Siebel mobile products’ software components and supported hardware devices.

Table 1. Siebel Mobile Product Software Components and Supported Devices

Product Group	Server Components	Client Component	Supported Client Devices
<b>Siebel Remote</b>	Siebel Remote Store-and-Forward Messaging	Siebel Mobile Web Client	Desktop PCs Laptop PCs Tablet PCs
<b>Siebel Handheld Applications</b>	Handheld Application Synchronization Object Manager Store-and-forward Messaging	Siebel Handheld Client	Windows-based mobile devices
<b>Siebel Wireless</b>	Wireless Object Manager	Client Browser	Any mobile device running a supported client browser, including wireless devices and handheld devices

Table 2 describes the Siebel mobile products' supported Siebel applications and documentation on the Siebel Bookshelf for information about these products.

Table 2. Siebel Mobile Product Supported Applications and Related Documentation

Product Group	Supported Applications	Related Documentation
<b>Siebel Remote</b>	Almost all Siebel Business Applications and Siebel Industry Applications  (Provides the same look and feel as those applications.)	<i>Siebel Remote and Replication Manager Administration Guide</i>  <i>Siebel Store-and-Forward Messaging Guide for Mobile Web Client</i>
<b>Siebel Handheld applications</b>	Siebel Sales Siebel Field Service Siebel Consumer Goods Siebel Medical Siebel Pharma	<i>Siebel Sales Handheld Guide</i> <i>Siebel Service Handheld Guide</i> <i>Siebel Consumer Goods Handheld Guide</i> <i>Siebel Medical Handheld Guide</i> <i>Siebel Pharma Handheld Guide</i>  <i>Siebel Store-and-Forward Messaging Guide for Handheld</i>
<b>Siebel Wireless</b>	Siebel Sales Siebel Field Service Siebel Partner Relationship Management Siebel Self-Service Applications	<i>Siebel Wireless Administration Guide</i>

## About Siebel Handheld Applications

Oracle's Siebel Handheld applications provide a focused subset of functionality in comparison to the Siebel Web Client. The Siebel Handheld Application Client differs from the Siebel Web Client and the Siebel Mobile Web Client in that it uses a selected subset of views, accommodates smaller screen sizes, and has a reduced memory capacity. For a list of functional differences, see [Chapter 3, "Developing Siebel Handheld Applications."](#)

Some features that are available on the Siebel Mobile Web Client are not available on the Siebel Handheld application. Scripting and Siebel engines (for example, Pricing and Reporting) are not supported on Siebel Handheld applications. For a list of features that are not supported, see ["Unsupported Features for Siebel Handheld Client"](#) on page 24.

Some supported features of the Siebel Handheld Client are as follows:

- **Application Development with Siebel Tools.** Siebel Handheld applications can be configured in Siebel Tools using the Web Applet Designer. You can take your existing Siebel application and use this as the basis for the Siebel Handheld application, or you can create a new application by using the Siebel Tools application shipped on the Siebel Handheld application DVD. For more information about application development with Siebel Tools, see [Chapter 3, "Developing Siebel Handheld Applications."](#)
  - **Data filtering.** Filtering allows you to specify a subset of data to be used on the handheld device. Filtering is an important feature of a Siebel Handheld application deployment because of the relatively large size of the average enterprise database in comparison to the relatively limited memory capabilities of handheld devices. It is important that you allocate sufficient time in the project plan to create and test the handheld filters. For more information about data filtering, see ["Developing Siebel Handheld Applications" on page 23.](#)
  - **Installation options.** The Siebel Handheld application can be installed on Windows-powered devices in one of two ways. The first is to create a partnership between a desktop or laptop PC and the handheld device using Microsoft ActiveSync. The second is to install the Siebel Handheld application from external media, for example, a Cabinet (CAB) file. Handheld application patches can be remotely deployed using PatchAgent. For more information about installation options, see [Chapter 8, "Installing the Siebel Handheld Application."](#)
  - **Patch updates.** Siebel Handheld applications automatically apply the latest software patches to the handheld device when needed.  
  
PatchAgent automates the deployment of patches to handheld devices as part of the synchronization process. For more information about PatchAgent, see ["Installing the Siebel Handheld Application from External Media" on page 143.](#)
- NOTE:** Siebel Service Handheld does not support Companion Synchronization.
- **Backing up and restoring data.** The Siebel Handheld application provides database backup functionality. A database restore utility is also included with the application. For more information about database backup and restoration, see ["Enabling Back Up of Siebel Handheld Application Database" on page 140.](#)

## Overview of Siebel Handheld Application Synchronization

The Siebel Handheld Application Synchronization (Sync) Client synchronizes data between the Siebel Handheld application database and the Mobile Web Client database or Siebel Server database.

[Figure 2](#) illustrates the Siebel Handheld synchronization infrastructure.

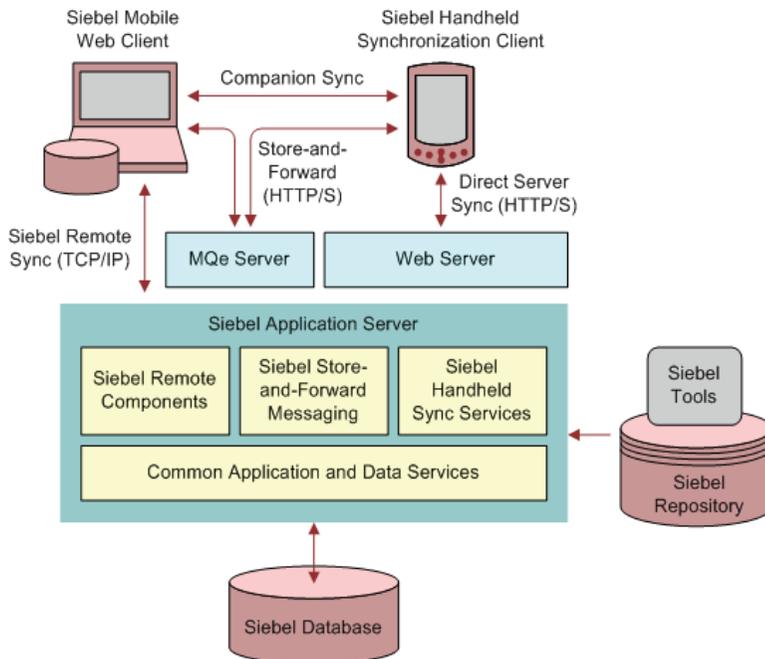


Figure 2. Siebel Handheld Synchronization Infrastructure

The synchronization process does the following:

- Updates the Siebel Server database with changes made to the Siebel Handheld application database
- Updates the database on the handheld device with changes made to the Siebel Server database
- Downloads metadata changes, such as object definitions for new or modified screens or views
- Allows users to select filters to limit the amount of data that is downloaded
- Automatically applies the latest software patches to the handheld device when needed

## Synchronization Methods and Architecture for Siebel Handheld Applications

The following methods can be used to synchronize data on the handheld device with data in the Siebel Server database: Direct Server Synchronization (DSS) and Direct Server Synchronization by Proxy (DSSvP). The architecture of these methods is discussed in the following sections.

## Handheld Application Synchronization

A Handheld Application Synchronization Server component that is running on the Siebel application server can accept concurrent synchronization requests from multiple synchronization clients. When connecting directly to a server, the Siebel Handheld Application Synchronization Client synchronizes its data directly to a server database.

In Direct Server Synchronization mode, the Siebel Handheld Application Synchronization Client uses the HTTP (or HTTPS) protocol over a network connection to communicate with the Siebel Handheld Application Synchronization Server. Users must configure their handheld devices for communication over the desired network.

## Direct Server Synchronization

Direct Server Synchronization allows users to synchronize their Siebel Handheld application and database directly with the Siebel Server. The user connects the handheld device to the Siebel application server through a network connection that uses the HTTP protocol. The connection runs through a IIS Web Server to the application server, where the synchronization server components are installed and running.

## Direct Server Synchronization via Proxy

Direct Server Synchronization via Proxy (DSSvP) allows users to synchronize their Siebel Handheld application and database directly with the Siebel Server. The user connects the handheld device to the Siebel application server through ActiveSync and the network connection established by the companion PC. The connection runs through a IIS Web Server to the application server, where the synchronization server components are installed.

# Overview of Siebel Handheld Client Configuration

Figure 3 illustrates the Siebel Handheld client application architecture.

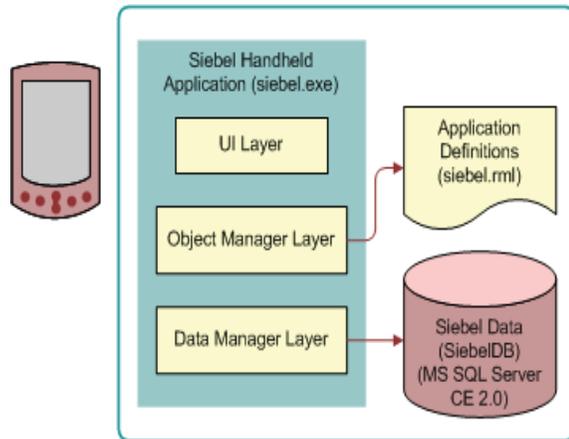


Figure 3. Siebel Handheld Client Application Architecture

The Siebel Handheld executable, siebel.exe, runs on the handheld client in a disconnected state, and includes the user interface, object manager, and data manager.

The siebel.exe accesses the siebel.rml file that contains the application definitions.

The siebel.rml file is the Siebel Handheld equivalent of the repository file used in desktop applications, because it provides the definitions of the Siebel Handheld screens, views, and applets.

The final component of the Siebel Handheld Client architecture is the Siebel Handheld application database. The Siebel Handheld application includes a relational database management system designed to run on the Microsoft Windows-powered platform.

Complete the following steps to configure your Siebel Handheld Client.

## To configure the Siebel Handheld Client

### 1 Define the user functionality.

Determine which user interface elements (such as screens, views, toolbars, applets, find, and help) will be necessary for your Siebel Handheld Client users. For more information about defining user functionality, see ["About Defining User Functionality in the Siebel Handheld Client"](#) on page 26.

**2** Configure the Siebel Handheld Client application user interface.

The process for configuring user interface elements in the Siebel Handheld Client is the same as that for other Siebel clients. For more information about configuring user interfaces for Siebel Handheld applications, see ["Configuring User Interface Elements in the Siebel Handheld Client"](#) on page 34 and *Configuring Siebel Business Applications*.

**3** Identify all eScript or VB script.

Siebel Handheld applications do not currently support scripting, including eScript or VB script. Scripting used in your Siebel application can conflict with your Siebel Handheld application configuration.

**4** Compile the new configuration.

For more information about compiling the configuration, see ["Compiling the Siebel Handheld Application"](#) on page 52.

**5** Test the new configuration.

Test the configuration, repeating the previous steps, to address any configuration errors.

After completing the configuration for the Siebel Handheld Client, you are ready to install it on the handheld devices. To install the Siebel Handheld application configuration on a handheld device, see the instructions in ["Installing the Siebel Handheld Application"](#) on page 158.

# 3

## Developing Siebel Handheld Applications

This chapter describes how to set up Siebel Handheld applications. The following topics are covered in this chapter:

- Overview of Siebel Handheld Application Architecture on page 24
- Unsupported Features for Siebel Handheld Client on page 24
- About Defining User Functionality in the Siebel Handheld Client on page 26
- Configuration Guidelines for the Siebel Handheld Client on page 26
- About Creating Siebel Handheld Application Projects on page 28
- Designing Screens and Views for Siebel Handheld Applications on page 30
- Working With Different Handheld Device Specifications on page 33
- Configuring User Interface Elements in the Siebel Handheld Client on page 34
- Using the COM Interface with Siebel Handheld Applications on page 45
- Configuring Calendar Settings on page 45
- Developing Tasks for Task UI in Siebel Handheld Applications on page 48
- Scripting in the Siebel Handheld Application on page 51
- Compiling the Siebel Handheld Application on page 52
- Installing and Setting Up End User Translation Functionality on page 53
- Configuring Printing from the Siebel Handheld Application on page 55
- Configuring Siebel Handheld Applications to Open Other Applications on page 60
- Configuring Signature Capture Capabilities in Siebel Handheld Applications on page 60
- Testing the Siebel Handheld Application on page 65

# Overview of Siebel Handheld Application Architecture

The process for configuring a Siebel Handheld application has a few differences, described in this chapter, from the process for configuring other types of Siebel applications.

**NOTE:** Familiarize yourself with the Siebel application configuration process described in *Configuring Siebel Business Applications* before you attempt to configure the Siebel Handheld application.

The five layers in the Siebel Handheld application architecture are comparable to those used on the Siebel Web Client:

- **Application layer.** The application layer starts and closes the application.
- **User Interface layer.** The user interface layer renders the display and interacts with actions of the user.
- **Object Manager layer.** The object manager layer provides a consistent object behavior and interaction between all business objects within the application.
- **Data Manager layer.** The data manager layer maintains an object-oriented abstraction of the native data stored in the data repositories for the benefit of the object manager.
- **Database layer.** The database layer includes the data that Siebel Handheld application users access.

Your Administrator configures an application on the Siebel client using Siebel Tools and compiles the Siebel repository (.srf) file. During the synchronization process, information specific to the Siebel Handheld application is extracted from the Siebel repository file. This information is used to create a repository metalanguage (.rml) file, which is downloaded to the handheld device.

The repository metalanguage file contains the layout information for the handheld device but not the database layer. The database layer is generated in the transport file called dbfile.txt, which is downloaded and imported to the Siebel Handheld application database (siebelDB.sdf). For more information about Siebel Tools, see *Using Siebel Tools*.

## Unsupported Features for Siebel Handheld Client

The differences between configuring user interface elements for the Siebel Web Client and the Siebel Handheld Client are shown in [Table 3](#).

Table 3. Configuring Siebel Client User Interface Elements

Client	Siebel Tools	SWT Template Files	Specialized Algorithms
Siebel Web Client	Yes	Yes	No
Siebel Handheld Client	Yes	No	Yes

The following are not supported in Siebel Handheld applications:

- Chart and explorer applet types are not supported.
- Group boxes are not supported. For more information about group boxes, see ["Group Boxes" on page 39](#).
- Alarm Manager is not supported. Therefore, if an alarm check box is added to an applet and the check box is selected, no alarm sounds.
- The base time zone is determined by the system settings on the Siebel Server and cannot be changed on the handheld device.
- Siebel Browser and Siebel Server side scripting are not supported.
- Siebel Workflow is not supported.
- Siebel Personalization.

See the following topics, which outline, more specifically, other unsupported features.

## Functions

Siebel Handheld applications support most of the calculated fields and operations used in the Siebel Web applications with a few exceptions. See the following list of unsupported functions.

- AccountId
- BCHasRows
- DockingNodeId
- DockingNodeName
- DockingNodeRoutId
- EAILookupExternal
- EAILookupSiebel
- EXISTS

**NOTE:** For example, the following expression on multi-value fields is not supported by Handheld Applications: `IIf(EXISTS([Multi-valued Field Name] IS NOT NULL),'Y','N')`.

- GetHQInstanceId
- GetHQInstanceName
- GetNumBCRows
- GetProfileAttr
- GetXAval
- IsDocked
- LanguageName
- LocaleName
- LookupMessage

- LookupTranslation
- NOT
- ParentFieldValue. This function works as a calculated field but not in, or with, a search specification.
- RepositoryId
- RepositoryName
- RowIdToRowIdNum
- ToolsLanguage

The NOT key word is not supported on Booleans. Use the != operator instead. For example, "Active" != "Y".

The RowIdToRowIdNum function is supported differently in Siebel Handheld applications than in the Web applications. In Web applications, RowIdToRowIdNum converts a row ID to a numeric value. In Siebel Handheld applications, the row ID itself is returned.

## About Defining User Functionality in the Siebel Handheld Client

The first step in configuring a Siebel Handheld Client is to determine which user interface elements are necessary. Siebel Handheld Client users have different requirements from the Web Client users. Keep in mind the differences in display size, memory capacity, and input methods between handheld devices and larger computers, such as desktop computers.

The goal is to create applications that are easy for your users to use and which take advantage of the strengths of the handheld device platform. Because of the processing speed, memory limitations, and form factor differences, include only those user interface elements that are necessary for users to complete their job responsibilities.

## Configuration Guidelines for the Siebel Handheld Client

This topic contains general guidelines to use when you configure the Handheld application. Use these guidelines when you design any new objects for the Siebel Handheld Client. This approach facilitates a logical separation of the Siebel Handheld Client user interface elements from the Siebel Web Client user interface elements.

### Identify User Activities

Consider the following when identifying user activities:

- To conserve memory (and thereby improve performance) and ease navigation, identify business processes that are required by users and develop applications that support these processes.

- If more than one type of user needs a Siebel Handheld application, it is preferable to divide the application into multiple responsibilities rather than give all possible users access to all available screens and views. Responsibilities are fully configurable by the application developer.
- Do not include additional functionality that is not required to reside on the device.

## **Limit the Number of Screens and Views**

Consider the following when introducing new screens and views:

- Keep the number of views in your application to 30 or fewer. Determine the critical business processes that the Siebel Handheld application will support and pick only the views that are necessary and are compliant with your business requirements.
- Limit the number of views within a screen to 12 or fewer to keep the Show drop-down list concise.
- Limit the number of screens to six or fewer to keep the Screen drop-down list concise.
- Keep screen names to about 15 characters or fewer, so that they fit in the Screen drop-down list. The number of characters is a general guide, because characters vary in width.
- Keep view names to about 30 characters or fewer so that they fit in the Show drop-down list. The number of characters is a general guide, because characters vary in width.

## **Limit the Number of Applets for Each View**

Organize data in multiple applets in a single view to use Tabbed Views. This allows the user to access critical data via a single click.

## **Limit the Number of Columns and Fields for Each Applet to Minimize Scrolling**

Consider the following when designing applets:

- Design applications that contain as few screen and view hierarchy levels as possible. In a Web-based application, you can have views with many applets, and the user toggles between the applets.
- Include the most important fields and columns that a user needs to see at a glance before scrolling. For example, if you have a form applet that is a parent, include only needed fields to avoid scrolling.
- If you are using a list applet, determine how wide it needs to be.
- Design each applet so that it only contains columns and fields that are required for end-user tasks.
- Consider moving required and editable fields into visible area of the applet where users can enter data and do not have to scroll. Because there is less screen space on a handheld device than on a laptop or desktop, the most important data must be immediately visible.
- The Date column can be formatted to show only the date instead of Date and Time where Time is not relevant. This saves the user from having to scroll.

- To minimize horizontal scrolling, limit the number of columns displayed in a list applet to no more than ten.
- There is no limit on the number of fields in form applets of single-applet views. However, to minimize scrolling, keep the number of fields to 20 or fewer.
- Use a form applet for the parent for each parent-child view.
- In a multi-applet view, limit the number of fields in form applets to five or fewer. Add additional fields only if the field width is short. For example a check box field.
- Reduce the number of fields if the fields are multi-line, for example, a Comments box that contains three lines of text.
- Do not include read-only check boxes in form applets. It is very difficult for users to discern that the check box is not editable.
- Do not add pick applets or set the Runtime property to true for Read-Only fields that have a picklist value associated to them. This will improve overall extraction time, synchronization time and dbfile.txt file size since the process will not be forced to extract all the picklist values for these fields.
- Keep query names to about 15 characters or fewer, so that they fit in the Queries drop-down list. For example, North American Organization is too long for a query name, so change it to a shorter name, such as N. American Org. The number of characters is a general guide because characters vary in width (for example, W is wider than i).
- For each screen, create a view called My \*(asterisk) or All \* as a single list applet view. For example, for the Activities screen, create a My Contacts view that has the Contacts list applet only.

### Design Data Filters

Consider the following when designing data filters:

- Limit the size of the dbfile.txt file to less than three megabytes (MB). The RDBMS on the handheld device is approximately three times the size of dbfile.txt. If the data files are so large that they cannot be imported into the database with the available memory, users cannot successfully synchronize their data. For information about how to design data filters to limit the amount of data that is synchronized to the handheld device, see [Chapter 5, “Data Filtering for Siebel Handheld Applications”](#).
- When working with assessment creation functionality, you need to name your templates in such a way that they will filter only the needed templates that will be downloaded to the device. Without properly setting up filters, all templates will be downloaded to the device.

## About Creating Siebel Handheld Application Projects

The Siebel Handheld application projects appear in the list of projects in Siebel Tools; when Project is selected in the Object Explorer, the list of projects is displayed in the Object List Editor.

Use a naming convention that allows you to identify applications, screens, views, and applets belonging to a particular Handheld application. This allows you to locate all the object definitions in a Handheld application by querying on the name in the Object List Editor. For example, all of the Handheld application screens, views, applets, toolbars, and menus use either an SHCE prefix (for example, SHCE Sales Account List view) or a CE suffix. Use the Object List Editor to query for views that contain the prefix SHCE or the suffix CE; doing so displays all of the Handheld application views.

If you create a new Siebel Handheld application, create a new suffix or prefix to identify the name of the application and each screen, view, and applet name. For example, you might use PPC\_SHCE for an application.

# Designing Screens and Views for Siebel Handheld Applications

Views in Siebel Handheld applications can display two or more applets simultaneously. You can configure screens and views to display applets in two modes, as described in [Table 4](#).

Table 4. Applet Display Modes

Mode	Treatment of Applets	Maximum Number of Applets
Traditional Two-Applet	<p>If the screen or view has only one applet, the applet uses the entire display area. If the screen or view has two or more applets, the first two applets in the frame array of a view definition are displayed, and the user toggles to see the other applets. The first applet is always displayed.</p> <p>Users can use the application-level menu to toggle between applets. You can also provide a toggle button as a visual cue to the user that there are additional applets. Add a toggle button to each applet except the first applet. Identify the button with a Toggle caption and set the <code>methodInvoked</code> property to <code>ToggleApplet</code>.</p> <p>For information about how to use the application-level menu, see the online help for the Siebel Handheld application.</p>	Two
Tabbed Applet	<p>Only one applet is displayed. All other applets are layered as tabs at the bottom or top of the display. Tabbed applet mode enables the user to maintain context and switch between applets easily. You can configure a context bar to show the parent applet information.</p> <p>Users can navigate to other applets in the following ways:</p> <ul style="list-style-type: none"> <li>■ Tap the applet.</li> <li>■ Tap the tab that represents the applet.</li> <li>■ Use the application-level menu to select the applet. For information about how to use the application-level menu, see the online help for the Siebel Handheld application.</li> </ul>	<p>Six in portrait orientation and square screens.</p> <p>Eight in landscape orientation.</p>

**NOTE:** Use only unique display names in the Screens and Show drop-down lists. The Siebel Handheld application uses the first screen or view display name that matches the selected name in the drop-down list. If two screens have the same display name, a search for the screen always returns the first display name found.

## Configuring Tabbed Applets for the Siebel Handheld Client

The applet display mode is controlled by the application user property `DefaultViewType`. For more information about this user property, see [DefaultViewType User Property on page 217](#).

To override the effect of the `DefaultViewType` setting, set the value of the view-level user property `ViewType`. For more information about this user property, see [ViewType User Property on page 228](#).

### To configure tabbed applet behavior for an application

- In Siebel Tools, set the value of the application user property `DefaultViewType`.

For more information about this user property, see [DefaultViewType User Property on page 217](#).

### To configure tabbed applet behavior for a view

- 1 In Siebel Tools, set the value of the view-level user property `ViewType`.

For more information about this user property, see [ViewType User Property on page 228](#).

**NOTE:** `ViewType` overrides the `DefaultViewType` property in portrait orientation. In landscape orientation and on square screens, the default applet display mode is Tabbed.

- 2 If you do not want to show the context bar that displays the parent applet information at the top of a view, set the `DisableParentBar` user property to `TRUE`.

For more information about this user property, see [DisableParentBar User Property on page 218](#).

## Screen Allocation for Traditional Two-Applet Mode

The amount of screen space available for applets is determined by the type of applets in the view. Two applets are stacked above one another. A parent form applet in a two-applet view displays multiple fields on a screen. Users use the scroll bar to navigate. The form applet dynamically resizes if there are fewer than five fields and, therefore, does not waste screen display space with empty lines. The maximum number of fields that are displayed at one time is configurable by setting the `Max Parent Applet Size` preference in the User Preferences dialog. For more information about user preferences, see ["Setting User Preferences in the Siebel Handheld Application" on page 169](#).

## Drill-Down Only Views

Some views can be drill-down only views—that is, they can be accessed only by navigating from another view. These views are not accessible through the Show drop-down list. However, when the user navigates to the view, the view title appears in the Show drop-down list. To configure a drill-down only view, set the view title as you do for any other view and set the `ScreenMenu` property to `FALSE`. For more information about drill-down only views, see [Configuring Siebel Business Applications](#).

## Applet Focus Behavior

When navigating between views, sometimes you might need to override the default behavior for giving focus to an applet

The GotoView method is used to navigate from one view to another. A button control is added to the applet in the view you want to navigate from, the button's methodInvoked property is set to GotoView and the button's View property is set to the view that is to be created. When the GotoView method is executed, it builds the specified view. If the view includes a parent and child applet, GotoView gives focus to the child applet. This is the desired behavior in most instances when you are simply navigating from one view to another.

If the desired behavior is to navigate to a new view and, additionally, to create a new record, then you must use the GotoViewNewRecord method. This method calls two methods; first it calls GotoView, and then it calls NewRecord, which creates a new record in the new view.

In some instances the default behavior of these methods does not produce the intended behavior. For example, in the Orders view of the Service Requests screen, when you tap the Create New Order button, it takes you to the Order Details view, which contains a parent form applet (Service Request Order) and a child list applet (Service Order Entry Line Item). In this instance, when the Create New Order button's GotoViewNewRecord method is executed, you want a new order to be created.

However, the default behavior is to give focus to the child applet rather than creating a new record in the parent applet. Therefore, you need to override the default behavior of GotoView with the control user property OverrideDefaultApplet, and set the value to the applet that you want to give focus. For more information about this user property, see [OverrideDefaultApplet User Property on page 221](#). For more information about the View user property, see [View User Property on page 228](#).

For example, if you create a button labeled Create Service Request Order, you must define the user properties shown in [Table 5](#):

Table 5. User Properties

Name	Value
View	SHCE Service Order Line Items View
OverrideDefaultApplet	0

## Views with Associated Print Templates or Reports

Print templates are text files that you design and create for printing. After creating a print template, you associate it with an applet. When a user chooses to print from a view, the print template that is associated with the applet is automatically selected and used for printing. Follow these guidelines when creating print templates:

- The print template name for a particular display applet is registered in the Mail Template property in the Applet object associated with the applet.
- The template must be placed in the Templates directory.
- The template name that goes into the Mail Template property must not include a path name or extension. For example, if the full path of the template is `\Program Files\Siebel Handheld\Templates\InvoiceTemplate.txt`, enter only the root name, `InvoiceTemplate`, in the property field.
- The template file itself must have a `.txt` extension on the device.

For more information about printing and print templates, see the following:

- “Configuring Printing from the Siebel Handheld Application” on page 55
- “Installing Print Templates in the Siebel Handheld Install Directory” on page 141
- “Printing with the Siebel Handheld Application” on page 167
- Appendix E, “Print Tagging Language”
- Appendix F, “Print Configuration Settings”

## Working With Different Handheld Device Specifications

Siebel Handheld applications can run on many handheld devices. The capabilities of handheld devices vary, depending on the following characteristics:

- Operating system (OS)
- Processor
- Storage memory
- Screen orientation
- Screen resolution

Siebel Handheld applications are aware of the devices on which they run. The applications do not need to be compiled specifically for particular devices. Handheld applications are device aware in the following respects:

- **OS:** Siebel Handheld applications can identify the OS of the device on which they are running.
- **Storage memory:** Siebel Handheld applications can determine the amount of storage memory available on the device on which they are running. Handheld applications use this information to determine if sufficient storage memory is available to download the dbfile.txt file.

Handheld applications do not download the file if available storage memory is insufficient. The applications request the user to apply more restrictive filters, or to make more memory available on the device.

- **Screen orientation:** Views in Siebel Handheld applications are displayed differently depending on the screen orientation of the device.
  - **Portrait orientation**—In this screen orientation one or two lists or forms are displayed on each screen. When the screen displays two lists or forms, the user can maximize and minimize the lists or forms.

- Landscape orientation and square screens—In this screen orientation one list or form is displayed on each screen. The user can use a tab and an icon button to show one list or form, and simultaneously hide the list or form that is currently displayed.

Dialog boxes and other UI elements are also aware of screen orientation. All UI controls are automatically placed in an area that is not affected by changes to screen orientation. Any fields that users can edit are automatically placed in a location that is not obscured when the Software Input Panel (SIP) is displayed.

These automatic features are not enabled in form UI applets and task applets. When you develop these applets for Siebel Handheld applications, you must manually lay out UI items so that they are not obscured by changes to screen orientation or SIP display.

- **Screen resolution:** Siebel Handheld applications can run on both high-resolution and low-resolution displays.

## Configuring User Interface Elements in the Siebel Handheld Client

When configuring user interface elements on the Siebel Handheld Client, also consider the processing speed and memory constraints of handheld devices. The constraint on processing speed affects the performance of a handheld device. The performance of a handheld device is also related to the number of screens and views downloaded to the handheld device. Because handheld devices are not meant to provide the same functionality as larger devices, such as laptops, the number of screens and views must be kept to a minimum on the handheld device.

Due to size constraints on handheld devices, the Siebel Handheld Client displays user interface elements differently from the Siebel Web Client. Consider these differences when configuring the Siebel Handheld Client application. For example, Siebel Handheld Client does not support an alphabetical index.

The following topics are related to configuring user interface elements in the Siebel Handheld Client:

- [“Configuring List Applets for the Siebel Handheld Client” on page 36](#)
- [“Configuring Fields to Display as Pop-Up Text Areas in List Applets” on page 37](#)
- [“Configuring Alpha Tabs in List Applets for the Siebel Handheld Client” on page 37](#)
- [“Configuring Form Applets for the Siebel Handheld Client” on page 38](#)
- [“Configuring Form UI Applets for the Siebel Handheld Client” on page 39](#)
- [“Using Auto Pop-Up Lists in the Siebel Handheld Client” on page 40](#)
- [“Configuring Tree Applets for the Siebel Handheld Client” on page 41](#)
- [“Configuring Tabbed Applets for the Siebel Handheld Client” on page 31](#)
- [“About Home Page Applets in Siebel Handheld Applications” on page 43](#)
- [“About Buttons in Siebel Handheld Applications” on page 43](#)
- [“About Multi-Value Groups in Siebel Handheld Applications” on page 43](#)
- [“About the Menu Bar in Siebel Handheld Applications” on page 44](#)

- “About Toolbars in Siebel Handheld Applications” on page 44
- “About the Status Bar in the Siebel Handheld Application” on page 45
- “About Hyperlinks in the Siebel Handheld Application” on page 45

## Configuring List Applets for the Siebel Handheld Client

You configure list applets and list columns for Siebel Handheld applications the same way you configure them for other Siebel applications.

### Recommended Strategy for Configuring List Applets

The recommended strategy when configuring the Siebel Handheld application is to use the list applets for record navigation and to rely on form applets to provide the record details.

The following are additional guidelines to follow when designing list applets:

- Configure specific list applets for your Handheld application, rather than reusing Siebel Web Client list applets.
- Remove all but the essential list columns. Because there is limited screen area to display list columns, omit all unnecessary columns to minimize horizontal scrolling.

You can either remove the columns from the Handheld application or set the Show in List property on the column to FALSE. These two methods are different in the following ways. If the columns are removed from the Handheld application, the data is not downloaded to the handheld device. This keeps the Handheld application data to a minimum and, in turn, optimizes the synchronization process performance. If the Show in List property on the column is set to FALSE, the data is still downloaded to the device but is not shown by default. This second approach, though without the synchronization optimization benefit, does allow convenience for the user who wants to customize visible columns. Take these concerns into account when setting up users.

- Reorder the remaining list columns so that the most frequently used columns are furthest to the left.
- Reduce the default width of the list columns so that more columns can be viewed at one time.
- Use hyperlinks to ease navigation by enabling users to drill into a form applet.

These changes can minimize the amount of horizontal scrolling and column reordering that users must do. Limiting the number of list columns to those that are essential minimizes the amount of data downloaded to the device, resulting in faster synchronization times and more economical use of device memory.

**NOTE:** In Siebel Handheld applications, an asterisk (\*) on a form applet, or in a column heading of a list applet, indicates a required field. Administrators specify which fields are required.

Use Siebel Tools to modify, or rearrange List columns. For more information about the List column options, see *Configuring Siebel Business Applications*.

## Configuring Fields to Display as Pop-Up Text Areas in List Applets

You can configure fields to display as pop-up text areas in list applets, so that Handheld users can enter new text or edit existing text in a field. Fields that are configured to display as pop-up text areas in list applets contain an (...) ellipses button. Handheld users must click the ellipses button to access the text area.

### *To configure a field to display as a pop-up text area in list applets*

- 1 Set the text length of the field in the business component to 100 or more.

If the field text length is set to anything less than 100, then the (...) ellipses button will not appear on the Handheld device for that field, and users will not be able access the text area.

- 2 For multi-value fields, which are read-only in Handheld applications:

- Set the text length of the field and the destination in both the parent and child business components to 100 or more.
- In the List Column of the applet, set HTML Type to Field and set Runtime to TRUE.

If the field text length is set to anything less than 100 in either the parent or child business component, then the (...) ellipses button will not appear on the Handheld device for that field, and users will not be able access the text area.

## Configuring Alpha Tabs in List Applets for the Siebel Handheld Client

You can configure alpha tabs in list applets for Siebel Handheld applications to act on one or more list applet columns and to appear as a row of tabs at the top of the applet. Alpha tabs have the following characteristics:

- Can be configured for any field in the list applet provided the field is set up as the Alpha Tab Search Field user property in Siebel Tools.
- Can only be configured for one field at a time in the list applet.
- Can be configured to display either in single letter format (ungrouped) or in multiple letter (grouped) format.
- Can facilitate localizable tab definitions based on grouped and ungrouped alpha tab format. For example, alpha tabs can be configured for additional accented characters (in the case of some European Languages) and for English character ranges or local character ranges (in the case of some Asian Languages).
- Can include an ALL grouping which will show all records in the list applet by default the first time a user navigates to the view after launching the application.
- Can disable, if configured, any filters applied to the view the first time the view loads.
- Are supported in portrait orientation, landscape orientation, and on square screens.

### **To configure alpha tabs in list applets**

- 1 In Siebel Tools, configure the AlphaTab Named Search property on the List object.

For more information about this user property, see [AlphaTab Named Search User Property on page 215](#).

- 2 Decide whether you want your alpha tabs to display in grouped or ungrouped format. The default behavior is to show grouped alpha tabs.

To display ungrouped alpha tabs, set the value of the DisableAlphaTabGroups user property for the applet to TRUE.

For more information about this user property, see [DisableAlphaTabGroups User Property on page 218](#).

By default, your Siebel Handheld application ships with grouped and ungrouped versions of alpha tabs for each language. For example:

```
IDS_ALPHATAB_GROUPED_SPEC "A-C|D-E|G-I|J-L|M-O|P-R|S-U|V-Z|*"
IDS_ALPHATAB_GROUPED_DISPLAY "ABC|DEF|GHI|JKL|MNO|PQR|STU|VWXYZ|A11"
IDS_ALPHATAB_UNGROUPED_SPEC "A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z|*"
IDS_ALPHATAB_UNGROUPED_DISPLAY "A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z|A11"
```

\_SPEC represents the range for the search specification and \_DISPLAY represents the strings that will be displayed on each tab. Currently, you cannot override these specifications.

## **Configuring Form Applets for the Siebel Handheld Client**

The Siebel Handheld application uses a specialized algorithm to format and display form applets. Due to the display limitations on the device, only one pair of label and field controls are displayed on each row of the form, regardless of the layout shown within Siebel Tools.

### **Layout Sequence**

When configuring form applets for the Siebel Handheld application, the Applet Web Template Items in the Applet Web Template determine the controls that appear on a form applet. The layout of form applets on the Handheld application is determined by the HTML Sequence field set on control objects.

The HTML Sequence field determines the screen layout of a Handheld application. Controls are ordered from top-to-bottom based on their HTML Sequence property values. Label and control pairs that do not fit on the same line as other label and control pairs wrap to the next line.

### **Labels**

Keep field labels in applications short (approximately 12 characters or fewer, depending on the character width). Use abbreviations where possible. Labels that are too long are truncated.

## Group Boxes

Group boxes are not supported and are not displayed in form applets, even if they are added in the Web Applet Designer. Therefore, reword the field labels to include group box information if necessary. For example, you can have two group boxes on the form, one labeled Ship To and another labeled Bill To. Each group box includes a field named Address. Because group boxes are not supported, the Ship To and Bill To labels are lost, and two fields with the identical Address label remain. Therefore, you must rename the Address labels "Ship To Addr" and "Bill To Addr" or some other label that distinguishes them.

## Radio Buttons

You can configure any static or dynamic picklist control in form applets to display as a set of radio buttons, instead of as a normal picklist. To do this, you must set field type to DT\_RADIO.

## Configuring Form UI Applets for the Siebel Handheld Client

Form UI is a technique of applet design which enables Siebel Handheld application developers to create applets that are larger than normal form applets. An applet designed for form UI can have a greater height and a greater width than the applet display area. Form UI enables application developers to create large applets which can resemble a paper form.

You create form UI applets as normal form applets, but with the FormUI user property set to TRUE. For more information about this user property, see [FormUI User Property on page 219](#).

## Location of UI Controls

The location of the UI controls on normal form applets is determined automatically. For form UI applets, you can define the location of each control. This enables you to design the applet in the way that you want the applet to appear to users. You can place UI controls in any location on the applet. This enables you to create forms that are easier for your users to use, or reflect your current business processes. For example, you can design an applet that resembles the layout of one of the paper forms that your business currently uses.

You can also design more complicated forms. For example, you can create a form that has three fields beside each other. Form UI allows the following benefits for UI design for Siebel Handheld applications:

- Flexible location of labels
- Hidden labels
- Flexible location of fields
- Flexible field sizes
- Flexible location of buttons
- Flexible button sizes
- Flexible location of radio buttons

You use the Grid Layout Editor in Siebel Tools to create form UI applets. Before you design the layout of the applet, you must set the FormUI user property to TRUE. In Grid Layout Editor, add the required controls to the applet, then arrange the controls appropriately.

## Navigation Scheme

Form UI applets also have a new navigation scheme to enable users to navigate efficiently in a large form applet. There are no scroll bars in form UI applets. Instead, users can tap-and-hold on an area outside of the fields, then drag the form so that a part of the form that they cannot see is displayed.

To enable the new navigation scheme to function, the performance of the screen drawing functionality for form UI applets is significantly better than for other types of applet.

## COM Interface

To perform complex processing on a form UI applet, you can write components that use the Component Object Model (COM) architecture. For example, if you want to implement data validation or different UI, you can write a component extension for the applet. For more information about how to write component extensions, see [Appendix G, "COM Extensibility"](#).

## UI Behaviors

To reduce the potential for user confusion, many of the automatic UI behaviors which occur in the normal form applet do not occur in form UI applets. For example, the following behaviors are different:

- When the SIP opens, the form UI applet does not resize or scroll automatically to show the insertion point. Instead, the user must drag the applet until the insertion point is visible.
- When you tab to a field that is not visible, the form UI applet does not scroll automatically to the active field. Instead, the user must drag the applet until the active field is visible.

## Using Auto Pop-Up Lists in the Siebel Handheld Client

Sometimes when a user opens a view, the user must select a value from a pop-up list to fill in a required field. You can configure the view so that the pop-up list automatically opens when the user opens the view. If you do this, the user does not have to tap the control to open the pop-up list.

To configure a pop-up list to open automatically, use the AutoPopupField user property. For more information about this user property, see [AutoPopupField User Property on page 215](#).

To configure a pop-up list to open automatically, add the user property on the applet with Name set to AutoPopupField.

Depending on the type of applet, this property is set differently:

- For list applets, set the AutoPopupField property to the Business Component field name.
- For form applets, set the AutoPopupField property to the name of the control.

## Configuring Tree Applets for the Siebel Handheld Client

As an alternative to List applets, Tree applets with automatic drilldown behavior can be configured for Siebel Handheld applications in much the same way that you configure them for other Siebel applications.

A tree applet is a structured and hierarchical list of nodes of related business components. Tree applets are used to create explorer views where users can expand (by tapping the + button) and collapse (by tapping the - button) nodes in the tree applet and view individual records in particular folders. There are two types of nodes:

- Folder nodes - have a folder bitmap next to them and represent hierarchies within the tree.
- Record nodes - have a document bitmap next to them and represent one record in the node business component.

The hierarchy displayed in a tree applet represents master-detail relationships between records of different business components.

### To configure a tree applet

- 1 In Siebel Tools, define a tree applet with the following properties:

Property Setting	Description
Class	The name of a C++ class used to manage the applet. For explorer applets, Class must be set to CSSFrameTree. This is required in order for the tree applet functionality to work.
Business Component	The name of the business component whose data is to be displayed. The business component must be defined in the business object specified for any view that uses this applet.

- 2 Define trees in the tree applet by specifying the following property for each tree:

Property Setting	Description
Name	The name of the tree object definition which is basically just a name, usually ending with <i>tree</i> , to which child object definitions in the form of tree nodes can be attached.

- 3 Define tree nodes under the tree object definition. A tree node corresponds to one folder that the user sees in a tree applet. Important properties to define for each tree node object definition include the following:

**NOTE:** Trees and tree nodes are usually created and edited in the Applet Designer of Siebel Tools.

Property Setting	Description
Display Name	The name of the tree node object definition (folder name) as it will appear in the tree applet in Siebel applications. The display name appears to the immediate right of the folder symbol.
Applet	The name of the applet that is opened in the right half of the view when the user opens the corresponding folder. Generally a list applet is specified. The applet must be based on a business component that is in the appropriate hierarchical position in the business object. If not specified, nothing opens in the right-hand side of the view, which is desirable in some situations.
Position	<p>Specifies the tree node's hierarchical position relative to other tree nodes, and its sequence on its level. The top-level node has a value of 1 and all immediate child nodes of the top-level node have a value of 1.x, where x specifies the node's order relative to other nodes on the same level. In turn, all immediate child nodes of 1.x have a value of 1.x.x and so on.</p> <p>In general, the right most digit in a position specifies its order relative to others on the same level, and all other digits specify the position it attaches to.</p>
Business Component	The business component that populates values in this tree node. This must be set to the same business component as is specified by the applet invoked by this tree node.
Label Field	The name of the field in the business component that the Siebel application uses to populate names in the record list that appears when the node is expanded by the user.
Max Child Items	An integer that sets a limit on the number of child items that appear under the tree node. An arrow appears to let the user scroll further, if there are many child items.
Selected Bitmap Index	<p>An integer indicating which bitmap, in a multiple bitmap file, to display when a record is selected.</p> <p>This property should be set to the value 5, which corresponds to the folder symbol.</p>

- 4 Decide on an operation mode for your applet by setting one of the following user properties in Siebel Tools:
  - To display the applets in tabbed applet mode, set the view-level user property `ViewType` to `Tabbed`.  
For more information about this property, see [ViewType User Property](#) on page 228.
  - To display the applets in traditional two-applet mode, set the view-level user property `ViewType` to `Traditional`.

- To suppress the second dynamic applet, so that only a single applet is displayed, set the view-level user property `Disable Second Applet` to `TRUE`.

For modes that display two applets, you can also specify how much space you want the tree applet to occupy. For more information about this property, see [Explorer Applet Size User Property](#) on page 218.

## About Home Page Applets in Siebel Handheld Applications

To configure a Home Page applet, create an applet that has controls of HTML Type Button only. Use the following guidelines in creating your Home Page applets:

- Set the `MethodInvoked` property of these controls to `GotoView`. Add a `View` user property to the control, and set the value of the `View` property to the name of the view that you want to display. For more information about this user property, see [View User Property](#) on page 228.
- Set the `Caption` field.
- Set the `HTML Sequence` field according to the order in which the buttons are laid out on the device. The buttons appear on the Home Page applet of the handheld device, laid out in rows of three buttons.

## About Buttons in Siebel Handheld Applications

Set the `HTML Type` field on buttons to `Button`, `MiniButton`, `PushButton`, or `MiniButtonEditNew`. All of these HTML Types map to the same button control on the handheld device.

Buttons with text labels on them are sized to the minimum width required to fit the text on the buttons.

**NOTE:** You cannot use scripting to augment the button functionality in Siebel Handheld applications.

You can add buttons as long as the method invoked is supported by the class or superclass of the frame or business component. You can also remove buttons from an applet. Be careful when removing buttons, because you might alter the behavior of your application in unintended ways.

For more information about button functionality, see [Appendix D, "User Properties and Methods."](#)

## About Multi-Value Groups in Siebel Handheld Applications

Multi-Value Groups (MVG) are supported Handheld applications in the same way that they are supported by the Siebel Mobile Web Client. MVG fields and applets are used to input and display data on Handheld applications.

MVG fields have an MVG control button, similar to the ellipsis control (...). Tapping the MVG control—for example, on a parent form or list applet—opens the MVG applet. When the MVG applet is open, you can perform inserts, updates, or deletes on the MVG applet. Any updates performed on the MVG applet automatically appear in the corresponding MVG field, if appropriate.

**NOTE:** MVG fields are displayed as greyed out or read-only in the parent applet.

For more information about creating and configuring MVGs for your Siebel application, see *Configuring Siebel Business Applications*.

## About the Menu Bar in Siebel Handheld Applications

The menu object definition in the Siebel repository that is implemented in Siebel Handheld applications is named SHCE Generic. The menu object definition in the Siebel repository that is implemented in the Siebel Service Handheld application is named ServiceCE Generic. The default menu bar configuration for the Handheld application includes the following menus: File, Edit, View, and Help. You can remove or rename menus on the menu bar, but you cannot add new menus. You can reorder the menu items by changing the Position property for the menu items. Generally, use the default menu bar configuration for all of your Handheld applications.

## About Toolbars in Siebel Handheld Applications

This topic describes how to configure the toolbar for your Siebel Handheld application.

The following lists the supported toolbar functions:

- Back, Forward
- New Record
- New Query, Execute Query
- Next Record, Previous Record, First Record, Last Record
- Minimize or Maximize
- Delete Record

The default toolbar can be configured in Siebel Tools by configuring the SHCE Main toolbar object. SHCE Main is the main toolbar that is downloaded to the handheld device. If a toolbar named SHCE Main does not exist in your repository, a default toolbar, *Main*, is downloaded instead.

The SHCE Main toolbar contains the default buttons for the device: Back, Forward, New Record, New Query, and Execute Query. Change the order of the buttons on the display by modifying the Position property of the toolbar items. Remove a toolbar button by deleting it or making it inactive.

You can add additional default buttons to the toolbar by creating toolbar items whose Command property matches the name of an active bitmap in the SHCE Command Icons bitmap category. Do not add bitmaps to the SHCE Command Icons bitmap category because only those commands, which are already provided, are supported on the device. No additional commands are supported. You can remove a bitmap or make a bitmap inactive if you do not want it to appear in the Customize Toolbar dialog box.

You can change the bitmap for a toolbar by reimporting the bitmap from the SHCE Command Icons bitmap category.

Users can customize their toolbar from the application-level menu. For information about how to use the application-level menu, see the online help for the Siebel Handheld application. For more information about toolbars, see *Configuring Siebel Business Applications*.

## About the Status Bar in the Siebel Handheld Application

The status bar is located above the toolbar. The status bar displays the status of an applet with focus, including the applet title and record item count (for example, Contacts: 1 of 13).

## About Hyperlinks in the Siebel Handheld Application

Configuring a drilldown, or clicking a hyperlink or dynamic hyperlink in the Siebel Handheld application, is performed the same way as with other Siebel applications. For more information about configuring drilldowns, see *Configuring Siebel Business Applications*.

# Using the COM Interface with Siebel Handheld Applications

To perform complex processing on applets, you can write components that use the COM architecture. For example, if you want to implement data validation or a more sophisticated UI, you can write a component extension for the applet. For more information about how to write component extensions, see [Appendix G, "COM Extensibility"](#).

## Configuring Calendar Settings

This topic provides information about calendar enhancements such as calendar layout simplification, utilization of the menu bar as a partial toolbar, dynamic color and description coding. It also includes configuration steps and examples of implementing the enhancements.

The following topics are related to configuring calendar settings:

- "User Properties for Calendar Settings" on page 46
- "Configuring Calendar Color Codes and Descriptions" on page 46
- "Configuring the Goto View Button" on page 47

**NOTE:** The calendar settings are optional and need only be implemented, if required, by your business processes.

## User Properties for Calendar Settings

Administrators can set the following user properties to enhance the calendar views for the Siebel Handheld applications:

- SHCEDailySlotHeight
- SHCEHideStatusBar
- SHCEHideToolBar
- SHCEMenuBackButton
- SHCEMenuForwardButton
- SHCEMenuNewButton
- UseSystemLocale

For more information about how to use these properties, see [User Properties and Methods on page 215](#).

**NOTE:** Registry settings take precedence over a user property configured from the user interface.

The administrator can also change the Setup.ini file to add the following Registry Setting parameters. These parameters are used by all calendar views:

```
SHCEMenuNewButton = TRUE
SHCEMenuBackButton = TRUE
SHCEMenuForwardButton = TRUE
SHCEHideToolBar = TRUE
SHCEHideStatusBar = TRUE
UseSystemLocale = TRUE
AuxiliaryConfigPath = \Program Files\Siebel Handheld\Templates\AuxConfig.txt
```

## Configuring Calendar Color Codes and Descriptions

The auxconfig file contains a section for each organization and the rule expressions to define the color code and dynamic description for Daily and Weekly calendar views. Color code is rendered as the side bar color in a Daily view and is rendered as text background color of the time indicator in the Weekly view. The color code is a hexadecimal representation of the possible color to be used. The key values that can be defined are:

**Default Color:** Used if the Color expression does not evaluate to any color code.

**Color:** Used to show color codes based on the Expression defined.

**Day Description:** Used for the Daily view and defines which fields to display for Calendar Activity when it is shown in Daily view. The text word-wraps to multi-line display if timeslot spacing is for two or more lines.

**Week Description:** Used for Weekly view and defines which fields to display on Calendar Activity when it is shown in Weekly view. The number of fields displayed can be reduced due to limited display space.

Table 6 shows an example of a section from the auxconfig.txt file:

Table 6. Key Value Example

Key Value	Description
<1Ls-9n59>	Organization Id.  If the administrator defines these Key Value Set under both Organization Id and Organization Name, the Organization Id takes precedence. Avoid duplicate sections for one Organization.
Default Color = 0000FF	Specifies what color code should be used for any activity that does not evaluate to a color code for each Color expression which in this example is set to Blue (0000FF)
Color = IIf ([Category] ='Contact Call', (IIf([Status]='Planned', 'FF0000', (IIf([Status]='Submitted', '00FF00', 'FFFF00')))), (IIf([Category]='Account Call', (IIf([Status]='Planned', 'FF0000', (IIf([Status]='Submitted', '00FF00', 'FFFF00')))), '0000FF')))	Color evaluates the Expression and if the activity is Contact Call or Account Call and has a status of Planned, the color displays in red (FF0000). If the activity has a status of Submitted, the color displays in green (00FF00). If the call has a status other than Planned and Submitted, for example, Synchronized, then the color displays in yellow (FFFF00). All other kinds of activities are displayed in blue (0000FF).
Day Description = IIf ([Category]='Contact Call', [Contact Last Name] + ' ' + [Category] + ' ' + [Status], [Description])	Day Description evaluates the expression and if the activity is Contact Call, Last Name, Category of Call, and Status is displayed. If the activity is not Contact Call, the Description field is displayed on the calendar.
Week Description = IIf([Category]='Contact Call', [Contact Last Name] + ' ' + [Status], [Description])	Week Description evaluates the expression and if the activity is Contact Call, Last Name, and Status is displayed. If the activity is not Contact Call, the Description field is displayed on the calendar.

## Configuring the Goto View Button

Click the Goto view button to navigate to a specified view. The view name needs to be defined as a user property for the control.

### To configure Goto View buttons on the Daily Calendar view

- 1 Set ClientConfigurationMode = ALL in tools.cfg file in \root\BIN\ENU directory.
- 2 Log in to Siebel Tools.

- 3 Query for Applet Name: SHCE Sales eCalendar Daily Applet - My in Applet.
- 4 Navigate to Applet > Control.
- 5 Add the following controls to Applet Control:

Name	Caption	HTML Type	Method Invoked	Type
CalNavigate	User defined	MiniButton	GotoView	Push Button

**NOTE:** The caption for all buttons can be user-defined. The method invoked is specialized.

- 6 Navigate to Applet > Control > Control User Property.
- 7 Select CalNavigate in Control User Property.
- 8 Add the following Control User Property Item for CalNavigate:

Name	Control	Type	Item Identifier
CalNavigate	CalNavigate	Control	134

- 9 Add the following User Properties and respective values for the CalNavigate control:

Control Name	User Property Name	User Property Value
CalNavigate	View	Define the View name that you want to navigate to.

## Developing Tasks for Task UI in Siebel Handheld Applications

Siebel Task UI enables you to create an interactive tool that can help users to perform tasks. *Siebel Tasks* are tools that display a series of screens, which guide users through the steps required to perform a task. Siebel Tasks are similar to software wizards.

Siebel Tasks can allow the user to navigate backwards and forwards within the task, and can allow users to pause and resume the task.

You can use Siebel Tasks to ensure that your business processes are executed as consistently and efficiently as possible. You can replicate the steps of your business processes in a task. For example, if your business process requires that the contact details of a new account are recorded before an order can be generated for the account, you can construct a task to reflect this requirement. When the users start the task to assign an order to a new account, the first screen they must complete is the contact details screen. The users cannot navigate to the order details screen until they enter all the required data on the contact details screen.

Siebel Tasks can guide inexperienced and intermittent users through the execution of unfamiliar tasks, and in that way increase the efficiency of these users.

The following procedures describe how to implement tasks in your Siebel Handheld applications:

- “Designing a Task for Siebel Handheld Applications” on page 49
- “Creating a Task for Siebel Handheld Applications” on page 49
- “Example of Creating a Task for Siebel Handheld Application” on page 50

For more information about Siebel Task UI, see *Siebel Business Process Framework: Task UI Guide*.

To perform complex processing on a task UI applet, you can write components that use the COM architecture. For example, if you want to implement data validation or a more sophisticated UI, you can write a component extension for the applet.

For more information about how to write component extensions, see [Appendix G, “COM Extensibility”](#).

## Designing a Task for Siebel Handheld Applications

Before you create a task for a Siebel Handheld application, you must design the structure and sequential logic of the task.

### ***The design involves doing the following:***

- 1** Analyze the task, and divide the task into component steps. The steps that you identify will become individual screens in the task.
- 2** Identify the sequence in which you want users to perform the steps that comprise the task. That is, you must define how the task flows. If an error is detected on the current screen, you might want to remain on the current screen until the error is resolved. In some situations, you might want the sequence to reverse.
- 3** Identify the data that the user must enter or that must be displayed in the task.

## Creating a Task for Siebel Handheld Applications

### ***To create a Siebel Handheld application task, perform the following steps:***

- 1** Create the task in Siebel Tools. A task for a Handheld application is implemented as a view which contains a series of task applets. You must create an applet for each screen.
- 2** Set the user property of the view to indicate that the view is a Siebel Task.
- 3** You create the applets as form UI applets; that is, with the FormUI property set to TRUE. The applets that you create must meet the following requirements:
  - Users cannot scroll on the applet, so the applet must fit in the display area of the target device.
  - Any fields that users can edit must be in a location that is not obscured when the SIP is displayed.
  - The only UI items that can appear in the bottom 20 pixels of the screen are the navigation buttons.

- The navigation bar, menu bar, toolbar, and status bar on task applets are hidden. The applet must use the navigation buttons to control all navigation.

For more information about form UI applets, see [Configuring Form UI Applets for the Siebel Handheld Client on page 39](#).

- 4 Add UI controls to the task applet.
- 5 Add one, two, or three navigation buttons to the applets. Use frame methods to associate functionality with the buttons.

To add navigation buttons to an applet, you define the buttons in the user properties for the applet. For example, if you want to configure Back, Cancel, and OK buttons for an applet named OrderTaskProduct, add the following user property to the applet:

```
TaskNavigation="Back, Cancel, Ok(OrderTaskProduct)"
```

Note the following:

- A task applet does not automatically commit data when the user steps off the applet into another task applet in the same view. You must create the required code to ensure that the data is committed.

Alternatively, data is committed when the user steps off the view.

- To perform more complex processing in a task, you can write components that use the COM architecture. For example, if you want to implement data validation or a more sophisticated UI, write a component extension for the Handheld application.

For more information about how to write component extensions, see [Appendix G, "COM Extensibility"](#).

## Example of Creating a Task for Siebel Handheld Application

The following example is a simple task for Siebel Handheld applications that users can execute to take a simple order. This task creates three screens, as follows:

- Select Product screen
- Specify Quantity screen
- Confirm Order screen

### ***To create this task, perform the following steps:***

- 1 In Siebel Tools, create a normal view named OrderTaskView.
- 2 Specify that the view is a task view, that is, set the TaskUI user property, as follows:  

```
TaskUI="TRUE"
```

For more information about this user property, see [TaskUI User Property on page 227](#).
- 3 Create three applets on the view with the following names:

- OrderTaskProduct
- OrderTaskQuantity
- OrderTaskSummary

4 For each applet, set the user properties as described in the following table:

User Property	OrderTaskProduct	OrderTaskQuantity	OrderTaskSummary
FormUI	"True"	"True"	"True"
TaskBtnMethod1	"UndoRecord,GoBack"	"UndoRecord,GoBack"	"NewRecord,GotoApplet"
TaskBtnBitmap1	"Delete Record"	"Delete Record"	"More"
TaskBtnMethod2	"NewRecord"	"GotoApplet"	"GotoApplet"
TaskBtnTarget2	—	"TASK1"	"TASK2"
TaskBtnBitmap2	"New Record"	"Go Back"	"Go Back"
TaskBtnMethod3	"GotoApplet"	"GotoApplet"	"GoBack"
TaskBtnTarget3	"TASK2"	"TASK3"	—
TaskBtnBitmap3	"Go Forward"	"Go Forward"	"Goto Last"

5 In Grid Layout Editor, add the required controls to each applet, and arrange the controls appropriately.

**NOTE:** No data validation is performed in this simple Task UI.

## Scripting in the Siebel Handheld Application

The Siebel Handheld application does not execute Siebel Visual Basic (VB) or Siebel eScript scripting.

The Handheld application runs Siebel VB or Siebel eScript scripts and specialized business component logic at synchronization time, rather than in real time on the handheld device. This has significant consequences in applets and controls, because scripts attached to applets and controls are ignored.

**CAUTION:** Be aware of the following additional issues with respect to scripts and validation:

- **Deactivating scripts.** *Do not* deactivate existing scripts in Siebel Tools to make the handheld device or the synchronization process accept data it is excluding. Errors can occur within the Siebel Web Client or elsewhere from where these scripts are run.
- **Calls to user interface methods.** When a business component script makes a call to a user interface method (such as Msg Box), the script cannot be executed, and the record update, deletion, or addition is rejected during synchronization. The Siebel Visual Basic code must be restricted to the business component level. Applet-level Siebel Visual Basic does not execute and, therefore, must not be written for the Handheld application. As a substitute to using Siebel Visual Basic on the Handheld application, for real-time execution, use the following business component user properties:

- BC/Field Read only field for making fields or business components read-only dynamically.
- Pickmap for fields on the picklist.

Do not use message boxes or prompts in the Siebel Visual Basic code used in conjunction with the Handheld application business components.

If the business component is shared between the Siebel Handheld Client and other applications, use the following constructs to determine whether the code is executed by the handheld synchronization process or if the code is executed in real-time by other applications:

```
'ActiveviewName' is only available when the script is called real time on the laptop
If (TheApplication.ActiveviewName<>"") then
  MsgBox"....."
End If
```

ActiveviewName is not available if the business component is accessed by other server processes, such as workflow or business service.

***To determine if the business component is called by synchronization for the Handheld application, do the following:***

- 1 Add a server script to Application\_Start event of the Siebel Handheld application.

To do this, set a custom profile attribute with SetProfileAttr. If the custom attribute is not set, this indicates that:

- a The Application\_Start event of the Handheld application did not occur.
- b The business component is called by something other than synchronization process for the Handheld application.

Business component level scripting is executed during the synchronization process for the Handheld application. You might want to enhance error handling if the business component is shared between the Handheld application and the laptop.

## Compiling the Siebel Handheld Application

Compiling the repository for the Siebel Handheld application is identical to compiling on the Siebel Web Client. For more information about compiling the repository, see *Using Siebel Tools*. For deployment to production, always perform a full compilation. This assumes that you have organized all of the object definitions for your Handheld application in one project or a limited set of projects.

When you compile your application, a Siebel repository file (.srf) is created and put in the destination directory you specified during the compile procedure. Make the .srf file the source of repository information for the Handheld application test client machine, defining all Siebel applications for that client, when you move it to your local \Siebel\objects directory.

It is strongly recommended that you make a backup of the existing .srf file in your local \Siebel\objects directory before overwriting it with the new one. That way, if you make an error or you want to revert to the original application, you have a backup that you can easily restore. Versioning for the repository is tracked, and if the .cfg, schema, or repository files have changed, the synchronization process will automatically rebuild the .rml and schema. For more information about compiling the Handheld application, see *Using Siebel Tools*.

## Installing and Setting Up End User Translation Functionality

End User Translation functionality provides you with the ability to translate the text strings within the Siebel Handheld application. The translation process must happen during the development cycle and once completed your development team can then package the translated strings for distribution.

The translation process requires the generation of a file of strings from the binaries of the Handheld application which are then translated and distributed to the user base. This file, userstr.txt, containing the translated strings is then used to override the strings within the existing binaries for the Handheld application. Therefore, you will be required to build a copy of userstr.txt into the installation media for your Handheld application.

The translation string file is version specific so you must repeat this process every time you upgrade your Handheld application.

The following procedures are related to installing and setting up end user translation functionality:

- “Performing Setup for Initial String Translation” on page 53
- “Distributing Translated Strings” on page 54

### Performing Setup for Initial String Translation

In order to perform the initial string translation you must perform the procedure in this topic prior to installation:

#### ***To set up Siebel Handheld application for initial string translation***

- 1** In the installation directory of the Siebel Handheld application, add the following two lines to the setup.ini file:

```
[EndUserLocalization]
UserDefinedLang=Y
```

- 2** Install the Siebel Handheld application.

During application initialization and the subsequent startup, the file 'userstr.tmp' is generated within the ApplicationDataDirectory (by default this is \Program Files\Siebel Handheld). This file is generated upon startup whenever the UserDefinedFlag is set to Y within the registry of the Handheld application and an existing userstr.txt cannot be found.

- 3** Copy the generated file over to the computer where you will be performing the string translation.

- 4 Translate the strings as required and remove any untranslated strings from the file.

For example, given the following exported strings:

```
33872|HTML\  
33873|Tab delimited text file\  
33874|Export\  
33875|Format:\  
33876|Only Active applet\  
33877|All applets in view\  
33878|Output file name\  
33879|Browse...\  
33880|And paste output to clipboard\  
33881|And open file\
```

Translate the required strings and remove any untranslated strings as follows:

```
33873|Archivo delimitado por tabulaciones\  
33874|Exportar\  
33875|Formato:\  
33876|Sólo el applet activo\  
33877|Todos los applets de la vista\  
33878|Nombre del &archivo de salida:\  
33880|Y pegar salida en el &portapapeles\  
33881|Y &abrir el archive
```

**NOTE:** Strings 33872 and 33879 were removed from the userstr.txt, because they were not required to be translated.

- 5 Save the file as userstr.txt in a UNICODE file format and then copy back into the ApplicationDataDirectory on the handheld device.
- 6 After restarting the Siebel Handheld application, the translated strings are read from userstr.txt in place of the strings included in the binaries of the Handheld application.

## Distributing Translated Strings

When you have generated and tested the userstr.txt file of translated strings, include this file in the installation media for the Siebel Handheld application.

### *To distribute translated strings*

- Create a new language sub-directory named UserDefinedLanguage, within the installation directory of your Siebel Handheld application, from which user devices are installed and which contains the setup.exe.

This directory with the name UserDefinedLanguage exists alongside the language sub directories shipped with the application. The new userstr.txt file must be placed in this subdirectory.

Upon installation of the Handheld application, the custom file will be placed in the ApplicationDataDirectory of the destination device along with the usual Handheld application files.

## Configuring Printing from the Siebel Handheld Application

Users can print from any view in the Siebel Handheld application. However, they are not necessarily printing what they see on their screen. They can print a portion of the data they view or data that is not viewable at the time.

A print template defines the document that is to be printed. After the template has been defined, it must be associated with an applet in a view.

The following procedures are related to configuring printing from the Siebel Handheld application:

- ["Defining Documents for Siebel Handheld Applications" on page 55](#)
- ["Designing Print Applets for Siebel Handheld Applications" on page 56](#)
- ["Configuring Print Applets for the Siebel Handheld Application" on page 57](#)
- ["Configuring Print Buttons for the Siebel Handheld Application" on page 57](#)
- ["Creating Print Templates for the Siebel Handheld Application" on page 58](#)
- ["Configuring a Printer Settings Dialog Box for the Siebel Handheld Application" on page 58](#)
- ["Configuring Multiple Form and Multiple Quantity Printing for the Siebel Handheld Application" on page 59](#)

### Defining Documents for Siebel Handheld Applications

Defining documents for printing includes several steps:

- Determine the documents your users need to print.
- Determine the views from which they are most likely to print the documents.
- Lay out the document for printing.

Determining which documents users will need and the views from which they are most likely to print requires that you have a good understanding of the users' day-to-day work.

Whether the existing applets in a view include most of the required data or only a small portion is a secondary consideration. It is not likely that a printout of the existing applets, which are formatted for an electronic PDA interface, will provide an acceptable or usable printed document. In most instances, you need to create additional applets that are specifically used for printing data.

The printed document will be composed of several applets which are added to the view. The applets pull the data from the underlying business components. These applets, in turn, direct the data to the print templates discussed in [Appendix E, "Print Tagging Language."](#)

## Designing Print Applets for Siebel Handheld Applications

The print template references applets associated with the view and is how you specify what data appears in the printed document. For information on print templates, see [“Creating Print Templates for the Siebel Handheld Application” on page 58](#). As you design your applets, be aware of the print specifications of the printers used in the field. Portable printers typically print on two-inch or four-inch wide paper. You need to design your applets so that the data fits within the limits of the paper width. Keep your documents simple so that they work with different sizes of paper. The following are some guidelines to use when designing your applets to accommodate the smaller paper sizes.

### Form Applets

Data from only one business component can be displayed on each line in your document. When you design your form applets, keep in mind that you can display a maximum of two columns of data in form applets. You can specify that each column of data is preceded by an optional caption column. This means you can have up to four columns displayed in your document—two data columns and two caption columns. Alternatively, you can have no captions, and simply display one or two columns of data.

The ratio between caption and data columns is, respectively, 35 percent and 65 percent. This is a fixed relationship that cannot be customized in the template.

Limitations on multiple columns in printed output are largely hardware dependent. If printing seven fields on a 40-column printer, the physical limitations allow only 4-5 characters for each field  $(40 - (7-1))/7 = 4.85$ . To print more than four columns, an 80-column printer is recommended. Generally, the capabilities of impact printers are lower than those of thermal printers.

### List Applets

When specifying the width of a column, you can either specify it with a unit of measurement or as a percentage of the total page width. For example, you can specify that the first column is 20 mm, and the second column is 40 mm. If the width of the paper you print to is narrower than 60 mm, the column widths automatically adjust to fit the printable width as a proportion of the specified width. Therefore, the first column will always be 33 percent, and the second column will be 67 percent of the paper width. The minimum width for a column is 8 mm, which includes a 3 mm gutter margin between columns.

You can specify any number of columns in your list applet. However, if the width of the column is less than 8 mm, the application ignores the column and does not print it.

On narrow paper widths, all the data from a field might not fit on one line. Data that does not fit can be specified, in the Applet tag, to wrap to the next line and keep wrapping until the data in that field is completely displayed. The printable width of the page is equal to the paper width minus the left and right margins ( $\text{PaperWidth} - [\text{LeftMargin} + \text{RightMargin}]$ ). These parameters are set in the setup.ini file. For more information about setting these parameters, see [Appendix F, “Print Configuration Settings.”](#)

## Configuring Print Applets for the Siebel Handheld Application

Configure print applets as you do any other applet using Siebel Tools.

### *To set the properties for each applet in the view:*

- 1 Set the HTML Popup Dimension value to 0x0.

The 0x0 setting hides the applet from the user who must not see the applet that is used to generate the document. Exposure of these applets complicates a product that is tightly configured for an effective and efficient workflow on a small mobile device.

**NOTE:** For compatibility with previous versions, Oracle continues to support the name, *Popup Dimension*, for this property. However, it is recommended that you use *HTML Popup Dimension*.

- 2 Set the name of the Mail Template to be the name of the print template file. For more information about the print template file, see [“Creating Print Templates for the Siebel Handheld Application” on page 58](#). For more information about the Mail Template property, see [“Views with Associated Print Templates or Reports” on page 32](#).

## Configuring Print Buttons for the Siebel Handheld Application

Users can use the application-level menu to print documents. For information about how to use the application-level menu, see the online help for the Siebel Handheld application.

You can also include a Print button on the applet to give users a visual reminder that it is possible to print from a particular view.

When you design your applets, keep the following in mind when deciding where to place the print button:

- Add the print button to the applet that is visible to the user. Do not add the print button to the print applet, which the user never sees.
- Consider what the desired behavior is when determining the placement of a print button.  
For example, in a parent-child view, you might want to add the print button to the parent applet to ensure that the print button is always enabled. This is not necessarily true if the print button is placed on the child list applet. If there are no items in the list applet, the print button is disabled, and the user cannot print from that view. If you only want the user to print when there are list items, then placing the button on the child list applet is appropriate.

### *To configure a print button*

- 1 From Siebel Tools, add a control to the print applet and specify the following:

**HTML Type:** Button

**Method Invoked:** Print

- 2 Set the Display Name property of the button. Generally, this is set to Print.

## Creating Print Templates for the Siebel Handheld Application

Once you have identified and created the necessary views, you are ready to create print templates. A print template is a text file that includes instructions for printing a document. It specifies the data to be printed, document layout options, and text formatting. These instructions are specified using a print tagging language that is described in [Appendix E, "Print Tagging Language."](#)

For more information about print templates, see ["Views with Associated Print Templates or Reports" on page 32.](#)

## Configuring a Printer Settings Dialog Box for the Siebel Handheld Application

If you want, you can configure a printer settings dialog box to popup once printing is initiated by a user in your Siebel Handheld application. The printer settings dialog box prompts the user to specify printer settings such as printer type, port, paper size, and page orientation.

If you do not configure a printer settings dialog box for your Handheld application, then you must manually configure the printer settings for your Handheld application in the setup.ini registry file. Print configuration settings are described in more detail in [Appendix F, "Print Configuration Settings."](#)

**NOTE:** The print settings that the user selects in the printer settings dialog box override those set in the registry (setup.ini file). The print settings specified via tags in the print template override those set in the registry or selected by the user in the printer settings dialog box.

### *To configure a printer settings dialog box*

- 1 In the installation directory of your Handheld application, open the setup.ini file.
- 2 In the [Printing] Section of your setup.ini file, add PrinterUserSelect=1 or PrinterUserSelect=2.  
PrinterUserSelect=1 - displays a printer dialog box for each copy of each form if multi-form, multi-copy printing is used.  
PrinterUserSelect=2 - displays a printer dialog box only once when a form starts printing; the same settings are used for all copies of all forms if multi-form, multi-copy printing is used.
- 3 Install and synchronize your Handheld application. For more information about installing and synchronizing your Handheld application, see ["Process of Installing the Siebel Handheld Application" on page 136](#) and ["Synchronizing Data on Your Handheld Device" on page 171.](#)

## Configuring Multiple Form and Multiple Quantity Printing for the Siebel Handheld Application

Where multiple print templates or forms are associated with an applet, you can configure your Siebel Handheld application so that the user is given the option of specifying the number of copies, if any, to print for each form associated with that applet.

User can select 0 (to not print that form) or specify more than 0 by clicking the arrow keys.

### *To configure multi-form, multi-quantity printing*

- 1 Configure print applets as you would any other applet using Siebel Tools.
- 2 Add the print applets to the View from which you want to print.
  - a From the Objects Explorer in Siebel Tools, select View > [My Print View] > View Web Template > Base > View Web Template Item, where [My Print view] is the name of the view from which you want to invoke printing.
  - b In the View Web Template Items List, add a record for each new print applet, specifying the value for Applet by selecting the new print applets you created in [Step 1](#).

**NOTE:** Specify values for Item Identifier to be greater than 2 to ensure that print applets are not visible in the user interface.

- 3 Create print templates as specified in ["Creating Print Templates for the Siebel Handheld Application"](#) on page 58.
- 4 Configure a print button using the PrintBatch method as follows:
  - a From the Objects Explorer in Siebel Tools, select Applet > [My Print Applet] > Control, where [My Print Applet] is the applet upon which you want the Print button to appear.
  - b In the Control List, add a new record with the following properties:  
Name = Print  
HTML Type = Button  
Method Invoked = PrintBatch

**NOTE:** If the applet already has a print button configured based on previous functionality, just edit the Method Invoked property for that button to PrintBatch.

  - c From the Objects Explorer in Siebel Tools, select Applet > [My Print Applet] > Applet User Prop, where [My Print Applet] is the same applet that you specified in part a of [Step 4](#).
  - d In the Applet User Properties List, add a PrintForms user property. For more information about this property, see [PrintForms User Property](#) on page 221.

Install and synchronize your Siebel Handheld application. For more information about how to install and synchronize your Siebel Handheld application, see ["Process of Installing the Siebel Handheld Application"](#) on page 136 and ["Synchronizing Data on Your Handheld Device"](#) on page 171.

## Configuring Siebel Handheld Applications to Open Other Applications

You can open other applications from hyperlinks within Siebel Handheld applications. To configure a field to be a hyperlink, you must specify the field type as FT\_URL in Siebel Tools. For more information about how to configure a field, see *Configuring Siebel Business Applications*.

When a user taps a hyperlinked field, the content of the field is treated as a URL or as an attachment. Field values that start with *www* or *http* are automatically treated as URLs, otherwise they are treated as attachment files.

You must also configure the application user property, *BrowserPath*. You must specify the path to the application that you want to use to open a document in a URL field. The *BrowserPath* user property specifies the location of the executable file for the application in which to open attachments and URLs. For more information about how to use the *BrowserPath* user property, see [BrowserPath User Property on page 216](#).

The *AttachmentDir* setting specifies the storage location for your attachment files. For more information about *AttachmentDir*, see ["Configuring the Attachment Storage Location and Storage Capacity" on page 147](#).

**NOTE:** Field values are added to the start of the *AttachmentDir* registry value.

### To open an application within a Siebel Handheld application

- 1 Set the *BrowserPath* application user property to, for example, `\windows\pword.exe` in Siebel Tools.
- 2 Set the registry setting *AttachmentDir* to, for example, `\Program Files\Siebel Handheld\Attachment`.
- 3 From the Siebel Handheld application on your handheld device, tap the URL or attachment to open the file in Pocket Word.

In this example, the field is displayed as a hyperlink. If the value of the URL field is *test.doc*, when the user taps the field value, the file `\Program Files\SiebelHandheld\Attachment\test.doc` is opened. The file is opened in Pocket Word, that is, `\windows\pword.exe`.

## Configuring Signature Capture Capabilities in Siebel Handheld Applications

You can configure the Siebel Handheld application to capture, view, and print signatures. The following procedures are related to configuring signature capture:

- ["Enabling Signature Capture" on page 61](#)
- ["Invoking Signature Capture Dialog Box and Display" on page 61](#)

- [“Signature Capture Dialog Box and Signature Display” on page 62](#)
- [“Example of Configuring Signature Capture in Activities More Info View in Siebel Handheld Applications” on page 62](#)
- [“Adding a Signature Capture Button in Siebel Tools” on page 64](#)
- [“User Properties for Signature Capture Applets” on page 65](#)

## Enabling Signature Capture

Enabling signature capture requires implementing the required supporting field and column definitions, adding a signature control to the applet and, if required, configuring an applet button through which the signature capture dialog box can be invoked. A field can be configured as a signature control in any list or form applet. Multiple signature controls can be added to a single applet. Once captured, signatures are converted to an ASCII encoding data and stored with the Siebel database as ASCII text.

When enabling Signature Capture, the following basic configuration is required:

- The Business Component field mapped to the signature control must be of Type DTYPE\_NOTE.
- The underlying Table Column on which the Business Component field is based on Physical Type LONG.
- The Applet Control must have a control user property called Signature with a value Y. The Control's HTML Type property must be set to Field.

The Applet Control, by default, does not redisplay the signature data if there is data in the underlying business component field. In this case, the field displays as read-only and you are not able to see the signature that was captured.

To redisplay signatures, add another Control user property called ShowData with a value Y. With this additional configuration, the control is still read-only, but you are able to see the signature that was captured. For a full list of user properties available for configuring signature capture, see [“User Properties for Signature Capture Applets” on page 65](#).

## Invoking Signature Capture Dialog Box and Display

There are two ways to invoke the Signature Capture dialog box or Signature Display. By default, the basic configuration specified in [“Enabling Signature Capture” on page 61](#) allows you to invoke the signature capture dialog box or display a signature using the (...) ellipses button.

***To use a basic configuration to invoke the Signature Capture dialog box or display with the Applet Signature button follow this procedure:***

- 1 Create a new Control with properties HTML Type = MiniButton, Method Invoked = StartSignature
- 2 Add a Control user property to the MiniButton control to indicate the signature field in the business component (for example, the field that is being used to store signature in the business component on which the applet is based).

For examples, see [“Example of Configuring Signature Capture in Activities More Info View in Siebel Handheld Applications”](#) on page 62 and [“Adding a Signature Capture Button in Siebel Tools”](#) on page 64.

## Signature Capture Dialog Box and Signature Display

The Signature Capture dialog or display box consists of three controls in the client area: header, signature, and footer. A toolbar displays various buttons depending on the existence of signature data.

Initially, when signature data does not exist or has not yet been captured, the user sees a single line of text within the field control that reads Not Signed. Once the signature capture dialog box or signature display is invoked, the Clear and Cancel buttons are enabled, while the Accept button is disabled. Once the Signature area within the dialog box is populated, the Accept button is automatically enabled. [Table 7](#) describes the functionality around these three buttons.

Table 7. Signature Capture Dialog Box Buttons

Button	Description
Accept	Tap this button to commit the signature to the database.
Clear	Tap this button to reset and clear the signature field.
Cancel	Tap this button to discard the signature and close the display.

Once the signature is committed (for example, signature captured and accepted in the database), the user sees a single line of text *x Signed x* within the applet field control.

The Header and Footer is a line of text in one or more paragraphs. The specific Header or Footer values that appear as well as how they appear in the dialog box is controlled by a set of user properties. See [“User Properties for Signature Capture Applets”](#) on page 65.

## Example of Configuring Signature Capture in Activities More Info View in Siebel Handheld Applications

The following example provides detailed steps to configure signature capture in Activities More Info View in the SIA Siebel Sales Handheld application. The Activities More Info View has one applet 'SIS HH Activity Entry Applet - CE', which is based on the Action Business Component, which in turn is based on S\_EVT\_ACT Table. The following example shows how to configure a field within the Action Business Component called Signature, which is based on a new column created from the S\_EVT\_ACT\_X Table.

**To enable basic signature capture (for example, no header or footer), follow these steps:**

- 1 In Siebel Tools, add an extension column to the table S\_EVT\_ACT\_X.

For this Field	Add This Value
Name	SIGNATURE
User Name	Signature
Type	Extension
Nullable	TRUE
Physical Type	Long
Length	0
Cascade Clear	Ignore
Transaction Log Code	TRUE
Status	Active
Sequence	999
Comments	Extension Column for Activity Signature Capture

- 2 Add a field to Action the business component with the following values:

For this Field	Add This Value
Name	Signature
Join	X_EVT_ACT_X
Column	SIGNATURE
Text Length	16,383
Type	DTYPE_NOTE
Comments	Custom Field added for Signature Capture

- 3 Add a control to the applet. For this example, you add the control to the 'SIS HH Activity Entry Applet - CE'.

For this Field	Add This Value
Name	Signature
Caption	Signature
Caption String Reference	SBL_SIGNATURE-1005113048-35Y
Field	Signature
HTML Display Mode	EncodeData

For this Field	Add This Value
HTML Row Sensitivity	TRUE
HTML Type	Field
Runtime	TRUE
Text Alignment	Left
Visible	TRUE
Comments	Custom control added to display and invoke Signature Capture.

- 4 Add two Control User Properties to the new 'Signature' control with the following values:

User Property Name	Value
Signature	Y
Show Data	Y

- 5 Add the new control to the Edit Web Template for SIS HH Activity Entry Applet - CE.

You can now invoke the signature capture dialog box by tapping the ellipsis points (...) on the signature field of the applet.

## Adding a Signature Capture Button in Siebel Tools

Optionally, you can also configure the signature capture dialog box by placing a button on the applet. The following configuration steps provide details on doing this.

### To create a new minibutton control

- 1 Create a new MiniButton control against the 'SIS HH Activity Entry Applet - CE'.

For this Field	Add This Value
Name	SignatureCapture
Caption	Sign
Caption String Reference	SBL_SIGN-1005113047-35W
HTML Type	MiniButton
MethodInvoked	StartSignature
Comments	Custom MiniButton to Invoke Signature Capture.

- 2 Add a Control user property to the MiniButton control to indicate the Signature field in the business component:

**Name:** SignatureField

**Value:** Signature

## User Properties for Signature Capture Applets

You can use user properties to modify the style and other features of the signature capture applet. For more information about these user properties, see the following sections:

- [BorderStyle User Property on page 216](#)
- [EncryptKey User Property on page 218](#)
- [InkColor User Property on page 220](#)
- [InkWidth User Property on page 220](#)
- [ShowData User Property on page 224](#)
- [Signature User Property on page 225](#)
- [WritingGuide User Property on page 228](#)

You can use other user properties to modify the header and footer display and the save function. For more information about these user properties, see the following sections:

- [ConfirmAccept User Property on page 216](#)
- [MaximumFooterLines User Property on page 220](#)
- [MaximumHeaderLines User Property on page 220](#)
- [SignatureDataField User Property on page 225](#)
- [SignatureDate User Property on page 225](#)
- [SignatureFooterField User Property on page 225](#)
- [SignatureFooterSaveField User Property on page 226](#)
- [SignatureHeaderField User Property on page 226](#)
- [SignatureHeaderSaveField User Property on page 226](#)
- [SignatureHeight User Property on page 226](#)
- [SignatureTime User Property on page 226](#)

## Testing the Siebel Handheld Application

Before deploying your application to your users, be sure to thoroughly test the application by synchronizing with a handheld device.

### ***To test your Siebel Handheld application***

- 1** Download the configuration for your Siebel Handheld application to a handheld device so you can test the functionality and verify that you have the desired behavior.
- 2** Check to see how much data is downloaded to your handheld device.

If too many records are downloaded, this increases the length of time it takes to synchronize the handheld device and slows down the application performance.

For more information about checking to see how much data is downloaded to your handheld device, see ["Monitoring Synchronization Sessions for Siebel Handheld Applications"](#) on page 105, including the procedure ["To monitor data download"](#) on page 106.

**NOTE:** You can also check the log file on the Siebel Server to see how many records are downloaded for each business component. However, you must turn on logging to capture this information in the log file. For more information about enabling logging for Direct Server Sync, see ["Configuring Logging Levels for Direct Server Synchronization"](#) on page 132.

# 4

## Siebel Handheld Application Administration

This chapter describes how to administer Siebel Handheld applications. The following topics are covered in this chapter:

- "Overview of Siebel Handheld Application Administration Screens" on page 67
- "Setting Up Users in Siebel Handheld Applications" on page 69
- "About Thread Throttling in Siebel Handheld Applications" on page 73
- "About Settings in the Administration Screens of Siebel Handheld Applications" on page 74
- "Configuring Application Settings for Siebel Handheld Applications" on page 75
- "Configuring Component Level Settings for Siebel Handheld Applications" on page 81
- "Setting Up Inventory Locations in Siebel Service Handheld Applications" on page 82
- "Administering Barcode Settings for Siebel Handheld Applications" on page 82
- "About BatchSync for Siebel Handheld Applications" on page 94
- "Process for Administering Batch Sync for Siebel Handheld Applications" on page 95
- "Load Balancing Support for Synchronization" on page 100
- "Setting the ApplicationDirectory Parameter" on page 101
- "Enabling Encryption for Siebel Handheld Applications" on page 101
- "Registering Store and Forward Messaging Device on First Synchronization" on page 103
- "Storing Asynchronous Data" on page 104
- "About Monitoring Synchronization Sessions for Siebel Handheld Applications" on page 105
- "Organization Enabled LOV Support" on page 108

### Overview of Siebel Handheld Application Administration Screens

This chapter is designed to show you how to administer Siebel Handheld applications. Key tasks are outlined that you can perform using the Administration - Mobile screen. Your organization might follow a different task sequence depending on its business requirements.

Following are the views used for administering Handheld applications. You can access the Administration - Mobile screen through either the Siebel Web Client or Siebel Mobile Web Client:

- **Session Administration.** This view contains a detailed information about user synchronization sessions. Use this view to monitor and investigate Handheld application user synchronization activities.

- **Server Component Administration.** This view allows you to manage server-level settings for synchronization components. These settings are used by the synchronization engine to extract application definition and user data. These settings will override the application-level settings.
- **Application Administration.** This view lists all the Handheld applications available within your enterprise. From this view, you can create new application settings and administer settings that have already been created. The contents of the following views are used by the synchronization engine to extract application definition and user data:
  - **Business Component Filters.** Use this view tab to change synchronization filter settings for business components. If you wish to restrict the contents of selected business components to reduce the data set otherwise visible to your users, you can change filter settings in this view.
  - **Business Object Filters.** Use this view tab to define business object level filters, which restrict data that is downloaded to the Siebel Handheld Client upon synchronization.
  - **Settings.** Use this view tab to define parameter settings for your application.
- **Conflict Administration.** This view allows you to access selected transaction errors.
  - **Audit Trail.** Use this view tab to obtain information about action taken on a particular data conflict. Audit Trail must first be enabled for the conflict data. The business components are Handheld Transaction Error and Handheld Txn Error Message.
  - **Business Components.** Use this view tab to see business component information associated with a particular data conflict.
  - **Error Details.** Use this view tab to get detailed information about specific data conflicts. You are also able to take particular action on any given conflict.
- **Barcode Administration.** This view allows you to create new barcode definitions for your Handheld applications.
- **User Administration.** This view allows you to manage user-specific settings, such as business object and business components filters, that filter the data that display to the user. The data sets contained in these user views are used by the synchronization engine to extract application definitions and user data. The Siebel Handheld application is populated by these data when the user performs synchronization. These settings override the Siebel Server component-level and application-level settings.
  - **User Business Components.** Under this view tab, you can set user-specific synchronization filter directives for business components. These settings override application-level settings.
  - **User Business Objects.** Under this view tab, you can set user-specific filters for business objects. In this setting, you limit the data set that is downloaded, at the time of synchronization, to the Siebel Handheld Client. These settings override application-level settings.
  - **User Settings.** Under this view tab, you can control user-specific settings which override the Siebel Server component-level and application-level settings.
- **Batch Synchronization Administration.** In this view you can extract Siebel Handheld application databases, process-pending transactions, and apply the transactions to the Siebel Server.

- **Barcode Enabling.** In this view you can enable barcode scanning for chosen views in the Siebel Handheld application.

**NOTE:** By default, most of the parameters referenced in this chapter are not automatically available as options in the drop-down menus of your Handheld application, and as a result are not set in the default configuration. If you want to make these and any other new parameters available, then you must add them to your Handheld application by creating a new parameter record for each parameter you want to make available.

## Setting Up Users in Siebel Handheld Applications

To set up users in a Siebel Handheld application, you must perform a number of tasks. The tasks that you must perform include the following:

- “Assigning User Responsibilities to Siebel Handheld Application Users” on page 69
- “Creating Siebel Handheld Application Views” on page 69
- “Setting Business Component Filters for Siebel Handheld Application Users” on page 71
- “Setting Business Object Filters for Siebel Handheld Application Users” on page 72

### Assigning User Responsibilities to Siebel Handheld Application Users

You must create user accounts and assign responsibilities and passwords for each user of the Handheld application. The steps are the same as those for creating user accounts, assigning responsibilities and passwords for the Siebel Web Client. For more information about creating user accounts, and assigning user responsibilities and passwords, see the *Siebel Applications Administration Guide*.

### Creating Siebel Handheld Application Views

The synchronization engine for the Handheld application extracts views based on configuration (SRF) and the responsibility set up in the Application Administration view.

***To configure a new view in your Handheld application, follow the list below. Knowledge of Siebel Tools is required to perform these tasks.***

- 1 Create the new view in Siebel Tools. For information on creating views, see *Configuring Siebel Business Applications*.
- 2 Add that view to the Handheld application screen. For more information about adding views to screens, see *Configuring Siebel Business Applications*.

- 3 Add the screen to the Handheld application, if required. For more information about adding screens to applications, see *Configuring Siebel Business Applications*.
- 4 Compile the project. For more information about compiling projects, see *Using Siebel Tools*.
- 5 Add the new view to the Handheld application user's responsibility. For more information about adding views to a user's responsibility, see "To add a Siebel Handheld application view to a user's responsibility" on page 70.

### **To add a Siebel Handheld application view to a user's responsibility**

- 1 Launch the Siebel Web Client application that uses the same database that the Handheld application synchronizes with.
- 2 Navigate to the Administration - Application screen > Views view.
- 3 Add the new views.
- 4 In the Responsibilities view, associate each view with the appropriate Handheld application responsibility.
- 5 Add appropriate users to the responsibility.

The predefined responsibility for Siebel Service Handheld is Field Technician - Handheld.

**NOTE:** For more information about adding views and associating views with responsibilities, see *Siebel Applications Administration Guide*.

## **Specifying Views for the Siebel Handheld Application**

The Handheld application uses a small subset of views used in the Siebel enterprise application. Because there are memory resource constraints on handheld devices, it is recommended that you compile an SRF to extract only those views that are used on the device.

The combination of the SRF and the user's responsibility determines which views are extracted. The handheld device only extracts views whose parent screen is included in the Handheld application and are part of the user's responsibility.

## **About Business Component Filters**

Business component filters are used in some cases to restrict the size of extractions that otherwise might be excessive. They suppress the extraction of business component records. Use business component filters with discretion because excessive filtering can cause server data integrity problems.

Business component filters can be specified at either the application level or the user level, but not at the component level. They must not be specified at the user level outside of your test environment, and when tested they must be migrated to the application level.

If you are configuring synchronization for Handheld applications, a suggested practice, is to start with no business component filters at all. Attempt a synchronization and even if it fails due to excessive data extraction volumes, view the extraction results to determine the business components for which the data extraction was excessive. If any business component extraction is found to be excessive, you can reduce the extraction by adjusting the existing search specs specified in Siebel Tools (applets and business components), or Handheld application settings (for example, in DefaultBusObj), and selection filters (business object filters). If nothing else works, a business component filter can be used to force a reduction in the result set for a particular business component.

## Setting Business Component Filters for Siebel Handheld Application Users

The Business Components Filters view tab in the Application Administration view contains the synchronization filter settings for business components. If you wish to add or remove business component filter settings for users, you do so in this view.

### To add a business component filter setting

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 In the Handheld Applications list, select the appropriate application, then click the Business Component Filters view tab.
- 3 Click New, then enter the required information.

Some fields in the Business Component Filters view are described in the following table:

Field	Comments
Owner	Read only. Contains the Handheld application to which the business component will be associated. For example, Siebel <Application name> for CE.
Business Component	A text box. Enter the business component name.
Name	A text box. Enter the business component filter name. For example, Filter 1.
Query	A text box. Enter the syntax for the query. For example, [Start Date] <=Today()  For more information about developing queries, see <a href="#">"Data Filtering for Siebel Handheld Applications" on page 113</a>

### To remove a business component filter setting

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 In the Handheld Applications list, select the appropriate application, then click the Business Component Filters view tab.
- 3 Select the filter setting record you wish to remove.

- 4 From the Business Component Filters menu, choose Delete Record.

## About Business Object Filters

The Siebel Web Client supports named queries on most or all screens. These queries restrict the result set displayed to the user. Business object filters are the Handheld application synchronization equivalent to these named queries. Just like client based queries, they are applied to a specified business object. They also contain search or sort specifications for business components that are part of that business object.

The Default column is the only difference from the query syntax appearing in a BusObject filter for the Siebel Web Client. The Default column is unique to the business object filter mechanism. For Web client queries, users can set a default query for each view in their Preferences screen. If users do not set a default query for each view in their Preferences screen, there is no default query, and so all records are returned by default. This is not recommended for Handheld application deployments as this might result in excessive volumes of data being extracted. Thus, the Default column allows you to decide what filter to use by default if a user does not make a selection.

There is also a client option to revert to default filters selection. There must be at most a single default filter for each business object name. It is not recommended that you set more than one filter as the default for a particular business object. Note however, that the same default choice will be made by all clients.

Business object filters can be specified at either the application level or the user level, but not at the component level. Business object filters specified at the user level override a filter specified at the application level, provided the application-level filter has the identical values for the business object name and filter name. The list of filter choices presented to the user is the merged list of all application filters except those overridden at the user level, plus all user filters.

## Setting Business Object Filters for Siebel Handheld Application Users

The Business Object Filters View in the Application Administration view contains the synchronization filter settings for business objects. If you wish to add or remove business object filter settings for users, you do so in this view.

### *To add a business object filter setting*

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 In the Handheld Applications list, select the appropriate application, and then click the Business Object Filters view tab.
- 3 Click New, and then enter the required information.

- 4 The fields in the Business Object Filters view are described in the following table:

Field	Comments
Owner	Read only. Contains the Handheld application to which the business component will be associated. For example, Siebel <Application Name> for CE.
Default	Check to allow you to decide what filter will be used by default if a user does not make a selection.
Business Object	A text box. Enter the business object name. For example, Account.
Name	A text box. Enter the business object filter name. For example, BOFilter 1.
Query	<p>A text box. Enter the syntax for the query, for example, as follows:</p> <pre>'Account'.Search = "[Account Status] = LookupValue ( 'ACCOUNT_STATUS', "'Active'")" 'Account'.Sort = "Name, Location"</pre> <p>For more information about developing queries, see <a href="#">"Data Filtering for Siebel Handheld Applications."</a></p>

**To remove a business object filter setting**

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 In the Handheld Applications list, select the appropriate application, and then click the Business Object Filters view tab.
- 3 Select the filter setting record wish to remove.
- 4 From the Business Object Filters menu, choose Delete Record.

## About Thread Throttling in Siebel Handheld Applications

When a large number of users attempt to synchronize simultaneously, the load on a single server can become excessive. Thread throttling significantly reduces the total number of simultaneously active transaction processor threads and database extraction threads, thereby increasing the overall throughput for synchronization, without reducing the number of concurrent users. Synchronization performance degrades slightly but will successfully complete for all users.

Thread throttling allows the maximum possible number of concurrent users. It throttles in a manner that maximizes application server usage during any mixture of transaction processor and database extraction threads. Thus, if the Siebel Handheld Application Server supports  $x$  concurrent transaction processing threads, it will allow this number of transaction processing threads while disallowing all database extraction threads. Similarly, if the server supports  $y$  concurrent database extraction threads, it will allow this number of database extraction threads while disallowing all transaction processing threads. If fewer than  $x$  transaction processing threads are currently active, some database extraction threads are allowed to execute concurrently. Similarly, if fewer than  $y$  database extraction threads are currently active, some transaction processing threads are allowed to execute concurrently.

For information on thread throttling settings, see ["Configuring Application Settings for Siebel Handheld Applications"](#) on page 75.

To enable thread throttling, see ["To add a new application setting"](#) on page 81.

## About Settings in the Administration Screens of Siebel Handheld Applications

Settings can appear at three levels: Application, Component, or User. Certain settings are only allowed at specific levels.

There are also two types of settings: single-line and multi-line settings:

- For a single-line setting, only one row can contain a unique setting name at a given level. Thus, a single-line setting at the User level can be used only once at that level. For single-line settings, the Sequence column must always contain a value of zero.

For single-line settings, you can leave the sequence column value alone, which will result in a default value of zero being assigned.

- For multi-line settings, the sequence column is necessary to allow multiple rows. The sequence column has no effect on actual processing, but is part of the logical key in the database table. When you create a new record in this database table, the record must have a unique logical key.

For multi-line settings, each line must include a different sequence number to avoid logical key conflicts.

If the combination of setting name and sequence number is not unique for a particular parent record (Application, Component, or User), you will receive an error message when stepping off or saving the record. Multi-line entries must contain the correct key values before they can be saved to the database.

The rules for override are that any setting, whether single line or multi-line, specified at the lower levels overrides that same setting name at higher levels. Thus the settings at the application level apply unless specific settings are overridden for a particular component or a particular user. When an override occurs, it occurs for the complete setting name. Thus, if a particular multi-line setting has three rows at the user level and twelve rows at the application level, the resulting multi-line setting value for that setting will contain only the three rows at the user level. There is also an override mechanism to allow a setting to be removed, rather than replaced. To remove a setting from a higher level, specify the setting name to be removed, with an empty setting value.

# Configuring Application Settings for Siebel Handheld Applications

The Administration - Mobile screen contains a Settings list that allows you to change default settings. Some of the settings are described in [Table 8 on page 75](#).

The Handheld setting value field has a limit of 2000 characters. To create a default business object (DefaultBusObj) setting value with more than 2000 characters:

Break the value into multiple lines of DefaultBusObj settings. Enter these settings using the same DefaultBusObj value format:

```
BusObj|visibility|query|BusComp_1|query specifications_1[|BusComp_n|query specifications_n]
```

When defining multiple lines of DefaultBusObj settings for a single business object, all view modes and filters must match. If a business component is found in multiple DefaultBusObj settings for a single business object, then the business component's query specifications will be concatenated with a space and appended to the previous business component's query specifications. You must be aware of this effect in order to decide if both query specifications must be combined with an OR or AND operative.

The DefaultBCUserProps and DefaultFields settings for a single business component can also be broken into multiple lines of settings if their values exceed 2000 characters. These settings must all be entered using the same value format as well:

```
BusComp|BCUserProp_1[|BCUserProp_n] or BusComp|Field_1[|Field_n]
```

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
AllowRememberPassword	Single-line setting. Specifies whether the Remember Password check box will be displayed on the Siebel Handheld Client Synchronization screen.	TRUE or FALSE
ApplicationDirectory	Single-line setting. Specifies the working directory (UNC path) for the Handheld application synchronization component where user data is stored.	\\server name\directory name
BatchDownloadStagger	Single-line setting. Enables the setting of the interval (in minutes) during which the polling for ready extracts is staggered.	integer >= 0; default is 30
BatchInitialDownload	Single-line setting. Enables the setting of the earliest time (HH:MM; 24-hour clock) at which the polling for a database extract can commence. The setting must be UTC enabled.	00:00 is the default value

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
BatchPollFrequency	Single-line setting. Enables the setting of the amount of time (in minutes) between polling sessions.	integer >= 0; default is 15
ClientSyncDefault	Determines the default synchronization options available to the synchronization client in the Handheld application. It can have the following values: <ul style="list-style-type: none"> <li>■ Upload which means that the Upload Only option is selected in the batch synchronization dialog on the client.</li> <li>■ Deferred which means that the Upload Now, Auto Download Later option is selected.</li> </ul>	Deferred, Upload
DBExtractThreadLoad	Single-line setting. Enables Thread Throttling functionality for database extract threads. It is the load (or weight) that will be assigned to each individual Database Extractor thread. For each running database extracting thread, this load value will be used to determine the total system load, which is then compared against the MaxTotalThreadLoads value. A new thread will only be started if the total system load does not exceed the MaxTotalThreadLoads value. A value of zero disables throttling of Database Extractor threads.	integer >= 0; default is 2
DefaultBCUserProps	Multi-line setting. Reduces the number of User Properties that are extracted to the device metadata, thus decreasing the number of fields for a business component that need to be extracted. These reductions lower the metadata extract size and optimize client performance by removing irrelevant user properties from the Handheld application configuration. If this directive is not specified for a business component, then all user properties will be extracted.	

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
DefaultBusObj	Multi-line setting. Used to force the extraction of a business object and its designated business components. This is typically used when a business component is not extracted because it is not specified via the "DefaultView" directive and is required for the application to function correctly. Another use of this directive is to designate business components that function as RBOs (reverse business objects).	Business Object Name Visibility Level  Business Component Name QBE query construct  For more information about QBE (query by example) structure, see <a href="#">"Constructing Business Component and Business Object Filters for Siebel Handheld Applications"</a> on page 114.
DefaultFields	Multi-line setting. Used to force the extraction of fields for a particular business component. This is typically the case where the business component is extracted via the "DefaultView" directive but because the field is not visible on the applet, it is not extracted. Also when a hidden business component is extracted via the "DefaultBusObj" directive, it is necessary to specify all of the fields that need to be extracted for the business component. If no fields are specified via this directive, then the business component will not be extracted for this case.	Business Component Name Field1 Field2  ...
DefaultHandheldInsertMode	Single-line setting. Enables insert failure processing for synchronization. If enabled, synchronization will stop upon encountering a data conflict during an insert operation. Users or administrators must resolve the data conflict before synchronization can resume. This feature is disabled by default.	NoFail or FailOnError

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
DefaultHandheldSyncPickMode	Single-line setting. Enables Extended Pick processing for synchronization. If enabled, synchronization stops when a data conflict is encountered during a pick operation. Users or administrators must resolve the data conflict before the synchronization can resume. This feature is disabled by default.	NoFail or FailOnError
Enable Application Lockout	Single-line setting. If set to TRUE, locks the Siebel Handheld application after a number of invalid attempts. The number of invalid attempts is specified in the FailedLoginAttempts setting. The Siebel Handheld application locks for the number of days specified in the LockOutPeriod setting. The default value is FALSE.	TRUE or FALSE
Enable Encryption	Single-line setting. If set to TRUE, enables encryption of the database on the handheld device. The default value is FALSE.	TRUE or FALSE
EnableBatchExtraction	Single-line setting. This parameter enables or disables the batch synchronization functionality. Disable batch synchronization is the default.	TRUE or FALSE
EnableThrottleDebugMode	Single-line setting. This parameter enables or disables Thread Throttling functionality.	TRUE or FALSE
ExtractionExpiration	For batch synchronization functionality. It specifies the number of hours that is used to determine when a database extraction has expired. When a database extract expires, batch synchronization will reextract the databases. If no value is provided, then databases will be extracted every time they are requested.	integer >= 0

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
LoadBalanceLoc	Single-line setting. This setting can be specified only from the application level. The IP address or server name of the load balancer and port number are specified in the following format:  [IP Address]:[port number]	Load balancing must be used for batch synchronization, if enabled.
MaxBatchsyncTasks	Single-line setting. This parameter enables a percentage of synchronization component tasks to be allocated to performing DBextract or Transaction Processing.	integer >= 0; default is 0.5
MaxThrottleWaitTime	Single-line setting. For Thread Throttling functionality. This is the upper limit on the amount of time (in minutes) any individual throttling request will be allowed to wait.	integer >= 0; default is 5
MaxTotalThreadLoads	Single-line setting. For Thread Throttling functionality. It defines the maximum number of total thread loads (determined by DBExtractThreadLoad and TranProcThreadLoad for each type of thread) that will be allowed to run across the scope defined by ThreadThrottleScope. If a throttling request is made that causes this maximum to be exceeded, the requesting thread is delayed. The default value is zero, which completely disables the throttling mechanism.	integer >= 0; default is 0
NoDatabaseBusComp	Multi-line setting. Defines a business component that must be omitted from the device database and excluded from database extraction.	
NoExtractBusComp	Multi-line setting. Defines a business component that must be excluded from database extraction.	
SchemaChangeNotification	Multi-line setting. Defines a Business Service that must receive the Handheld Schema Change Notification.	(Siebel internal)

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
ThreadThrottleScope	<p>Single-line setting. For Thread Throttling functionality. Defines the scope of the thread throttling mechanism as using one of two different modes:</p> <ul style="list-style-type: none"> <li>■ Process Thread, where throttling occurs independently within each process.</li> <li>■ Application, where throttling occurs across all processes running the same synchronization application on a single server.</li> </ul> <p>Only the first character of the ThreadThrottleScope parameter is used to determine the value. All other characters are ignored. Thus <i>aardvark</i> is interpreted as <i>Application</i>. Case is also ignored. The default value is Application.</p>	Application or Process
TranProcThreadLoad	<p>Single-line setting. For Thread Throttling functionality. It is the load (or weight) that is assigned to each individual Transaction Processor thread. For each running transaction processing thread, this load value is used to determine the total system load, which is then compared against the MaxTotalThreadLoads value. A new thread will only be started if the total system load does not exceed the MaxTotalThreadLoads value. A value of zero disables throttling of transaction processing threads.</p>	integer >= 0; default is 3

Table 8. Settings for Siebel Handheld Applications

Setting Name	Definition	Valid Values
TranProcThreshold	Single-line setting. For Thread Throttling functionality. This is the minimum time (in minutes) that the Transaction Processor will continue processing transactions before performing a handshake with the client. Once this value has been exceeded, a handshake occurs instead of starting to process the next transaction. Doing so prevents the client from timing out the session when thread throttling is enabled.	integer >= 0; default is 5

**To add a new application setting**

- 1 Navigate to the Administration-Mobile screen > Application Administration view.
- 2 From the Settings list menu, select New Record.
- 3 Click the name field, and select the setting you require.
- 4 Click the Value field, and enter the text of the setting.

## Configuring Component Level Settings for Siebel Handheld Applications

You administer server components for your handheld device from the Administration - Mobile screen > Server Component view. The component displayed is based on the application selected in the Application Administration view. The Server Component Administration screen is used for overriding application settings at the component level on a specific server. The data entered here is used by the synchronization engine when the user synchronizes with the Siebel Server.

The Server Component screen contains a list of server components associated with the application that was selected in the Application Administration screen. For each server component, the Settings view details the associated settings.

The Name field value needs to be the exact component name, such as SalesceObjMgr\_enu, of the synchronization server component for the Handheld application.

Server component settings are used primarily for functionality required for individual server components. For example, thread throttling is dependent on components running on a particular server and is best set at the Siebel Handheld Application Server component level. Examples of settings that might be made at the component level are MaxTotalThreadLoads, TranProcThreadLoad, DBExtractThreadLoad, and so on. Generally, settings made at the application level are shared by all server components.

## Setting Up Inventory Locations in Siebel Service Handheld Applications

Be sure that any organization that your users belong to is included as an organization of the External Location inventory location. This is required for the Siebel Service Handheld application to work correctly.

## Administering Barcode Settings for Siebel Handheld Applications

Siebel Handheld applications can scan and parse data from HIBC and UCC/EAN barcodes. Administrators can set up Siebel Handheld application to scan and parse any one-dimensional barcode and render the corresponding data in an applet. For example, if a control in a list applet is enabled for barcode scanning and the barcode scanned is valid, the Handheld application will parse the barcode, create a new record, and fill in the field with parsed data. In form applets, after the user scans an item, the data representing the item automatically populates the barcode-enabled field. In order to do this, Siebel Administrators must define the barcodes and how data will be parsed from these barcodes in the Barcode Administration view.

The following procedures are included in this topic:

- [“Enabling Barcode Scanning in Siebel Handheld Applications” on page 82](#)
- [“Setting New Record Behavior for Barcode Scans” on page 83](#)
- [“Mapping a Button for Socket In-Hand Scan Card” on page 84](#)
- [“Creating New Barcode Definitions for Siebel Handheld Applications” on page 84](#)
- [“Enabling Applications Views for Barcode Scanning” on page 89](#)
- [“Enhancing the Behavior of the Barcode Scan” on page 89](#)
- [“Example of Creating a New Barcode Definition in the Siebel Handheld Application” on page 92](#)

## Enabling Barcode Scanning in Siebel Handheld Applications

Before using the barcode scanning feature, you must add the following parameter value to the setup.ini file:

```
EnableBarcode = Y
```

If EnableBarcode is not set on a handheld device which has a barcode scanner attached to it, then:

- When you install the Siebel Handheld application on that handheld device, and
- Synchronize with the Siebel Server and default filters

An error message similar to the following displays as the application opens:

The barcode scanner could not be initialized.

If your Siebel Handheld application is not enabled for barcode scanning, then you must create an Application Event Services object in Siebel Tools. For more information about enabling barcode scanning for your Siebel Handheld application, see ["To enable barcode scanning for a Handheld application" on page 83](#).

### **To enable barcode scanning for a Handheld application**

- 1 Navigate to Application object in Siebel Tools, and select Siebel Service for CE.
- 2 Expand to the Application Event Services object in Siebel Tools, and add a new entry with the following details:

Field	Comments
Name	The description of the event. For example: SHCE Core Barcode Service
Event Name	The name of the application event service. For example: HHCE_Start
Service Name	The name of the business service on which to invoke the method. For example: SHCE Core Barcode Service

- 3 Add the following parameter value to the setup.ini file for your Handheld application:

EnableBarcode = Y

If you are going to scan barcodes, you need to associate the scan trigger with a button on the handheld device. This task might not apply to some rugged devices because those devices can have an embedded scanner and a specific button to scan barcode.

## **Setting New Record Behavior for Barcode Scans**

You can specify whether to create a new record when a user scans a barcode. Typically, you create a new record for a parseable scan, and update the active record for a non-parseable scan.

### **To set the new record behavior**

- In Siebel Tools, set the applet user property BarcodeNewRecord in Siebel Tools. For more information about this user property, see [BarcodeNewRecord User Property on page 216](#).

## Mapping a Button for Socket In-Hand Scan Card

Siebel Handheld applications support embedded barcode scanners provided in Symbol and Intermec devices. In addition, Handheld applications support certain Socket scan cards. See *Siebel System Requirements and Supported Platforms* on Oracle Technology Network for a list of supported handheld devices and socket scan cards. Note that different socket scan cards will require different scan card driver programs to be installed. Check with the card vendors or their Web sites for required driver program installation.

For Intermec and Symbol devices, the barcode scanning can be triggered by the built-in buttons. If you are using Socket scan cards, the following steps are required to be taken on the handheld device for mapping a button to the barcode-triggering utility software, SocketTrigger.exe.

### **To map a button to SocketTrigger.exe (Socket Scan Card only)**

- 1 On your handheld device, open the application that enables you to customize the hardware button functions. For example, on Windows Mobile Version 5.0, choose Start > Settings > Personal > Buttons.
- 2 From the button list, select a button to trigger In-Hand Scan Card.
- 3 In the button assignment field, select SocketTrigger.
- 4 Confirm your selection.

**NOTE:** The ^ character signifies a circumflex.

## Creating New Barcode Definitions for Siebel Handheld Applications

You can define new one-dimensional barcodes in the Barcode Administration views. To define a new barcode, you need to create a new barcode definition in the Barcodes list, then create corresponding records in the Barcode Item list to define data elements within the barcode.

### **To create a new barcode definition**

- 1 Navigate to the Administration - Mobile screen > Barcode Administration view.

- 2 Click New, then fill in the fields.

The fields in the Barcodes list are described in the following table:

Field	Comments
Name	Required. Any descriptive name for the barcode. Must be unique for all records defined in the Barcode screen.
Sequence	Required. This is the sequence for barcode parsing. The lower of two sequence numbers takes precedence when deciding which barcode in the list to match. For example, if a scanned barcode matches two entries in the barcode list, the one with a lower sequence number will be picked for the match. The lowest sequence number is 1.
Barcode Type	Required. Type of barcode standard. Can either be Location or Code. For a Location type barcode, the barcode data element parsing is done solely by the Sequence field in Barcode Item list. For a Code type barcode, the barcode data is first parsed into multiple sections by the Code field in the Barcode Item list, then is further parsed by the Sequence field for each section.  For more information about barcode type, see <a href="#">"Example of Location Type Barcode" on page 87</a> and <a href="#">"Example of Code Type Barcode" on page 88</a> .
Buscomp	Optional. Used to designate into which business component the target data is placed.
Min Length	Optional. The minimum length for the barcode data in digits. If it is not set, the default minimum length is 1.
Max Length	Optional. The maximum length for the barcode data in digits. If it is not set, the default maximum length is 10000.
Prefix	Optional. Defines the value that the parsing algorithm uses to identify barcode definition to use. The allowed format for Prefix is any ASCII character for exact match, '#' for any single digit number match (that is, 0 - 9), '&' for any alphabet character in lower and upper case, or '*' for a wild card match. For example, you can enter ##9&* as the prefix, which means the first two characters can be any number, the third character has to be '9', the fourth character can be any alphabet character, and the fifth character can be any ASCII character.
Suffix	Optional. Allows you to associate suffixes with individual fields. The allowed format for Suffix is the same as the one specified for Prefix. In addition, the rules for matching Suffix are the same as the ones for Prefix.
Description	Optional. Detailed description for this barcode.

- 3 In the Barcode Item list, add new records to identify how data will be parsed from barcode.

Depending on the type of barcode standard you just defined (either Location or Code), you then need to create new records in the Barcode Item list to identify how data is parsed.

- 4 In the Barcode Item list, Click New, then update the required fields.

Some of the fields are described in the following table:

Field	Comments
Name	Required. Name of the barcode item (for example, Product Name corresponds to the Product Name field)(for example, Product Name corresponds to the Product Name field). This name does not determine which field in BusComp the parsed data is written to. That field is determined by the Data Desc field.
Code	Applicable for Code barcodes only. Used to break a barcode into multiple barcode sections.
Sequence	Required. The sequence for barcode data elements parsing. For Location barcodes, this corresponds to the sequence used to parse data elements from the barcodes. For Code barcodes, this corresponds to the sequence used to parse data elements within barcode sections.
Min Length	Required. Minimum Length of the character string for this data element. If this is a variable length string, then Minimum Length is not equal to Maximum Length.
Max Length	Required. Maximum Length of the character string for this data element. If this is a variable length string, then Minimum Length is not equal to Maximum Length.
Data Desc	Optional. Used by algorithm to identify what field to parse this data into. The value in this field must correspond to the exact field name.  For example, Product Name corresponds to the Product Name field.
Data Format	Optional. Defines format for data element (for example, MMDDYY is for date).
Action	Optional. Defines the action for the data element. Both Data Format and Action are written in the following format to the Data Desc field:  <parsed data element>,<Data Format>,<Action>  See the example in <a href="#">Table 12</a> .

## Example of Location Type Barcode

The two entries for the Barcode list, HIBC Secondary and IBM, are shown in [Table 9](#).

Table 9. Location Type Barcode List Entries

Name	Sequence	Barcode Type	Buscomp	Minimum Length	Maximum Length	Prefix	Suffix	Description
HIBC Secondary	1	Location	Medical Product		31	+\$9###3		
IBM	2	Location	Tech Product		30	+\$9###39		

Entries for Barcode - HIBC Secondary in the Barcode Item list are shown in [Table 10](#).

Table 10. Location Type Barcode Item List Entries

Name	Code	Sequence	Minimum Length	Maximum Length	Data Description	Data Format	Action
Prefix		1	4	4	Prefix		
Quantity		2	5	5	Quantity		
Exp date flag		3	1	1	Exp flag		
Date		4	6	6	Expiration Date	YYMMDD	
Lot		5	0	13	Lot #		
Link		6	1	1	Link		
Check		7	1	1	Check		

If the barcode being scanned is +\$90010039509283C001LZ, both barcode entries HIBS Secondary and IBM are good matches. HIBC Secondary has a lower sequence as 1, it is picked as the final match for parsing the barcode. The data is parsed as follows:

```
{(Prefix, "+$9") (Quantity, "00100") (Exp flag, "3") (Expiration Date, "950928,YYMMDD") (Lot #, "3C001") (Link, "L") (Check, "Z")}
```

**NOTE:** In this example, the use of "Prefix" in the two tables is different. The Prefix column in the Barcode list table is required for matching the record in the Barcode list. The Prefix row in the Barcode Item list table is a user defined data element to be parsed for a particular barcode.

## Example of Code Type Barcode

Entries for Code type barcode in the Barcode list are shown in [Table 11](#).

Table 11. Code Type Barcode List Entries

Name	Sequence	Barcode Type	Buscomp	Minimum Length	Maximum Length	Prefix	Suffix	Description
UCC/EAN	1	Code	Medical Product		37	01		

Entries for Code type barcode in the Barcode Item list are shown in [Table 12](#).

Table 12. Code Type Barcode Item List Entries

Name	Code	Sequence	Minimum Length	Maximum Length	Data Description	Data Format	Action
AI 01	01	1	2	2	AI 01		
Packaging Indicator	01	2	1	1	Indicator		
UCC/EAN #	01	3	12	12	UCC/EAN		
Link	01	4	1	1	Link		
Quantity Section	30	1	3	5	Quantity Section	1000	Validate
AI 240	240	1	3	3			
Product #	240	2	1	13	Product #		

The barcode UCC/EAN is parsed to three sections, 01, 30, and 240. If the barcode being scanned is **01103123456789033050240**ABCDEFG, the data is parsed as follows:

Parsed Data = {(AI 01, "01") (Indicator, "1") (UCC/EAN, "031234567890") (Link, "3") (Quantity section, "3050,1000,validate") (Product #, "ABCDEFG")}

**NOTE:** The Code portions in the barcode appear in bold text.

## Enabling Applications Views for Barcode Scanning

You can enable any existing or new view for barcode scanning.

### *To enable an application view for barcode scanning*

- 1 Navigate to the Administration - Mobile screen > Barcode Enabling view.
- 2 Click New, then enter the necessary information.

The fields in the Barcode Enable list are described in the following table:

Field	Comments
View	The view in the Handheld application from which the scan occurs.
Applet	The applet within the view from which the scan occurs.
Buscomp	The business component from which information is drawn.
Buscomp Field	The specific field within the business component that must be updated through barcode scanning.

## Enhancing the Behavior of the Barcode Scan

If your business process requires that a specific barcode logic be performed when you perform a barcode scan using a handheld device, then you can enhance the behavior of your barcode scan. Enhancing your barcode scan behavior reduces the time taken to perform routine tasks with the scanner and quickly finds the correct record that needs to be updated.

The default behavior of a barcode scan results in the creation of a new record or the update of an existing record. However, if you want to find and update a record at the same time without having to use multiple key strokes, then you must define a new user property at the applet level.

### *To enhance the barcode scan behavior*

- 1 Create a new applet user property called TriggerFindRecord in Siebel Tools.  
For more information about creating TriggerFindRecord, see ["Defining the TriggerFindRecord" on page 90](#).
- 2 Create your barcode definition and add records to it identifying how the data will be parsed from the barcode.  
For more information about creating a barcode definition and adding records to it, see ["Creating New Barcode Definitions for Siebel Handheld Applications" on page 84](#).
- 3 Set your application views for barcode scanning.  
For more information about enabling an application view for barcode scanning, see ["Enabling Applications Views for Barcode Scanning" on page 89](#).

## Defining the TriggerFindRecord

To configure the behavior of your barcode scan, you must first define the user property TriggerFindRecord at the applet level in Siebel Tools. The syntax for TriggerFindRecord is as follows:

TriggerFindRecord = <Search fields> | <Activate field> | <Method> | <Action to apply>

The fields in TriggerFindRecord are described in [Table 13](#). Examples also follow [Table 13](#).

Table 13. TriggerFindRecord Fields

Field	Definition
<Search fields>	Key fields used for searching. Search fields must be separated by a comma, for example, as follows:  <key field 1>, <key field 2>, ... <key field N>
<Activate field>	The name of the (focus) field that is activated in the UI after a record is found or added.
<Method>	This field defines what functionality needs to be performed on the barcode scan. Each applet can define only one method in the user property. The following methods (or process modes) are supported: <ul style="list-style-type: none"> <li>■ FindOnly—searches for matching records in a list based on key fields. If no record is found, no new record is created. If matching records are found, the first matching record is selected, and the specified &lt;Activate Field&gt; has focus. If no focus field is specified, users must click the field they want to update.</li> <li>■ AddOnly—searches for a record in a list based on key fields. If no record is found, a new record is created. If matching records are found, the first matching record is selected, and the specified &lt;Activate Field&gt; has focus. If no focus field is specified, users must click the field they want to update. This method does not update any fields in matching records.</li> <li>■ UpdateOnly—searches for a record in a list based on key fields. If no record is found, no new record is created. If matching records are found, the first matching record is selected, and its data is updated with the scanned data. Additionally, if &lt;Action to apply&gt; has been specified, the appropriate intelligent updates occur. If no focus field is specified, users must click the field they want to update. This method does not create new records if the scanned record does not exist in the list.</li> <li>■ AddAndUpdate—searches for a record in a list based on key fields. If no record is found, a new record is created and the specified &lt;Activate Field&gt; is activated. If matching records are found, the first matching record is selected, and its data is updated with the scanned data. Additionally, if &lt;Action to apply&gt; has been specified, the appropriate intelligent updates occur. If no focus field is specified, users must click the field they want to update.</li> </ul>

Table 13. TriggerFindRecord Fields

Field	Definition
<Action to apply>	<p>Separated by a comma, this field defines the action that will be applied to each field, for example, as follows:</p> <p>&lt;Field 1&gt;,&lt;Action&gt; ^ &lt;Field 2&gt;,&lt;Action&gt; ... &lt;Field N&gt;,&lt;Action&gt;</p> <p>The following actions can be applied to any field. Only one action can be specified for each field:</p> <ul style="list-style-type: none"> <li>■ Add—adds the scanned value to the field value. If the field specified is nonnumeric, an error is returned.</li> <li>■ Subtract—subtracts the scanned value from the field value. If the field specified is nonnumeric, an error is returned.</li> <li>■ Replace—sets the scanned value on the field.</li> </ul> <p>If no action is specified, the default action is to <i>Replace</i> the value in the field.</p> <p><b>NOTE:</b> &lt;Action to apply&gt; applies to the UpdateOnly and AddAndUpdate methods only.</p>

**Example 1: FindOnly**

In the following example, Product Code and Lot# are specified as the key fields on which the search is based and Qty1 will be the activated field when the record is found:

TriggerFindRecord = Product Code, Lot# | Qty1 | FindOnly

**Example 2: AddOnly**

The following example specifies Product Code and Lot# as the key fields on which the search is based. If the record is found, then it is selected. If no record is found, then a new record is created with the scanned information, and Qty2 will be activated when the record is found or added:

TriggerFindRecord = Product Code, Lot# | Qty2 | AddOnly

**Example 3: UpdateOnly**

The following example specifies Product Code and Lot# as the key fields on which the search is based. UpdateOnly is specified as the method so the fields of any found records will be updated with the scanned information. The scanned Qty1 will be added to Qty1, the scanned Qty2 will be added to Qty2, and no field will be activated when the record has been updated:

TriggerFindRecord = Product Code, Lot# | | UpdateOnly | Qty1, "Add" ^ Qty2, "Add"

#### Example 4: AddAndUpdate

In the following example:

- SKU Code is specified as the key field on which the search is based.
- AddAndUpdate is specified as the method, so the fields of found records will be updated with the scanned information or a new record will be created with the scanned information.
- The scanned Qty1 will be added to Qty1.
- The scanned Qty2 will be subtracted from Qty2.
- The Expiry Date will be set.
- Qty1 will be the activated field when the record is found or added and updated.

```
TriggerFindRecord = SKU Code | Qty1 | AddAndUpdate | Qty1, "Add" ^ Qty2, "Subtract"  
^ Expiry Date, "Replace"
```

## Example of Creating a New Barcode Definition in the Siebel Handheld Application

This topic gives one example of creating a new barcode definition in Siebel Service Handheld. Although this example is for the Siebel Service Handheld application, it pertains to all Siebel Handheld applications.

You can define new one-dimensional barcodes in the Barcode Administration views. To define a new barcode, you need to create a new barcode definition in the Barcode list, then create corresponding records in the Barcode Item list to define data elements within the barcode.

To create a new barcode definition, complete the following procedures. You can perform these procedures differently, depending on your business model.

- ["To create a new barcode definition for the Siebel Service Handheld application" on page 92](#)
- ["To enable the SHCE Service FS Activity Parts Movements views for barcode scanning" on page 93](#)

### **To create a new barcode definition for the Siebel Service Handheld application**

- 1 Navigate to the Administration - Mobile screen > Barcode Administration view.
- 2 Click New, then fill in the necessary fields.

The following table describes the fields in the Barcodes list.

Field	Sample Data
Name	Hard Disk 100 GB
Sequence	Set to the greatest number in the current list view plus one
Barcode Type	Location
Buscomp	FS Activity Parts Movement

Field	Sample Data
Min Length	12
Max Length	12
Prefix	#
Description	Service

- 3 In the Barcode Item list, add a new record to identify how data will be parsed from the barcode. The following table describes the fields in the Barcode Item list.

Name	Sequence	Min Length	Max Length	Data Desc
UPC Code	1	1	1	
MFG Code	2	5	5	
Product Name	3	5	5	Product Name
CC	4	1	1	

**NOTE:** Reducing the amount of barcode seed data extracted to the Siebel Service Handheld application improves client performance and reduces synchronization database extract size. The following steps provide an example of extracting only the barcode standards that are required for the Siebel Service Handheld application. This is applicable as long as all the barcode records for the Siebel Service Handheld application defined in the Barcode list have the Description attribute set to Service.

- a Navigate to the Administration - Mobile screen > Application Administration view.
- b Select Siebel Service for CE.
- c Click the Settings view tab, and make sure the parent record is the application Siebel Service for CE.
- d Locate the DefaultBusObj directive that has the following value:
  - ❑ SHCE Barcode|0||SHCE Barcode||SHCE Barcode Item||SHCE Barcode Enable|.
 Replace that value with the following value:
  - ❑ SHCE Barcode|0||SHCE Barcode|[Description]="Service"|SHCE Barcode Item||SHCE Barcode Enable|.

**To enable the SHCE Service FS Activity Parts Movements views for barcode scanning**

- 1 Navigate to the Administration - Mobile screen > Barcode Enabling view. The Barcode Enable list appears.

- 2 If the following record does not exist, create a new record to enable the Product Name field in the SHCE Service FS Activity Part Movements List Applet for barcode scanning with the following information:

View	Applet	Buscomp	Buscomp Field
SHCE Service FS Activity Part Movements	SHCE Service FS Activity Part Movements List Applet	FS Activity Parts Movement	Product Name

- 3 If the following record does not exist, create a new record for the Product Name field in the SHCE Service FS Activity Part Movements Form Applet for barcode scanning with the following information:

View	Applet	Buscomp	Buscomp Field
SHCE Service FS Activity Part Movements (More Info)	SHCE Service FS Activity Part Movements Form Applet	FS Activity Parts Movement	Product Name

- 4 Save the changes. Now the Buscomp Field Product Name in both the SHCE Service FS Activity Part Movements view and the SHCE Service FS Activity Part Movements (More Info) view have been enabled for barcode scanning. The Buscomp Field Product Name specified here matches the value in the Data Desc column in the Barcode Item list defined earlier.

**NOTE:** The example provided above assumes that the product Hard Disk 100GB has been defined and properly set in the appropriate product catalog.

## About BatchSync for Siebel Handheld Applications

BatchSync is a utility that enables Siebel Handheld customers to split the Siebel Handheld synchronization process into several steps, as opposed to requiring a complete synchronization (sync) session. When batch processing is enabled, you can select from one of four sync options after logging in:

- **Full Sync.** Uploads transactions to the Siebel Server, processes transactions, extracts a configuration repository and database, downloads the repository and database to the handheld device, and logs off.
- **Upload Only, Auto Download Later.** Uploads transactions to the Siebel Server and sets the handheld device to wait mode. After a specified period of time, the handheld device begins polling the Siebel Servers at a predefined time interval. If, during polling, the device detects a valid extract such as an un-expired dbfile.txt, the extract automatically downloads to the handheld device.
- **Upload Only.** Uploads transactions to the Siebel Server and immediately logs off to enable transaction processing. If you need to create a new extract on the handheld device, the Upload Only session must be followed up by a Download Only session after the batchextract.exe completes on the Siebel Server.

- **Download Only.** Downloads a new database extract, followed by logoff. This option is only available if there is a valid or un-expired extract on the Siebel Server, and if there are no transactions remaining on the handheld device that requires uploading to the Siebel Server.

## Process for Administering Batch Sync for Siebel Handheld Applications

The following procedures are included in this topic:

- ["Enabling BatchSync for Siebel Handheld Applications" on page 95](#)
- ["Downloading a Database Extraction" on page 96](#)
- ["Reviewing Batch Synchronization Status" on page 97](#)
- ["Running a Batch Extract" on page 99](#)
- ["Running a Batch Transaction Process" on page 99](#)

### Enabling BatchSync for Siebel Handheld Applications

To split the synchronization process into several steps, you must enable the BatchSync utility for the Siebel Handheld application.

#### **To enable Batch Synchronization**

- 1** Install the Siebel Handheld application on the handheld device. No changes are required to the setup.ini or registry files.
- 2** Log on to the Siebel application from the Web. Ensure that the following are set up and running: Siebel Server, Handheld Synchronization components, and Batch Sync component.
- 3** Navigate to the Administration - Mobile > Application Administration view.
- 4** Select the application you are using, navigate to the Settings Tab, and set the following parameters to enable batch synchronization:
  - **EnableBatchExtraction:TRUE**  
If set to TRUE, this parameter enables the batch synchronization functionality. Disable batch synchronization is the default
  - **ExtractionExpiration: 12**  
This parameter specifies the number of hours that is used to determine when a database extraction has expired. When a database extraction expires, the batch synchronization re-extracts the databases. If no value is specified, then the databases are extracted each time they are requested.
- 5** Launch the Siebel Handheld application from the handheld device.

- 6 Select File > Synchronize to synchronize the Siebel Handheld application with the Siebel Server. After the synchronization process completes, the new settings are downloaded to the handheld device.
- 7 Select File > Synchronize to synchronize the Siebel Handheld application with the Siebel Server again.
- 8 Enter your username and password, and select Start.
- 9 Verify that the four sync options are displayed:
  - Full Sync
  - Upload Now, Auto Download Later
  - Upload Only
  - Download OnlyThe option, Upload Only, is inactive if no new transaction records reside on the device. Download Only will be inactive because no extract exists for the user on the Siebel Server yet.
- 10 Select Full Sync, and select All to set all filters during the synchronization process.
- 11 Launch the Siebel Handheld application from the device, and add some transaction records to the handheld device.
- 12 Start the synchronization, select Upload Only, and select OK.

To check the status of the batch synchronization, see ["Reviewing Batch Synchronization Status" on page 97](#).

## Downloading a Database Extraction

You can download a new database extraction from the Siebel Server.

### ***To download a database extract***

- 1 Navigate to the Administration – Server Management > Jobs view.
- 2 Add a new record and specify the following:  
Component/Job: BatchSync  
Mode: Asynchronous
- 3 Enter the requested server name.
- 4 In the Parameter applet, enter the following parameters:
  - Run Mode: Extract
  - Application Name: Siebel ePharma CE
  - Application Language code: ENU
- 5 In the Job Details applet, enter the time schedule parameters.
- 6 Select Start in the top parent applet.

- 7 Navigate to the Administration Mobile > Batch Sync Administration view.
- 8 When the batch synchronization process is complete, launch the Siebel Handheld application from the handheld device.
- 9 Select File > Synchronization, and select Download Only.

Table 14 lists the specific parameters for scheduling Siebel Handheld database extract jobs.

Table 14. Parameters for Scheduling Handheld Database Extract Jobs

Parameter Name	Definition
RunMode	<p>Run Mode. The following are valid values:</p> <ul style="list-style-type: none"> <li>■ Extract—default value; extracts data for users who have uploaded their transactions to the Siebel Server where the component is running</li> <li>■ ProcessTxn—processes pending transactions</li> <li>■ ExtractUpgrade—extracts data for users who have uploaded their transactions to the Siebel Server during a major upgrade. Use only if an upgrade occurs between an upload and download of data</li> <li>■ ProcessTxnUpgrade—processes pending transactions during the upgrade. Use only if an upgrade occurs between an upload and download of data</li> </ul>
AppName	<p>Application Name. An optional parameter to run batch synchronization for a specific application. Apply this parameter only in deployments where there are multiple Siebel Handheld applications. If no value is specified, or if the value is unclear, batch synchronization will be performed for all valid applications in the Siebel Handheld deployment.</p>
AppLangCode	<p>Application Language Code. This is a standard Siebel three-character language code. It is an optional parameter to run batch synchronization for a specific language application; it is only applicable in Siebel Handheld application deployments where there are multiple languages. If no value is specified or if the value is unclear, batch synchronization is performed for all valid languages of an application (if specified) or all applications (if not specified).</p>

## Reviewing Batch Synchronization Status

The Batch Synchronization Status enables administrators to schedule and run batch synchronization as well as check the status of a batch synchronization for a specific application.

**To review batch synchronization status**

- 1 Navigate to the Administration - Mobile screen > BatchSync Administration view.

The Batch Synchronization Status displays a list of Handheld application users supported by batch synchronization. The fields in the Batch Sync Status list are described in the following table:

Field	Comments
User	User name of the Handheld application user supported by batch synchronization.
Sync Node ID	Internal identifier of a Handheld device or node.
Batch Transaction Proc Status	Last known status of the user's uploaded transactions with respect to batch transaction processing. The status values are as follows: <ul style="list-style-type: none"> <li>■ Completed</li> <li>■ Failed</li> <li>■ No Transaction</li> <li>■ Scheduled</li> <li>■ Scheduled by Admin</li> <li>■ Scheduled by Sync</li> <li>■ Unknown</li> </ul>
Transaction Received	Timestamp of the last upload of transactions to be processed in batch.
Transaction Processed	Timestamp of the last processed transaction.
Batch Extract Status	Last known status of the user with respect to batch extract. The status values are as follows: <ul style="list-style-type: none"> <li>■ Downloaded</li> <li>■ Extracted</li> <li>■ Failed</li> <li>■ Scheduled</li> <li>■ No Extraction</li> <li>■ Scheduled by Admin</li> <li>■ Scheduled by Sync</li> <li>■ Unknown</li> </ul>
Extract Completed	Timestamp of the last completed batch extract.

- 2 Click the Batch Extraction Session tab to display the timestamp and status of batch extract sessions for the specified user.

If you use the UploadOnly sync option, the records have a status of TxnRcvOk.

- 3 Click the Batch Transaction Processing Session tab to display the timestamp and status of batch transaction processing sessions for the specified user.

Once the records are processed, the status changes to TxnProcOk.

**NOTE:** TxnRcvOK and TxnProcOK status are BatchSync specific. If you are running full sync, you will not see these statuses. The transactions are generally processed when you logoff from an Upload Only Session. The administrator can start a task to process all pending transactions which would also change the status. In the case of a full sync, the transactions are processed as and when they are uploaded.

## Running a Batch Extract

When specifying a batch extract, administrators can specify that they want to extract data for users who have uploaded their transactions to the server where the component is running.

### *To run a batch extract*

- 1 Navigate to the Administration - Mobile screen > BatchSync Administration view.
- 2 Select the users for whom you want to run a batch extract.
- 3 Click Schedule Extract to change the batch extract status of the selected Handheld application user to Scheduled.

Details of the Handheld application user is extracted when the batch synchronization component is run with the appropriate run-mode. When the batch extract finishes, all users with a status of Batch Extract have the value of Scheduled and are extracted for download.

**NOTE:** The devices for the selected users are able to perform a download-only synchronization and download their extract.

- 4 Click Unschedule Extract to change the batch extract status of the selected user to Unscheduled.

## Running a Batch Transaction Process

Administrators can run a batch transaction process for transactions that are uploaded to the Siebel Server by users.

### *To run a batch transaction process*

- 1 Navigate to the Administration - Mobile screen > BatchSync Administration view.
- 2 Select the users for whom you want to run a batch transaction process.

- 3 Click Schedule Transaction-Processing to change the transaction process status of the selected user to Scheduled.

The user's uploaded transactions are processed when the batch synchronization component is run with the appropriate run-mode. When the batch transaction process finishes, all users with a status of Batch Transaction Process have the value of Scheduled and are processed.

- 4 Click Unschedule Transaction-Processing to change the transaction process status of the selected user to Unscheduled.

## Load Balancing Support for Synchronization

Siebel Handheld application direct server synchronization can be load-balanced (at the application server level) to achieve better scalability and high availability. This capability removes the limitation of assigning users to a specific application server at installation time.

The application server uses a location on the server to store users' extracted files and state information. There is a unique synchronization directory for each user and device combination. The ApplicationDirectory user parameter enables the administrator to define this location. For information about setting the ApplicationDirectory user parameter, see ["Setting the ApplicationDirectory Parameter" on page 101](#).

By defining a shared location for this parameter, synchronization services for Handheld applications can be load-balanced. When a user requests a synchronization session, their request is directed (by a load-balancer) to an available Handheld application server hosting the appropriate Siebel Handheld Object Manager, which will be able to access the user's synchronization directory. For example, a Siebel Handheld application can be configured to point to a generic URL for synchronization.

The LoadBalanceLo parameter defines the location of the hostname (or IP address) port to be set for the load balancing server. This setting must be used in a load-balanced environment. When this value is specified, batch synchronization connects to the specified load balancer server instead of connecting to the application server directly.

The load balancers supported for synchronization are the same as those for the full Siebel Business application. You can use either the native load balancer or a third-party HTTP load balancers supported by Oracle. For more information about the supported load balancers, see *Siebel System Requirements and Supported Platforms* on Oracle Technology Network.

For information about configuring Siebel Server load balancing, see *Siebel Applications Administration Guide*. Load balancing distributes workload across multiple Siebel Servers. For background information on load balancing, see *Siebel Installation Guide* for the operating system you are using and *Siebel Deployment Planning Guide*.

## Setting the ApplicationDirectory Parameter

ApplicationDirectory is an application-level parameter that is defined in the Administration - Mobile screen. The default value for this parameter in the standard product is hhsync\app\_name, where app\_name is the name of the application, such as sales or service, and so on. You can set this parameter using the following procedures.

### *To set the ApplicationDirectory parameter*

- 1 Login to the Siebel Server using a user ID with a Siebel administrator responsibility.
- 2 Navigate to the Administration - Mobile screen > Application Administration view.
- 3 Select the appropriate application (for example, Siebel Sales for CE) from the Handheld Applications list.
- 4 In the bottom applet, choose the Settings view tab and set the value of the ApplicationDirectory parameter to be the shared network location using a UNC format, for example, as follows:  
\\shareddsk\hhsync\sales.
- 5 Save the change.
- 6 Restart the Handheld Object Manager server component.

**NOTE:** The location for the ApplicationDirectory must be a networked, high performance, highly available drive. SAN or NAS with a high RAID rating is a good option for this purpose.

## Enabling Encryption for Siebel Handheld Applications

This topic relates to the encryption and security of the handheld device. Siebel Handheld applications provide robust encryption of the Siebel password and database on the handheld CE devices. Users are authenticated at application startup time and certain components of the Handheld applications require intermittent access to the user's password.

To enable full encryption of your Siebel Handheld application, complete the following procedures:

- "Enabling Application Lockout for a Siebel Handheld Application" on page 102
- "Enabling Authentication for a Siebel Handheld Application" on page 102
- "Enabling Local Database Encryption for a Siebel Handheld Application" on page 103

## Enabling Application Lockout for a Siebel Handheld Application

An application lockout can occur if a user fails to enter their correct password after a certain number of attempts. If authentication fails  $n$  times, where  $n$  is defined by the administrator by setting the FailedLoginAttempts setting, the current date is written to the security settings file, and a notification message that the application is exiting is displayed. The administrator can set the duration of the lockout by setting a value for the Lockout Period setting from the Administration - Mobile screen > Application Administration > Settings view tab.

If a user forgets their password and transactions exist in the device database, then the administrator can reset the user's password to blank using third-party device management software.

After the password is reset, the user can log in to the Siebel Handheld application using the blank password. However, users must still provide their password to synchronize. After the next successful synchronization login, the application password is automatically set to match the synchronization password.

### *To configure the Enable Application Lockout setting*

- 1 Navigate to the Administration - Mobile screen > Application Administration > Settings view tab.
- 2 Select the Enable Application Lockout setting.
- 3 Set the value to TRUE.

## Enabling Authentication for a Siebel Handheld Application

The authentication of a handheld device is necessary for security reasons. Any user who has access to a handheld device must not be able to use the Handheld application without the appropriate access rights. For this reason, users are required to enter a password at the splash screen, before the application loads. You are prompted for both a username and password when you want to perform synchronization.

The Allow Remember Password feature allows the user to save their password when they log into the Siebel Handheld application. If the user selects the Save Password check box on the log in splash screen, the password is saved to the device registry. When complete, users will not need to enter the password each time they log in to the Handheld application.

The check box on the splash screen is only enabled when the administrator sets the Allow Remember Password property to true.

### *To configure the Allow Remember Password setting*

- 1 Navigate to the Administration - Mobile screen > Application Administration > Settings view tab.
- 2 Select the Allow Remember Password setting.
- 3 Set the value to TRUE.

## Enabling Local Database Encryption for a Siebel Handheld Application

Siebel Handheld database encryption is required to provide extra security for users data on the handheld device. If the Enable Encryption setting is enable, the database is always encrypted so that no other application can open and view the data. Once the application is loaded, the database is decrypted as expected. No other application can try to access the database because it is locked by the Handheld application. The database is always encrypted when not in use by the Handheld application.

### *To enable encryption on a local database*

- 1 Navigate to the Administration - Mobile screen > Application Administration > Settings view tab.
- 2 Select the Enable Encryption setting.
- 3 Set the value to True.

When this setting is enabled, the database is encrypted when the application exits, and is decrypted when the application is started.

## Registering Store and Forward Messaging Device on First Synchronization

Store-and-Forward Messaging (SFM) registration occurs on the first synchronization with the Siebel Server. SFM device registration is the initial step of registering SFM for a Siebel Handheld application. If SFM device registration fails, the application prompts the user to retry SFM registration. If the user chooses not to retry SFM registration, the application displays an error and synchronization is completed. If no acknowledgement message is received, the synchronization client displays an information message and the application operates in a no-store-and-forward mode.

The main application does not send registration messages after the timeout is reached. If the main application detects that the device is not yet registered, the application is operated in a no-store-and-forward mode, which means no default icons and transactions are saved until the next synchronization is performed.

One communication mechanism avoids situations where ActiveSync is on, but the SFM channel is blocked. In this situation, if the SFM device registration fails (for example, the SFM server component is not properly enabled or fails), the synchronization for the Handheld application can still be completed and the user can still open the Handheld application.

For more information about synchronization for the Handheld application, see *Siebel Product Administration Guide* for the Siebel Handheld application you are using. For more information about synchronizing and registering, see *Siebel Store-and-Forward Messaging Guide for Handheld*.

## Storing Asynchronous Data

An asynchronous query enables users to search information from the Siebel Server through SFM if the information is not available from the Siebel Handheld application local database. Users can integrate query results from an asynchronous query in the Siebel Handheld application database.

Users can perform an asynchronous query for the business objects (for example, Solution, Product, Asset and Orders) defined for the application. For example, if a mobile field technician at a customer site wants to check the status of an order and the order is not available on the local database, the technician can send an asynchronous query to the Siebel Server through SFM by specifying the account name and order date for the order. Shortly afterwards, the Asynchronous Query icon flashes, which means that the query results are returned from the Siebel Server.

### *To store asynchronous data*

- 1 Tap the icon to open the Asynchronous Query Result Alert window.

The alert window lists all the asynchronous queries performed by the user.

- 2 Highlight the query you want and tap the Details button.

The Asynchronous Query Result List view lists the data that meets the query criteria.

- 3 Select the record that you want and tap the Store button to store the record into the Siebel Handheld application database for further reference.

**NOTE:** When the record is stored on your Siebel Handheld application, you can review, search, or update the record from the Handheld application screens and views.

## Receiving Incoming Messages from the Server

From the incoming message notification window, users can drill down on the hyperlink under the dispatched activity section to navigate directly to the activity detail view. Messages or activities are dispatched through SFM. You can handle incoming alert messages differently, depending on your business model.

You can tap the message alert icon to open the incoming message alert window. The alert window displays all the incoming messages sent from the Siebel Server by SFM. The top row shows the most recent message. You can close the alert window or can tap the hyperlinked activity # or message to review the detail information of the activity or message.

## Removing Reassigned Activities

You can remove reassigned activities differently, depending on your business mode. Users can delete an activity from a Siebel Handheld application database through SFM if the activity has been assigned to another user. If an activity has been dispatched to user A on a Handheld application and then the activity is assigned to another mobile user, the activity on user A's Handheld application must be deleted.

For example, Technician A is assigned activity 12-98Y98 via SFM and the activity 12-98Y98 is stored in the Handheld application database. A call center agent, however, then decides to re-assign the activity (12-98Y98) to another technician, Technician B. The call center agent goes to the Dispatch Board, drags and drop the activity, and assigns the activity to Technician B. Because the activity has been reassigned to Technician B, the Siebel Server sends an SFM message to Technician A's Handheld application. This message arrives on Technician A's handheld device, and removes the activity from their Handheld application database. Technician A can see an alert message in the application's incoming message alert window, which indicates that the activity has been assigned to another technician and removed from their Handheld application database.

## About Monitoring Synchronization Sessions for Siebel Handheld Applications

You can monitor synchronization sessions and synchronization conflicts for Siebel Handheld applications from a number of screens within the Siebel Mobile Web Client. If you are using Direct Server Synchronization (DSS) or Direct Server Synchronization via Proxy (DSSvP), you do so by way of the Siebel Web Client. Every time a user synchronizes with the Siebel Server, a record is made.

The following procedures relate to monitoring synchronization:

- ["Monitoring Synchronization Sessions for Siebel Handheld Applications" on page 105](#)
- ["Obtaining Error Details from Synchronization Sessions in Siebel Handheld Applications" on page 107](#)
- ["Obtaining Business Component Information from Synchronization Conflicts in Siebel Handheld Applications" on page 107](#)
- ["Obtaining an Audit Trail for Synchronization Sessions in Siebel Handheld Applications" on page 107](#)
- ["Responding to Synchronization Errors in Siebel Handheld Applications" on page 108](#)

## Monitoring Synchronization Sessions for Siebel Handheld Applications

The Session Administration view allows you to gather all data related to each synchronization session a user performs. In the Session Administration view, the Sync Status list appears above two child lists—Sync Sessions and Extraction Info.

- **Sync Status** Allows you to monitor each user synchronization session, and includes information on synchronization status, date, type of synchronization, and so on.
- **Sync Sessions** Allows you to gather further information on the status of each synchronization session, including information on any conflicts that occurred during the synchronization, the size of the data extracted, and so on.
- **Extraction Info** Allows you to review a detailed description of all data extracted during the synchronization session, including business component information and the number of records extracted.

### **To monitor synchronization sessions**

- Navigate to the Administration - Mobile screen > Session Administration view.

The Sync Status list appears with the two child lists, Sync Sessions and Extraction Info, below it.

### **To monitor data download**

- 1 Navigate to the Administration - Mobile screen > Session Administration view.

The Sync Status list appears with the two child lists, Sync Sessions and Extraction Info, below it.

- 2 Scroll down to the Extraction Info list.

There is one extraction record for each unique extraction context. Review the data extraction information recorded. Information recorded for review is described in the following table.

Field	Comments
Business Component	The business component on which the synchronization is based.
Context	The context of the extraction.
# Records Extracted	The number of records that exist in the context of applied filters.
Extract Time	The length of time it took to extract the set of records.
Business Object Filter	The business object filter (if any) applied to the extraction.
Business Component Filter	The business component filter (if any) applied to the extraction.

You should use this information to help answer the following questions:

- Why did I download a particular record to the device?
- Why is an expected server record not downloaded to the device?
- Why is the total number of records showing up in some views so big?
- Why is the total number of records showing up in some views so small?
- Why does the extraction take so long?

The extraction record lists the filters used to control the extraction, the context of the extraction, how many records exist in that context for those filters, and how long it took to extract that set of records. By analyzing these records, and looking at all extraction changes resulting from filter changes, and, or changes to search specifications (defined in Siebel Tools), you can answer all of the above questions.

**NOTE:** Because storage space on a handheld device is typically limited, and available networking bandwidth for synchronization might not always be optimal, it is critical to carefully configure the filters and keep the size of your local database small. It is recommended that users should have a local database size of around three megabytes (MB), and this should never exceed 10 MB.

## Obtaining Error Details from Synchronization Sessions in Siebel Handheld Applications

The Conflict Administration view allows you to obtain information on synchronization errors that occur during individual synchronization sessions.

### *To obtain synchronization error details*

- 1 Navigate to the Administration - Mobile screen > Conflict Administration view.
- 2 In the Transactions list, select the appropriate record, and then click the Error Details view tab.
- 3 In the Error Details list, select or query for the desired record.

## Obtaining Business Component Information from Synchronization Conflicts in Siebel Handheld Applications

The Transactions view on the Conflict Administration screen allows you to obtain business component information related to synchronization errors that occur during individual synchronization sessions.

### *To obtain business component error details*

- 1 Navigate to the Administration - Mobile screen > Conflict Administration view.  
The Transactions list appears.
- 2 In the Transactions list, select the appropriate record, and then click the Business Components view tab.

## Obtaining an Audit Trail for Synchronization Sessions in Siebel Handheld Applications

The Transactions view on the Conflict Administration screen allows you to obtain audit trail information for an action that was taken against a particular transaction. You must enable Audit Trail separately. For information about enabling Audit Trail, see *Siebel Applications Administration Guide*.

### *To obtain audit trail information for synchronization error details*

- 1 Navigate to the Administration - Mobile screen > Conflict Administration view.  
The Transactions list appears.
- 2 In the Transactions list, select the appropriate record, and then click the Audit Trail view tab.

## Responding to Synchronization Errors in Siebel Handheld Applications

When reviewing a synchronization error, you can respond to it in one of three ways—you can ignore it, export it, or reapply it.

### To respond to synchronization transaction errors

- 1 Navigate to the Administration - Mobile screen > Conflict Administration view.

The Transactions list appears. The transaction buttons are described in the following table:

Action	Result
Reapply	Reapplies the selected transaction with values listed in the view (or Field Value view). These values override the results provided by the Siebel Server.
Export	Exports the content of the transaction in the same format used by the synchronization engine. For help with interpreting the content, create a service request (SR) on <i>My Oracle Support</i> . Alternatively, you can phone Global Customer Support directly to create a service request or get a status update on your current SR. Support phone numbers are listed on <i>My Oracle Support</i> .
Ignore	Accepts the current status and does not act upon the error. The record becomes read-only. There is no impact, except that the error will no longer appear in queries for unresolved conflicts.

- 2 Click either Reapply, Export, or Ignore depending on your needs.

**NOTE:** This works only when the Object Manager is running on a Windows-based server.

## Organization Enabled LOV Support

Siebel Handheld applications by default support a fixed set of LOV values for given LOV types across all organizations. If you want your Handheld application to support multiple organization enabled LOVs, then you must enable organization LOV support in the Siebel Handheld Client.

- “Enabling Organization LOV Support in the Siebel Handheld Client” on page 109
- “Example of Configuring, Enabling, and Using Multiple Organization LOVs in Handheld Applications” on page 109

**NOTE:** Before enabling organization LOV support in the Siebel Handheld Client, make sure that you have satisfactorily associated your organizations with LOV types and LOV values in the Siebel Web Client. For more information about LOVs, see *Siebel Applications Administration Guide*. For more information about setting up organization enabled lists of values, see *Configuring Siebel Business Applications* and also the example that follows.

## Enabling Organization LOV Support in the Siebel Handheld Client

There are two main stages involved in enabling organization LOV support in the Siebel Handheld Client.

- First you must create a new business object in Siebel Tools (for example, SHCE LOV Internal) and attach *List Of Values (Internal) buscomp* to it. For more information about creating business objects in Siebel Tools, see *Using Siebel Tools*.
- Then you must force extraction of the *List Of Values (Internal) buscomp* with a specific filter expression. This involves the following:
  - Creating a new DefaultBusObj directive in the Siebel Web Client and assigning a value to it. For more information about this task, see [“To create a new default directive” on page 109](#).
  - Adding a business object filter setting to your Siebel Web Client, which will run on DefaultBusObj. For more information about this task, see [“To add a business object filter setting” on page 72](#).

### To create a new default directive

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 In the Handheld Applications list, select the appropriate application, and then click the Settings tab.
- 3 Click New, and then enter the required information.

Field	Comments
Name	The name of the directive. For example, DefaultBusObj.
Value	The value to set in the directive. This value should correspond to the business object from which you want to extract List Of Values (Internal) buscomp.  For example, SHCE LOV Internal 0 List Of Values (Internal) [Intersection Table Org Id].

## Example of Configuring, Enabling, and Using Multiple Organization LOVs in Handheld Applications

This topic gives an example of configuring, enabling, and using multiple organization LOVs in the Siebel Service Handheld application. Although this example is for the Siebel Service Handheld application, it pertains to all Siebel Handheld applications. You can perform these procedures differently, depending on your business model.

- [“To configure organization LOVs in the Web client for Siebel Service Handheld” on page 110](#)
- [“To enable organization LOV support for Siebel Service Handheld” on page 110](#)

- "To use organization enabled LOVs in Siebel Service Handheld" on page 111

**To configure organization LOVs in the Web client for Siebel Service Handheld**

- 1 Create the new LOV type CONTACT\_TYPE LOV in Siebel Tools. Enter new records for its LOV values and configure a picklist to display the LOV type.

For information about creating new LOV types and LOV values using Siebel Tools, see *Configuring Siebel Business Applications*.

- 2 Set up CONTACT\_TYPE LOV to be organized enabled. Do this by associating the following LOV values to CONTACT\_TYPE LOV for the following organizations.

LOV Type	LOV Value
<b>For Xerco Pharmaceutical Organization:</b>	
CONTACT_TYPE LOV	Physician
CONTACT_TYPE LOV	Nurse Practitioner
CONTACT_TYPE LOV	Pharmacy Directory
<b>For Medical Products Organization:</b>	
CONTACT_TYPE LOV	Cardiologist
CONTACT_TYPE LOV	Purchasing Director
CONTACT_TYPE LOV	Nurse Practitioner

For information about associating organizations to LOV values and LOV types, including guidelines for setting up organization enabled lists of values, see *Configuring Siebel Business Applications*.

**To enable organization LOV support for Siebel Service Handheld**

- 1 Create a new business object (SHCE LOV Internal) in Siebel Tools and attach *List Of Values (Internal) buscomp* to it. For more information about enabling organization LOV support, see *Using Siebel Tools*.
- 2 Create a new default directive for Siebel Service Handheld as follows:
  - a Navigate to the Administration - Mobile screen > Application Administration view.
  - b In the Handheld Applications list, select Siebel Service for CE, and then click the Settings tab.

- c Click New, and then enter the required information.

Field	Sample Data
Name	DefaultBusObj
Value	SHCE LOV Internal 0 List Of Values (Internal) [Intersection Table Org Id]
<p><b>NOTE:</b> This value should correspond to the business object from which you want to extract List Of Values (Internal) buscomp.</p>	

- 3 Add a business object filter setting for Siebel Service Handheld, which will run on DefaultBusObj, as follows:
  - a Navigate to the Administration - Mobile screen > Application Administration view.
  - b In the Handheld Applications list, select Siebel Service for CE, and then click the Settings tab.
  - c Click the Business Object Filters view tab.
  - d Click New, and then enter the required information.

Field	Comments
Owner	Siebel Service for CE
Default	Leave unchecked
Business Object	Account
Name	OrgLOVFilter1
Query	[Intersection Table Org Id] is NOT NULL OR [OrgSpecializedLOV.Internal_Organization] is NOT NULL

**To use organization enabled LOVs in Siebel Service Handheld**

- 1 Open your Siebel Service Handheld application in your handheld device, then synchronize with the Web client. Make a note of your active position. For example, are you associated with the Xerco Pharmaceutical Organization, the Medical Products Organization, or some other organization.

For information about how to synchronize your handheld device with your Siebel Handheld Application Server, see the online help for the Siebel Handheld application.

**NOTE:** If you do not know what your active position is, contact your system administrator.

- 2 Navigate to My Contacts on your handheld device and add a new contact record.

When you specify the contact type, the LOVs associated with your current organization (the organization to which your active position is associated) are displayed in the Type field.

For information about how to add records, see the online help for the Siebel Handheld application.

For example, if your active position is associated with Xerco Pharma Organization, then the Type field includes the following LOV options: Physician, Nurse Practitioner, and Pharmacy Director. But if your active position is associated with Medical Products Organization, then the Type field includes the following LOV options: Cardiologist, Purchasing Director, and Nurse Practitioner.

**NOTE:** A user can be associated with multiple organizations if they hold multiple positions, but only the organization of the active position determines which LOVs are displayed.

- 3 Navigate to My Contacts on your handheld device and open an existing contact record by tapping it. Notice that when you view the contact type, the LOVs associated with the record's owner organization are displayed.

For example, if your active position is associated with Xerco Pharma Organization, but the owner of the record you are viewing is associated with Medical Product Organization, then the LOVs displayed for the picklist are those associated with Medical Product Organization (Cardiologist, Purchasing Director, and Nurse Practitioner).

- 4 Synchronize the handheld device again to copy any changes made using your handheld device with the Siebel Web Client database.

For more information about synchronization, see ["Synchronizing Data on Your Handheld Device" on page 171](#).

# 5

## Data Filtering for Siebel Handheld Applications

The purpose of this chapter is to outline how to develop data filters for your Siebel Handheld application. It includes the syntax for constructing business components and business object filters, as well as some useful information on managing your business object filters. The following topics are covered in this chapter:

- “Developing Data Filters for Siebel Handheld Applications” on page 113
- “Constructing Business Component and Business Object Filters for Siebel Handheld Applications” on page 114
- “Business Object Filters for Siebel Handheld Applications” on page 115
- “Recommendations for Managing Business Object Filters for Siebel Handheld Applications” on page 115
- “Filters for Siebel Service Handheld” on page 120
- “Primary Business Components for Siebel Service Handheld” on page 120

### Developing Data Filters for Siebel Handheld Applications

The following general steps are recommended for developing synchronization filters for Siebel Handheld applications.

- Identify the screens and views of your application. Then identify the business components that are required to support each screen and view, noting the areas where each business component occurs. For example, identify the form, list, or pick applets that are based on each business component.
- Within Siebel Tools, establish the base parent-child relationships and any reverse relationships at the component level.
- Review the business components that occur in picklists and consider creating business component filters for those that will cause large numbers of records to synchronize to the device. These filters are created and maintained in the Mobile Administration screens. For each business component, determine whether it is possible to apply a search specification to all instances of the business component within the Siebel Handheld application. Develop a set of suitable business component filters in the Mobile Administration screens.

Common examples of business components that are suitable for global business component filters include:

- Employees (for large organizations)
- Activities (for example, filter for current Activities, Activities of only certain kinds)

- Accounts (for example, by geography)
- Products (for example, active, orderable products)
- Orders (for example, open, closed in last three months)
- Create appropriate business object synchronization filters for each business object and make sure that each business object includes a default filter. Default filters make sure that users avoid accidental download of an excessive number of records.

**NOTE:** In a multilingual environment, default filters are created for the primary language only. If your environment is multilingual, then you must configure additional filters for each additional language you want to run.

## Constructing Business Component and Business Object Filters for Siebel Handheld Applications

Business component filters are used to limit the extraction of a business component for every context in which it is extracted.

### Example of Business Component Filter Syntax:

Business component filters use query by example (QBE) syntax:

```
[Status] = "Not Started" OR [Status] = "In Progress" OR ([Status] IS NULL) OR  
[Status] = "On Hold" OR ([Status] = "Done" AND [Done] >= Today() - 7)
```

For more information about QBE syntax, see *Siebel Developer's Reference*.

Business object filters are used to supply filters that a user can select at synchronization time. These are the filters that are displayed in the SetFilters dialog on the device.

### Example of Business Object Filter Syntax:

Business object filters use predefined query (PDQ) syntax.

PDQ syntax rules are as follows:

- The business component name must be a valid business component in the business object on which the PDQ is based
- Search and Sort can be specified for all active buscomps in the business object on which the view is based, appended to each other in any order using space as delimiter.

The normal search specification and sort specification syntax applies except that quotes in the search specification have to be escaped using double quotes because the search specification itself is enclosed in double quotes.

The syntax is as follows:

```
'Account'.Search = "[State] = LookupValue ( ""STATE_ABBREV"", ""CA"" )" 'Account'.Sort =  
"Name, Location"
```

Descriptions of the terms are shown in [Table 15](#).

Table 15. Business Object Filter Syntax

Syntax Term	Description
Account	Business component name.
Search	Key word.
"[State] = LookupValue (""STATE_ABBREV"", ""CA"")"	Search specifications using PDQ syntax.
State	Field name.
LookupValue	Function for find and LOV value.
STATE_ABBREV	LOV type.
CA	LOV value.
'Account'.Sort = "Name, Location"	Sort specification for sorting the returned list.

For more information about PDQ syntax, see *Siebel Developer's Reference*.

## Business Object Filters for Siebel Handheld Applications

All business object filters for Siebel Handheld applications are available for selection by a user at the time of synchronization. Additionally, there is no naming convention for business object filters.

A default filter for a business object is indicated by checking the Default flag in the Administration - Mobile screen > Application Administration > Business Object Filters view of the Siebel Web Client. Be sure to define a default filter for each business object in the Handheld application. If no filters are applied during the synchronization process, an unacceptably high volume of data will be downloaded to the handheld device.

**NOTE:** In Siebel 7.7, a required field is always extracted in to the handheld device even if it is not exposed in the UI or explicitly defined in Mobile Administration.

**CAUTION:** You must select only one filter as the default for each business object. If two filters are marked as the default for the same business object, the actual default can be determined only by proceeding to synchronize and select the default filters from the selection UI.

## Recommendations for Managing Business Object Filters for Siebel Handheld Applications

The following topics provide recommendations for creating and managing filters.

- [“Direct Server Synchronization Deployments” on page 116](#)
- [“Examples of Default Business Object Declarations” on page 116](#)
- [“Designating Visibility” on page 118](#)
- [“Overriding the Popup Visibility” on page 118](#)
- [“Multiple Visibility Methods” on page 119](#)

## Direct Server Synchronization Deployments

For Direct Server Synchronization deployments, administrators can create user-specific business object and business component filters in the Administration - Mobile screen > User Administration view. For more information about creating business objects and business component filters, see [“Setting Business Component Filters for Siebel Handheld Application Users” on page 71](#) and [“Setting Business Object Filters for Siebel Handheld Application Users” on page 72](#).

Both application-level and user-level filters can be used in this deployment. They are managed in the same set of views. Changes to any filters will be effective on your next synchronization session, without having to restart the synchronization OM component for the Handheld application.

These business object filters are made available to all users and, therefore, must be defined with the needs of all users in mind.

## Examples of Default Business Object Declarations

You can set default business object declarations in the Administration - Mobile screen > Application Administration > Settings view, as described in the following examples.

### Example 1

“State Model” default business object setting:

```
State Model - Engine|0||State Model|[BusComp Name]="Expense"|State Model -  
Transition||State Model - State||State Model - Position|
```

The first three segments of the declaration are followed by a series of repeating BusCompName search specification pairs:

- 1 Business object name
- 2 Visibility Type
- 3 (Siebel internal)
- 4 Root business component name
- 5 Search specification QBE for root BusComp records
- 6 Child business component name

- 7 Search specification QBE for child BusComp records (this must normally be empty, causing all children to be extracted)
- 8 Grandchild business component name
- 9 Search specification QBE for grandchild BusComp records (this must normally be empty, causing all grandchildren to be extracted), and so on.

The total number of fields must be at least 5 and must be an odd number.

### Example 2

```
Action|0||Action||Action Employee|
```

This example default business object declaration results in an extraction of the Action and Action Employee business components where they occur with visibility 0 using the business object filter indicated. The business object filters are generally used only for extracting business components that do not correspond to any views or applets. Business object declarations identify specific business components within the business object to be extracted. The business object filters normally give a query based on the primary business component in the business object and force extraction of any business components mentioned in the query when there is no corresponding applet within the application that can cause the desired extraction to occur.

### Example 3

In the following example, the declaration is used to extract all the Price List Line Items under the Order Entry (Sales) business object.

```
DefaultBusObjs13= Order Entry (Sales)|0||Price List Item|
```

Note that this declaration lacks an associated QBE clause. When this is the case, all of the records available to the user for the given visibility are extracted.

Exercise caution when modifying a default business object setting for pick applets, and do so only with the support of a skilled Siebel configurator.

Use default business object declarations to force the extraction of data for a given business component in the context of a given business object and Visibility type. For more information about visibility designations, see [“Designating Visibility” on page 118](#). The default business object extractions are performed in the first phase of data extraction.

You will most often use these declarations to extract additional data that is not extracted as part of the user interface extraction. This can be useful for business components that are referenced programmatically by other business components, but are not exposed in the user interface. The default business object declarations are used to enforce the extraction of a subset of data to the Handheld application that might not have been otherwise extracted or, most commonly, to filter the data downloaded for dynamic picklists or pick applets.

All pick data is not downloaded to the device due to the memory constraints on the device. Only pick data for fields that are editable is downloaded. Therefore, if you are doing a query on a pick field, you might not be able to display the picklist. When viewing a record in an applet, if a pick field is read-only, its pick button will be disabled. If users select a read-only field with a pick control, they receive the following error: No data available in picklist because field is read-only.

## Designating Visibility

It is very important that you use the correct visibility designation in the default business object declarations. The visibility entered must be the visibility that governs the data displayed for the business component within the context of the business object specified in the declaration. In the previous Example 1, visibility code 3 is designated. This corresponds to All Visibility, which is the visibility that applies to the Account business component when it is used in a pick applet.

You determine the correct visibility to use by examining View and business component properties within Siebel Tools. When creating a default business object declaration to restrict the volume of data extracted for a pick applet, begin by examining the Popup Visibility Type in Business Component Properties. Cross-reference the visibility type to the list below, and enter the appropriate visibility code in the declaration. If the Popup Visibility Type field on the business component is null, the default value is All. Table 16 summarizes popup visibility types and the corresponding visibility codes.

Table 16. Visibility Codes

Popup Visibility Type	Visibility Codes
Sales Representative	0
Manager	1
Personal	2
All	3
None	4
Organization	5
Contact	6

**NOTE:** Do not use the Group, Catalog, or Sub Organization Popup Visibility Types. These are not supported in the CE Handheld application.

## Overriding the Popup Visibility

If the Popup Visibility Type setting is not sufficiently restrictive (for example, All Visibility), this can lead to a large number of records being extracted when the picklist is processed during synchronization. Making the Popup Visibility Type more restrictive reduces the number of records extracted for picklists. The `OverridePopupVisibility` user property for an applet overrides the Popup Visibility Type on a business component. Use this property when the desired visibility differs from the business component's Popup Visibility Type, and you do not want to change the Popup Visibility Type. If several picklists use the same business component, you can also use the `OverridePopupVisibility` user property to vary the visibility of the picklists in the different applets.

There are two considerations you must keep in mind if multiple applications are sharing the same repository. First, changing the Popup Visibility Type has a global effect for all instances where the business component is used. If multiple applications share the same repository and use the same business components, changing the Popup Visibility Type for a common business component might have an undesirable effect for another application. Second, if multiple applications share the same applet, the picklist in each applet shares the same visibility as defined by `OverridePopupVisibility` property. This is because the `OverridePopupVisibility` property is set on the containing applet.

In Siebel Tools, navigate to `Applet > Applet User Properties`, and define the `OverridePopupVisibility` user property on the applet containing the control that opens the pick applet. For more information about this property, see [OverridePopupVisibility User Property on page 221](#).

If `OverridePopupVisibility` is used, then the picklist and pick applet search specifications are ignored during the synchronization when the records for the picklist are extracted.

## Multiple Visibility Methods

When a record is extracted by means of different visibilities, the record is tagged with each visibility. For example, if an individual contact record is extracted under `Org` visibility, and later the same contact record is extracted under `Salesrep` visibility, the visibility field on the record contains a bitmask indicating that the two visibilities apply for this record. Handheld synchronization extracts data in the following order:

- `DefaultBusObjs`
- `Views`
- `PickList`

You can check the visibilities for a record in the `dbfile.txt` file. [Table 17](#) lists the values for the visibility bitmasks.

Table 17. Visibility Bitmask Values

Visibility Bitmask	Values
<code>VISIBILITY_SALESREP</code>	1
<code>VISIBILITY_MANAGER</code>	2
<code>VISIBILITY_PERSONAL</code>	4
<code>VISIBILITY_ALL</code>	8
<code>VISIBILITY_NOVISIBILITY</code>	16
<code>VISIBILITY_ORG</code>	32
<code>VISIBILITY_CONTACT</code>	64

For example, the visibility for a record extracted for both SalesRep and Org would have a visibility set to 33.

**NOTE:** Not all visibilities are supported on the handheld device.

Specifically, Group, Catalog and Suborg visibilities are not supported. These are mapped to different visibilities as follows:

- Group -> All
- Catalog -> Org
- SubOrg -> Org

## Filters for Siebel Service Handheld

The purpose of data filters for Siebel Service Handheld applications is to identify a select amount of data that is downloaded to the device.

Before you begin designing your own filters or customizing the default business component and business object filters, it is recommended that you read this topic to understand the preconfigured filters. They are designed to provide optimal synchronization and application performance.

In addition, see [Chapter 10, "Using Siebel Service Handheld"](#) to see how the preconfigured application works and how the relationship between the business components is implemented in the application.

## Primary Business Components for Siebel Service Handheld

The primary business components in the Siebel Service Handheld application are Action, Account, Service Request, Order, and Asset:

- "Action Business Component" on page 121
- "Accounts Business Component" on page 122
- "Service Requests Business Component" on page 122
- "Orders Business Component" on page 123
- "Assets Business Component" on page 123
- "Child Service Business Components" on page 124
- "Supporting Service Business Components" on page 124
- "Summary of Siebel Service Handheld Filters" on page 125

## Action Business Component

The primary business component in Siebel Service Handheld is the Action business component.

**NOTE:** The Siebel Service Handheld application uses the ActionSHCE business object unlike other Siebel applications that use the Action business object.

Activities are based on the Action business component and, therefore, the following views and screens are based on the Action business component:

- Activities view
- Activities Details view
- Parent applets in each Activities screen
- New Activity view in the Activities screen

The Siebel Service Handheld application is based on activities and all other data relationships are based on the Action object. By default, the activities that are selected for download are determined by a combination of the repository configuration, a business component filter, and a business object Filter. The business component filter is defined to select activities that meet both of the following criteria:

- Activities for which the user is a team member or owner, and
- Activities for which the activity status is not Declined, Cancelled, or Done

Therefore, the user sees only their open activities—that is, activities that require some action. Generally, the user does not see activities for other users or activities that do not require action. For example, a field repair activity can be assigned to a field technician, and this activity automatically gets downloaded. There can be instances when you want activities that are assigned to another user to get downloaded. For example, a service center technician makes a follow-up call to the customer related to the activity assigned to the field technician. In order to download the follow-up call activity, you need to make the service center technician and the field technician part of the same team and assign the team to the activity.

This set of user's activities is further reduced by the default business object filters which specify a time frame for the activities:

- Today
- Past Due and Today
- Past Due till Tomorrow
- Today and Tomorrow
- Past Due, Today, and Tomorrow

The activities that are filtered for a user determine which associated accounts, service requests, and orders are downloaded. The association between the remaining business objects is configured in Siebel Tools.

## Accounts Business Component

The business component filters and business object filters determine which activities (and their associated accounts) are downloaded. You can configure this relationship in Siebel Tools at the business object level by linking Account ID on Activity with ID on Account.

## Service Requests Business Component

The downloaded accounts determine which service requests are downloaded. All service requests that are associated with the selected accounts are downloaded. This includes service requests that are associated with the downloaded activities, but it also includes all other service requests associated with the downloaded account. The relationship between accounts and service requests is configured in Siebel Tools at the component level by linking the Account ID on Service Request with the Account ID on Account. The service requests are further restricted by business component filters that select only service requests that are open or that were closed in the last 30 days.

Table 18 shows an example of the relationship between activities, accounts, and service requests.

Table 18. Activities, Accounts and Service Requests Relationship

Activity	Account	Service Request
1	A	X
	A	Y
2	A	X
	A	Z
	B	None

Assume that Activity 1 is downloaded. Activity 1 is associated with one account (Account A) and one service request (Service Request X). Therefore, Activity 1, Account A, and Service Request X are downloaded. However, Account 1 has other service requests associated with it, Service Requests Y and Z, and these service requests are also downloaded.

In summary, the following records are downloaded:

- Activity 1
- Account A
- Service Requests X and Y

Activity 2 is not downloaded, although the account (A) and service request (X) associated with Activity 2 is downloaded. Account B, which is not associated with Activity 1, is also excluded. These exclusions illustrate the way in which the Action business component determines which of the other components are selected.

## Orders Business Component

The downloaded service requests determine which orders are downloaded. Therefore, only those orders associated with the selected service orders are downloaded. Table 19 shows an example of the relationship between activities, accounts, service requests, and orders.

Table 19. Activity, Service Request and Order Relationship

Activity	Service Request	Order
1	X	L
2	X	M
	Y	N

Service Request X is associated with Activity 1. Any orders associated with Service Request X are downloaded. Therefore, in the example above:

- Order L which is associated with Service Request X is downloaded.
- Although order M is not associated with the downloaded activity (Activity 1), it is associated with the downloaded service request (Service Request X) and, therefore, it is also downloaded.
- Order N is not associated with Service Request X and, therefore, it is *not* downloaded.

Note that Activity 2 is not selected even though its associated service request (X) and order (M) are selected.

## Assets Business Component

Accounts determine which assets are downloaded. Therefore those assets that are associated with the selected accounts are extracted. In addition, any assets in the field technician’s trunk are downloaded.

### No Record Business Object Filters

By default, all records for each screen in the Service application—Activities, Accounts, Contacts, and Service Requests—are downloaded to the device. If the defaults are applied, this might result in an unacceptably large number of records on the device. In the Siebel Service Handheld application, the relationship between the business components, as defined in Siebel Tools, determines which accounts, contacts, and service requests are selected and downloaded. Therefore, business object filters have been defined so that no account, contact, and service request records are selected for synchronization through the default mechanism. These no-record filters are:

- Def\_\*No Accounts
- Def\_\*No Contacts
- Def\_\*No Service Requests
- Def\_\*No Assets

These filters appear, by default, in the Choose drop-down list when users synchronize their devices. (The exception to this is the Def\_ \*No Contacts filter because there is no Contacts screen.) These filters are only applicable during synchronization. The asterisk in the filter name excludes them from the application's Queries drop-down list.

## Child Service Business Components

**Child business components of Activities.** The Action business component is associated with the following child components, which are synchronized with the user's device:

- Expense Item
- FS Instruction
- FS Invoice
- FS Activity Parts Movement
- FS Activity Recommended Parts & Tools
- FS Activity Step
- Time Sheet Daily Hours

**Child business components of Accounts.** The following child components of the selected Accounts business component are downloaded:

- Asset Mgmt - Asset
- Contact Note
- Contact
- Entitlement Amount

Any warranties associated with the downloaded assets are downloaded.

## Supporting Service Business Components

By default, all products, price lists, and rate lists for an organization are downloaded to the device. For most businesses, this might result in a very large number of records being downloaded, default business component filters are provided that reduce the amount of data.

The preconfigured business component filters filter the data for products, price lists, and rate lists in the following way:

- **Products.** All products associated with an organization that meet the following conditions are downloaded: Orderable = TRUE and either Field Replaceable = TRUE or Bill Replaceable = TRUE.
- **Price Lists.** Price Lists have a valid time period as defined by the Start Date and End Date fields. All valid price lists for a user's organization are downloaded.
- **Rate Lists.** Rate lists have a valid time period as defined by the Start Date and End Date fields. All valid rate lists associated with the user's organization are downloaded.

Use these defaults as examples of how you can restrict the data in your organization. Identify a field that makes sense in your organization to use to restrict the data, and create a business component filter that specifies how data is to be extracted on this field. The following are other alternative methods for restricting data from these supporting business components:

- Increase the level of granularity of your organization. For example, you might break one large organization into several smaller organizations and assign different products, price lists, and rates lists to different organizations.
- Design multiple business component filters. This requires multiple servers, one for each business component filter.
- Add a field to each of the business components and filter on that field. For example, you might add a field called Product Family and use this field to categorize your products. Or you might add a Service Team field and use this field to classify your rate lists and price lists.

Parts is the only business component that is based on a user property. All parts that occur in the user’s inventory are downloaded.

Entitlements are another supporting business component. The downloaded accounts determine the entitlements that are downloaded.

## Summary of Siebel Service Handheld Filters

Table 20 shows the list of Siebel Service Handheld filters and the query defined for each filter. All filters are public—that is, they are visible to users. Administrators can modify these business object filters in the Administration - Mobile screen > User Administration views in the Web client.

The Siebel Service Handheld application includes all business object filters for all of the Siebel Handheld applications, some of which are not relevant to Siebel Service Handheld. Therefore, it is recommended that you delete any business object filters for the Handheld applications that are not listed in Table 20 so that your users do not attempt to use business object filters that do not apply.

Table 20. Siebel Service Handheld Filters

Business Object	Name	Query
Account	Def_*No Accounts	'Account'.Search = "[Id] IS NULL" 'Asset Mgmt - Asset'.Search = "[Id] IS NULL" 'FS Asset Warranty'.Search = "[Id] IS NULL" "'Entitlement Account'.Search = "[Id] IS NULL"'
ActionSHCE	Def_Today’s Activities	'Action'.Search = "[Planned] = Today() OR ([Planned] = '' AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"'
Contact	Def_*No Contacts	'Contact'.Search = [Id] IS NULL"'
SHCE Asset Management	Def_*No Assets	'FS Asset Measurement Characteristics'.Search = [Id] IS NULL"'

Table 20. Siebel Service Handheld Filters

Business Object	Name	Query
Service Request	Def_*No Service Requests	'Service Request'.Search = "[Id] IS NULL" 'FS Invoice'.Search = "[Id] IS NULL" 'FS Invoice Line Items'.Search = "[Id] IS NULL" "'Order Entry - Line Items'.Search = "[Id] IS NULL"
ActionSHCE	Def_Today's Activities	'Action'.Search = "[Planned] = Today() OR ([Planned] = '' AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	Past Due and Today	'Action'.Search = "[Planned] <= Today() OR ([Planned] = '' AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	Past Due till Tomorrow	'Action'.Search = "[Planned] <= Today() + 1 OR ([Planned] = '' AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	Today Due and Tomorrow	'Action'.Search = "[Planned] = Today() OR [Planned] = Today()+1 OR ([Planned] = '' AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
Account	All_All Accounts	'Account'.Search = "" "'Account'.Sort = "Name, Location"
ActionSHCE	All_All Activities	'Action'.Search = "" "'Action'.Sort = "Planned"
Contact	All_All Contacts	'Contact'.Search = "" "'Contact'.Sort = "Last Name, First Name"

# 6

## Deploying Siebel Handheld Applications

This chapter provides important information about how to deploy a Siebel Handheld application, and includes information about server topology, hardware, network configuration, server installation, Siebel Handheld application installation, and performance and scalability. The following topics are covered in this chapter:

- [“Overview of Deployment for the Siebel Handheld Application Client” on page 127](#)
- [“Installing the Siebel Server for Direct Server Synchronization” on page 129](#)
- [“Configuring the Siebel Server for Direct Server Synchronization” on page 132](#)
- [“Performance and Scalability of Synchronization for Handheld Applications” on page 134](#)
- [“Providing Synchronization Security with Secure Sockets Layer” on page 134](#)
- [“Process of Installing the Siebel Handheld Application” on page 136](#)
- [“Installing Print Templates in the Siebel Handheld Install Directory” on page 141](#)
- [“Setting Up Siebel Handheld Application Installation on a CompactFlash Card” on page 142](#)
- [“Changing the SyncURL on Handheld Devices” on page 142](#)
- [“Installing the Siebel Handheld Application from External Media” on page 143](#)
- [“Distributing Siebel Handheld Application Patches” on page 143](#)
- [“Setting up PatchAgent on Windows 2003” on page 148](#)

### Overview of Deployment for the Siebel Handheld Application Client

This topic provides an overview of important factors to consider when planning a Siebel Handheld application deployment using Direct Server Synchronization (DSS). One aspect of successful planning and execution of a Handheld application deployment using DSS is to understand hardware and network requirements. While these factors are generally applicable to all deployments, there are unique aspects to each customer configuration and implementation strategy. Therefore, it is recommended that customers conduct detailed configuration, sizing, and production readiness reviews. For help with detailed configuration, sizing, and production readiness reviews, contact your Oracle sales representative for Oracle Advanced Customer Services to request assistance from Oracle's Application Expert Services. This is especially important for complex deployments, such as those supporting large numbers of users over wide geographic areas.

You can also improve the performance and scalability of DSS deployments by working with the Siebel application server component parameters. For more information about the Siebel application server, see [“Optimizing Siebel Server Process Management for Direct Server Synchronization” on page 133](#).

**NOTE:** The recommendations in this chapter are general ones and are intended to raise your awareness of the key factors in Siebel Handheld application synchronization, performance, and scalability. These factors must be confirmed for your actual environment, and the usage patterns in your enterprise must be taken into consideration.

## Siebel Server Topology Overview

The diagram in Figure 4 shows the servers and components that are required to deploy Direct Server Synchronization for a Handheld application. The components are the Siebel Handheld application database, Siebel Server, Siebel Web engine, and Siebel Handheld application. The synchronization components are the synchronization engine for the Siebel Handheld application which resides on Siebel Server, and the Siebel Handheld Synchronization Client which resides on the Siebel Handheld application.

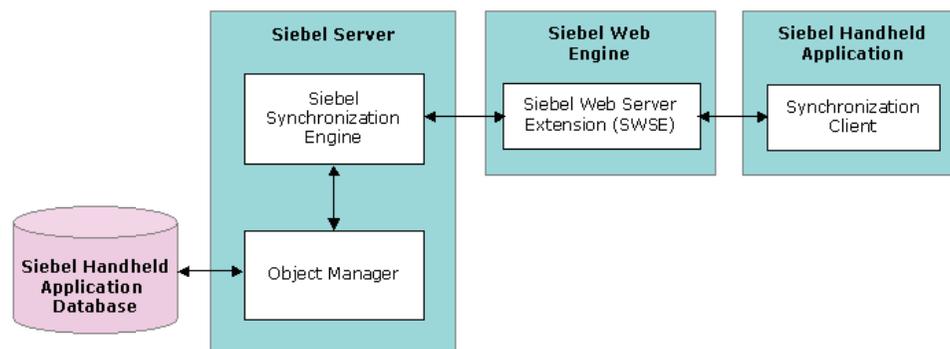


Figure 4. Servers and Components

## Recommended Hardware and Network Configuration

There are many factors to take into account when designing and implementing your server and network hardware and architecture, and sizing your Siebel Handheld application database. The critical factor in sizing the implementation for a Siebel Handheld application is the expected peak synchronization load. Specific Handheld application variables to consider in calculating this load are: the number of concurrent users, number of transactions, and size of the data file. These variables must be considered within the context of the hardware specifications, including memory and processor speed.

The following resources are available as you plan the implementation of your Siebel Handheld application:

- Refer to Microsoft and manufacturer documentation for comprehensive information on server hardware and registry parameters.
- For specific recommendations on the following topics, refer to Bulletin 476964.1 on *My Oracle Support*. This document was previously published as Siebel Technical Note 405.
  - Server architecture
  - Server hardware and registry parameters

- Database server sizing
- Database tuning
- Dial-Up and network
- Wireless
- VPN (Virtual Private Networks)
- The Handheld Review Package assists customers with planning their hardware and network implementations for Handheld applications. For help with Handheld Review Package, contact your Oracle sales representative for Oracle Advanced Customer Services to request assistance from Oracle's Application Expert Services.

## Installing the Siebel Server for Direct Server Synchronization

The components that are required for Siebel Handheld applications are installed when you install the Siebel Server.

This topic includes the following topics:

- ["Installing the Components for Direct Server Synchronization Using the Siebel Server Installer" on page 129](#)
- ["Siebel Server Component Parameters for Direct Server Synchronization" on page 130](#)

For information about installing and configuring Siebel Server, see *Siebel Installation Guide* for the operating system you are using.

## Installing the Components for Direct Server Synchronization Using the Siebel Server Installer

Install the Siebel Server, following the instructions in the Siebel Server installation guide for the operating system you are using. When you reach the Setup Type screen in the Installer wizard, you are presented with three installation options:

- **Typical.** This setup option installs all Siebel Server components except those displayed.
- **Compact.** This setup option installs only those components necessary to run the Siebel Server, but no additional components or help.
- **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

**To install the components for Direct Server Synchronization with your Siebel Server installation**

**1** During the Siebel Server installation, when the Setup Type screen appears, choose the Custom setting, and then click Next.

**NOTE:** At this screen, you can also choose a different directory for your Siebel Server installation.

**2** From the following components, choose Handheld Synchronization:

- Object Manager Component
- Handheld Synchronization
- Siebel Data Quality Connector
- Remote Search Support
- Siebel Java Integrator

**NOTE:** You must enable synchronization on your handheld device to enable Direct Server Synchronization for your installation.

**3** Click Next.

Continue with the installation in the *Siebel Installation Guide* for the operating system you are using.

The install wizard automatically installs and configures the components for Direct Server Synchronization.

## Siebel Server Component Parameters for Direct Server Synchronization

See [Table 21](#) for a list of required parameters. For information on adding server components for Direct Server Synchronization, see *Siebel System Administration Guide*.

Table 21. Siebel Server Component Parameters for Direct Server Synchronization

Parameter	Default Value	Description
ApplicationName	SiebelService for CE	The Siebel Handheld application. This value must match the name of the Handheld application as it is specified in Siebel Tools.
ApplicationTitle	Siebel Service	The name of the Siebel Handheld application as shown on the title bar on the browser. This parameter is only used if the Siebel application developed for the handheld device is run on the Siebel Mobile Web Client.

Table 21. Siebel Server Component Parameters for Direct Server Synchronization

Parameter	Default Value	Description
ApplicationSplashText	Siebel Service for CE	The Siebel Handheld application name as shown on the splash screen. This parameter is only used if the Siebel Tools application developed for the handheld device is run on the Siebel Mobile Web Client.
ComponentName	Siebel Field Service Client	Required for Direct Server Synchronization, this parameter is entered in the registry on the handheld device.

## Configuring the Siebel Server for Direct Server Synchronization

The Siebel Server installer copies the necessary DLLs to create an Object Manager for Direct Server Synchronization and creates and configures a Server Component and Component Group. This topic describes which options you must select to correctly install the software, along with creating or configuring additional Object Managers.

This topic includes the following topics:

- “Configuring Logging Levels for Direct Server Synchronization” on page 132
- “Optimizing Siebel Server Process Management for Direct Server Synchronization” on page 133

### Configuring Logging Levels for Direct Server Synchronization

To set the logging level, you need to perform the following two tasks:

- “To configure Siebel Server logging levels” on page 132
- “To configure Siebel Server logging levels using the Server Configuration screen” on page 133

You set the logging level to a value between 1 and 5 as shown in Table 22.

Table 22. Logging Levels for Direct Server Synchronization

Logging Level	Results
1	Error listing
2	Warning listing
3	Information listing, including SQL tracing
4	Information listing
5	Debug

#### **To configure Siebel Server logging levels**

- 1 Log into Server Manager from a (m:\siebel\bin\w32ud) prompt.
- 2 Run the following:

```
change evtloglvl HandheldSyncLog=[LogLevel] for comp [OMName], where [LogLevel]
= an integer between 1 - 5 (5 enables all logging) and [OMName] = the OM name (for
example, <ApplicationName>CEObjMgr_enu)
```

Use the following procedure to configure Siebel Server logging levels using the Server Configuration screen.

**To configure Siebel Server logging levels using the Server Configuration screen**

- 1 Navigate to Administration - Server Configuration screen > Servers view > Components view tab.
- 2 In the Component list, query for the appropriate component, such as Handheld Sales CE (ENU).
- 3 In the Events list, search for the event type Handheld Sync Logging.
- 4 Set the value to a number between 1-5 and then save the change.

See [Table 22](#) for logging level results.

**NOTE:** To enable Object Manager logging, add ObjMgrSqlLogLevel to the PDA section of your Siebel Handheld application's CFG file. Valid values range from 1-5 as described in [Table 22](#) on [page 132](#).

## Optimizing Siebel Server Process Management for Direct Server Synchronization

Several parameters are outlined below that help optimize Siebel Server processing for Direct Server Synchronization.

**To set parameters to optimize Siebel Server process management**

- 1 Log into the Siebel application as a user with Administrative responsibility.
- 2 Navigate to the Administration - Server Configuration screen > Servers view > Components > Parameters view tab.
- 3 In the Component Parameters sub-view, query for SalesCEObjManager.
- 4 Use the following table to update the parameters.

Parameter	Description
Max Tasks	Determines the maximum number of threads that can run concurrently for a given component. Set the value of this parameter to a number equal to that of the expected peak number of concurrent synchronizations for each Siebel Server.
Min MT Servers	Determines how many multithreaded server processes are started by default for the Siebel Object Manager.
Max MT Servers	Defines the maximum number of processes supported by the instance of the Siebel Object Manager. The value for this parameter must be the same as Min MT servers and must be set so that threads for each process (Max Tasks/Max MT Servers) is optimized.

# Performance and Scalability of Synchronization for Handheld Applications

There are a number of factors that affect the performance and scalability of synchronization in Siebel Handheld applications. It is very important that administrators and those involved in the design and deployment of Siebel Handheld applications understand the impact of usage parameters on synchronization performance and scalability. For more information, see Bulletin 476964.1 (Siebel Technical Note 405) for application-specific variables affecting synchronization and data from synchronization scalability tests.

## Using Multiple Siebel Handheld Synchronization Servers

As you scale your deployment, you might need to use multiple Siebel Handheld Synchronization Servers to accommodate all of your users. Your users must be manually assigned to a particular Siebel Handheld Synchronization Server. Resonate products cannot be used for load balancing. For more information about scaling deployments, refer to Bulletin 476964.1 (Siebel Technical Note 405) and to your hardware manufacturer's documentation.

## Providing Synchronization Security with Secure Sockets Layer

The synchronization data stream can be secured using Secure Sockets Layer (SSL). To employ SSL security:

- Make sure that a certificate has been created and installed on all Web Servers that service synchronization in Handheld applications.

Use the following steps to install the root certificate on each handheld device.

**NOTE:** PPC 2002 and PPC 2003 do not have a hosts file similar to the Windows Operation System (for example, C:\WINNT\system32\drivers\etc\hosts.file), where you can set up mappings for the IP address and host name.

### *To install the root certificate on the handheld device running PPC 2003 or newer*

- 1 Navigate to the certificate authority server from your desktop computer.
- 2 Select the first option (retrieve the CA certificate or certificate revocation list), and click Next.
- 3 Click on Download CA certificate.
- 4 Click Save, and save as certca.cer on your desktop.
- 5 Use ActiveSync to copy the downloaded certificate, certca.cer, from the desktop to the My Documents folder on the handheld device.

**NOTE:** Make sure the certca.cer file is copied into the My Documents folder.

- 6** Go to My Documents and tap the certificate icon.  
The certificate must be installed. You can validate it by going to Settings > System > Certificate.
- 7** Click the Root tab.  
The new certificate is displayed on the list.
- 8** Open a browser, and run the following command, substituting the appropriate server name, application name, UserName and Password.  

```
https://<SERVERNAME>/<APPLICATION NAME>/  
start.swe?SWEEExtSource=siebelpda&SWEEExtCmd=ExecuteLogin&UserName=<USER  
LOGIN>&Password=<PASSWORD>
```
- 9** When a dialog box appears, click Yes.

***To complete root certificate installation on PPC 2002 device***

- 1** From a Web browser, navigate to the Microsoft Web site and download and launch the following executable file:  
AddRootCert.exe
- 2** Double-click to open the executable file.  
A list of certificates appears.
- 3** Select certca.cer.  
Information for the certca.cer Certificate appears.
- 4** Click Install Certificate.
- 5** Following successful installation, click OK.

## Process of Installing the Siebel Handheld Application

Before you install the Siebel Handheld application, perform the following tasks:

- "Editing the Siebel Handheld Application Installation Configuration File" on page 136
- "Enabling Back Up of Siebel Handheld Application Database" on page 140
- "Deploying Patches to Handheld Applications with Direct Server Synchronization" on page 144
- "Deploying Attachments to Handheld Applications with Direct Server Synchronization" on page 146
- "Downloading Patches to the Handheld Device" on page 148
- "Setting up PatchAgent on Windows 2003" on page 148

**NOTE:** If you are setting up your Siebel Handheld application to allow end user translation functionality, see "Installing and Setting Up End User Translation Functionality" on page 53.

## Editing the Siebel Handheld Application Installation Configuration File

This task is a step in "Process of Installing the Siebel Handheld Application" on page 136.

The Siebel Handheld application setup.ini file configures the Siebel Handheld Client installer. Before you deploy a custom-configured Siebel Handheld application, you must update the parameters in the setup.ini file so that the correct values are written to the device registry before distributing the Siebel Handheld Client installer to users.

The setup.ini file resides in the Siebel Handheld application directory. To modify this file, create a Handheld application installation directory on the network, or create and duplicate a custom DVD-ROM for distribution to users. This installation directory must include the same files and directory structure as the original DVD-ROM. Then, modify the setup.ini file in the custom installation directory.

**NOTE:** If you wish to set up parameter values other than default values, add the parameter to the setup.ini file and add the proper values.

Table 23 lists the parameters that you might need to modify in the setup.ini file, their default value, and a description of the parameter.

Table 23. Siebel Handheld Application setup.ini Parameters

Parameter	Default Value	Description
Version	8.0	Version of the desktop Siebel application against which the Siebel Handheld application version synchronizes.
ApplicationName	SiebelService for CE	The Siebel Handheld application. This value must match the name of the Handheld application as it is specified in Siebel Tools.
ApplicationSplashText	Service Handheld	The Siebel Handheld application name as shown on the splash screen.
EnableRemote	N	Used for Integrated Sync. The default value is N. Valid values are Y = [Enable Remote Sync] check box is selected, N = [Enable Remote Sync] check box is unselected in the synchronization window of the Handheld application.
MultiCurrency	True	Required for the Handheld application to handle multiple currencies.
SyncURL	http:///Web Server Name or IP address/Virtual Directory Name	Required for all synchronization methods. This value is entered in the registry for the Siebel Handheld application.  <b>NOTE:</b> PPC 2002 and PPC 2003 do not have a hosts file similar to the Windows Operation System (for example, C:\WINNT\system32\drivers\etc\hosts file), where you can set up mappings for the IP address and host name.  For more information about this parameter, see <a href="#">"Changing the SyncURL on Handheld Devices"</a> on page 142.
[EndUserLocalization] Section		
User DefinedLang	Y	
LogUserDefinedLangErrors	N	
[Printing] Section	(various)	For more information about the parameters used to configure printing, see <a href="#">Appendix F, "Print Configuration Settings."</a>

Table 23. Siebel Handheld Application setup.ini Parameters

Parameter	Default Value	Description
[Backup] Section	(various)	Enables Siebel Handheld application database backups.  For more information about settings for the parameters in this section of the setup.ini file, see <a href="#">"Enabling Siebel Handheld Application Database Backup" on page 141.</a>
[ApplicationLocation] Section	(various)	Specifies where the Siebel Handheld application and database are installed.  For more information about the parameters in this section of the setup.ini file, see <a href="#">"Setting Up Siebel Handheld Application Installation on a CompactFlash Card" on page 142.</a>
InternetOptionReceiveTimeout	600000	Length of time to receive data or a response (except data extraction) from the server in the case of Direct Server Synchronization, before the Siebel Handheld application times out.  The default value, 600000 milliseconds, is 10 minutes.
InternetOptionSendTimeout	600000	Length of time to send data to the server in the case of Direct Server Synchronization, before the Siebel Handheld application times out.  The default value, 600000 milliseconds, is 10 minutes.
InternetOptionDataExtraction Timeout	900000	Length of time to extract data from the server in the case of Direct Server Synchronization, before the Siebel Handheld application times out.  The default value, 900000 milliseconds, is 15 minutes.
[Logging] Section		

Table 23. Siebel Handheld Application setup.ini Parameters

Parameter	Default Value	Description
TXNErrorLevel	1	<p>This level controls the extent of transaction error information received from the server. The default value is 1.</p> <p>Valid values are 0 = no log information, 1 = report txn errors in the Siebel Handheld Client log, txnerror.hh.</p> <p>A "Transaction Errors Reported" message appears during synchronization when txn errors occur. To view errors, double click the message.</p>
DefaultLogLevel	2	<p>The default value is 2. You can set the value to any of the following:</p> <ul style="list-style-type: none"> <li>-1 = NO LOGGING</li> <li>0 = LOG_SYSTEM</li> <li>1 = LOG_ERROR</li> <li>2 = LOG_WARNING</li> <li>3 = LOG_INFO, INCLUDING SQL TRACING</li> <li>4 = LOG_DEBUG</li> </ul> <p>The log messages with level equal to or lower than the set value will be logged. For example, if the default log level is set to 2, the messages belonging to System, Error, and Warning log levels will be logged. If the DefaultLogLevel is -1, no logging will be provided.</p>
MaxLogFileSize	2000	<p>This is the maximum log file size in KB. If the program finds the size of the latest log file is greater than this value, a new log file must be used for logging.</p>

Table 23. Siebel Handheld Application setup.ini Parameters

Parameter	Default Value	Description
MaxSavedLogFiles	3	Determines the number of log files to save on the device. It does not include the one currently used by the program. If the value is set to 2, then the valid log file names are siebel_log.txt, Siebel_log1.txt, and siebel_log2.txt. Siebel_log.txt is the current log file. Siebel_log1 is an older one and Siebel_log2 is the oldest.
PressureThreshold	29	Prompts user to restart the Handheld application after 30 visits, thereby freeing application memory.

## Enabling Back Up of Siebel Handheld Application Database

This task is a step in ["Process of Installing the Siebel Handheld Application"](#) on page 136.

The Siebel Handheld application framework provides a way to automatically back up a snapshot of a user's Siebel Handheld application database and current settings, and to restore those settings if the handheld device fails. The backup functionality automatically copies all the necessary files to a single compressed file. Each time a user backs up, the backup process creates a new copy of the file and deletes older backup files. The backup process must close the Handheld application in order to copy the RDBMS and handheld configuration files. After the files are copied, it automatically restarts the Handheld application.

The backup feature must be enabled in the Handheld application. If the backup feature is enabled, a backup is created during every synchronization. This way, the user retains an up-to-date snapshot of the Siebel Handheld application database, and older backup versions are removed.

When the database backup feature is enabled, a Siebel Handheld application database backup occurs automatically at the end of each synchronization. This makes the overall time to synchronize somewhat longer. The size of the Siebel Handheld application database and the speed of the CompactFlash card also affect the time it takes to complete synchronization.

**NOTE:** Backup files must not be used as a replacement for synchronization.

### Setting Up Siebel Handheld Application Database Backups

To back up the Siebel Handheld application database, you must do the following:

- 1 Provide users with an external memory card.
- 2 Install the Siebel Handheld application with the backup functionality enabled. See, ["Enabling Siebel Handheld Application Database Backup"](#) on page 141.
- 3 Instruct users to back up their Siebel Handheld application databases on a regular basis.

## Backing Up to External Media

It is recommended that you back up to external media—for example, a CompactFlash card or the embedded backup storage that is included in many devices.

## Enabling Siebel Handheld Application Database Backup

Before users can back up their Siebel Handheld application databases, you must first enable the Backup menu item on the Siebel Handheld application. This requires editing the setup.ini file to enable backup.

**NOTE:** Backup files must be kept on external media or built-in storage. Trying to set the location to the main memory, such as \My Documents, will not work.

The following is an example of the default settings for the backup parameters:

```
[Backup]
BackupLocation = \Storage Card\Siebel Backup
BackupEnabled = N
```

- BackupEnabled = [Y/N] The default is N (No). Change this setting to Y (Yes) to enable the Backup menu item and to trigger a backup to occur automatically after each synchronization.

If the product is installed with Backup = N, the backup menu item is disabled. You need to change the parameter, then reinstall the product in order to enable the menu item.

- BackupLocation = [Backup location] The default is an external storage card. Specify the location where you want the data backed up.

For more information about the setup.ini file, see [Chapter 8, “Installing the Siebel Handheld Application.”](#) For more information about backing up Siebel Handheld application data, see [“Backing Up and Restoring Data with the Siebel Handheld Client” on page 169](#)

## Restoring from a Backup

For information about restoring a Siebel Handheld application database from a backup, see [“Backing Up and Restoring Data with the Siebel Handheld Client” on page 169](#).

# Installing Print Templates in the Siebel Handheld Install Directory

If your Siebel Handheld application allows printing, you must include all print templates in the template subdirectory of the Handheld application Install directory. The print templates are language-specific, so copy the templates to the template subdirectory within the language directory of the language you are deploying (for example, . . .\ENU\Template). If the template includes double byte characters, such as Japanese string, you must save the template files as Unicode (UTF16) files. For supported language codes, see Siebel System Requirements and Supported Platforms on Oracle Technology Network.

For more information about printing and print templates, see the following:

- [“Views with Associated Print Templates or Reports” on page 32](#)

- “Configuring Printing from the Siebel Handheld Application” on page 55
- “Printing with the Siebel Handheld Application” on page 167
- Appendix E, “Print Tagging Language”
- Appendix F, “Print Configuration Settings”

## Setting Up Siebel Handheld Application Installation on a CompactFlash Card

The default, when installing Siebel Handheld applications, is to install both the Handheld application and the Siebel Handheld application database into random access memory (RAM) on the device. In most instances, there is sufficient available memory, and users are satisfied with the Handheld application performance. There are situations, however, where you might need to optimize storage on the device.

If you need to maximize main memory availability, you can install the Handheld application binary files on an external location such as a CompactFlash card. Installing the data on the CompactFlash card is not recommended because performance likely degrades.

You can specify, in the Handheld application’s setup.ini file, where the Handheld application files and Siebel Handheld application database files are to be installed. By default, this is set to the handheld device. In the ApplicationLocation section of the setup.ini file, there are two parameters. The following shows the default settings for these parameters:

```
[ApplicationLocation]
ApplicationBinariesLocation = Device
ApplicationDataLocation = Device
```

ApplicationBinariesLocation = Device means that the default location for the binaries is the handheld device. The other value is CF (CompactFlash).

ApplicationDataLocation = Device means that the default location for data is the handheld device. It is recommended that you always install the data files on the handheld device.

After you have edited the setup.ini file, follow the instructions for installing the Siebel Handheld application.

## Changing the SyncURL on Handheld Devices

For Direct Server Synchronization, SyncURL is used to locate the Web Server and the virtual directory so synchronization for the Siebel Handheld Client can communicate with synchronization for the Siebel Handheld Application Server. For example:

```
SyncURL = http://web server name or IP address/virtual directory name
```

You can reset the SyncURL by re-installing the Handheld application with the updated setup.ini file.

**NOTE:** PPC 2002 and PPC 2003 do not have a hosts file similar to the Windows Operation System (for example, C:\WINNT\system32\drivers\etc\hosts.file), where you can set up mappings for the IP address and host name.

## Installing the Siebel Handheld Application from External Media

Users who synchronize in Direct Server Synchronization mode might not have a PC, and so cannot create a partnership and synchronize using Microsoft ActiveSync. You can install the Handheld application for each user through a standard partnership, or you can configure a stand-alone installer.

During the installation, the InstallShield Wizard screen prompts you by asking:

Would you like to deploy a CAB file to enable rapid installation for additional devices?

You can configure a stand-alone installer by selecting Yes.

You are prompted to select a language for the Handheld application and to specify a location for the CAB file. The installer creates the CAB file in the location you specify.

The CAB file is a self-extracting file that includes all the files needed to install the Siebel Handheld application on the handheld device. When you single-click the file, the CAB file installs the Handheld application.

You can create an image of the Handheld application installer that can be loaded onto external media such as a CompactFlash card. When you create a stand-alone installer platform, a Cabinet file (CAB) is created in a location that you specify. The CAB file name must be siebel.pocketpc\_arm.CAB. You can copy the CAB file to a CompactFlash card, insert the card into the handheld device, and single-click on the file to install the Siebel Handheld application on the device.

**NOTE:** When installing the Handheld application on the handheld device, the user is asked if they want to install the Handheld application in the default directory. Regardless of the answer, the Handheld application is always installed in the directory specified by the setup.ini file. Therefore, the only way to change the directory the Handheld application is installed in is to modify the parameters in the ApplicationLocation section of the setup.ini file.

## Distributing Siebel Handheld Application Patches

PatchAgent is the patch delivery mechanism for your Siebel Handheld applications. PatchAgent is a tool that automates the deployment of patches to handheld devices as part of the synchronization process. It allows administrators to distribute patches to users with minimal involvement by the users.

During synchronization the PatchAgent executable is called, and if it detects a Handheld application patch, it automatically installs the patch on the handheld device. In order for PatchAgent to detect and deploy the patch, the patch files must be created and placed in the directory where PatchAgent expects to find the files.

The following procedures are included in this topic:

- [“Deploying Patches to Handheld Applications with Direct Server Synchronization”](#) on page 144
- [“Deploying Attachments to Handheld Applications with Direct Server Synchronization”](#) on page 146
- [“Downloading Patches to the Handheld Device”](#) on page 148
- [“Using PatchAgent to Distribute New Print Templates to the Handheld Device”](#) on page 149

## Deploying Patches to Handheld Applications with Direct Server Synchronization

This task is a step in [“Process of Installing the Siebel Handheld Application”](#) on page 136.

In order to set up patch deployment for Direct Server Synchronization users, you need to patch the Siebel Server and patch one Siebel Handheld Client which serves as the “model” from which patch files are pulled. Then the patch files are then packaged and placed in the location on the Siebel Server where PatchAgent expects to find the files. The next time the user synchronizes with Siebel Server, the patch is installed onto their handheld device.

For more information about how the patch process works with synchronization, see [“Downloading Patches to the Handheld Device”](#) on page 148.

### ***To set up patch deployment***

- 1** On Siebel Server, verify that the following directories exist. If they do not, create the directories.
  - C:\patch\AppBinDir
  - C:\patch\winDir

**NOTE:** You can specify a drive other than C:. However, the directory names must be specified as shown above.
- 2** Apply the patch to Siebel Server.
- 3** Apply the patch to one Siebel Handheld Client.
- 4** Examine the Handheld application directory (My Device\Program Files\Siebel Handheld) to determine which files to copy over to the Siebel Server directory (C:\patch\AppBinDir).
- 5** Examine the Handheld application directory (My Device\Windows) to determine which files to copy over to the Siebel Server directory (C:\patch\winDir).

To do [Step 4](#) and [Step 5](#) accurately, it is recommended that you use one of the following methods:

- First, take a snapshot of all files in the Siebel Handheld application directory before you install the new build. Then install the new Handheld application build, making a note of all files that are installed in the process.

By comparing the list of files in the Handheld application directory before installation of the new build with the list of files in the Handheld application directory after installation of the new build, you can determine which files are new and which files remain the same.

Copy all new files over to the Siebel Server directory.

- Take a snapshot of the `siebel.inf` file before you install the new build. The `siebel.inf` file contains a complete list of all files that are installed on the handheld device, and is created just before the installation of the Handheld application (before clicking the finish button to finish installation of your Siebel Handheld application, the `%temp%\siebelhh\files\siebel.inf` file is created).

In the case of [Step 4](#), by comparing the list of files in the `[Files.AppBinDir]` section of `siebel.inf` with the list of files that are installed with the new build in the `\Program Files\Siebel Handheld` folder, you can determine which files are new and which files remain the same.

In the case of [Step 5](#), by comparing the list of files in the `[Files.Windows]` section of `siebel.inf` with the list of files that are installed with the new build in the `\windows` folder, you can determine which files are new and which files remain the same.

Copy all new files over to the Siebel Server directory.

**NOTE:** In all cases, compare the file size and timestamp on the older build with the newer build to determine which files need to be patched.

- 6 From the DOS prompt, change directory to `Siebel Root\SWEApp\BIN`.
- 7 Execute the following command to stage the patch files and the `patchlist.txt` in the correct location on the Siebel Server:

```
C:\Siebel Root\SWEApp\BIN>createpatchlist /s c:\patch /t c:\Siebel  
Root\sweapp\cepatch
```

where

- `/s` – source directory. The directory where the patch files were moved.
- `/t` – target directory. The directory where PatchAgent checks for the patch files.

**NOTE:** You can specify a drive other than C:. However, the location of the source and target directories must be specified exactly as shown.

After the patch files have been moved and the patch list created, the following message appears: Patch List has been successfully created in `Siebel Root\SWEApp\cepatch` files transferred successfully.

The patch files are now ready to be deployed to Direct Server Synchronization users.

## Deploying Attachments to Handheld Applications with Direct Server Synchronization

This task is a step in “[Process of Installing the Siebel Handheld Application](#)” on page 136.

You deploy attachments to the Siebel Handheld application with Direct Server Synchronization in much the same way you deploy patches. PatchAgent automates the deployment of attachments to handheld devices as part of the synchronization process. For more information about how the patch process works with synchronization, see “[Downloading Patches to the Handheld Device](#)” on page 148.

You can specify the storage location for attachment files, and set a limit on the storage capacity to be made available for attachments on a handheld device. For more information about storage location and capacity, see “[Configuring the Attachment Storage Location and Storage Capacity](#)” on page 147.

### Setting Up Your Attachment Files

In order to set up attachments for Direct Server Synchronization users and subsequently download them to a handheld device, you must first set up the attachment files on the Siebel Server that requires a patch.

#### *To set up attachment files on the Siebel Server that requires a patch*

- 1 Set up your patch deployment as already described in steps 1-6 of “[Deploying Patches to Handheld Applications with Direct Server Synchronization](#)” on page 144.
- 2 Execute the following command to stage the patch files and the patchlist.txt in the correct location on the Siebel Server:

```
C:\Siebel Root\SWEApp\BIN>createpatchlist /s C:\AttachmentDir\UserResponsibilityX  
/t C:\Siebel Root\sweapp\cepatch_xxx\UserResponsibilityX
```

where

- /s – source directory. The directory where the patch files are located. Put all attachment files for a certain responsibility (for example, *UserResponsibilityX*) here.
- /t – target directory. The directory where PatchAgent checks for the patch files.
- xxx is the language [enu, esn, and so on]

Repeat for other responsibilities, as required:

```
C:\Siebel Root\SWEApp\BIN>createpatchlist /s C:\AttachmentDir\UserResponsibilityY  
/t C:\Siebel Root\sweapp\cepatch_xxx\UserResponsibilityY
```

After the patch files have been moved and the patch list created, the following message appears:  
Patch List has been successfully created in  
*Siebel Root\SWEApp\cepatch\_xxx\UserResponsibilityX* files transferred successfully.

**NOTE:** The name of the user responsibility directory corresponds to the actual user responsibility (for example, Sales Rep).

- 3 Copy the patchlist.txt and all the compressed patch files to the appropriate subdirectory, named according to the responsibility, under the CEPatch directory on the Siebel Web Server:

```
\SWEApp\Public\enu\CEPatch_xxx\Route Sales - HH CE\patchlist.txt
```

The CEPatch directory on the Web Server will look similar to the following:

```
\SWEApp\Public\enu\CEPatch_xxx\patchlist.txt
    \file1
    \file2
    \...
    \UserResponsibilityX|
    \UserResponsibilityX\patchlist.txt
    \UserResponsibilityX\AttachmentFile1
    \UserResponsibilityX\AttachmentFile2
    \UserResponsibilityX\...
    \UserResponsibilityY|
    \UserResponsibilityY\patchlist.txt
    \UserResponsibilityY\AttachmentFileA
    \UserResponsibilityY\AttachmentFileB
    \UserResponsibilityY\...
    \...
```

The patch files are now ready to be downloaded to Direct Server Synchronization users. For more information about downloading patch files, see [“Downloading Patches to the Handheld Device”](#) on page 148.

## Configuring the Attachment Storage Location and Storage Capacity

After the initial installation of your Siebel Handheld application, you can change the storage location for your attachment files, and set a limit on the storage capacity to be made available for attachments on your handheld device.

***To change the storage location for attachment files, add the following line to the RegKeyList section of patchlist.txt:***

```
HKLM,%reg_path%,"AttachmentDir",0x00000000,DIRECTORY
```

where

DIRECTORY is the new attachment folder you want to use.

***To set a size limit on the storage capacity, add the following line to the RegKeyList section of patchlist.txt:***

```
HKLM,%reg_path%,"MaxAttachmentStorage",0x00000000,SIZE
```

where

SIZE is a positive integer in bytes of storage (for example, 2MB=2,097,152 bytes).

## Downloading Patches to the Handheld Device

This task is a step in “[Process of Installing the Siebel Handheld Application](#)” on page 136.

Patches are downloaded as part of the synchronization process. When the patch is staged, the patch is downloaded the next time the user synchronizes the handheld device with Siebel Server. The users synchronize as they normally do using Direct Server Synchronization. First, any transactions are uploaded from the handheld device. Then:

- If a patch needs to be applied to the handheld device, the synchronization process terminates, and the patch process is started, which downloads the patch.
- If no patch needs to be applied, the synchronization process continues until the process is complete.

After a successful patch installation, synchronization for the Siebel Handheld application launches automatically and continues the extraction.

If the patch files are not successfully downloaded, the user is prompted to restart the patch process. The user must locate and launch patchagent.exe manually. Then, once the patch is successfully installed, the user is prompted to complete the synchronization.

## Setting up PatchAgent on Windows 2003

This task is a step in “[Process of Installing the Siebel Handheld Application](#)” on page 136. When Siebel Web Server Extension (SWSE) software is installed on Windows 2003, you must complete the steps outlined in “[To set up PatchAgent on Windows 2003](#)” on page 148 to allow PatchAgent to run without error on Siebel Handheld applications.

### To set up PatchAgent on Windows 2003

- 1 Make sure that the Internet Guest Account (MACHINE\_NAME\IUSR\_MACHINE\_NAME) exists in the system. This is automatically created after you install Windows 2003 Server.
- 2 Right-click on the CEPATCH folder and select Properties.
  - a Select the Security tab and add the following account:
 

**Internet Guest Account** MACHINE\_NAME\IUSR\_MACHINE\_NAME
  - b Set the permission to Yes for all rights, except for Full Control.
- 3 Open Internet Information Services (IIS) console and navigate to the Properties tab on the IIS level.

Select the MIME types tab (go to the MIME types section) and add the following two properties to create a new MIME type:

Property	Comment
.*	The extension field (.* is a period followed by an asterisk).
application/octet-stream	The MIME type field.

Only add these properties if using IIS 5.0 or 5.5. If using IIS 6.0, then add the following properties instead:

Property	Comment
.*	The extension field (.* is a period followed by an asterisk).
application	The MIME type field.

This step is required to enable PatchAgent to access all files at the file level.

- 4 Using IIS console, right-click the cepatch\_enu virtual folder and select the Properties tab.
  - a Go to the Security tab, and click the Edit... button.  
The authentication and access control dialog box displays.
  - b Enter the details for the user account (for example, IUSR\_MACHINE\_NAME).
  - c Enter the password for the account.
  - d Select the Enable Anonymous Access check box.
- 5 Restart IIS.

**NOTE:** On a standard Windows 2003 installation, steps 1 and 4 might already be in place, but steps 2 and 3 must be setup by you.

## Using PatchAgent to Distribute New Print Templates to the Handheld Device

New print templates can be distributed as a patch to your Siebel Handheld Application users. Patches are downloaded to handheld devices as part of the synchronization process.

Complete the steps in the following procedure to distribute new print templates to a handheld device.

### *To distribute new print templates using PatchAgent to a handheld device*

Bundle your print templates into a patch, using dsspatchagent.exe. When handheld application users then synchronize using Direct Server Synchronization or Companion Synchronization:

- The handheld device checks for the presence of patches in <SiebelRoot>\sweapp\cepatch.
- The handheld device uploads and processes transactions as described in ["Downloading Patches to the Handheld Device"](#) on page 148.

For more information about deploying patches to Handheld Applications, see:

- ["Deploying Patches to Handheld Applications with Direct Server Synchronization"](#) on page 144



# 7

## Synchronization Conflict Handling and Recovery with Siebel Handheld Applications

The purpose of this chapter is to outline how to handle synchronization conflicts and recovery for Siebel Handheld applications. The following topics are covered in this chapter:

- [“Preventing Synchronization Transaction Conflicts with Handheld Applications” on page 151](#)
- [“Recovering Error Data in Siebel Handheld Applications” on page 155](#)

### Preventing Synchronization Transaction Conflicts with Handheld Applications

When multiple users synchronize with a remote database, transaction conflicts can occur which can result in data loss. The Extended Pick and Insert Failure functionality minimizes synchronization conflicts. If transaction conflicts are unavoidable, then the Synchronization Service for the Siebel Handheld application captures the transaction information so that the data can be recovered. The combination of these features eliminates the potential for data loss.

There are two features that minimize synchronization transaction conflicts—Extended Pick processing and Insert Failure processing:

- [“Extended Pick Processing in Siebel Handheld Applications” on page 151](#)
- [“Insert Failure Processing in Siebel Handheld Applications” on page 153](#)

### Extended Pick Processing in Siebel Handheld Applications

The Handheld application is used to capture and record transactions entered by users. During synchronization, these transactions are processed on the server. A situation can arise in which a transaction fails when it is applied to the Siebel Server (through Direct Server Synchronization). For example, a Handheld application user creates a professional call activity for one of their contacts. However, since they last synchronized with the server, the contact involved in this transaction was deleted from the server database. As a result, when the user tries to synchronize their handheld device, the server does not find the contact, and the call activity for the contact cannot be inserted into the server database. To generalize this example, any transaction that involves data selected through picklists or pick applets fails on the server if that pick data is not present at the time of synchronization.

With many users synchronizing with Siebel Server and modifying data at different times, this scenario is not uncommon.

## Synchronization Conflict Handling and Recovery with Siebel Handheld Applications

### ■ Preventing Synchronization Transaction Conflicts with Handheld Applications

The following describes how a pick transaction is recorded on a handheld device and processed on the server during synchronization. Assume that the user wants to create a new call activity for the contact. In order to do this, the user inserts a new record in the Professional Call screen and picks the desired contact. When the contact is selected on the handheld device, the Row Id of the contact (Contact Id) is recorded. However, on the handheld device, the application does not record any of the pick map fields associated with the contact; only the Contact Id is recorded. When the user synchronizes their handheld device, that Contact Id is used to locate the contact record in the server database. The Contact Id is then used to retrieve all of the fields used in the pick map for the Contact Id (Last Name, First Name, Middle Initial, Address, City, State, Zip Code, and so on).

In order to minimize pick processing failures, the Handheld application must record the pick row ID and all of the pick map data that is required for a successful transaction. This data must be recorded at the time of the pick, so that it can be passed to the server for processing. This enhanced functionality is called Extended Pick processing. Now, when the user synchronizes, the transaction is processed on the server as follows:

- The synchronization process first looks for the pick record on the server database. For example, to add an activity it looks for the contact and, if it finds the contact, it retrieves the necessary data and adds the activity. This is the default behavior.
- If the server does not find the pick map record in the database and extended pick processing is enabled, it retrieves the pick record ID and pick map data from the Handheld application transaction and applies the data directly to the server.

## Enabling Extended Pick Processing in Siebel Handheld Applications

You can enable Extended Pick processing globally or at the business component level when configuring the Siebel Handheld application. When the *DefaultHandheldSyncPickMode* parameter is enabled, every pick transaction is subject to pick processing.

### *To enable extended pick processing globally*

- 1 Navigate to the Administration - Mobile screen > Application Administration view.
- 2 Click the Settings tab, then Query on the following value:

*DefaultHandheldSyncPickMode*

If there is no such record, a new record with that value must be created. See [Table 24](#) for the values to enter.

Table 24. Application Settings

Setting Name	Value	Description
DefaultHandheldSyncPickMode	NoFail	Turns Extended Pick processing ON.
	FailOnError	Turns Extended Pick processing OFF This is the default behavior if the parameter is not specified in the Settings view.

**To enable extended pick processing at the business component level**

- When enabling extended pick processing at the business component level, the user property is defined on specific business components. Use the HandheldSyncPickMode user property to set the extended pick processing mode for the fields you require. For more information about this user property, see [HandheldSyncPickMode User Property on page 219](#).

Table 25 shows the combined effect of the settings in the Application - Mobile > Settings View and on a business component.

- The DefaultHandheldSyncPickMode setting is omitted from application settings.
- If there is no setting on a particular business component, the setting defined in the Settings view applies.
- If there is no setting defined in the Settings view, or on the business component, the default behavior is for Extended Pick to be turned OFF.

In Table 25, read down the Tools Configuration column (which shows what HandheldSyncPickMode is equal to) and across to the Mobile Administration View Setting column (which shows what DefaultHandheldSyncPickMode is equal to) to see the combined result. For example, a NoFail configuration in Tools combined with a FailOnError setting in the Mobile Administration View results in the combined effect NoFail.

Table 25. Combined Effect of Extended Pick Settings for Business Components

Tools Configuration (User Property)	Mobile Administration View Settings		
	NoFail	FailOnError	Omitted
NoFail	NoFail	NoFail	NoFail
FailOnError	FailOnError	FailOnError	FailOnError
Omitted	NoFail	FailOnError	FailOnError

## Insert Failure Processing in Siebel Handheld Applications

When the server executes an insert transaction and the insert fails, there are two ways the insert failure can be handled:

- A record is logged that indicates the insert failed, and synchronization continues. This is the default insert behavior. The Conflict Administration screen can be used to recover the data.

## Synchronization Conflict Handling and Recovery with Siebel Handheld Applications

### ■ Preventing Synchronization Transaction Conflicts with Handheld Applications

- The insert failure is logged, including details of the failure, and synchronization is interrupted. This is the FailOnError behavior. FailOnError behavior guarantees that, if an insert fails, data loss does not occur since synchronization is stopped until the circumstances causing the failure are resolved.

**NOTE:** If FailOnError processing takes place, synchronization is interrupted. The synchronization process continues to fail until the problem is resolved. Users must contact their system administrators to recover from the failure. The recovery effort can involve modifying transactions queued for processing, modifying data on the server, or reentering transactions through the Siebel Handheld application.

## Handling Insert Failures

You can enable insert failure processing globally or at the business component level when you configure the Siebel Handheld application. The following setting applies globally throughout the application. When FailOnError is specified, every failed insert interrupts synchronization.

### *DefaultHandheldInsertMode*

You can specify the value for this setting through the Settings view in the Administration-Mobile screen.

Table 26 shows the settings for this parameter.

Table 26. Insert Failure Processing Parameter Setting

Parameter	Value	Description
DefaultHandheldInsertMode	NoFail	Insert failures are logged and synchronization continues. This is the default behavior.
	FailOnError	Insert failures are logged and synchronization terminates. The system administrator must intercede to recover from this failure.

You can also use the HandheldInsertFailMode user property to enable insert failure processing at the business component level. For more information about this user property, see [HandheldInsertFailMode User Property on page 219](#).

Table 27 shows the combined effect of the setting in the Settings view and the setting on a business component.

- The business component setting always takes precedence over the settings defined in the Administration-Mobile > Settings view.
- If there is no setting on a particular business component, the Applications Settings value applies.
- If there is no setting in either the Settings view or on the business component, the default behavior is the same as NoFail. Insert failures are logged and synchronization continues.

In [Table 27](#), read down the Tools Configuration column (which shows what HandheldInsertFailMode is equal to) and across to the Application Settings Value (which shows what the DefaultHandheldInsertMode is equal to) to see the combined result. For example, a NoFail BC setting combined with a FailOnError application setting results in the combined effect NoFail.

Table 27. Combined Effect of Insert Failure Settings

Tools Configuration (User Property)	Application Settings Value		
	NoFail	FailOnError	Omitted
NoFail	NoFail	NoFail	NoFail
FailOnError	FailOnError	FailOnError	FailOnError
No Setting on Business Component	NoFail	FailOnError	NoFail

## Recovering Error Data in Siebel Handheld Applications

Selected synchronization and conflict errors are captured to the database, and can be accessed through the Conflict Administration screens. This mechanism is always enabled. For more information about recovering error data, see ["Obtaining Error Details from Synchronization Sessions in Siebel Handheld Applications"](#) on page 107.



# 8

## Installing the Siebel Handheld Application

This chapter guides you through the process of installing and upgrading a Siebel Handheld application. The following topics are covered in this chapter:

- [“Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application” on page 157](#)
- [“Uninstalling the Siebel Handheld Application” on page 157](#)
- [“Installing the Siebel Handheld Application” on page 158](#)

### Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application

The Siebel Handheld application cannot be upgraded directly on the handheld device. You must uninstall the old Siebel Handheld application and then install the new one. To reinstall or upgrade your existing Siebel Handheld application and migrate its data and settings to the current release, or to install a new Siebel Handheld application, use the following process:

- 1 If you have a Siebel Handheld application installed, before you reinstall or upgrade the application, back up its data by synchronizing your application with the Siebel Handheld application database. See [“Synchronizing Data on Your Handheld Device” on page 171](#).
- 2 If you have a Siebel Handheld application installed, uninstall the Siebel Handheld application. See [“Uninstalling the Siebel Handheld Application” on page 157](#).
- 3 Install the current version of your Siebel Handheld application. See [“Installing the Siebel Handheld Application” on page 158](#).
- 4 Synchronize your Siebel Handheld application data. See [“Synchronizing Data on Your Handheld Device” on page 171](#).

### Uninstalling the Siebel Handheld Application

Uninstalling the Siebel Handheld application deletes the database files as well as the application files.

This task is a step in [“Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application” on page 157](#).

**CAUTION:** Before uninstalling your Siebel Handheld application, you must synchronize the Siebel Handheld application database to save any changes to your data since the last synchronization. If you do not synchronize before uninstalling, these changes will be lost.

### ***To uninstall the Siebel Handheld application***

- 1 Synchronize your Siebel Handheld application database. See [“Synchronizing Data on Your Handheld Device”](#) on page 171.
- 2 Select Start > Settings.
- 3 Select the System tab, and tap Remove Programs.
- 4 From Remove Programs, select the Siebel Handheld application, and tap Remove.

A dialog box appears indicating that a file cannot be deleted. This occurs because a file might still reside in memory.

- 5 Ignore the message, and tap OK to delete all the Siebel Handheld application and database files.

## **Installing the Siebel Handheld Application**

There are two ways to install software onto any Windows-powered handheld device. The first is to create a partnership between a desktop or laptop PC and the handheld device using Microsoft ActiveSync. The second is to install the Siebel Handheld application from some type of external media.

The steps in this procedure apply to both companion synchronization and Direct Server Synchronization. For more information about Direct Server Synchronization and setting filters, see [Chapter 5, “Data Filtering for Siebel Handheld Applications.”](#)

**NOTE:** Often, a Direct Server Synchronization user does not have access to a PC for creating a partnership with her or his handheld device. In such cases, an administrator must create a temporary partnership with each user's device and install the Siebel Handheld application. You can install it in Direct Server Synchronization mode with the Siebel Installer as described in this topic.

This task is a step in [“Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application”](#) on page 157.

### ***To install the Siebel Handheld application***

- 1 Using Microsoft ActiveSync, establish a partnership between the handheld device and the PC.
- 2 On the PC network or DVD-ROM, locate the folder where the Siebel Handheld Application folder is installed, then double-click setup.exe.

The installation process begins.

- 3 Follow the directions that appear on screen to complete the installation.

- 4 After installing the Siebel Handheld application, and *before* using it, perform an initial synchronization. See [“Synchronizing Data on Your Handheld Device” on page 171](#).

**NOTE:** Before using the Siebel Handheld application, you must synchronize the handheld device to download the Siebel Handheld application configuration and populate the Siebel Handheld application database. Therefore, an administrator can install the Siebel Handheld application for a user, but the synchronization must occur while a user is logged in to the Siebel Handheld application with a valid username and password.



# 9

## Working with Siebel Handheld Applications

The purpose of this chapter is to introduce the Siebel Handheld application interface by describing the components of the interface and how to navigate it, and introducing some useful tasks, such as, entering data, exporting data, synchronizing data, and printing. The following topics are covered in this chapter:

- "Components of the Siebel Handheld Application Interface" on page 161
- "Navigating the Siebel Handheld Application Interface" on page 163
- "Navigating a List of Records in the Siebel Handheld Application" on page 164
- "Entering Data with the Siebel Handheld Application" on page 166
- "Finding and Querying Data in the Siebel Handheld Application" on page 166
- "Printing with the Siebel Handheld Application" on page 167
- "Exporting Data with the Siebel Handheld Application" on page 168
- "Setting User Preferences in the Siebel Handheld Application" on page 169
- "Backing Up and Restoring Data with the Siebel Handheld Client" on page 169
- "Synchronizing Data on Your Handheld Device" on page 171
- "About Synchronization Options" on page 172
- "Troubleshooting Synchronization with the Siebel Handheld Application Client" on page 173
- "Guidelines for Improving Siebel Handheld Application Performance" on page 174

### Components of the Siebel Handheld Application Interface

The components of the Siebel Handheld application interface include the Screens drop-down list, Show drop-down list, application-level menu, Queries drop-down list, toolbar, and status bar.

Figure 5 shows the components of the Siebel Handheld application.

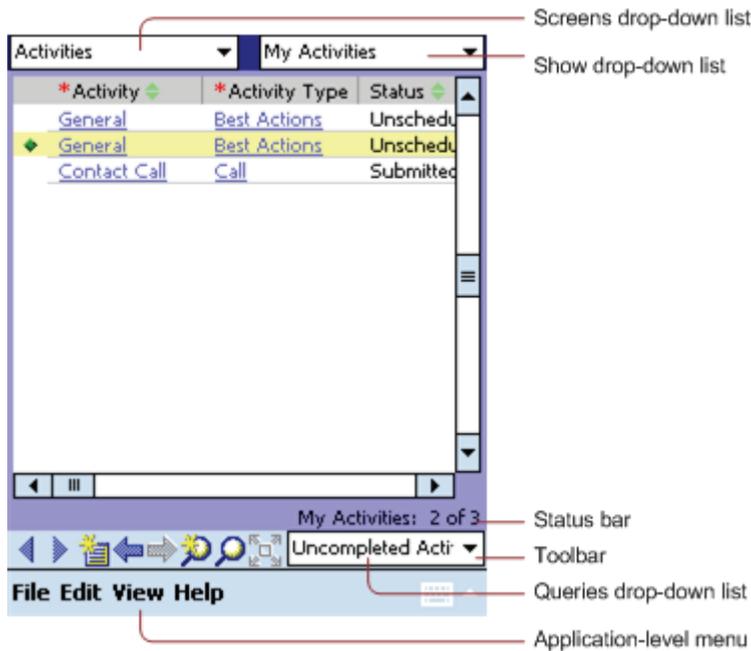


Figure 5. Siebel Handheld Application Screen Components

## Screens Drop-Down List

The Screens drop-down list is the first level of navigation in the Siebel Handheld application. When you launch the Siebel Handheld application for the first time, this drop-down list is labeled Screens unless you have configured a start up view to appear. When you tap the Screens drop-down list, a drop-down list of all available screens appears. Tap the desired screen in the list to navigate to it.

For information about configuring a start up view, see ["Setting User Preferences in the Siebel Handheld Application"](#) on page 169.

## Show Drop-Down List

The Show drop-down list is the second level of navigation in the Siebel Handheld application. This is where you choose views for the selected screen. When you launch the Siebel Handheld application for the first time, this drop-down list is labeled Views.

## Application-Level Menu

The application-level menu consists of the File, Edit, View, and Help menus. Tap a menu to select a menu option. The options that are available in each menu vary depending on the task you are performing.

## Queries Drop-Down List

Up to two predefined queries, or business object filters are displayed in the Queries drop-down list. The list displays the query chosen when you synchronized (or the default filter if you did not change the Set Filters selection) and the All Records query, if it is defined. For more information about the queries drop-down list, see [Chapter 5, “Data Filtering for Siebel Handheld Applications.”](#)

## Toolbar

The toolbar on the Siebel Handheld application has buttons for frequently used functionality like record navigation and querying. You can configure your toolbar and specify which buttons are displayed. For more information about the toolbar on your Siebel Handheld application, see the Siebel Handheld application online help.

## Status Bar

The status bar appears at the bottom of the application window. It provides information about the current view.

## Siebel Store-and-Forward Messaging and Asynchronous Query Icons

If your Siebel Handheld application is enabled with Siebel Store-and-Forward Messaging, three icons appear in the top-right corner of the screen. They are the Inbound Message icon, Asynchronous Query icon, and Outbound Message icon. [Table 28](#) displays the Store-and-Forward Messaging and Asynchronous Query icons. For more information about Siebel Store-and-Forward Messaging and Asynchronous Query, see *Siebel Store-and-Forward Messaging Guide for Handheld*.

Table 28. Store-and-Forward Messaging and Asynchronous Query icons

Icon	Name
	Inbound Message
	Asynchronous Query
	Outbound Message

# Navigating the Siebel Handheld Application Interface

Navigating the Siebel Handheld application is achieved through the Screens drop-down list, the Show drop-down list, drilling down, drilling across, toolbar buttons, and toggling.

## Screens Drop-Down List

The Screens drop-down list provides the first level of navigation. Here you select the screen you want to work with. For more information about the Screens drop-down list, see [“Components of the Siebel Handheld Application Interface” on page 161](#).

## Show Drop-Down List

The Show drop-down list is the second level of navigation. After you have selected a screen from the Screens drop-down list, select a view from the Show drop-down list. Views in the Show drop-down list are specific to each screen.

For example, in the Activities screen, you can pick the Recommended Parts & Tools view from the Show drop-down list.

## Navigating between Applets

Two or more applets can be displayed at any one time in a Siebel Handheld application. Navigating between applets depends on whether your application is configured to display in traditional two-applet mode or tabbed applet mode.

For information about how to navigate between applets in either mode, see the online help for the Siebel Handheld application.

## Expandable Fields

Due to the limited screen size on the handheld device, it is not always easy to view the data in a field without scrolling or resizing the field width. Therefore, some fields that can contain large amounts of text are expandable—that is, the data can be viewed in a text box. An ellipsis (...) appears in the field to indicate that the field is expandable. When you tap the ellipsis, a text box opens showing the data in that field. When you step off the field, the text box closes.

In form applets, an ellipsis is always visible in those fields that are expandable. However, in list applets, due to space constraints, the ellipsis is not always visible in expandable fields. When you tap on an expandable field in a list applet, the ellipsis appears. Once the ellipsis appears, you tap the ellipsis to open the text box.

## URLs in Applet Fields

Tapping on a field that contains a URL value launches the URL in PocketIE.

# Navigating a List of Records in the Siebel Handheld Application

Within the view you select from the Show drop-down list, you can view detailed information on a record. When records are displayed in a list, you can drill down or drill across the record to get additional details.

Drilling down occurs when you tap a hyperlink in a record and are taken to another view within the current screen. For example, if you are in the Accounts screen, and tap the Account Name hyperlink, you navigate to the details for that account. You do not leave the Accounts screen; you just move deeper into it.

**NOTE:** Hyperlinks are indicated by blue underlined text as long as they are set up this way in User Preferences. For more information about user preferences, see “Setting User Preferences in the Siebel Handheld Application” on page 169.

Drilling across a record occurs when you tap a hyperlink in a record and are taken to another view in a different screen. For example, tapping a hyperlink in the Accounts column of a contact record in the Contacts screen takes you to the record for that account in the Accounts screen.

Dynamic drilldown occurs when you tap a hyperlink in a record and are taken to another screen or just another view. Where you navigate to depends on the content in the drilldown field. For example, if you tap the hyperlink in the Account field of the Activities Details list, you navigate to the Accounts Details view. If you tap the SR # field, you navigate to the Service Reqs Details view.

## History Arrows

To navigate back to views you have recently displayed, tap the Back button. After you have used the Back button, you can use the Forward button to navigate back to your original screen and view.

**NOTE:** The History arrows allow you to navigate only between views. These arrows do not allow you to recover data that might have been entered or deleted in another view.

## Record Navigation Buttons

Use the Record Navigation buttons to move back and forth through a set of records. The navigation buttons are described in Table 29.

Table 29. Record Navigation Buttons

Button	Description
	Navigates back to the previous record in the list or form.
	Navigates forward to the next record in the list or form.
	Navigates back a view based on the navigation history. You can define which views are part of the history. If a view is set to not be recorded as part of the history, the back button will not go back to that view.

## Entering Data with the Siebel Handheld Application

There are several different methods for entering data in the Siebel Handheld application. Tap the up arrow next to the Input Panel button to select a method. See the user guide for your device for information on using the different input methods.

### Working with Columns in the Siebel Handheld Application Client

Data is displayed in lists and forms in your Siebel Handheld application. You can organize and work within it in a number of ways to better suit your needs.

There are several ways in which to organize columns in a list. You can:

- Sort data by up to three columns
- Resize columns
- Change the order in which the columns appear
- Show and hide columns
- Lock columns for horizontal scrolling

You can sort records in a list by tapping in the column header of the column in which you want to sort the records. If the green column sort indicator points up, the column is sorted in ascending order. If it points down, the column is sorted in descending order.

If you need to sort by more than one column, you can sort up to three columns at one time. For information about how to perform an advanced sort, see the online help for the Siebel Handheld application.

Resize columns by tapping and dragging the divider between the column headings until the column is the desired size.

You can also change the order of columns. For information about how to change the order of columns, see the online help for the Siebel Handheld application.

Show and hide columns using the Columns Displayed dialog box. In the Available columns list, select the items you want to show and tap the arrow to move the selected items to the Selected columns list. To hide columns, select the items and tap the arrow to move the selected items to the Available columns list.

Lock or unlock columns by tapping and holding the column header.

## Finding and Querying Data in the Siebel Handheld Application

You can search for data using the Find or Query functionality in your Siebel Handheld application.

- ["About Find in Siebel Handheld Applications" on page 167](#)
- ["About Asynchronous Query" on page 167](#)

- [“About Queries in Siebel Handheld Applications” on page 167](#)

## About Find in Siebel Handheld Applications

You can use the Find feature to do a simple search for a record. For more information about how to use the Find feature, see the online help for the Siebel Handheld application.

## About Asynchronous Query

Server Find, or Asynchronous Query is enabled, by default, in Siebel Service Handheld applications. Asynchronous Query utilizes Siebel Store-and-Forward Messaging to transmit data, and allows you to access data not available in the Siebel Handheld application's local database. If a user cannot find the desired information on a Siebel Handheld application's local data store, the user can send a query in the form of a request message to the target server. The server receives the request message, performs the query, and returns the query results in a data message to the requesting Siebel Handheld application. Later on, the data message arrives at the Siebel Handheld application and its information is inserted into a temporary table on the Siebel Handheld application. The user can then review the query results.

## About Queries in Siebel Handheld Applications

Use Query to locate a number of records containing a specific set of criteria. There are a number of ways in which to perform query tasks in your Siebel Handheld application.

For information about how to perform query tasks, see the online help for the Siebel Handheld application.

## Printing with the Siebel Handheld Application

You can print from any view in the Siebel Handheld application that has been configured to support printing. When you print from a handheld device, a document that has been configured for the view is printed. You can print directly to a printer, or, if you are not connected to a printer at the time, you can queue your print jobs and wait until you have access to a printer to print your documents.

**NOTE:** When you print from a view, you are not necessarily printing what is visible on the screen at the time. Every field on the screen might not be relevant for the document. The document might contain only a portion of what is in the view, and it might also contain data that is not viewable at the time. A separate applet, which often cannot be viewed in the user interface, is configured specifically for printing.

The print templates used for generating and formatting print output are installed during setup. For a list of supported printers, see Siebel System Requirements and Supported Platforms on Oracle Technology Network.

For more information about printing and print templates, see the following:

- "Views with Associated Print Templates or Reports" on page 32
- "Configuring Printing from the Siebel Handheld Application" on page 55
- "Installing Print Templates in the Siebel Handheld Install Directory" on page 141
- Appendix E, "Print Tagging Language"
- Appendix F, "Print Configuration Settings"

For information about how to perform print tasks, see the online help for the Siebel Handheld application.

## Exporting Data with the Siebel Handheld Application

You can export data from any view in your application in HTML format or as tab delimited text and save it to a file. This file can be viewed in applications such as Microsoft Pocket Word, Microsoft Pocket Excel, and Internet Explorer.

For information about how to export data, see the online help for the Siebel Handheld application.

In the Export dialog box, you can specify the following:

- **Format.** Specify either HTML or Tab delimited text file.
- **Export.** Select Only active applet to export only the data in the active applet. Select All applets in view to export the data in all visible applets.
- **Output file name.** By default, the file is saved in the temp directory with the filename "output." You can tap Browse to specify a different location or filename.
- **Paste Output to Clipboard.** Select the check box to save the data to the clipboard.
- **Open file.** Select the check box to automatically open the file. When you tap OK in the Export dialog box, the data is exported to the specified file, and the file is automatically opened.

**NOTE:** You must specify a valid output format for the application. See [Table 30](#) for the correct formats to specify for the supported applications.

Table 30. Export Data Options

To export data to	Do the following
Microsoft Word	Set the Format option to Tab delimited text file.
Microsoft Excel	Select the <i>And paste output to clipboard</i> check box. Set the Output format to either HTML or Tab delimited text file. Paste the data from the clipboard into an Excel spreadsheet.
Microsoft Internet Explorer	Set the Format option to HTML.

## Setting User Preferences in the Siebel Handheld Application

You can set preferences that are related to the appearance and functionality of your Siebel Handheld application. You can do the following:

- Set a default startup screen.
- Set the maximum number of history threads to save.  
**CAUTION:** Do not change the value for the Maximum Threads Saved setting. This setting is optimized for the application.
- Set the maximum percentage of the display area that the parent applet can take up.
- Change font size.  
**NOTE:** After Siebel 7.5.x, the default font size of record text in applets was increased by 1 point to facilitate user interaction with the handheld device.
- Set the grid lines.

For information about how to set the user preferences, see the online help for the Siebel Handheld application.

User preferences are stored within the following files (located on the handheld device in My Device > Program Files > Siebel Handheld directory), which you can distribute to all Siebel Handheld users to preserve a consistent look and feel for your Siebel Handheld application installation:

- Siebel.spf stores all user preferences (list appearance, behavior, and calendar preferences).
- Siebel.ssf stores all layout specifications (column visibility, and column width).

## Backing Up and Restoring Data with the Siebel Handheld Client

It is recommended that you back up your data to an external device—for example, a CompactFlash card or a Secure ID card. If the handheld device is damaged, the backup might not be retrievable. If you store your backups in RAM, depending on the size of your application and data extract, you can decrease the amount of memory available for the application, and your application performance can suffer.

## Automatic Backup after Synchronization

The automatic backup feature must be enabled in the application by your System Administrator. If the backup feature is enabled, a backup is automatically created at the end of every synchronization. This way, you have an up-to-date snapshot of the database.

**CAUTION:** You must never synchronize your data to the handheld device and then restore the database using an older copy of the database. If you do, the next time you synchronize, the application tries to rewrite changed transactions. This can cause data integrity problems. Therefore, when the database backup feature is enabled, a database backup occurs automatically at the end of each synchronization.

Keep in mind that enabling automatic backup makes the overall time to synchronize somewhat longer. The size of the database and the speed of the CompactFlash card also affect the time it takes to complete synchronization.

For more information about automatic backup, see [“Enabling Back Up of Siebel Handheld Application Database” on page 140](#).

## Backing Up Data

You can back up the data in your Siebel Handheld application. The Siebel Handheld application configuration files and data are copied to the backup location specified in the setup.ini file. Typically, the backup location is a CF or SD card. For example:

```
BackupLocation = \CF Card\Siebel Backup
```

OR,

```
BackupLocation = \Storage Card\Siebel Backup
```

For more information about database backup, see [“Enabling Siebel Handheld Application Database Backup” on page 141](#). For more information about how to back up data, see the online help for the Siebel Handheld application.

## Restoring Data from a Backup

In order to restore the application to its previous state, the user must contact the system administrator. Any work performed on the handheld device since the last backup will be lost.

### *To restore the database*

- 1 Remove the external flash card from the damaged device and place it in a new handheld device where the application has been installed.
- 2 Navigate to the \Program Files\Siebel Handheld folder.
- 3 Start the restore by tapping the BackupUtility file twice.

A dialog box appears, asking you to confirm that you want to restore the device from a previous backup.

4 Tap Yes.

A status dialog box appears, indicating that the restore is in progress. The backup utility restores the files to the state when the backup was performed. A dialog box appears telling you if the restore was successful. If successful, it asks you to confirm that you want to restart the Siebel Handheld application.

5 Tap Yes to start using the application.

## Synchronizing Data on Your Handheld Device

The tasks covered in this topic are part of the [“Process of Installing, Reinstalling, or Upgrading a Siebel Handheld Application”](#) on page 157.

You must synchronize the data on your handheld device:

- After you install or upgrade the Siebel Handheld application.
- Before uninstalling the Siebel Handheld application.
- On a regular basis to keep your data synchronized with Siebel Server

The topics that follow describe how to synchronize using Direct Server Synchronization (DSS) and Direct Server Synchronization via Proxy (DSSvP), and provide some troubleshooting tips:

- [“Using Synchronization with the Siebel Handheld Application Client”](#) on page 171
- [“Using Direct Server Synchronization with the Siebel Handheld Application Client”](#) on page 171

## Using Synchronization with the Siebel Handheld Application Client

Synchronization in the Siebel Handheld application differs depending on whether users synchronize through Direct Server Synchronization or Direct Server Synchronization via Proxy. The following topics show you how to launch and use synchronization in your Siebel Handheld application for each method.

**NOTE:** A given user can only synchronize using one method.

## Using Direct Server Synchronization with the Siebel Handheld Application Client

There are two methods for synchronizing between the handheld device and the Siebel Handheld Application Server:

- Direct Server Synchronization (DSS) provides synchronization between the Siebel Handheld application and the Siebel Handheld Application Server.

- Direct Server Synchronization via Proxy (DSSvP) provides synchronization between the Siebel Handheld application and the Siebel Handheld Application Server, using the desktop or companion PC to provide the network connection between the handheld device and the server.

### **To synchronize with the Siebel Handheld Application Server**

- 1 If you are synchronizing using DSS, create a direct network connection through a modem or a direct LAN connection.  
  
If you are synchronizing using DSSvP, establish an ActiveSync connection between the handheld device and the PC.
- 2 Start the synchronization process from the application-level menu.  
  
For information about how to start synchronization from the application-level menu, see the online help for the Siebel Handheld application.
- 3 Enter your user name and password.
- 4 Tap Start.  
  
The Siebel Handheld Sync dialog box appears.
- 5 Tap OK to exit Siebel Handheld Sync dialog, and the application launches automatically. If synchronization errors occur, an error dialog box appears.

**NOTE:** DSS works if the version of the Siebel Handheld application on your handheld device is slightly different to the version installed on your server. However, it is recommended that versions of the Siebel Handheld application on your device be the same or as close as possible to the Siebel Handheld application version on the server.

## **About Synchronization Options**

From the Siebel Handheld Sync dialog, the following items are contained in the Options menu:

- **Filters:** If this is the first time you synchronize, then the default filters are used. Enables you to choose the screens that you want to filter. Choose the filter for each screen that you select. You can choose only one filter for each screen.
- **Change User:** This option enables a new user to use the handheld device when the original user no longer needs the device. The Siebel Handheld application does not need to be re-installed when a new user wants to access the application from the handheld device.  
  
**NOTE:** If there are pending transactions for the current user, you have to synchronize them first before you can change to a different user name.
- **Save Password:** If you want to save your password so that you do not need to enter it each time you access the Siebel Handheld Sync dialog, select the Save Password check box.

When you select Save Password, the password is encrypted and saved on your hard drive. Once the password is saved, when you start the application you do not see the Siebel Handheld Sync login dialog. The encrypted password must be deleted in order for you to be able to access the login dialog box. To remove the encrypted password, delete "Password=<encrypted text>" under the [Parameters] section of the pimsync.cfg file.

Save password check box is enabled only if the Allow Save Password application setting is set to TRUE on the server. That is done using the Administration - Mobile screen on the server. Once the password is saved on the device, you are not prompted for the password when the Siebel Handheld application is launched. Similarly, when you invoke the Siebel Handheld Sync login dialog, the password and user name is pre-populated if password is already saved on the device.

## Troubleshooting Synchronization with the Siebel Handheld Application Client

This topic lists potential error messages that are associated with synchronization. In addition, this topic helps to understand transaction errors.

### General Synchronization Errors

There are a number of different errors that can occur when synchronization does not complete successfully, for example:

- Faulty wire connection
- Server crash
- Insufficient memory
- Login error
- Where Microsoft (MS) Embedded Visual Basis (EVB) is installed for PPC 2003 on a handheld device, MS EVB replaces any existing MS DLLs in the \Windows directory, resulting in the following error upon (second and subsequent) handheld synchronizations:

The version of resource DLL MSDAEREN.DLL is not valid.

To fix this problem, copy msdadc.dll, msdaer.dll, and msdaeren.dll from \Program Files\Siebel Handheld directory to the \windows directory.

When these errors occur, the user must exit Siebel Handheld application synchronization and launch the application again.

**NOTE:** When you restart Siebel Handheld application synchronization, you might see an error message indicating that another instance of syncmanager.exe is running. You are asked whether you want to terminate the first instance or not, and you must choose Yes.

### Transaction Conflicts

Transaction conflicts are minimized when customers adhere to the standard configuration practices outlined in this document. However, even when proper configuration practices are followed, conflicts can occur for a variety of reasons. For example, if a field value is updated on both the Siebel Handheld Application Client and the Siebel Server between synchronization events, a transaction update conflict occurs. In this instance, the user is presented with an error dialog after synchronization has completed.

A transaction consists of one or more smaller transactions called mini-transactions. For example, if you update several fields in a record, the update to the record counts as a single transaction, and each update to a field is a mini-transaction. Individual fields are skipped when update conflicts occur. Changes to any field that has been updated on the server since the last synchronization (perhaps by another Siebel Handheld application user) are discarded (but logged and returned as errors to the user). All non-conflicting fields normally are updated. Except for field-level conflicts, which are skipped when they occur, a transaction is applied in its entirety, and at this point will either succeed or fail in its entirety.

## Guidelines for Improving Siebel Handheld Application Performance

If you find that the performance of the Siebel Handheld application is very slow or begins to degrade, the following can help to improve the application performance:

- Verify that you are using a Siebel supported device for your application. See Siebel System Requirements and Supported Platforms on Oracle Technology Network.
- Maximize the amount of memory that is available to run the Siebel Handheld application. When you run the Siebel Handheld application, it is recommended that you do not run any other applications.
- Increase the amount of memory that is allocated for running applications.
- Install the binaries to a CompactFlash card. For more information about this task, see [“Setting Up Siebel Handheld Application Installation on a CompactFlash Card”](#) on page 142.

### *To increase application memory*

- 1 From the Start menu, select Settings.
- 2 Select the System tab and tap Memory.
- 3 Move the slider bar so that more memory is allocated to Program Memory, then tap OK.

The following topics contain guidelines to help reduce the Repository Meta Language (RML) file size, database file (dbfile) size, and synchronization time.

## Guidelines for Reducing the Synchronization Time

The process of reducing the sync time and improving performance for the Siebel Handheld application depends on your ability to:

- Reduce the amount of data that is downloaded
- Reduce the period of time it takes to extract the data
- Reduce the size of the .RML file

Follow these guidelines:

- Keep the Siebel Handheld application database file under 3 megabytes (MB).

- Keep the RML file under 1.5 MB.
- Limit the amount of views in the application to 30.

Limit the size of the dbfile.txt file to less than 3 megabytes (MB). The RDBMS on the handheld device will be approximately three times the size of dbfile.txt. If the data files are so large that they cannot be imported into the database with the available memory, users will not be able to successfully synchronize their data. Design data filters to limit the amount of data that is synchronized with the handheld device.

If too many records are downloaded, this increases the length of time it takes to synchronize the handheld device and slows down the Siebel Handheld application performance.

For more information about checking to see how much data is downloaded to your handheld device, see ["Monitoring Synchronization Sessions for Siebel Handheld Applications"](#) on page 105.

**NOTE:** You can also check the Siebel Server log file to see how many records are downloaded for each business component. However, you must turn on logging to capture this information in the log file. For more information about enabling logging for Direct Server Synchronization, see ["Configuring Logging Levels for Direct Server Synchronization"](#) on page 132.

## Guidelines for Designing Data Filters

Oracle suggests the following general steps for developing synchronization filters for the Siebel Handheld application:

- Ensure you have configured the Business Object filters, in addition to the Business Component filters. Failure to optimize or set Business Object filters will lead to more data being downloaded, which negatively affects the overall synchronization time. Therefore, set the Business Object filters for your Siebel Handheld application deployment.
- Identify the screens and views of your Siebel Handheld application. Also, identify the business components that are required to support each screen and view, noting the areas where each business component occurs. For example, identify the form, list, or pick applets that are based on each business component.
- Set expectations as what data and how many records will be shown to a user for each view (Low, Avg, High). For Child records, make sure you specify a number based on the parent record.
- List the expected record counts for the picklist and pick applets.
- Prioritize the value of the data that is downloaded.
- Within Siebel Tools, establish the base parent-child relationships and any reverse relationships at the component level.
- Create the appropriate business object synchronization filters for each business object or screen and make sure that each screen includes a default filter. Default filters help to ensure that users avoid accidentally downloading an excessive number of records.
- Review the business components that occur in picklists and consider creating default synchronization filter declarations for those that will cause large numbers of records to synchronize to the handheld device. These declarations are maintained in the PDAQBE file.
- Pay attention to the business components containing enterprise visible data and create suitable filters for:

- Employees (for large organizations)
- Positions (for large organizations)
- Products (for example, active, orderable products)
- Activities (for example, filter for current Activities, Activities of only certain kinds)
- Ensure that the filter queries are based on the indexed fields, and that they are optimized to download only the required data to the handheld device.
- Translate all parent business component filters to the default business component filters to boost performance significantly.

**NOTE:** Configuration file directives are used only in specific situations and do not consider them as the primary method for filtering data. Modify these filters and directives cautiously and only with the support of skilled Siebel configurators.

For more information about how to design data filters to limit the amount of data that is synchronized to the handheld device, see [Chapter 5, "Data Filtering for Siebel Handheld Applications"](#).

## Guidelines for Reducing Synchronization Time

***To reduce the synchronization time, filter the amount of data downloaded to the business objects first. Specifically, set the data filters in this order:***

- 1 Business Object filters.** This setting restricts data to the necessary parent records.
- 2 Business Component filters.** This setting extracts the relevant child records from only those parent records that made it through the Business Object filters.

## Guidelines for Reducing the Time of Data Extraction

Your Siebel Handheld application generates different types of log and output files. Review the generated log file to identify:

- Which business object, business component, views, applets, and picklists are being extracted and in what order?
- How many records are being extracted?
- How long it takes for each record to be extracted?

Based on the information in the log file you need to identify trouble spots, which might be caused by bad filter query, no indexes, or too much data. For more information about how to address some of these issues, see ["Siebel Handheld Application Performance" on page 201](#).

You can also eliminate pick applets and set run-time property=False for read only fields to avoid the unnecessary extraction for data.

Review the data and evaluate if the same data is being extracted twice under two business components with different names. If this situation is the case, change the configuration to rectify this. Additional configuration information can be found Bulletin 476964.1 on *My Oracle Support*. This document was previously published as Siebel Technical Note 405.

## Guidelines for Reducing the Size of the RML File

The Siebel Handheld application performs best if you use the following guidelines:

- Keep the number of views in your application to 30 or fewer.
- For optimal usability, limit each view to one or two applets.
- To minimize horizontal scrolling, limit the number of columns displayed in a list applet to no more than ten.
- There is no limit on the number of fields in form applets of single-applet views. However, to minimize scrolling, keep the number of fields to 20 or fewer.
- Use a form applet for the parent for each parent-child view.
- In a multi-applet view, limit the number of fields in form applets to five or fewer for Pocket PC and 10 or fewer for Handheld PC. Add additional fields only if the field width is short, for example, a check box field. Reduce the number of fields if the fields are multiline. for example, a Comments box that contains three lines of text.
- Limit the number of views within a screen to 12 or fewer so that the View drop-down list is not too long and unwieldy.
- Limit the number of screens to six or fewer so that the Screen drop-down list is not too long and unwieldy.

The areas that affect the RML file size are:

- **DefaultViewxxx.** The greater the number of views, the larger the RML file size, which results in an increase in sync time.
- **DefaultBusObjs.** An increase in the number of business objects and business component results in a larger RML size and dbfile size.
- **DefaultFields.** An increase in the amount of fields also results in larger RML size and dbfile size.

## Guidelines for Improving the Configuration of the Siebel Handheld Application

Use the following guidelines when reviewing your Siebel Handheld application:

- Multi-value fields with links to search specifications have a negative impact on extraction time.
- For custom or heavily configured business components, it might be beneficial in some cases to clone the business component for the Siebel Handheld application to reduce the number of joins, links, and fields that are needed.
- Force Active and Link Spec properties force a field to be extracted to the Siebel Handheld application. If possible, avoid using these properties for fields that do not need to be downloaded to the handheld device.
- Siebel Handheld applications rely on specialized classes and user properties. These might require some Out-Of-Box (OOB) fields to be present when configuring the Siebel Handheld application. During development, ensure to keep the logging levels at the maximum level and review the log files for any missing fields.

- Avoid over-customization because it usually causes performance degradation and problems during an upgrade.

For more information, see [“Configuration Guidelines for the Siebel Handheld Client”](#) on page 26.

# 10 Using Siebel Service Handheld

This chapter describes how to use some important features in your Siebel Service Handheld application. The following topics are covered in this chapter:

- ["Scenario for Using Siebel Service Handheld" on page 179](#)
- ["About Siebel Store-and-Forward Messaging" on page 180](#)
- ["About Asynchronous Query in Siebel Service Handheld" on page 180](#)
- ["Preparing for the Day Using Siebel Service Handheld" on page 180](#)
- ["Preparing for a Visit with Siebel Service Handheld" on page 183](#)
- ["Performing the Job with Siebel Service Handheld" on page 184](#)
- ["Working with Non-Serialized Parts in Siebel Service Handheld" on page 185](#)
- ["Working with Serialized Assets in Siebel Service Handheld" on page 185](#)
- ["Closing Out the Visit with Siebel Service Handheld" on page 187](#)
- ["Performing Miscellaneous Tasks with Siebel Service Handheld" on page 188](#)

## Scenario for Using Siebel Service Handheld

This topic gives one example of how a workflow process may be used by field technicians. You may use Siebel Handheld differently, depending on your business model.

Each morning, the field technician synchronizes Siebel Service Handheld with the Siebel Server. After the synchronization is complete, they review their activities for the day, determines what parts they need for their jobs, and verifies that they have the required parts. The field technician records that they are en route to their first visit. When the field technician arrives at the customer site, they record the time of their arrival and review the instructions and steps for the first activity. The field technician checks off the steps as they complete them and records the starting and ending times for each step. They take a reading and record the measurement. The field technician needs to replace a part, and records that the part is coming out of their trunk and generates an order for the movement. They complete all the steps for the activity, record their time, enter their expenses, and generates an invoice for the billable expenses, time, and parts. The field technician closes out the activity and continues on to the next activity.

The procedure for each of these activities is covered in the following topics:

- ["Preparing for the Day Using Siebel Service Handheld" on page 180](#)
- ["Preparing for a Visit with Siebel Service Handheld" on page 183](#)
- ["Performing the Job with Siebel Service Handheld" on page 184](#)

- “Working with Non-Serialized Parts in Siebel Service Handheld” on page 185
- “Closing Out the Visit with Siebel Service Handheld” on page 187
- “Performing Miscellaneous Tasks with Siebel Service Handheld” on page 188

## About Siebel Store-and-Forward Messaging

Siebel Store-and-Forward Messaging and Siebel Service Handheld work together allowing you to perform critical business processes. A mobile technician using the Siebel Service Handheld application together with Siebel Store-and-Forward Messaging can receive a dispatched activity, acknowledge the activity, update the activity’s status, move parts, or debrief the assigned activity. During this process, Siebel Store-and-Forward Messaging enables the mobile user to communicate all information, in real or near-real time, with the back-end Siebel application server.

For more information about Siebel Store-and-Forward Messaging, see *Siebel Store-and-Forward Messaging Guide for Handheld*.

## About Asynchronous Query in Siebel Service Handheld

Asynchronous Query allows you to use your Siebel Service Handheld application to access data not available in the application's local database. Asynchronous query uses Siebel Store-and-Forward Messaging to transmit data. If a mobile technician cannot find particular information on their Siebel Service Handheld application's local data store, they can send a query formatted as a request message to the target server. The server receives the request message, performs the query, and returns the query results in a data message to their Siebel Service Handheld application. When the data message arrives at the Handheld application, its information is inserted into a temporary table on the Handheld application. An alert informs the mobile technician that a message has arrived, and they can then use the Asynchronous Query view to review the results of their query. For information on setting up and using asynchronous query, see *Siebel Store-and-Forward Messaging Guide for Handheld*.

## Preparing for the Day Using Siebel Service Handheld

Before the field technician starts their day, they typically do the following:

- **Reviews an activity.** Before starting out for the day the field technician reviews the details of the activities assigned for that day. If you are using Siebel Store-and-Forward Messaging to receive assigned activities, see *Siebel Store-and-Forward Messaging Guide for Handheld* for a guide to setup and usage.

**CAUTION:** Siebel Service Handheld application filters allow you to review an activity that you create on the date it is created, when no Planned Start date is indicated. If you change the Planned Start date for the activity, the following error message displays: Error occurred while finding the prior place in the system. The activity will not be displayed in the Activity list view. The activity will instead be uploaded to the server database the next time you synchronize your Handheld application.

- **Adds a note for a contact.** The field technician adds a contact note for one of their contacts.
- **Orders parts for an activity.** Before going on a customer visit, the field technician verifies and orders any required parts and tools for the visit. If the part is not available in the local database of the Siebel Service Handheld application, you can send an asynchronous query to the back-end Siebel application server. For more information about asynchronous query setup and usage, see *Siebel Store-and-Forward Messaging Guide for Handheld*.
- **Accepts and declines activities.** The field technician reviews the activities scheduled for the day and, after reviewing the activities, accepts or declines each activity.
- **Records that the field technician is en route to a customer visit.** As the field technician heads out to the customer site, they record that the technician is en route to the customer site.

The following procedures are performed from the Activities screen. From the Activities view in the Activities screen, select the activity. Once the activity is selected, the following tasks can be performed in any order:

- "To review an activity" on page 181
- "To add a note for a contact" on page 182
- "To order parts for an activity" on page 182
- "To accept and decline activities" on page 183
- "To record that you are en route to a customer visit" on page 183

### **To review an activity**

- 1 Navigate to the Activities screen.

The Activities list appears, displaying the activities for the day by the planned start time, in ascending order.

- 2 In the Activities list, tap the hyperlink in the Activity # field.

The Activities detail form appears.

- 3 In the Activities detail form, view the details for that activity by tapping the hyperlink in the following fields:

- SR # (Service Request #). Tapping this hyperlink allows you to see the Service Request detail form.

- Account. Tapping this hyperlink allows you to see the Account detail form.

From the detail view for each field, tap the arrow button to return to the Activities Details form.

### **To add a note for a contact**

- 1 In the Activities list, tap the hyperlink in the Activity # field.  
The Activities detail view appears.
- 2 In the Activities detail form, tap the hyperlink in the Contact field.
- 3 In the Accounts detail form, tap Notes to see any notes for the contact.
- 4 In the Contact Notes form, tap New Note to add a new note.
- 5 From the Type drop-down list, select the type of contact note.
- 6 Enter your text in the Note field.
- 7 Tap Back to return to the Activities Details form.
- 8 Tap Back to return to the Activities list.

### **To order parts for an activity**

- 1 In the Activities list, select an activity and tap Accept.
- 2 Tap the hyperlink in the Activity field.  
The Activities detail form appears.
- 3 In the Activities detail form, select Recommended Parts & Tools from the Show drop-down list.
- 4 In the Parts & Tools list, tap Check Trunk.

The application checks the inventory in your vehicle trunk and returns the number of available parts. If the part is not available, it looks for a substitute part and adds a line item for the substitute part.

**NOTE:** If you are unable to locate the part on your local database, you can send an asynchronous query to your back-end Siebel application server database. For information on setup and usage, see *Siebel Store-and-Forward Messaging Guide for Handheld*.

- 5 Tap Order Part.

If an order does not already exist for the part, the application generates an order.

**NOTE:** You can generate an order for a line item from the Recommended Parts & Tools view and the Move Parts view. However, once the order is generated, you cannot undo the order from these views. You must go to the Service Request screen for that order, and delete the order from the Orders view.

- 6 Tap the hyperlink in the Order # field, then in the Order Details list.
- 7 Tap the hyperlink in the Order Line # field.
- 8 After you have reviewed the order line details in the Order Line Details list, tap OK.

- 9 In the Order Details list, tap Print Order, then tap OK.

#### ***To accept and decline activities***

- 1 Navigate to the Activities screen.
- 2 In the Activities list, select the activity and do either of the following:
  - Tap Accept to accept the activity.
  - Tap Decline to decline the activity.

#### ***To record that you are en route to a customer visit***

- 1 Navigate to the Activities screen.
- 2 Select the activity in the Activities list and tap En Route.

## Preparing for a Visit with Siebel Service Handheld

Before a field technician starts an activity, the technician must perform a number of tasks:

- Records the time of arrival at the customer site
- Reviews the instructions and steps for the activity
- Reviews the recommended parts and tools

From the Activities view in the Activities screen, select the activity. Once the activity is selected, the following tasks can be performed in any order.

#### ***To record the time of arrival***

- In the Activities list, select the activity and tap Arrive.

**NOTE:** You must have already accepted the activity (by tapping Accept) and recording movement (by tapping En Route) to successfully record arrival.

#### ***To review instructions and steps***

- 1 Select an activity in the Activities list.
- 2 From the Show drop-down list, select Instructions.
- 3 Review the instructions in the Instructions list.
- 4 Select an instruction in the Instructions list.
- 5 From the Show drop-down list, select Procedures.
- 6 In the Procedures list, review the procedures.

### *To review recommended parts and tools*

- 1 Select an activity in the Activities list.
- 2 From the Show drop-down list, select Recommended Parts & Tools.
- 3 Review the recommended parts and tools for the job.

## Performing the Job with Siebel Service Handheld

While performing an activity, the field technician performs the following tasks:

- **Checks off completed steps.** As the field technician completes each step in the activity, they mark the steps as done.
- **Takes a reading.** For tasks such as taking a utility meter reading or measuring hydraulic pressure, the field technician records a reading.
- **Installs and replaces parts.** During a visit to a customer site, the field technician often needs to install and replace parts. There are two types of parts that can be replaced: parts with and without serial numbers.

From the Activities view of the Activities screen, they select an activity. Once the activity is selected, the procedures can be performed in any order.

### *To check off completed steps*

- 1 Select an activity in the Activities list, and from the Show drop-down list, select Time.
- 2 Start tracking your time by tapping the Start button and pick a type.
- 3 From the Show drop-down list, select Procedures.
- 4 Select the first step in the Procedures list.
- 5 When you have completed the step, select Done.
- 6 Enter any comments in the Comments field.
- 7 Complete the preceding steps for any remaining steps.
- 8 When you have completed the activity, select Time from the Show drop-down list.
- 9 Tap End to record the ending time for the activity.

### *To take a reading for a measurement*

- 1 Select an activity in the Activities list.
- 2 Tap the Activity # hyperlink to drill down to the Activity detail form.
- 3 Tap on the Asset # hyperlink to drill down to the Asset detail form.
- 4 Tap on the Measurements button.

- 5 Tap on a Measurement hyperlink to drill down to a measurement.
- 6 Tap on Take Reading button to take a reading for the measurement.

## Working with Non-Serialized Parts in Siebel Service Handheld

The following procedure describes how to install a non-serialized part.

### ***To install a non-serialized part or product***

- 1 Select an activity in the Activities list.
- 2 From the Show drop-down list, select Move Parts.
- 3 In the Move Parts list, tap Move.  
You can move a part manually by using the following steps, or use a barcode scanner to scan the part to be moved into the Move Part form.
- 4 In the Move Part form, tap the Product field.  
The Pick Product list appears.
- 5 In the Pick Product list, select a product and tap OK.
- 6 Tap the Asset # field.  
The Pick Asset list appears.
- 7 Choose an Asset number, then tap OK.
- 8 In the Activities detail view, check Billable, then tap OK to return to the Move Parts list.

## Working with Serialized Assets in Siebel Service Handheld

To install and replace a serialized part, perform the following three steps:

- ["To remove a serialized asset" on page 185](#)
- ["To generate an RMA" on page 186](#)
- ["To install a serialized replacement part" on page 186](#)

### ***To remove a serialized asset***

- 1 Select an activity in the Activities list.
- 2 From the Show drop-down list, select Move Parts.
- 3 In the Move Parts list, tap Move.

- 4 In the Move Part form, tap the fields and do the following:

Tap this field	Then do this
Product	Select a product from the picklist or scan the product using a barcode scanner.
Status	Select Defective from the picklist.
Asset	Select an asset from the picklist or scan the asset using a barcode scanner.
From	Select Customer from the picklist.
To	Select Trunk from the picklist.
Comments	Add any comments.

- 5 Tap OK to return to the Move Parts list.
- 6 In the Move Parts list, tap Commit.

After removing a serialized part, you generate an Return Merchandise Authorization for the part. The procedure for generating an RMA assumes you have completed the procedure for removing a serialized part.

### **To generate an RMA**

- 1 In the Move Parts list, tap RMA.
- 2 Tap the hyperlink in the Order # field.
- 3 In the Order Details list, tap the hyperlink in the Line field for the first record.
- 4 Review the order line item details in the Order Line Details form, then tap OK.
- 5 In the Order Details form, tap Print Order.
- 6 Tap Back to return to the Move Parts list.

After generating an RMA, you are ready to install a serialized replacement part. The procedure for installing a replacement part assumes you have generated an RMA for the defective part.

### **To install a serialized replacement part**

- 1 From the Move Parts list, select Move Parts from the Show drop-down list.
- 2 Tap Move in the Move Parts list.
- 3 In the Move Part form, tap the fields and do the following:

Tap this field	Then do this
Asset	Select an asset from the picklist.

Tap this field	Then do this
Status	Select Good from the picklist.
Comments	Add any comments.

- 4 Check Billable, then tap OK to return to the Move Parts list.
- 5 In the Move Parts list, tap Commit.

## Closing Out the Visit with Siebel Service Handheld

At the end of the visit, the field technician completes the following tasks to close out the visit:

- Checks off any remaining steps
- Tracks billable time for the activity
- Records expenses
- Generates an invoice for the activity
- Closes out the job

Each of these tasks are performed from the Activities view of the Activities screen.

### ***To check off the remaining steps***

- 1 Select the activity in the Activities list.
- 2 From the Show drop-down list, select Procedures.
- 3 Select the remaining steps.

### ***To track billable time***

- 1 Select the activity in the Activities list.
- 2 From the Show drop-down list, select Time.
- 3 In the Time list box, select the record you created to start tracking your time.
- 4 Tap End.

The ending time is entered and the time is calculated and entered in the Hrs field. The Billable field is selected by default.

You can also delete the time in the Start and End fields and manually enter the time in these fields.

### ***To record expenses***

- 1 Select the activity in the Activities list.

- 2 From the Show drop-down list, select Expenses.
- 3 In the Expenses list, tap New Expense.
- 4 Tap the Type field, then select an item from the Type drop-down list.
- 5 Tap the Amt field, specify an amount in the Enter Amount field, then tap OK.
- 6 Select Billable.
- 7 Tap the Comments field and enter any comments.

### ***To generate an invoice***

- 1 Select the activity in the Activities list.
- 2 From the Show drop-down list, select Invoices.
- 3 In the Invoices list, tap Auto Invoice.  
A record is inserted in the list.
- 4 Tap the Sign button to capture a signature
- 5 In the signature capture view, tap the New Signature button
- 6 From the Last Name pick contact list, pick a contact
- 7 Tap the ellipsis (...) in the Signature field.  
The signature field appears in the bottom of the view.
- 8 Capture a signature from the customer and tap on the Accept button to accept the signature
- 9 Tap Back to the Invoice list, then tap the Print Invoice button.

### ***To close the job***

- 1 Select the desired activity in the Activity field.
- 2 Tap Finish.
- 3 Tap the hyperlink in the Activity # field.
- 4 In the Activities Details form, tap the % Complete field to open the numeric calculator.
- 5 Enter 100 and tap OK.
- 6 Tap the Resolution field and select an item from the drop-down list.  
For example, Answered Question, Issued RMA and so on.
- 7 Tap Back to return to the Activities list.

## **Performing Miscellaneous Tasks with Siebel Service Handheld**

The following tasks are performed by the field technician as needed:

- “Reviewing Customer History with Siebel Service Handheld” on page 189
- “Logging a New Service Request with Siebel Service Handheld” on page 189
- “Generating a Sales Order with Siebel Service Handheld” on page 190
- “Adding an Activity in Siebel Service Handheld” on page 191
- “Verifying Inventory Update in Siebel Service Handheld” on page 191

## Reviewing Customer History with Siebel Service Handheld

A field technician might want to review the history of service requests for a customer so that they are aware of the service history for the customer.

### *To review customer history*

- 1 Navigate to the Accounts view of the Accounts screen.
- 2 Find the customer account you want to review.
- 3 From the Show drop-down list, select Service Requests.

The Service Requests view appears showing all the service requests for the account.

## Logging a New Service Request with Siebel Service Handheld

While out on a customer visit, the field technician discovers another problem requiring attention and logs a new service request for the customer. The field technician performs the following tasks:

- Confirms the customer’s asset
- Confirms the warranty coverage of the asset
- Confirms the service level entitlement
- Logs a new service request

### *To confirm asset and warranty coverage*

- 1 Navigate to the Accounts view of the Accounts screen.
- 2 Select the account and from the Show drop-down list, select Assets.
- 3 In the Assets list, tap the hyperlink in the Asset # field.
- 4 In the Asset Details list, verify the applicable warranties.
- 5 Tap Back to return to the Assets list.

***To confirm service level entitlement***

- 1 Navigate to the Accounts screen.
- 2 From the Show drop-down list, select Entitlements.
- 3 Verify the entitlements in the Entitlements list.

***To log a new service request***

- 1 Navigate to the Accounts screen.
- 2 From the Show drop-down list, select Service Requests.
- 3 In the Service Requests list, tap Log New SR.
- 4 Complete the fields in the New SR form.
- 5 Tap OK.

## **Generating a Sales Order with Siebel Service Handheld**

This procedure describes how to generate and print a sales order for a service request.

***To generate a sales order***

- 1 Navigate to the Service Reqs screen and select or query for the desired service request.
- 2 Select Orders from the Show drop-down list.
- 3 In the Orders list, tap Create New Order.
- 4 In the Service Reqs form, select Sales Order from the Type drop-down list.
- 5 In the Req Ship (Requested Ship Date) field, select a date from the pop-up calendar, and tap OK.
- 6 In the Order Details list, tap the Add Order Line button.
- 7 Tap in the Product, and select a product from the Pick Product pop-up list.
- 8 Complete the remaining fields in the Order Line Details view, the tap OK.
- 9 In the Order Details list, tap Print Order to print the order, then in the Service Reqs form, tap OK.

## Adding an Activity in Siebel Service Handheld

A field technician can add an activity to an existing service request or they can add a sundry activity, such as making a bank deposit or taking their truck in for servicing, which is not associated with a particular account.

**CAUTION:** Siebel Service Handheld application filters allow you to review an activity that you create on the date it is created, when no Planned Start date is indicated. If you change the Planned Start date for the activity, the following error message displays: Error occurred while finding the prior place in the system. The activity will not be displayed in the Activity list view. The activity will instead be uploaded to the server database the next time you synchronize your Handheld application.

### *To add an activity to a service request*

- 1 Navigate to the Service Reqs screen and select the desired service request.
- 2 From the Show drop-down list, select Activities.  
The Service Reqs Activities view appears.
- 3 In the Activities list, tap Add New Activity.  
The New Activity form appears.
- 4 Tap the Activity field, and select an activity type from the drop-down list.
- 5 Select the Status field, and select Not Started from the drop-down list.
- 6 Complete all fields in the New Activity form, and tap OK.

### *To add a miscellaneous activity*

- 1 Navigate to the Activities view, and in the Activities list, tap Add New Activity.
- 2 In the New Activity form, select an activity type from the Activity drop-down list.  
For example, Administration, Call-Inbound and so on.
- 3 Select SR # and Account from the picklist.
- 4 Tap the drop-down arrow in the Status field and select Not Started from the picklist.
- 5 Enter any text in the Comments field.
- 6 Tap OK.

## Verifying Inventory Update in Siebel Service Handheld

A field technician periodically verifies that the inventory in the van matches the inventory that is recorded in the system.

### *To verify inventory updates*

- 1 Navigate to the Browser screen.

- 2 Query for individual product you want to verify.
- 3 Tap the hyperlink in the Product field of the product you are verifying.
- 4 Compare the balances in the Availability field with your printed inventory report.

# A Troubleshooting

This appendix addresses some of the common issues—including installation, logging, and performance—faced while deploying a Siebel Handheld application. The audience for this appendix is Siebel database administrators, system administrators, and application administrators. The following topics are covered in this appendix:

- [“Troubleshooting Siebel Handheld Application Installation” on page 193](#)
- [“Troubleshooting Siebel Handheld Application Synchronization” on page 194](#)
- [“Siebel Handheld Application Log Files” on page 197](#)
- [“Using SQLTrace with Siebel Handheld Applications” on page 199](#)
- [“End User Error Messages” on page 200](#)
- [“Web Server Timeout Errors” on page 200](#)
- [“Handheld Device Timeout Errors” on page 200](#)
- [“Siebel Handheld Application Performance” on page 201](#)

## Troubleshooting Siebel Handheld Application Installation

Siebel Handheld applications support a specific and limited set of devices, Handheld application OS, desktop OS, server OS, server databases, and languages. This range of devices and platform support varies widely across the range of Siebel Handheld application releases and must be carefully checked to confirm support. For information about supported handheld devices, operating systems, desktop OS, server OS, and server databases, see Siebel System Requirements and Supported Platforms on Oracle Technology Network for your Siebel application.

### Client Installation, Backup, and Restore

If you encounter problems while installing the Siebel Handheld application on client devices from a desktop PC, refer to the following checklist. Most installation problems are covered by this checklist.

- Confirm that the handheld device is certified and supported. Refer to Siebel System Requirements and Supported Platforms on Oracle Technology Network.
- Confirm that the handheld device has 64 megabytes (MB) or higher of random access memory (RAM) with the majority of it available for the Siebel Handheld application.
- Make sure an ActiveSync connection is running (green icon). If not, check your computer to make sure that the serial or USB port is activated and functioning correctly.

- If a previous version of Siebel Handheld application is installed on the device, make sure you uninstall the application. For more information about uninstalling applications, see [“Uninstalling the Siebel Handheld Application” on page 157](#).

The binaries for the Siebel Handheld application can also be installed to a CompactFlash card to conserve (RAM) memory. The application will still be loaded into memory when it executes. To install on the CompactFlash card, set the ApplicationBinariesLocation and ApplicationDataLocation parameters in the setup.ini file. For more information about installing on a CompactFlash card, see [“Setting Up Siebel Handheld Application Installation on a CompactFlash Card” on page 142](#).

The Siebel Handheld application only (no data) can also be copied onto a CompactFlash card to aid in deployments. The initial backup image must be made of a device that has not done an initial synchronization. An initial synchronization will still be required by each user to receive the configuration and data. For information on backup utilities, see the documentation accompanying your handheld device.

It is also possible to back up your Siebel Handheld application on a PC using the Backup/Restore feature within ActiveSync.

## Troubleshooting Siebel Handheld Application Synchronization

Synchronization problems can be caused by incorrect settings in the Siebel Handheld application setup.ini or .cfg files. Be sure that application names, data sources, and .srfs are correct.

Make sure to set the SyncURL setting in the client setup.ini file for all synchronization methods. Also, be sure to grant the user visibility to these views in the Administration - Application screen > Responsibilities view.

**NOTE:** Check the log files and confirm the accuracy of the generated connect string.

To troubleshoot synchronization for your Siebel Handheld application, review the following topics:

- [“Direct Server Synchronization Checklist” on page 194](#)
- [“Resynchronizing Problems” on page 195](#)
- [“Synchronization Timeout Parameters” on page 195](#)

### Direct Server Synchronization Checklist

Use the following checklist to troubleshoot problems you encounter using Direct Server Sync.

- Did you install all client and server components successfully?
- Is there a PDA Object Manager (OM) running on the Siebel Server?
- Did you bounce the IIS, SWE, and Siebel Server after installation?
- Do you have network access to the URL for DSS? Can you ping the IIS server from inside and, if applicable, from outside the firewall?

- Can you successfully run a SWE command?
- Do you have the correct SyncURL defined in the setup.ini file?
- Is the network connection working from the device? Try Pocket Internet Explorer.
- If you have problems logging in, check to make sure that you can use the same credentials to log into the desktop client.
- Remember to keep a one to one ratio of users to devices. Only a single user can log in to synchronize each device. Failure to do so causes data corruption.

### ***To troubleshoot Direct Server Synchronization configuration errors***

- 1** Turn on synchronization logging for your Siebel Handheld application to 5 and look for more error details in the Synchronization OM log of your Siebel Handheld application.

For more information about logging, see ["Configuring Logging Levels for Direct Server Synchronization" on page 132](#).

- 2** Use the Validate function in Siebel Tools to look for a configuration error.
- 3** Remove the Siebel Handheld application views from user responsibility until synchronization passes the error point.
- 4** Remove DefaultBusObjs from the Administration - Mobile screen > Application Administration > Settings view until synchronization passes the error point.

## **Resynchronizing Problems**

Generally if, for whatever reason, synchronization is terminated, the user is prompted with a message and the synchronization process ends. In this situation the synchronization session is allowed to close. However, if the connection with the server is unintentionally broken, the session might not have a chance to close before the connection is broken. Therefore, if the user tries to immediately synchronize again, they might get an error message and be unable to synchronize. If this occurs, the user must wait for a period of time (generally, 15 minutes) to allow the session to time out and terminate. Once the session terminates, the user can synchronize again.

## **Synchronization Timeout Parameters**

The following parameters control the timeouts for the synchronization process:

- Direct Server Synchronization timeout parameters are stored in the .cfg file and include:
  - IIS Timeout—This is the length of idle time between communications from a handheld device to the server, before a timeout occurs.
  - OM Timeout—An OM (object manager) timeout is triggered by an idle timeout on the server or any loss of communication with the OM for the defined period.

For more information about changing these timeout settings, see ["To change the IIS timeout value" on page 196](#) and ["To change the OM timeout value" on page 196](#).

***To change the IIS timeout value***

- 1 Open IIS.
- 2 Go to Default Web Site, right click, and open Properties.
- 3 Change the value for the Connection Timeout setting.

The default value for Connection Timeout is 900000 milliseconds, or 15 minutes.

**NOTE:** This parameter only applies to synchronizations using Direct Server Sync.

***To change the OM timeout value***

- 1 Open the .cfg file for your handheld device.
- 2 Under the Siebel section, change the entry for SrvrTimeOutInterval.

The default value for SrvrTimeOutInterval is 600000 milliseconds, or 10 minutes.

**NOTE:** This parameter only applies to synchronizations using Direct Server Sync.

## Siebel Handheld Application Log Files

This topic provides information about the different types of log and output files that are generated by your Siebel Handheld application. This topic includes the following information:

- “Direct Server Synchronization Log and Output Files” on page 197
- “Handheld Device Log” on page 198

A new handheld synchronization log file, *hhsync.log*, is created on the first synchronization of each day, and when the synchronization node id changes in the Siebel Handheld application. The synchronization node id changes when you re-install or restart the Siebel Handheld application on your handheld device. Where multiple synchronization node folders are created under the user folder (for example, as follows in DSS), then this means that the synchronization node id has changed:

```
\Siebsrvr\hhsync\phce\userName\syncNode
```

### Direct Server Synchronization Log and Output Files

The name of the Direct Server Synchronization Log is the OM name plus the task ID for that log session. The log is found in the log subdirectory under the Siebel root directory. Depending on the amount of detail enabled, this file can give a good perspective of what has happened during synchronization regarding the Siebel OM.

***To assist in service request (SR) resolution, collect the following files when logging a Siebel Handheld application service request. The following files are found on the machine where Siebel Server is installed:***

- All server synchronization user files in the *Siebel Root\siebsrvr\hhsync\application directory\user id\node id* directory.
- Server application event log extract.
- Server system event log extract.
- All files in the *Siebel Root\siebsrvr\log* directory including *CompName\_task.log*, where *CompName* is the name of an application server component, and *task* is a Siebel task number. Each synchronization session is assigned a new Siebel task, so there will be many of these. An example *CompName* value is *SalesCE\_enu* (note that language is part of the component name itself).
- All files from all subdirectories under the *Siebel Root\siebsrvr\logarchive* directory.
- Server performance and monitoring log files (showing memory, network, disk performance), if available.

The following files are found on the machine where the Web Server (that is, IIS) is installed:

- SWE log files from *Siebel Root\eappweb\log* (all files).
- IIS server application event log extract.
- IIS server system event log extract.

- IIS server performance and monitoring log files (showing memory, network, disk performance), if available.

For help with resolution, create a SR on *My Oracle Support*.

## Handheld Device Log

The siebel\_log.txt file is found in the /Program Files/Siebel Handheld directory on the handheld device. It is controlled by reg key DefaultLogLevel, with values 0-4. For more information about DefaultLogLevel, see ["Siebel Handheld Application setup.ini Parameters" on page 137](#).

The default value of the reg key during installation is 2. This file logs all of the following:

- Database objects that were imported during synchronization.
- All SQL statements generated by the application. You must set a parameter in the setup.ini file to turn this log on. DefaultLogLevel=3 and 4 will log SQL statements to the device log.

For more information about setting DefaultLogLevel, see ["Siebel Handheld Application setup.ini Parameters" on page 137](#).

- All system error messages. You must set a parameter in the setup.ini file to turn this log on. DefaultLogLevel=4 will give the most detailed log with debug info.

For more information about setting DefaultLogLevel, see ["Siebel Handheld Application setup.ini Parameters" on page 137](#).

- All of the messages displayed on the Sync Manager dialog box as well as some basic information about synchronization, such as data source and connect string. You can set the logging level for this file using the DefaultLogLevel parameter in the setup.ini file.

## Logging Synchronization Errors for Siebel Handheld Applications

Synchronization for a Siebel Handheld application logs all the strings that the user sees in the synchronization message window, as well as many informational messages that do not get displayed in the UI. These informational messages are used to help track down where an error occurred. Synchronization for a Siebel Handheld application determines which messages get logged based on a value stored in the registry under the key DefaultLogLevel. The values range from 0 to 4, where 0 logs all error messages and strings that the user sees, and 4 logs all data that is sent and received during synchronization.

If synchronization for your Siebel Handheld application fails, check the siebel\_log.txt file immediately after the failure. If you need more detail, increase the logging level of DefaultLogLevel and run synchronization for the Siebel Handheld application again. For more information about changing DefaultLogLevel, see ["Siebel Handheld Application setup.ini Parameters" on page 137](#).

You can determine when and where an error occurs during synchronization of your Siebel Handheld application by referring to siebel\_log.txt and the Sync Object Manager log.

The device log, siebel\_log.txt, shows the last HTTP command that was sent to server, for example, ExecuteLogin, Init, ProcessTransactionEx, ExtractDB, and so on. The Sync Object Manager log receives the request and invokes the corresponding method.

For example, in the device log (siebel\_log.txt), the following code indicates that the device is sending an initialization request to the Siebel Server:

```
INFO0x6F46107E03/30/2005 16:58:27http ://PPP_PEER:2323/servicece/
start.swe?SWEExtSource=siebelpda&SWEExtCmd=Init&PatchLevel=7.7.2.2PDA%5b18356_1]
8.471262E-309NU&SyncFormat=CE0&SyncNodeId=&TimeStamp=1112230707
```

```
INFO0x6F46107E03/30/2005 16:59:20<Init ReturnCode="OK" Complete="100">
```

or, for Service SIA

```
INFO0x6F46107E03/30/2005 16:58:27http ://PPP_PEER:2323/servicece/
start.swe?SWEExtSource=siebelpda&SWEExtCmd=Init&PatchLevel=7.7.2.2PDA%5b18356_1]
8.471262E-309NU&SyncFormat=CE0&SyncNodeId=&TimeStamp=1112230707
```

```
INFO0x6F46107E03/30/2005 16:59:20<Init ReturnCode="OK" Complete="100">
```

The server log (Sync Object Manager log, that is, CompNameObjMgr\_enu\_XXXXX.log), shows that the Init request is received by the server and the Init method is invoked:

```
ObjMgrBusServiceLogInvokeMethod402005-03-23 10:45:27Begin: Business Service
'Handheld Synchronization' invoke method: 'Init' at 10c2bc68
```

```
HandheldSyncLogDebug502005-03-23 10:45:27Request Init received
```

(Where CompName is the server component name of the synchronization for the specific Siebel Handheld application.)

In addition to the device log, check SalesCEObjMgr\_enu\_XXXXX.log in Siebel Server (for DSS). For more information about changing logging levels, see ["Configuring Logging Levels for Direct Server Synchronization" on page 132](#).

## Using SQLTrace with Siebel Handheld Applications

Use SQLTrace for diagnostic purposes if you encounter serious configuration errors or performance problems and cannot otherwise diagnose the problem. The problem can quickly become apparent in the log entries from SQL tracing.

### To enable SQL tracing

**CAUTION:** When SQL tracing is enabled, synchronization is severely and adversely affected. Therefore, it is recommended that you turn SQL tracing on for a limited time to diagnose a specific problem, then turn SQL tracing off.

- 1 Log into srvmgr prompt.
- 2 At the DOS prompt, run server manager (srvmgr) from the <siebsrvr/bin> directory:
 

```
srvmgr /g gateway /e enterprise /u sadmin /p sadmin
```
- 3 Run: change evtloglvl objMgrSqlLog=4 for comp [OMName], where [OMName] = the OM name (for example, ServiceCEObjMgr\_enu).

- 4 Log entries are written as described in [“Siebel Handheld Application Log Files” on page 197.](#)

## End User Error Messages

In addition to errors found in the siebel\_log.txt file, you might receive a Transaction Errors Reported message during synchronization. These errors are logged in TXNError.hh. The message appears on the handheld device in the Syncmanager Status box. You can double-click the message at any time to see the errors. You can set the following settings in setup.ini:

- TXNErrorLevel = 0 (no log information)
- TXNErrorLevel = 1 (report txn errors in the client)

For more information about user messages, see [“Troubleshooting Synchronization with the Siebel Handheld Application Client” on page 173.](#)

## Web Server Timeout Errors

If synchronization times are long due to the size of the database file or the speed of the network connection, your users can encounter Web Server timeout errors and synchronization failures. First try to resolve this problem by reducing the size of your extract and configuring your server performance. You can reduce the size of the extract by fine-tuning filters, or if appropriate filters have already been defined, select ones that will return less data. If after doing this, your users continue to experience timeout errors, then increase the timeout parameter on IIS for the default Web Server.

Follow the procedure for your platform to change the timeout parameter.

### *To change the timeout parameter on Windows*

- 1 From the Start menu, select Programs > Administrative Tools > Internet Services Manager.
- 2 From the Internet Information Services window, select the local machine, right-click on the Default Web Site, and select Properties from the pop-up list.
- 3 From the Web Site Properties window, select the Web Site tab.
- 4 Under the Connections heading, locate the Connection Timeout property and increase the number of seconds.
- 5 Click OK.

## Handheld Device Timeout Errors

The following three parameters are stored in the device registry. They control the device timeout. For more information about device timeout errors, see the following parameters in [“Siebel Handheld Application setup.ini Parameters” on page 137:](#)

- InternetOptionReceiveTimeout = 600000

- InternetOptionSendTimeout = 600000
- InternetOptionDataExtractionTimeout = 600000

## Siebel Handheld Application Performance

This topic discusses ways you can optimize your client performance, server performance, and network performance.

### Client Performance

Client performance is affected primarily by the device capability (minimum 206 MHz processor and 64 MB RAM), configuration, and the quantity of data loaded onto the device. In general, screen-to-screen and view-to-view navigation times of 3 to 4 seconds or less are considered normal.

It is strongly recommended that you follow these general guidelines to optimize the performance of your Siebel Handheld applications:

- Keep configuration under 30 views.
- Keep RML file size under 1.75 MB.
- Keep database files (dbfile.txt) under 3 MB.
- Keep the number of records for each business component under 2,500.
- Avoid installing other applications on the device at the same time.
- Users must synchronize their data frequently.

Additional configuration information can be found in Bulletin 476964.1 on *My Oracle Support*. This document was previously published as Siebel Technical Note 405.

The Siebel Handheld Client benefits from periodically closing and restarting the Siebel Handheld application to release memory consumed by the operating system. Close the Siebel Handheld application from the application-level menu. For information about how to close the application, see the online help for the Siebel Handheld application.

If an external VGA driver is or has been loaded on the device in the past and is no longer needed, be sure to unload it, because it is known to have significant performance impacts on handheld devices.

### Server Performance

Server performance affects the performance and scalability of Direct Server Synchronization processes. Customers can engage Expert Services to do a Scalability Review. The following guidelines are general in nature and pertain to the synchronization components of your Siebel Handheld application running on a Siebel Server:

- Use Performance Monitor to track memory and processor performance on the Siebel Server.
- Make sure that the Servers (IIS, GW, OM and DB) are on the same high speed LAN segment.

- The synchronization components of your Siebel Handheld application will stress Siebel Server and database performance because of the intensive interactions during large concurrent synchronizations.
- Estimate that 64 MB is used for each Siebmtsh.exe instance.
- To calculate the theoretical maximum concurrent users:  
$$\text{Numusers} = \text{Server\_Memory} * \text{threads\_per\_process\_ratio} / 64 \text{ MB}$$
- Optimize the Threads for each Process Ratio (Max Tasks/Max MT Servers) according to Technical Note 405.
- Set Max Tasks=Max. number of concurrent users (for example, 150).
- Set MinMTServers=MaxMTServers (for example, 30 for 5:1 ratio, if this is determined to be appropriate).

### ***To optimize and tune a Siebel DB server:***

- Use Performance Monitor to track memory and processor performance on the DB server.
- Turn on SQL tracing and search for long-running SQL calls.
- Estimate 64 MB of RAM for each concurrent user.
- Consider creating indexes to tune the queries. For help with creating indexes to tune queries, contact your Oracle sales representative for Oracle Advanced Customer Services to request assistance from Oracle's Application Expert Services.
- Consider using a RAID 0+1 disk array with an expanded number of spindles to optimize database performance.

**NOTE:** Make sure that DB Server settings are set to recommended values. Set timeouts at the Siebel Server. Be careful that the timeout is set longer than the longest SQL query.

## **Network Performance**

The condition of the network affects Direct Server Synchronization performance and scalability. In general, a low-latency, high-bandwidth network is preferred with dedicated rather than shared network connections. The following are general network considerations:

- Make sure there is adequate bandwidth throughout the entire round-trip of network packets and estimate where bottlenecks will occur due to high concurrent load. For example, if 50 users are concurrently synchronizing 1 MB each, 50 MB of data must pass through the network. If this data is passing through a single leased 56 KB/second line, then this data will minimally take  $500,000 \text{ KB} / 56 \text{ KB/sec} = 8928 \text{ seconds} = 148 \text{ minutes}$ . In reality, a 56 KB per second line will offer only 30-40 KB per second average throughput, which causes further bandwidth constraints. Check the total available bandwidth of network providers (private or public ISP).
- Verify that you have low latency lines with ping round trips of less than 1 second (1000 ms) with no dropped packets.
- Verify if roundtrips occur with less than 10 hops.

- Check the actual throughput of network connections by performing simple file transfers with no Siebel software.
- VPN software from third parties accounts for 30 to 60 percent of additional packet overhead because of the encryption.

Network problems can usually be resolved by working with network providers to size network connections and optimize network routing. Consider the use of burst networks, quality of service contracts, private networks, and dedicated modem banks directly into a high-speed LAN environment.



# B

## Screens and Views

The Siebel Handheld Client supports a subset of the screens and views supported by the Siebel Web Client. Other screens and views can be configured for your Siebel Handheld application if they are based on currently supported classes. The following topics are covered in this appendix:

- “Screens and Views” on page 205

Application developers and application administrators will find the information in this appendix useful.

**NOTE:** If you configure screens and views based on unsupported classes, you might see anomalous results. For information on how to determine the classes used by other screens and views, see *Siebel Object Types Reference*.

## Screens and Views

The screens and views shipped with the Siebel Service Handheld application are listed in [Table 31](#). Entries marked with an asterisk (\*) indicate a hidden view and are accessible only by drilling down from another view.

Table 31. Siebel Service Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools	Business Component
Accounts	Accounts	SHCE Service Accounts View	■ Account
	Asset Details *	SHCE Service Account Asset Details View	■ Asset Mgmt - Asset ■ FS Asset Warranty
	Assets	SHCE Service Activity Assets List View	■ Account ■ Asset Mgmt - Asset
	Contact Details *	SHCE Service Account Contact Details View	■ Contact
	Contact Notes *	SHCE Service Account Contact Notes View	■ Contact Note
	Contacts	SHCE Service Account Contacts View	■ Account ■ Contact
	Details *	SHCE Service Account Details View	■ Account
	Entitlements	SHCE Service Account Entitlements View	■ Account ■ Entitlement Account

Table 31. Siebel Service Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	New SR *	SHCE Service Account SR Details View	■ Service Request
	Readings *	SHCE Service FS Measurement Readings View	■ FS Asset Reading
	Service Requests	SHCE Service Account SRs View	■ Account ■ Service Request
Activities	Activities	SHCE Service Activity List View	■ Action
	Assets	SHCE Service Activity Assets List View	■ Action ■ Asset Mgmt - Asset
	Attachments	SHCE Service Activity Attachment View	■ Action Attachment ■ Asset Mgmt - Asset
	Details *	SHCE Service Activity Detail View (More Info)	■ Action
	Expense Reports	SHCE Service Activity Expense Report View	■ Expense Item ■ Expense
	Expenses	SHCE Service FS Expense View	■ Action ■ FS Expense Item
	Instructions	SHCE Service Instructions View	■ FS Instructions
	Invoices	SHCE Service FS Activity Invoice View	■ Action ■ FS Invoice
	Move Part *	SHCE Service FS Activity Part Movements (More Info)	■ FS Activity Parts Movement
	Move Parts	SHCE Service FS Activity Part Movements	■ Action ■ FS Activity Parts Movement
	New Activity *	SHCE Service Activity Entry View	■ Action
	Recommended Parts & Tools	SHCE Service FS Activity Recommended Parts Tools View	■ Action ■ FS Activity Recommended Parts_Tools

Table 31. Siebel Service Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	Procedures	SHCE Service FS Steps View	<ul style="list-style-type: none"> <li>■ Action</li> <li>■ FS Activity Step</li> </ul>
	Time	SHCE FS Time View	<ul style="list-style-type: none"> <li>■ Action</li> <li>■ Time Sheet Daily Hours</li> </ul>
	Time Sheets	SHCE Service Activity Time Sheet View	<ul style="list-style-type: none"> <li>■ Time Sheet Items</li> <li>■ Time Sheet</li> </ul>
Browser	Availability *	SHCE Service Part Browser Availability	<ul style="list-style-type: none"> <li>■ FS Bucket Header - Part browser</li> <li>■ FS Bucket - Part Browser</li> </ul>
	Products	SHCE Service My Part Browser View	<ul style="list-style-type: none"> <li>■ FS Bucket Header - Part browser</li> </ul>
	Substitutes *	SHCE Part Browser Substitute View	<ul style="list-style-type: none"> <li>■ FS Bucket Header - Part browser</li> <li>■ FS Substitute Part Bucket - Part Browser</li> </ul>
Service Reqs	Activities	SHCE Service Service Request Detail View	<ul style="list-style-type: none"> <li>■ Service Request</li> <li>■ Action</li> </ul>
	Details *	SHCE Service Service Request View	<ul style="list-style-type: none"> <li>■ Service Request</li> </ul>
	Invoice Lines *	SHCE Service FS SR Invoice List View	<ul style="list-style-type: none"> <li>■ FS Invoice Line Items</li> </ul>
	Invoices	SHCE Service FS SR Invoice View	<ul style="list-style-type: none"> <li>■ FS Invoice</li> </ul>
	New Activity *	SHCE Service Service Request Activity Entry View	<ul style="list-style-type: none"> <li>■ Action</li> </ul>
	New SR *	SHCE Service Service Request SR Entry View	<ul style="list-style-type: none"> <li>■ Service Request</li> </ul>
	Order Details *	SHCE Service Order Line Items View	<ul style="list-style-type: none"> <li>■ Order Entry - Order</li> <li>■ Order Entry - Line Items</li> </ul>
	Order Line Details *	SHCE Service Service Request Order Line Items View	<ul style="list-style-type: none"> <li>■ Order Entry - Line Items</li> </ul>

Table 31. Siebel Service Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	Orders	SHCE Service Service Request Orders View	<ul style="list-style-type: none"> <li>■ Service Request</li> <li>■ Order Entry - Orders</li> </ul>
	Service Requests	SHCE Service SR List View	<ul style="list-style-type: none"> <li>■ Service Request</li> </ul>

# C

## Business Components and Classes

The Siebel Handheld Client supports a subset of the business components and classes supported by the Siebel Web Client application. This appendix lists the supported business components, business component classes, and applet classes. The following topics are covered in this appendix:

- "Business Components for Siebel Service Handheld" on page 209
- "Business Component Classes for Siebel Service Handheld" on page 212
- "Applet Classes for Siebel Service Handheld" on page 214

### Business Components for Siebel Service Handheld

Table 32 lists the supported business components for Siebel Service Handheld applications.

Table 32. Business Components for Siebel Service Handheld

Supported Business Components	Description
Account	Holds account related information. This business component is used to manage account details.  <b>NOTE:</b> Account stores information related to any external organization with which the company does business.
Action	Holds activity information, such as, activity type, due date, completion date, owner, account priority, and description. This information is used to track the activities carried out for an account or a contact.
Agreement Entitlement	Holds agreement entitlement information.
Asset Mgmt - Asset	Holds asset information.
Contact	Holds contact related information, such as, first name, last name, title, account, and account address. This business component is used to add contacts.  <b>NOTE:</b> Contacts are entities or individuals with whom the company currently does business or with whom it expects to do business in the future.
Contact Note	Holds note information for contacts.
Currency	Holds currency information.

Table 32. Business Components for Siebel Service Handheld

Supported Business Components	Description
Employee	Holds employee related information, such as, user ID, first name, last name, and organization. <b>NOTE:</b> Employees are individual company users (or members) who have access to the Company data.
Entitlement Account	Holds information about the entitlements for the account.
FS Activity Parts Movement	Holds information about the parts movement for an activity.
FS Activity Parts Movement Admin	Holds parts movement administration information for activities.
FS Activity Recommended Parts & Tools	Holds recommended parts & tools information for the activity.
FS Activity Step	Holds activity step information.
FS Asset Measurement Characteristics	Holds information about the measurement characteristics of an asset.
FS Asset Reading	Holds information about the measurement reading of an asset.
FS Asset Warranty	Holds asset warranty information.
FS Bucket	Holds information about inventory details, such as, availability, inventory location, inventory level, and product details of the inventory in the representatives trunk.
FS Bucket - Part Browser	Holds information about the product and its availability along with product details in all inventory locations.
FS Bucket Header - Part browser	Holds information of product details and availability along with the inventory location, type, and part number details of the product.
FS Expense Item	Holds information about individual expense items for an activity.
FS Instruction	Holds information about the details of an instruction, such as, instruction type, creator, and source ID.
FS Inventory Location	Holds data pertaining to inventory locations for a given account or customer.
FS Inventory Transaction	Holds information about the inventory transactions for an activity.

Table 32. Business Components for Siebel Service Handheld

Supported Business Components	Description
FS InvLoc Product	Holds the inventory location details for a product
FS Invoice	Holds invoice information for an account, customer, activity, or service request.
FS Invoice Line Items	Holds information about the individual line items in an invoice. There can be more than one invoice line item for a given invoice.
FS InvTxn Ledger Entry	Holds information about the quantity and date of the inventory transaction.
FS PickList Inventory Txn Type	This picklist business component holds information about the transaction type.
FS Product Inventory Category	Holds information about the category, its availability, and reorder details.
FS Rate List Item	Holds information about the rate list for a product.
FS Service Detail Expense Bill Item	Holds service detail information in relation to individual expense bill items.
FS Service Detail Product Bill Item	Holds service detail information in relation to product bill items.
FS Service Detail Time Bill Item	Holds service detail information in relation to time bill items.
FS Substitute Part Bucket - Part Browser	Holds inventory location details, part details, and quantity details for a product.
FS Transaction Assets	Holds information about asset transactions including asset number and asset description.
FS Transaction Assets Alt	Holds information about asset transactions.
Internal Product	Holds internal product related information, such as, product name, type, organization, and product line.  <b>NOTE:</b> Internal Product stores information about the company's internal products, promotional items, and competitive products.
Order Entry - Line Items	Holds product order information, such as, product name, part number, quantity, start price, and net price.  <b>NOTE:</b> An <i>Order Entry-Line Item</i> is a product or service that is added to an order.
Order Entry - Order Types	Holds information about the order type.
Order Entry - Orders	Holds order related information, such as, order number, status, and account.

Table 32. Business Components for Siebel Service Handheld

Supported Business Components	Description
Price List	Holds information about the standard prices for products or services.  <b>NOTE:</b> A product must exist in a price list so that it appears in a catalog. The price list is one of the requirements for a product's visibility.
Price List Item	Holds individual item information in relation to price lists.
Project	Holds information about the details of a project, such as, account, billing, expense, position, rate list, and price list.
PS Rate List	Holds information about the price list for an Employee.
Service Request	Holds information about the details of the service request, such as, account, contact, asset, entitlement, warranty, and product.
Time Sheet Daily Hours	Holds information about the details of the Daily Time Sheet.  <b>NOTE:</b> Time Sheet Daily Hours is one of the <i>child</i> Service business components with which the Action business component is associated.
Time Zone	Holds time zone information.

## Business Component Classes for Siebel Service Handheld

This topic lists the supported business component classes for Siebel Service Handheld applications.

**NOTE:** The business component classes for Siebel Handheld applications are based on the classes for the Siebel Web Client. However, in most instances, because of the limitations of Siebel Handheld applications, only a subset of the class functionality that is required for the Siebel Handheld application is supported. All business components are shared by the Siebel Handheld application and the Siebel Server.

The following are the supported business component classes for Siebel Service Handheld applications:

- CSSBCActivityPart
- CSSBCActivitypartMvmt

**NOTE:** This class is a specialized business component that records the part movements between Siebel inventories. As a result, it needs the Siebel inventories to be present in order for it to work. The Part Tracker view is based on the business component FS Activity Parts Movement.

■ CSSBCAssetWrnty

■ CSSBCBusComp

■ CSSBCInvoice

**NOTE:** Print invoice documents use multiple user properties in the FS Invoice business component. This class follows a sequential logic that steps through each of the user properties, for example, Use Document Type Field, Document Type Field, Document Type LOV Type, Document Type1, Document Type2.

■ CSSBCLineItem

**NOTE:** The behavior of the Line Items business component is based on this class. In this case, a Line Item record can be updated only if its parent Order record is exposed (present and active) in the Service Order screen. The Line Items view is based on the Line Items business component.

■ CSSBCOrder

**NOTE:** This class is the specialized business component class for Order Management. CSSBCOrder is used to create an Order header and invokes the specialized Order behaviors.

■ CSSBCPMAsset

■ CSSBCServiceRequest

**NOTE:** This specialized business component class provides functionality for the Service Request module. The Service Request module is used to keep track of issues and problems that either the customer or the employee encounter. Among the issues that the Service Request module handles are entitlement verification, warranty checking, and calculating commit time.

■ CSSBCTmshtitem

The following classes are supported by Siebel Service Handheld, but there is no specialized code in the Siebel Handheld application (specific to Siebel Service Handheld) for these classes:

■ CSSBCActivity

**NOTE:** CSSBCActivity is a base class for action-related business components. This class provides support for the creation and manipulation of actions. It also acts as the specialized back-end data supplier for other components, such as, Siebel Calendar, Siebel Scheduler, and Siebel Email Response. For more information about the CSSBCActivity class, see *Siebel Developer's Reference*.

■ CSSBCAssetReading

■ CSSBCBase

**NOTE:** CSSBCBase is a base class from which other business component classes are derived. This class provides functionality through business component user properties and invokes methods that are useful in many common situations. For more information about the CSSBCBase class, see *Siebel Developer's Reference*.

- CSSBCUser

**NOTE:** CSSBCUser is the base class for people-related business components, such as, User, Employee, Contact, and Personal Contact. This class provides functionality for user creation and management, external security adapter integration, Sync List for PIM devices, Personal Contact promotion, and other general contact and employee tasks. For more information about this class, see *Siebel Developer's Reference*.

## Applet Classes for Siebel Service Handheld

You can create additional screens and views for your Siebel Service Handheld application. Any new screens and views must be based on classes and business components that are supported for the Siebel Service Handheld application.

This topic lists the supported applet classes for Siebel Service Handheld applications:

- CSSFrameServiceRequest
- CSSFrameSRActivity
- CSSSWEFrameListPick

The following applet classes are supported by Siebel Service Handheld, but there is no specialized code in the Siebel Handheld application (specific to Siebel Service Handheld) for these classes:

- CSSFrameBase

**NOTE:** CSSFrameBase provides functionality through applet user properties and invokes methods that are useful in many common situations. The FrameListBase classes contain the same functionality and behaviors as their FrameBase counterparts. For more information about this class, see *Siebel Developer's Reference*.

- CSSFrameList

**NOTE:** CSSFrameList is a specialized applet class that represents a list applet object in the Siebel UI Frameworks. For more information about this class, see *Siebel Developer's Reference*.

- CSSFrameListBase

**NOTE:** CSSFrameListBase is a specialized applet class used for base frame functionality in list applets. For more information about this class, see *Siebel Developer's Reference*.

- CSSFramePopupCurrency

# D

## User Properties and Methods

This appendix documents the specific user properties and methods for Siebel Service Handheld applications. The following topics are included in this appendix:

- ["User Properties for Siebel Service Handheld Applications" on page 215](#)
- ["Methods for Siebel Service Handheld" on page 229](#)

### User Properties for Siebel Service Handheld Applications

This topic lists the user properties for Siebel Service Handheld applications.

#### AlphaTab Named Search User Property

Use this property to specify the field on which you want to implement the Alpha Tab Search feature.

**Values:** Fields available in your application.

**Parent Object Type:** List applet.

**Usage:** Select the field from the drop-down list.

For example, if you specify the Account Name field as the AlphaTab Names Search, the alpha search is applied to the Account Name field in the business component for the list applet, and the list applet displays an alpha tab search bar.

**Note:** You can configure as many AlphaTab Named Search properties as you require, but you can define only one for each list applet.

#### AutoPopupField User Property

Use this property to configure a view so that a pop-up list for a particular field automatically opens when the user opens the view.

**Values:** Fields available in your application.

**Parent Object Type:** View.

**Usage:** If the field is in a list applet, set the AutoPopupField property of the view to the Business Component field name.

If the field is in a form applet, set the AutoPopupField property of the view to the name of the control.

### BarcodeNewRecord User Property

Use this property to specify the behavior you require for new record creation when a scan is performed.

**Values:** Y or N.

**Parent Object Type:** Applet.

**Usage:** If you specify Y, when the user performs a parseable scan, a new record is created for the scan, and that record is populated with the values parsed from the barcode.

If you specify N, when the user performs a nonparseable scan, a new record is not created for the scan, but the active field is populated with the barcode number.

### BC Read Only Field User Property

For information about this user property, see *Siebel Developer's Reference and Configuring Siebel Business Applications*.

### BorderStyle User Property

Use this property to specify the border style of a signature control.

**Values:** Double or Single.

**Parent Object Type:** Signature control applet.

**Usage:** Specify the style you require for the control.

### BrowserPath User Property

Use this property to specify the application to start when the user taps a URL or attachment in the application. By default, when users tap a URL or attachment, the item is displayed in Pocket Internet Explorer.

**Values:** String.

**Parent Object Type:** Application.

**Usage:** The default value for this property makes attachments and URLs open in Pocket Internet Explorer.

### ConfirmAccept User Property

Use this property to specify whether to display a confirmation message after the user taps the Accept button on the signature control.

**Values:** Y or N.

**Parent Object Type:** Signature control applet.

**Usage:** Set this property to Y to display a confirmation message after the user taps the Accept button.  
Set this property to N to display no confirmation message.

### DefaultViewType User Property

Use this property to configure how applets are displayed in an application. For more information about applet display modes, see [Designing Screens and Views for Siebel Handheld Applications on page 30](#).

**Values:** Tabbed or Traditional.

**Default Value:** Traditional

**Parent Object Type:** Application.

**Usage:** If set to Tabbed, the first applet in the frame array of a view definition is treated as the parent applet. The parent applet is displayed when users navigate to this view. All other applets in the view are treated as child applets and appear on the tab bar of the parent applet. A parent context bar also appears at the top of the view.

If set to Traditional, the application displays the applets in the traditional two-applet view. To switch between the two applets, choose View > Toggle.

In portrait orientation, the default tabbed applet behavior for the application, when not explicitly specified, is Traditional. You can change the default tabbed applet behavior to Tabbed, if required.

In landscape orientation and square screens, the default tabbed applet behavior for the application is Tabbed, and you cannot change this value to Traditional.

**Note:** This user property can be overridden by the view-level user property ViewType. For more information about the ViewType user property, see [ViewType User Property on page 228](#).

### Disable Second Applet User Property

Use this property when you configure a tree applet to suppress the dynamically created second applet so that only a single applet is displayed.

**Values:** TRUE or FALSE.

**Default Value:** FALSE

**Parent Object Type:** View.

**Usage:** If set to TRUE, the second dynamic applet is not displayed.

If set to FALSE, only a single applet is displayed.

### DisableAlphaTabGroups User Property

Use this property to specify how to display alpha tabs in ungrouped format.

**Values:** TRUE or FALSE.

**Parent Object Type:** Applet.

**Usage:** If set to TRUE, the alpha tabs are displayed in ungrouped format.  
If set to FALSE, the alpha tabs are displayed in grouped format.

### DisableParentBar User Property

Use this property to specify not to display the parent context bar in a view that displays multiple applets in tabbed applet mode. You might use this property if a view contains applets that are not linked in a parent-child relationship.

**Values:** TRUE or FALSE.

**Parent Object Type:** View.

**Usage:** If set to TRUE, the parent context bar is not displayed. When a user selects an applet, the tab of the applet is highlighted, but no parent context bar is displayed.  
If set to FALSE, the parent context bar is displayed.

### EncryptKey User Property

Use this property to specify the default key to use when encrypting signatures. If you do not specify a value for this property, an internal mechanism is used to generate the encryption key.

**Values:** Integer, between 1 and 999999999.

**Parent Object Type:** Signature control applet.

**Usage:** Enter the encryption key you require as the value for this property.

### Explorer Applet Size User Property

Use this property when you configure a tree applet to specify how much space you want the tree applet to occupy.

**Values:** Integer, between 1 and 100.

**Default Value:** 50

**Parent Object Type:** View.

**Usage:** Enter the percentage of space that you want the tree applet to occupy.

### Field Read Only Field *fieldname* User Property

For information about this user property, see *Siebel Developer's Reference* and *Configuring Siebel Business Applications*.

## FormUI User Property

Form UI is a technique of applet design that enables Siebel Handheld application developers to create applets that are larger than normal form applets. For more information about Form UI applets, see [Configuring Form UI Applets for the Siebel Handheld Client on page 39](#).

Use this property to specify whether an applet is a Form UI applet or not.

- Values:** TRUE or FALSE.
- Parent Object Type:** Applet.
- Usage:** If set to TRUE, makes the applet a form UI applet.  
If set to FALSE, makes the applet a normal applet.

## HandheldInsertFailMode User Property

Use this property to specify how to handle record insert failures for the business component. For more information about how insert failures are handled, see ["Insert Failure Processing in Siebel Handheld Applications" on page 153](#).

- Values:** NoFail or FailOnError.
- Default Value:** NoFail
- Parent Object Type:** Business component.
- Usage:** If you specify NoFail, insert failures are logged and synchronization continues.  
If you specify FailOnError, insert failures are logged and synchronization terminates.

## HandheldSyncPickMode User Property

Use this property to enable Extended Pick processing for specified fields in a business component. For more information about Extended Pick processing, see ["Extended Pick Processing in Siebel Handheld Applications" on page 151](#).

- Values:** *Fieldname\_1|Mode\_1, Fieldname\_2|Mode\_2 ... Fieldname\_n|Mode\_n*
- Parent Object Type:** Business component.
- Usage:** Specify the field name and the mode for each field for which you want to specify this property. Specify one of the following modes:
- NoFail
  - FailOnError
- If set to NoFail, enables Extended Pick processing for the specified field.  
If set to FailOnError, disables Extended Pick processing for the specified field.

**Note:** The setting on the business component takes precedence over the setting defined in the Settings view tab on the Administration - Mobile screen > Application Administration view.

You can use the business component setting to nullify the global application of Extended Pick. Conversely, you can enable Extended Pick processing on specific business components if the setting in the Settings view tab has disabled the functionality.

### InkColor User Property

Use this property to specify the color to use on the signature control applet.

**Values:** Hexadecimal value from 0x000000 to 0xFFFFFFFF.

**Parent Object Type:** Signature control applet.

**Usage:** The six hexadecimal digits in the value that you specify represent the color to use. The six digits comprise three groups of two digits. Each group of two digits is the value for one of the colors: blue, green, and red, in that order. For example, the value 0xFF0000 represents the color blue.

### InkWidth User Property

Use this property to specify the width of the line that is created in the signature control applet.

**Values:** 1-5.

**Parent Object Type:** Signature control applet.

**Usage:** A typical line width is 2.

### MaximumFooterLines User Property

Use this property to specify the maximum height of the footer display control.

**Values:** Integer.

**Parent Object Type:** Signature control applet.

**Usage:** Specify the height as the number of text lines. If the footer text exceeds this number, the user can use the pen to scroll vertically. The footer display control does not display a scroll bar.

### MaximumHeaderLines User Property

Use this property to specify the maximum height of the header display control.

**Values:** Integer.

**Parent Object Type:** Signature control applet.

**Usage:** Specify the height as the number of text lines. If the header text exceeds this number, the user can use the pen to scroll vertically. The header display control does not display a scroll bar.

## On Field Update Set *n* User Property

For information about this property, see *Siebel Developer's Reference*.

## OrderAccessControl User Property

Use this property to set access control for fields in the Orders business component.

**Values:** TRUE or FALSE.

**Parent Object Type:** Orders business component.

**Usage:** If set to TRUE, all fields in the business component, except the Status field are set to read-only for all users, except the user who created the order.

## OverrideDefaultApplet User Property

Use this property to override the default behavior to give focus to an applet. This user property is typically used with the GotoViewNewRecord method.

**Values:** 0 or 1.

**Parent Object Type:** Control.

**Usage:** If set to 0, gives the focus to the parent applet.

If set to 1, gives the focus to the child applet.

## OverridePopupVisibility $n$ User Property

Use this property to specify fields that override the business component Popup Visibility Type setting in an applet. Use this property when the visibility you require for a field differs from the Popup Visibility Type of the business component, and you do not want to change the Popup Visibility Type of the business component. For more information about visibility types, see [Designating Visibility on page 118](#).

**Values:** *Business\_Component\_Field, Visibility\_Type*

**Parent Object Type:** Applet control or column.

**Usage:** The name of the OverridePopupVisibility parameter must be unique, so you must append a unique number to the name of the parameter for any other items, for example, OverridePopupVisibility1, OverridePopupVisibility2, and so on.

Assign a value to this property that contains the name of the business component field, followed by a comma, and then the visibility type you require for the field. [Table 16](#) summarizes popup visibility types and the corresponding visibility codes.

## PrintForms User Property

You can implement multiple printing of forms in Siebel Handheld applications. To do this, you must add a control that invokes the PrintBatch method.

Use the PrintForms user property to specify the forms to print, the print templates, and a default number of copies of each form to print. You can specify up to 10 sets of forms, print templates, and default numbers.

For more information about how to configure multiple-form printing and multiple-quantity printing, see [Configuring Multiple Form and Multiple Quantity Printing for the Siebel Handheld Application on page 59](#).

**Values:** *form\_name\_1, template\_filename\_1, default\_number\_of\_copies\_1, form\_name\_2, template\_filename\_2, default\_number\_of\_copies\_2, ... form\_name\_10, template\_filename\_10, default\_number\_of\_copies\_10,*

**Parent Object Type:** Control.

**Usage:** Enter the sets of forms, print templates, and default numbers that you require.

**Note 1:** Do not enter a space before or after the commas. A comma must always follow the last entry.

**Note 2:** All of the applets that are specified in the following print tags must be configured in the view from which the PrintBatch method is invoked:

- Applet
- List
- GetTotal
- GetCount

In other words, all of the applets that are specified in these print tags, in all of the print templates that are used in the PrintBatch method, must be configured in the view.

Use the GetDirect print tag to get the value of a field from a business component that is not configured in the view.

**Example:** You might have forms with templates as follows:

- Order with Price, OrderwithPrice.txt
- Order without Price, OrderwithoutPrice.txt
- Temporary ID Card, TemporaryIDCard.txt

To print one copy of the first form only, specify the following value for this property:

```
Order with Price,OrderwithPrice.txt,1,Order without
Price,OrderwithoutPrice.txt,0,Temporary ID
Card,TemporaryIDCard.txt,0,
```

### SHCE COM Disable User Property

Use this property to disable support for the COM feature for a Siebel Handheld application.

- Values:** Y or N.  
**Parent Object Type:** Application.  
**Usage:** Set to Y to disable the COM feature.

### SHCEDailySlotHeight User Property

Use this property to change the time slot spacing in the Daily Calendar Applet.

- Values:** Integer, between 14 and 50.  
**Default Value:** 15  
**Parent Object Type:** Daily calendar applet.  
**Usage:** No additional information.

### SHCEHideNavBar User Property

Use this property to hide the navigation bar in a calendar applet or find applet.

- Values:** TRUE or FALSE.  
**Parent Object Type:** Applet.  
**Usage:** If set to TRUE, hides the navigation bar.  
If set to FALSE, does not hide the navigation bar.

### SHCEHideStatusBar User Property

Use this property to hide the status bar in a calendar applet or find applet.

- Values:** TRUE or FALSE.  
**Parent Object Type:** Applet.  
**Usage:** If set to TRUE, hides the status bar.  
If set to FALSE, does not hide the status bar.

### SHCEHideToolBar User Property

Use this property to hide the toolbar in a calendar applet or find applet.

- Values:** TRUE or FALSE.  
**Parent Object Type:** Applet.  
**Usage:** If set to TRUE, hides the toolbar.  
If set to FALSE, does not hide the toolbar.

### SHCEMenuBackButton User Property

Use this property to add the Go Back button to the menu bar in a calendar applet or find applet. This property enables you to have no toolbar on the applet to save screen space, and to still have a Go Back button in the applet.

**Values:** TRUE or FALSE.

**Parent Object Type:** Applet.

**Usage:** If set to TRUE, adds the Go Back button to the menu bar.

If set to FALSE, does not add the Go Back button to the menu bar.

### SHCEMenuForwardButton User Property

Use this property to add the Go Forward button to the menu bar in an applet. This property enables you to have no toolbar on the applet to save screen space, and to still have a Go Forward button in the applet.

**Values:** TRUE or FALSE.

**Parent Object Type:** Applet.

**Usage:** If set to TRUE, adds the Go Forward button to the menu bar.

If set to FALSE, does not add the Go Forward button to the menu bar.

### SHCEMenuNewButton User Property

Use this property to add the New Record button to the *menu bar* in an applet. This property enables you to have no toolbar on the applet to save screen space, and to still have a New Record button in the applet.

**Values:** TRUE or FALSE.

**Parent Object Type:** Applet.

**Usage:** If set to TRUE, adds the New Record button to the menu bar.

If set to FALSE, does not add the New Record button to the menu bar.

### ShowData User Property

Use this property to specify if the content of the signature field can be displayed. If you specify not to display signature data, the ellipses in the signature applet control are disabled.

**Values:** Y or N.

**Parent Object Type:** Signature field in a signature capture applet.

**Usage:** Set this property to Y to allow the content of the signature field to be displayed.

Set this property to N to prevent the display of signatures.

## Signature User Property

Use this property to specify if a field can store a signature.

**Values:** Y or N.

**Parent Object Type:** Signature capture applet.

**Usage:** Set this property to Y to make a field a signature field.

Set this property to N if you do not want a field to store signatures.

## SignatureDataField User Property

Use this property to specify a destination field for the captured signature if you do not want to save the signature in the user interface field.

**Values:** A field name in the current business component.

**Parent Object Type:** Signature capture applet.

**Usage:** Enter the name of the business component field where you want to save the signature data.

## SignatureDate User Property

Use this property to specify whether to add the current date under the signature footer.

**Values:** Y or N.

**Parent Object Type:** Signature capture applet.

**Usage:** No additional information.

**Note:** The date is added in the regional default date format of the handheld device.

The date is saved to the field specified in the SignatureFooterSaveField user property. For more information about this user property, see [SignatureFooterSaveField User Property on page 226](#).

## SignatureField User Property

Use this property to specify the name of the user interface field where the signature data is stored.

**Values:** UI field name.

**Parent Object Type:** Signature button control.

**Usage:** Enter the name of the field where you want to store the signature data.

## SignatureFooterField User Property

Use this property to specify the field from which to copy the content for the signature footer.

**Values:** A field name in the current business component.

**Parent Object Type:** Signature capture applet.

**Usage:** No additional information.

### SignatureFooterSaveField User Property

Use this property to specify the field to which the content for the signature footer is saved.

**Values:** A field name in the current business component.

**Parent Object Type:** Signature capture applet.

**Usage:** If the SignatureDate user property is set to Y, the date is included in the data that is saved to this field.

If the SignatureTime user property is set to Y, the time is included in the data that is saved to this field.

### SignatureHeaderField User Property

Use this property to specify the field from which to copy the content for the signature header.

**Values:** A field name in the current business component.

**Parent Object Type:** Signature capture applet.

**Usage:** No additional information.

### SignatureHeaderSaveField User Property

Use this property to specify the field to which the content for the signature header is saved.

**Values:** A field name in the current business component.

**Parent Object Type:** Signature capture applet.

**Usage:** No additional information.

### SignatureHeight User Property

Use this property to specify the height of the signature capture control.

**Values:** Integer, between 1 and 200.

**Parent Object Type:** Control on signature capture applet.

**Usage:** Specify the height in pixels.

### SignatureTime User Property

Use this property to specify whether to add the current time under the signature footer.

**Values:** Y or N.

**Parent Object Type:** Signature capture applet.

**Usage:** No additional information.

**Note:** The time is added in the time format of the handheld device.

The time is saved to the field specified in the SignatureFooterSaveField user property. For more information about this user property, see [SignatureFooterSaveField User Property on page 226](#).

### SignatureWidth User Property

By default, signature controls occupy the full width of the screen on the handheld device. Use the SignatureWidth user property to set the width of a signature control.

**Values:** Integer, between 1 and 240.

**Parent Object Type:** UI field.

**Usage:** Enter the width of the screen.

### SingleSelect User Property

Use this property to restrict to one the number of records that the user can select from a control.

**Values:** TRUE or FALSE.

**Parent Object Type:** Control.

**Usage:** If set to TRUE, disables multiselect mode and autoselect mode, and enables the user to select one record only.

If set to FALSE, enables multiselect mode and autoselect mode.

### TaskUI User Property

Use this property to specify that a view contains a Siebel Task. For more information about Siebel Tasks, see [Developing Tasks for Task UI in Siebel Handheld Applications on page 48](#).

**Values:** TRUE or FALSE.

**Parent Object Type:** View.

**Usage:** If set to TRUE, specifies that the view contains a Siebel Task.

If set to FALSE, specifies that the view is not a Siebel Task.

### TriggerFindRecord User Property

For information about how to use this property, see [Enhancing the Behavior of the Barcode Scan on page 89](#).

### UseSystemLocale User Property

Use this property if you want a Calendar applet to display the dates according to the regional date settings on the handheld device where the application is installed.

**Values:** TRUE or FALSE.

**Parent Object Type:** Applet.

**Usage:** If set to TRUE, the applet uses the regional date settings on the handheld device to display dates on the calendar.

If set to FALSE, the applet does not use the regional date settings.

## View User Property

Use this property to specify the name of the view to display when a user selects the control.

**Values:** Views available in your application.

**Parent Object Type:** Control.

**Usage:** No additional information.

## ViewType User Property

Use this property to configure how applets are displayed in a view. For more information about applet display modes, see [Designing Screens and Views for Siebel Handheld Applications on page 30](#).

**Values:** Tabbed or Traditional.

**Parent Object Type:** View.

**Usage:** For information about the usage of this property, see [DefaultViewType User Property on page 217](#).

**Note:** ViewType overrides the DefaultViewType property in portrait orientation. In landscape orientation and on square screens, the default applet display mode is Tabbed.

## WritingGuide User Property

Use this property to display information in the applet. This information provides instructions on how to create a signature on a handheld device.

**Values:** Y or N.

**Parent Object Type:** Signature control applet.

**Usage:** Set this property to Y to display the writing guide in the applet.

Set this property to N if you do not want to display the writing guide in the applet.

# Methods for Siebel Service Handheld

Table 33 lists the Business Components and describes the methods you can use for your Siebel Service Handheld application.

Table 33. Supported Methods for Siebel Service Handheld

Business Component	Method	Description
Action	AcceptStatus	Sets the Status field of an activity to Acknowledged.  Method is enabled when Status is not set to Acknowledged, On Hold, In Progress, Done, or Cancelled.
	ArrivedStatus	Sets the Start field of an activity to the current time.  Method is enabled when Status = In Progress and the Start field is not set.
	EnRouteStatus	Sets the Status field of an activity to In Progress.  Method is enabled when Status = In Progress.
	DeclineStatus	Sets the Status field of an activity to Declined.  Method is enabled when the Status field is not set to In Progress, On Hold, Done, Cancelled, or Declined.
	SuspendStatus	Sets the Status field of an activity to On Hold.  Method is enabled when Status = In Progress and the Start field has been set.
	ResumeStatus	Sets the Status field of an activity to In Progress.  Method is enabled when Status = On Hold.
	FinishedStatus	Sets the Status field of an activity to Done, sets the End field to the current time, and sets the % Complete field to 100.  Method is enabled when Status = In Progress and Start field is not empty.
	Start	Sets the Start field of an activity to the current time.  Method is enabled when Status = In Progress and the Start field is not set.

Table 33. Supported Methods for Siebel Service Handheld

Business Component	Method	Description
	End	<p>Sets the Status field of an activity to Done, sets the End field to the current time, and sets the % Complete field to 100. (Did not update % Complete field.)</p> <p>Method is enabled when Status = In Progress and Start field is not empty.</p>
FS Recommended Parts & Tools	OrderParts	<p>Method is used in the SHCE Service FS Activity Recommended Parts Tools view, SHCE Service FS Activity Recommended Parts &amp; Tools List Applet applet.</p> <p>For any record in the view, if there are insufficient parts—that is, Available Quantity is less than Recommended Quantity—executing this method orders additional parts. The method generates an AutoOrder for the selected products with the Recommended Quantity equal to the quantity in the order line item.</p>
	CheckTrunk	<p>Method is used in the SHCE Service FS Activity Recommended Parts Tools view, SHCE Service FS Activity Recommended Parts_Tools List Applet.</p> <p>Checks each record in the view and verifies the quantity (Qty field) against the inventory. It updates the Available Quantity (Avail) field with the number of items in the user's trunk.</p>
FS Activity Parts Movement	CommitPartMvmtClient	<p>Method is used in the SHCE Service FS Activity Part Movements view, SHCE Service FS Activity Part Movements List Applet applet.</p> <p>This method commits a part movement—that is, it sets the Commit flag on the record, and once this flag is set, the Object Manager updates the inventory levels and the transaction table.</p>
	OrderPartsRMA	Generates an order for a part movement and sets the order type to RMA.
	OrderPartsRMARepair	Generates an order for a part movement and sets the order type to RMA Repair.

Table 33. Supported Methods for Siebel Service Handheld

Business Component	Method	Description
FS Invoice	GenerateInvoice	<p>Generates an invoice for an activity and creates line items for parts movement, time, expenses, entitlements, discounts, and totals.</p> <p>When the method is used in the Activity screen, the Action GenerateInvoice method is executed for a single activity.</p> <p>When the method is used in the Service Request screen, the Service Request GenerateInvoice method executes for each activity in the service request, it compiles one total for each line item, and generates one invoice for the entire service request.</p>
Time Sheet Daily Hours	SetEndTime	Sets the end time in the SHCE FS Time View view, SHCE Activity Time Daily Hours List Applet applet.
	SetStartTime	Creates a new record and sets the start time in the SHCE FS Time View view, SHCE Activity Time Daily Hours List Applet applet.



# E

## Print Tagging Language

This appendix describes the print tagging language that is used to create print templates for your handheld device. The audience for this appendix is Siebel Handheld application developers. The following topics are covered in this appendix:

- "Overview of Print Tagging Language for Siebel Handheld Applications" on page 233
- "Print Mode Tags" on page 234
- "Data Output Tags" on page 235
- "Print Formatting Tags" on page 242
- "Get and Set Tags" on page 256
- "Control Positioning Tags" on page 262
- "Data Manipulation and Logic Tags" on page 267
- "Using Variables in Print Templates" on page 271

### Overview of Print Tagging Language for Siebel Handheld Applications

You can create the print template file in any text editor:

- Tags are enclosed in angle brackets and identified with the keyword TAG, followed by a colon. For example, <TAG: . . . .>.
- Parameters are specified with a keyword, followed by an equals sign (=). Arguments are in uppercase, surrounded by quotation marks. For example, Font = "FONT FACE".
- Values are in uppercase and lowercase, surrounded by quotation marks. For example, Font = "Helvetica".
- Tags can appear in any order in the file. The only required tag is the Title tag.
- Variables within a print template must be uniquely named. Variable names must be one-word strings and spaces are not allowed.

## Print Mode Tags

The following two tags determine the mode of printing. The print mode determines how printing is going to be handled by the Siebel Handheld application.

- "Absolute Tag" on page 234
- "Relative Tag" on page 234

### Absolute Tag

The Absolute tag sets the print mode to absolute. Print mode determines how printing is going to be handled by your Handheld application. Absolute mode-only tags and parameters are enabled and processed accordingly while in absolute mode.

#### Usage

The Absolute tag can appear anywhere in the template for any number of times to switch between print modes. Print mode defaults to Relative if none is specified.

#### Syntax

To use this tag, use the following syntax:

<TAG:Absolute>

Parameter	Description
TAG:Absolute	(Required) Absolute tag indicator.

### Relative Tag

The Relative tag sets the print mode to relative, cancelling the absolute mode. Absolute mode-only tags and parameters are disabled and ignored while in Relative mode.

#### Usage

The Relative tag can appear anywhere in the template for any number of times to switch between print modes. Print mode defaults to Relative if none is specified.

#### Syntax

To use this tag, use the following syntax:

<TAG:Relative>

Parameter	Description
TAG:Relative	(Required) Relative tag indicator.

## Data Output Tags

The following tags are used to control data output for printing:

- "Applet Tag" on page 235—Specifies which applets are used in the document.
- "Cell Tag" on page 237—Creates cells of data in a row in a table.
- "Picture Tag" on page 239—Adds graphic images to the document.
- "Static Text Tag" on page 241—Adds text that does not change to the document.

### Applet Tag

The Applet tag specifies the applet to be printed.

#### Usage

Any data that appears in your document must be generated from the applets in the view. Therefore, you must create applets that produce the data required for your document.

Use the Applet tag to specify the number of list or form applets within the template and to locate the applet in your document. In the form view, a maximum of two fields for each row are supported.

#### Syntax

To use this tag, use the following syntax:

```
<TAG:Applet name="APPLET NAME" query="QUERY" caption="CAPTION"
headerdivider="HEADERDIVIDER" recorddivider="RECORDDIVIDER" wrap="WRAP" grid="GRID"
linewidth="THICKNESS" offset="OFFSET" width="WIDTH" sql="SQL_Statement"
maxlines="MAXLINES" startat="Number">
```

Parameter	Description
TAG:Applet	(Required) Applet tag indicator.
name	(Required) Applet name as defined in Siebel Tools.
query	(Optional) Specifies the query string directly set to the business component supporting the print template.  If the query string is not specified, the currently active query string in the view is applied to expose the relevant records.
caption	(Optional) Specifies whether the captions in the form applets are suppressed.  Valid values are TRUE (default) and FALSE. This parameter does not apply to list applets. Column headings in list applets are always enabled.

Parameter	Description
headerdivider	<p>(Optional) Specifies whether a divider is printed below the column heading in list applets.</p> <p>Valid values are TRUE and FALSE (default). This parameter does not apply to form applets.</p>
recorddivider	<p>(Optional) Specifies whether a horizontal divider is printed between records in list applets.</p> <p>Valid values are TRUE and FALSE (default). This parameter does not apply to form applets.</p>
wrap	<p>(Optional) Specifies whether to enable word wrap for text field values.</p> <p>Valid values are TRUE and FALSE (default). This parameter does not apply to numeric fields.</p>
grid	<p>(Optional) Specifies whether a grid is used to display data in list applets.</p> <p>Valid values are TRUE and FALSE (default). If TRUE, a grid is drawn between fields, rows, and columns in list applets. This parameter does not apply to form applets.</p>
linewidth	<p>(Optional) Specifies grid thickness in millimeters.</p> <p>Valid values are 1-5. The default value is 1, which produces a line 0.2 mm wide. Increasing the value by 1 increases the width by 0.2 mm. A 5 produces a line that is 1 mm wide.</p>
offset	<p>(Optional, absolute mode-only) Specifies the distance, in millimeters, to the right from the left margin. This value can be a number ("40") or a variable that contains a number value ("_X" or "posx").</p>
width	<p>(Optional) Specifies the width of the applet in millimeters.</p>
sql	<p>(Optional) Where clause for the SQL statement. For example, <code>sql="\status"='good'</code> selects all records where status field is set to good.</p> <p><b>NOTE:</b> Enclose the field name in double quotes and use backslash followed by double quotes to include a double quote within the parameter, then enclose the value in single quotes.</p>
maxlines	<p>(Optional) Specifies the maximum number of records to print for list applets. This parameter does not apply to form applets.</p>
startat	<p>(Optional) Starts printing from the specified record in the row set.</p>

**Example**

The following example prints the same applet twice side-by-side starting at record 10 in the list:

- The first time CS HH Product Bucket List Applet is printed, it is printed with gridlines of 0.4 mm in thickness, and 0 mm from the left edge of the printable area of the page (on the left margin).  
Only records where Status=Defective are displayed. Up to two records are printed (Maxlines="2").
- The second time CS HH Product Bucket List Applet is printed, it is printed with gridlines where the left side of the applet is positioned 80 mm from the left margin.  
Only records where Status=Good are displayed. Up to two records are printed (Maxlines="2").

```
<TAG:Applet name="CS HH Product Bucket List Applet" sql="\Status\"='Defective'" maxlines="2"
startat="10" recorddivider="FALSE" wrap="TRUE" grid="TRUE" offset="0" width="75"
linewidth="0.4">
```

```
<TAG:SETVARIABLE variable="var_equal" name="">
<TAG:SETVARIABLE variable="var_fieldname" name="\Status\">
<TAG:SETVARIABLE variable="var_criteria" name="Good">
<TAG:CONCAT variable="var_equal" prepend="<variable>var_fieldname"
append="<variable>var_criteria">
<TAG:SETY y="0">
```

```
<TAG:Applet name="CS HH Product Bucket List Applet" sql="<variable>var_equal" maxlines="2"
startat="10" recorddivider="FALSE" wrap="TRUE" grid="TRUE" offset="80" width="75">
```

## Cell Tag

The Cell tag prints the string stored in the name="STRING" parameter or variable="VARIABLE NAME" parameter at the specified location on the current line.

### Usage

Use the Cell tag to create cells of data in a row in a table. Use it with the EndOfLine tag. If the data exceeds the width of the cell specified by the Startat and Endat parameters, then the data wraps to the next line.

### Syntax

To use this tag, use the following syntax:

```
<TAG:CELL startat="START" endat="END" name="STRING" align="ALIGNMENT" left="LEFT"
top="TOP" right="RIGHT" bottom="BOTTOM" box="BOX" linewidth="LINEWIDTH">
<TAG:CELL startat="START" endat="END" variable="VARIABLE NAME" align="ALIGNMENT"
left="LEFT" top="TOP" right="RIGHT" bottom="BOTTOM" box="BOX" linewidth="LINEWIDTH">
```

<TAG:EndOfLine>

Parameter	Description
TAG:Cell	(Required) Required tag indicator.
startat	(Required in relative mode) Specifies the starting point of the cell, expressed as a percentage of the printable page width. For example, if START =10, then the cell starts at the point that is 10% from the left edge of the printable width.
endat	(Required in relative mode) Specifies the end point of the cell, expressed as a percentage of the printable page width. For example, if END=50, then the cell ends at the point that is 50% from the left edge of the printable width.
name	(Optional) String value. If a variable parameter is not specified, then name is a required parameter.
variable	(Optional) Variable where the value is stored. If a name parameter is not specified, then variable is a required parameter.
align	(Optional, Existing) Specifies the alignment of the string. Valid values are LEFT (default), CENTER, and RIGHT.
left	(Optional, absolute mode-only tag) Specifies the distance, in millimeters, of the left side of the cell from the left margin. If omitted, the current head position is used and RIGHT parameter is used to specify the width of the cell.
top	(Optional in absolute mode) Specifies the distance, in millimeters, of the top side of the cell from the top margin. If omitted, the current head position is used and the BOTTOM parameter is used to specify the height of the cell.
right	(Required in absolute mode) Specifies the distance, in millimeters, of the right side of the cell from the left margin.
bottom	(Required in absolute mode) Specifies the distance, in millimeters, of the bottom side of the cell from the top margin.
box	(Optional) Specifies whether to draw a box around the printed cell data in form applets. Valid values are TRUE and FALSE (default). This parameter does not apply to list applets.
linewidth	(Optional in absolute mode) Specifies the thickness, in millimeters, of the line drawn if BOX is set to TRUE. If omitted, line width is 0.2 millimeters.

### Example

The following example prints "Text In A Box" inside a rectangular box 10 millimeters (mm) long x 30 mm wide, which is 200 mm from the top margin, and 10 mm from the left margin.

```
<TAG:Cell name="Text In A Box" top="200" left="10" bottom="210" right="60" box="TRUE"
linewidth="0.1" align="LEFT">
<TAG:EndOfLine>
```

## Picture Tag

The Picture tag specifies the graphic files that are included in the print template. When used in absolute print mode (with absolute mode-only tags), graphics are printed from the specified file at the specified position, and according to the specified dimensions.

### Usage

Use the Picture tag to add graphic images, such as a company logo, to your documents. Supported file formats are BMP and JPG.

Graphics files are located in the `\Program Files\Siebel Handheld\templates` directory on the handheld device. Specify the full path name of the file for the Name parameter. Scaling or graphics operations, such as inverse image, are not supported.

The *alignment* and *position* parameters are used together to place the graphic. Alignment specifies the left edge, the center, or the right edge of the graphic. Position is the distance, specified in millimeters, from the left edge of the paper.

### Example

- If `align="Left"` and `position="30"`, then the left edge of the graphic is set 30 mm from the left edge of the paper.
- If `align="Center"` and `Position="30"`, the center of the graphic is set 30 mm from the left edge of the paper.
- If `align="Right"` and `Position="30"`, the right edge of the graphic is set 30 mm from the left edge of the paper.

If the position is not specified, the position defaults to 0. Depending on the alignment setting, the graphic is left-aligned (`align="Left"`), right-aligned (`align="Right"`), or centered (`align="Center"`).

- In absolute mode-only, if `left="20"`, `top="40"`, `right="80"`, and `bottom="80"`, then the picture is drawn 20 mm from the left margin and 40 mm from the top margin, and is 60 x 40 millimeters in size.
- In the absolute mode-only, if `right="80"` and `bottom="80"`, then the picture is drawn at the current location and is 80 x 80 mm in size.

When `left="x"` and `top="y"` parameters are not specified, the picture is drawn at the current head position. In such cases, the `right="x"` and `bottom="y"` parameters specify the width and height of the image respectively.

### Syntax

To use this tag, use the following syntax:

```
<TAG:Picture name="FILE NAME" align="ALIGNMENT" position="POSITION">
```

Parameter	Description
TAG:Picture	Required. Picture tag indicator.

Parameter	Description
name	(Required) Specifies the full path and name of the graphics file.
align	(Optional) Specifies the left edge, the center, or the right edge of the graphic. Used with the Position parameter to specify the horizontal position of the graphic. Valid values are LEFT (default), CENTER, and RIGHT.
position	(Optional) Specified in millimeters, this is the distance from the left edge of the paper. Used with the Alignment parameter to specify the horizontal position of the graphic. The default is 0.

**Example**

```
<TAG:Picture name="\Program Files\Siebel Handheld\templates\logo.bmp" alignment="Right" Position="88">
```

**Syntax (absolute mode-only)**

To use this tag, use the following syntax:

```
<TAG:Picture name="FULL PATH FILE NAME" left="LEFT VALUE" right="RIGHT VALUE" top="TOP VALUE" bottom="BOTTOM VALUE" position="POSITION">
```

Parameter	Description
TAG:Picture	(Required) Picture tag indicator.
left	(Optional, absolute mode-only tag) Specified in millimeters, this is the distance of the left side of the rectangle from the left margin. If omitted, the current head position is used, and the RIGHT parameter is used to specify the width.
top	(Optional, absolute mode-only tag) Specified in millimeters, this is the distance of the top side of the rectangle from the top margin. If omitted, the current head position is used, and the BOTTOM parameter is used to specify the height.
right	(Required, absolute mode-only tag) Specified in millimeters, this is the position of the right side of the rectangle on the X axis from the left margin.
bottom	(Required, absolute mode-only tag) Specified in millimeters, this is the position of the bottom side of the rectangle on the Y axis from the top margin.

**Example (absolute mode-only)**

```
<TAG:Picture name="\Program Files\Siebel Handheld\templates\logo.bmp" left="20" top="40" right="80" bottom="80">
<TAG:Picture name="\Program Files\Siebel Handheld\templates\logo.bmp" right="80" bottom="80">
```

## Static Text Tag

You can add static text anywhere in your template by using the current Format settings. The text goes across the entire page width. If the text exceeds the width of the page, it wraps to the next line.

### Example

This quote is valid for 60 days from the date on this quotation.

## Print Formatting Tags

The following tags provide flexibility in formatting print templates and are used to specify the format of the print output:

- “Background Tag” on page 242—Prints an image to specified coordinates, much like a watermark.
- “Comment Tag” on page 243—Adds comments that do not appear in the final document.
- “Divider Tag” on page 244—Adds visual lines to visually separate different parts of the document.
- “DrawRect Tag” on page 244—Draws a rectangle at specified coordinates.
- “EndOfPage Tag” on page 246—Advances to a new page.
- “Footer Tag” on page 246—Adds information such as page numbers, date, and time.
- “Format Tag” on page 247—Specifies characteristics such as font, boldface, italics, and underline.
- “Frame Tag” on page 248—Draws a surrounding frame around the whole page for all pages in the print template.
- “Header Tag” on page 249—Adds information such as page numbers, date, and time.
- “Landscape Tag” on page 250—Sets landscape paper orientation for the subsequent print tags.
- “List Tag” on page 250—Prints the selected columns with the specified width.
- “LineTo Tag” on page 252—Draws a line of a specified line thickness from the current printer head position to the specified coordinate.
- “Margin Tag” on page 253—Sets the margin for a specific template.
- “PageBreak Tag” on page 254—Specifies a break in the text, forcing the text that follows to appear on the next page.
- “Portrait Tag” on page 254—Sets portrait paper orientation for the subsequent print tags.
- “Title Tag” on page 255—Specifies a name for the template that appears in the print job list.

### Background Tag

The Background tag prints an image at specified coordinates for all pages in the print template. Supported file formats are BMP and JPG only.

#### Usage

Use the Background tag to print logos or images in the header, footer, or main printable area of the print template. When the Background tag is used, the image is printed like a watermark logo, and any other object included in the print template is printed over it.

It is recommended that you declare the Background tag immediately after the Absolute, Margin, Header, or Footer tags.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:Background name="FILE NAME" left="LEFT" top="TOP" right="RIGHT" bottom="BOTTOM">
```

Parameter	Description
TAG:Background	(Required) Required tag indicator.
name	(Required) Specifies the full path and name of the graphics file.
left	(Optional) Specifies, in millimeters, the position of the left side of the image on the X axis from the left side of the paper. This setting defaults to zero if omitted.
top	Specifies, in millimeters, the position of the top side of the image on the Y axis from the top of the paper. This setting defaults to zero if omitted.
right	Specifies, in millimeters, the position of the right side of the image on the X axis from the right side of the paper. The image is shrunk or expanded to fit within the specified size.
bottom	Specifies, in millimeters, the position of the bottom side of the paper on the Y axis from the bottom of the paper. The image is shrunk or expanded to fit within the specified size.

**Example**

The following example prints a 50 x 30 mm image at 30 mm from the left edge and 50 mm from the top edge of the page. The header or footer or both can overlap the image if the image is placed on the header or footer area:

```
<TAG:Absolute>
<TAG:Margin left="30" Top="50" right="80" bottom="100">
<Tag:Header left="<page>" center="<variable>numrows" right="<date>">
<Tag:Footer left="receipt" center="<variable>numrows" right="<page>">
<Tag:Background name="\logo.gif" left="30" top="50" right="80" bottom="100">
```

**Comment Tag**

The Comment tag adds code comments to the print template.

**Usage**

Use the Comment tag to add explanatory notes or documentation to explain and maintain the print template. Comment tags are ignored during printing and do not appear in the printed document.

**Syntax**

To use this tag, use the following syntax:

<REM:COMMENT>

Parameter	Description
REM	(Required) Comment tag indicator.
COMMENT	(Optional) Comment text.

### Example

<REM: Quotation Print Template. This template includes four applets.>

## Divider Tag

The Divider tag renders a horizontal line across the width of the page.

### Usage

Use the Divider tag to visually separate the different sections of your document. The Divider tag can be used between other tags; therefore, you can add a line between two applets. However, you cannot embed a Divider within an applet.

### Syntax

To use this tag, use the following syntax:

<TAG:Divider weight="WEIGHT" startat="START" endat="END">\

Parameter	Description
TAG:Divider	(Required) Divider tag indicator.
weight	(Optional) Specifies line thickness. Valid values are 1–5. The default value is 1, which produces a line 0.2 mm wide. Increasing the value by 1 increases the width by 0.2 mm. A 5 produces a line that is 1 mm wide.
startat	(Optional) Percentage that specifies the starting point of the line. The default is 0%, the farthest left point.
end	(Optional) Percentage that specifies the end point of the line. The default is 100%, the farthest right point.

### Example

<TAG:Divider weight="2" startat="20" endat="80">

## DrawRect Tag

The DrawRect tag draws a rectangle at the specified coordinates. This is an absolute mode-only tag.

**Usage**

Use the DrawRect tag to draw a rectangle anywhere in the printable area of your page. This tag can be used with the Applet tag to draw a rectangle around a form applet.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:DrawRect left="LEFT" right="RIGHT" top="TOP" bottom="BOTTOM" linewidth="THICKNESS">
```

Parameter	Description
TAG:DrawRect	(Required) Applet tag indicator.
left	(Optional) Specifies the distance, in millimeters, of the left side of the rectangle from the left margin.  If omitted, the current head position is used and the RIGHT parameter is used to specify the width.
top	(Optional) Specifies the distance, in millimeters, of the top side of the rectangle from the top margin.  If omitted, the current head position is used and the Bottom parameter is used to specify the height.
right	(Required) Position, in millimeters, of the right side of the rectangle on the X axis from the left margin.
bottom	(Required) Position, in millimeters, of the bottom side of the rectangle on the Y axis from the top margin.
linewidth	(Required) The thickness, in millimeters, of the line.

**Example**

The following example draws a thin 100 x 90 mm rectangle at 30 mm from the top and 20.5 mm from the left edge of the printable area:

```
<TAG:DrawRect left="20.5" top="30" right="120.5" bottom="120" linewidth="0.2">
```

**EndOfLine Tag**

The EndOfLine tag specifies the end of a row and advances to the next line.

**Usage**

Use the EndOfLine tag to create rows of data in a table. Used with the Cell tag.

### Syntax

To use this tag, use the following syntax:

```
<TAG:EndOfLine>
```

Parameter	Description
TAG:EndOfLine	(Required) End of line tag indicator.

### Example

```
<TAG:Cell startat="0" endat="50" name="TOTAL:" align="RIGHT">  
<TAG:Cell startat="50" endat="100" variable="vvv1total" align="RIGHT">  
<TAG:EndOfLine>
```

## EndOfPage Tag

The EndOfPage tag advances to a new page.

### Usage

Use the EndOfPage tag to create a page break and start a new page within the print template.

### Syntax

To use this tag, use the following syntax:

```
<TAG:EndOfPage>
```

Parameter	Description
TAG:EndOfPage	(Required) End of page tag indicator.

### Example

```
<TAG:Cell startat="0" endat="50" name="TOTAL:" align="RIGHT">  
<TAG:Cell startat="50" endat="100" variable="vvv1total" align="RIGHT">  
<TAG:EndOfPage>
```

## Footer Tag

The Footer tag adds footer information such as page numbers, the current date, and the current time.

### Usage

You might, for example, always want the text *Thank you for your business!* to appear on the bottom of your receipts. If so, you can include this text in a Footer tag.

The Footer tag can be specified anywhere in the template file; however, it will always appear at the very bottom of your document. Only one Footer tag is applied to the document. If you have multiple Footer tags in the file, only the last Footer tag is used; any other Footer tags are ignored.

If you include a Footer tag in your template, then you must set the BottomMargin in setup.ini to a minimum of 20.

The footer has three sections, Left, Center, and Right, which are used to position the information in the footer.

The text in the footer is formatted in 10 point, Helvetica font. If Helvetica is not available on your system, the default font is used. You cannot customize text formatting of the Footer tag. The Format tag does not affect the formatting of the footer.

### Syntax

To use this tag, use the following syntax:

```
<TAG:Footer left="DATA" center="DATA" right="DATA">
```

Parameter	Description								
TAG:Footer	(Required) Footer tag indicator.								
left, center, or right	(Optional) Static text or one of the following data tags:								
	<table border="1"> <thead> <tr> <th>Data tag</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>&lt;page&gt;</td> <td>Page number</td> </tr> <tr> <td>&lt;date&gt;</td> <td>Date of the printing</td> </tr> <tr> <td>&lt;time&gt;</td> <td>Time of the printing</td> </tr> </tbody> </table>	Data tag	Description	<page>	Page number	<date>	Date of the printing	<time>	Time of the printing
Data tag	Description								
<page>	Page number								
<date>	Date of the printing								
<time>	Time of the printing								

### Example

```
<TAG:Footer Left="<date>" Right="<page>">
```

## Format Tag

The Format tag specifies the characteristics of the text—for example, the typeface or font, whether the text is in boldface, italics, or underlined, and the text alignment.

### Usage

Use the Format tag to specify the typeface and font size of the text in your template. The Format tag applies to the text that immediately follows it, or up until the next Format tag appears.

When an applet is rendered, the field alignment specification takes precedence over the align="TEXT ALIGNMENT" parameter of the Format tag.

### Syntax

To use this tag, use the following syntax:

```
<TAG:Format face="FONT FACE" size="FONT SIZE" bold="BOLD" italic="ITALIC" underline="UNDERLINE" align="TEXT ALIGNMENT">
```

Parameter	Description
TAG:Format	(Required) Format tag indicator.
face	(Required) Specifies the typeface of the text. Any typeface installed on the handheld device can be specified. There is no default for this parameter.
size	(Required) Specifies the text size. Any installed font size for an installed typeface on the handheld device can be specified. There is no default for this parameter.
bold	(Optional) Specifies whether the text is in bold. Valid values are TRUE or FALSE (default). If TRUE, text is set to bold.
italic	(Optional) Specifies whether the text is in italic. Valid values are TRUE or FALSE (default). If TRUE, text is set to italic.
underline	(Optional) Specifies whether the text is underlined. Valid values are TRUE or FALSE (default). If TRUE, text is set to underline.
align	(Optional) Specifies the text alignment. Valid values are LEFT (default), RIGHT, and CENTER.

### Example

```
<TAG:Format face="Helvetica" size="10">
```

## Frame Tag

The Frame tag draws a frame (rectangular box) around all pages in the template.

### Usage

Use the Frame tag to draw a rectangular box around each page in your template. The frame is drawn at the edge of the page, just inside the paper margins.

Place the Frame tag after the Margin, Header, or Footer tags.

### Syntax

To use this tag, use the following syntax:

<TAG:Frame pageframe="BOOLEAN VALUE" linewidth="THICKNESS">

Parameter	Description
TAG:Frame	(Required) Required tag indicator.
pageframe	(Required) Specifies whether to draw a frame around the page. Valid values are TRUE or FALSE. If set to TRUE, a frame is drawn around each page.
linewidth	(Required) Specifies the thickness of the line in millimeters. If omitted, the default value is 0.3 millimeters.

**Example**

<TAG:Frame pageframe="TRUE" linewidth="0.5">

## Header Tag

The Header tag adds header information such as page numbers, the current date, and the current time to the template.

**Usage**

You might always want the current date and time to appear on your invoices. If so, you can include this information in a Header tag.

The Header tag can be specified anywhere in the template file; however, it always appears at the very top of your document. Only one Header tag is applied to the document. If you have multiple Header tags in the file, only the last Header tag is used; all other Header tags are ignored.

If you include a Header tag in your template, then you must set TopMargin in setup.ini to a minimum of 20.

The Header tag has three sections (Left, Center, and Right) which are used to position the information in the header. The Left parameter aligns the text with the left margin, and the Right parameter right aligns the text with the right margin. The Center parameter centers the text in the header.

The text in the header is formatted in 10 point, Helvetica font. If Helvetica is not available on your system, the default font is used. You cannot customize text formatting of the Header tag. The Format tag does not affect the format of the header.

**Syntax**

To use this tag, use the following syntax:

<TAG:Header left="DATA" center="DATA" right="DATA">

Parameter	Description								
TAG:Header	(Required) Header tag indicator.								
left, center, or right	(Optional) Static text or one of the following data tags:								
	<table border="1"> <thead> <tr> <th>Data tag</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>&lt;page&gt;</td> <td>Page number</td> </tr> <tr> <td>&lt;date&gt;</td> <td>Date of the printing</td> </tr> <tr> <td>&lt;time&gt;</td> <td>Time of the printing</td> </tr> </tbody> </table>	Data tag	Description	<page>	Page number	<date>	Date of the printing	<time>	Time of the printing
Data tag	Description								
<page>	Page number								
<date>	Date of the printing								
<time>	Time of the printing								

**Example**

<TAG:Header center="Company Confidential">

## Landscape Tag

The Landscape tag sets the page orientation (or printout mode) to landscape for the subsequent page or print tags.

**Usage**

The Landscape tag must be placed after the Margin, Header, or EndOfpage tags. If the Landscape tag is specified in the template, users cannot override the orientation even if they change the paper orientation setting in the printer settings dialog box.

**Syntax**

To use this tag, use the following syntax:

<TAG:Landscape>

Parameter	Description
TAG:Landscape	(Required) Landscape tag indicator.

## List Tag

The List tag prints the selected columns in a specified column width.

**Usage**

Use the List tag to print out a list of records containing specified fields.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:List appletname="APPLET" columns="COLUMN1|COLUMN2|...|COLUMNx"
columnwidths="Col1Width|Col2Width|...|ColxWidth" header="HEADER"
headerdivider="HEADERDIVIDER" recorderdivider="RECORDDIVIDER" query="QUERY" sql="SQL"
sort="SORT" maxlines="MAXLINES" startat="START" wrap="WRAP" grid="GRID"
rowsprinted="ROWSPRINTED" offset="OFFSET" width="WIDTH" linewidth="LINEWIDTH">
```

Parameter	Description
TAG:List	(Required) List tag indicator.
appletname	(Required) Applet name as defined in Siebel Tools.
columns	(Required) List of field names in applet to be printed in the specified order, separated by a vertical bar ( ).
columnwidth	(Optional) Relative weight of each column width. For example, 1 2 means that the first column is half the width of the second column.
header	(Optional) Specifies whether to suppress or show headers.  Valid values are TRUE (default) or FALSE. If FALSE, captions in form applets are suppressed. This parameter applies only to form applets.
headerdivider	(Optional, relative mode-only tag) Specifies whether to print a divider below the heading in a list applet.  Valid values are TRUE or FALSE (default). If TRUE, a divider is printed below the column heading in list applets. This parameter applies only to list applets.
recorderdivider	(Optional, relative mode-only tag) Specifies whether to print a horizontal divider between records in a list applet.  Valid values are TRUE or FALSE (default). If TRUE, a horizontal divider is printed between records in list applets. This parameter applies only to list applets.
query	(Optional) Specifies query specification.
sql	(Optional) Where clause for the SQL statement; sql="\"status\"='good'" selects all records where status field is set to good.  <b>NOTE:</b> Enclose the field name in double quotes and use backslash followed by double quotes to include a double quote within the parameter, then enclose the value in single quotes.
sort	(Optional) Specifies sort specification.
maxlines	(Optional) The maximum number of records that are printed for this applet. This parameter applies only to list applets.
startat	(Optional) The point at which the specified record in the row set starts printing.

Parameter	Description
wrap	(Optional) Specifies whether word wrap is enabled for text field values.  Valid values are TRUE or FALSE (default). If TRUE, word wrap is applied to text field values. This setting does not apply to numeric fields.
grid	(Optional, absolute mode-only) Specifies whether to print a grid between fields, rows and columns.  Valid values are TRUE or FALSE (default). If TRUE, a grid is printed between fields, rows, and columns.
rowsprinted	Specifies the number of rows to print for list applets. This parameter does not apply to form applets.
offset	(Optional) Specifies the distance, in millimeters, to the right of the left margin. This can be a number ("40") or a variable that contains a number value ("_X" or "posx"). This is an absolute-mode only parameter.
width	(Optional, absolute mode-only) Specifies the width of the applet in millimeters.
linewidth	(Optional, absolute mode-only) Specifies the line grid thickness in millimeters.

### Example

The following example prints out the records (30 x 70 mm respectively) from the CS HH Product Bucket List Applet containing the Status and Product Name fields:

```
<TAG:List appletname="CS HH Product Bucket List Applet" columns="Status|Product Name"
columnwidths="30|70" maxlines="2" line="False" wrap="TRUE" rowsprinted="numrows"
grid="TRUE" linewidth="0.5" offset="10" width="75">
```

## LineTo Tag

The LineTo tag draws a line of a specified thickness from the current printer head position to a specified coordinate.

### Usage

Use the LineTo tag along with the GetX, GetY, SetX, SetY, and Offset tags to draw lines anywhere in the printable area of your template.

### Syntax

To use this tag, use the following syntax:

<TAG:LineTo x="END X" y="END Y" linewidth="THICKNESS">

Parameter	Description
TAG:LineTo	(Required) Applet tag indicator.
x	(Required) Position, in millimeters, on the X axis where the line ends from the left margin.
y	(Required) Position, in millimeters, on the Y axis where the line ends from the top margin.
linewidth	(Required) Thickness, in millimeters, of the line.

**Example**

The following example draws a vertical line of 1 mm thickness from (100,100) to (100,140), and a thin horizontal line from (100,140) to (120,140):

```
<TAG:SetX x="100">
<TAG:SetY y="100">
<TAG:LineTo x="100" y="140" linewidth="1">
<TAG:LineTo x="120" y="140" linewidth="0.2">
```

## Margin Tag

The Margin tag sets all margin values for all pages in the print template.

**Usage**

Use the Margin tag to set all four page margin values. Use at the top of a page if you want to alter margins.

As an absolute mode-only tag, the Margin tag must be declared immediately after the Absolute tag. Any string or image printed on the page before a Margin tag is discarded.

**Syntax**

To use this tag, use the following syntax:

<TAG:Margin left="LEFT" top="TOP" right="RIGHT" bottom="BOTTOM">

Parameter	Description
TAG:Margin	(Required) Applet tag indicator.
left	(Required) Specifies the position, in millimeters, of the left side of the printable area from the left edge of the paper.
top	(Required) Specifies the position, in millimeters, of the top side of the printable area from the top edge of the paper.

Parameter	Description
right	(Required) Specifies the position, in millimeters, of the right side of the printable area from the right edge of the paper.
bottom	(Required) Specifies the position, in millimeters, of the bottom of the printable area from the bottom edge of the paper.

### Example

The following example sets the margins at 30 mm from the left and right paper edge, and 50 mm from the top and bottom paper edge:

```
<TAG:Title title="Inventory Report">  
<TAG:Absolute>  
<TAG:Margin left="30" top="50" right="30" bottom="50">
```

## PageBreak Tag

The PageBreak tag forces text that follows the tag to appear on the next page.

### Usage

Use the PageBreak tag for multiple page documents or forms.

### Syntax

To use this tag, use the following syntax:

```
<TAG:PageBreak>
```

Parameter	Description
TAG:PageBreak	(Required) Page break tag indicator.

### Example

```
<TAG:PageBreak>
```

## Portrait Tag

The Portrait tag sets the page orientation (or printout mode) to portrait for the subsequent page or print tags.

**Usage**

The Portrait tag must be placed after the Margin, Header, or Endofpage tags. If the Portrait tag is specified in the template, users cannot override the orientation even if they change the paper orientation setting in the printer settings dialog box.

**Syntax**

To use this tag, use the following syntax:

<TAG:Portrait>

Parameter	Description
TAG:Portrait	(Required) Portrait tag indicator.

## Title Tag

The Title tag is the name used to identify the template.

**Usage**

The Title tag is a required tag in your print template file.

When you print your document, the Title tag appears in the print job list, but does not appear on the document that is printed. Use static text to add a document title to your template.

**Syntax**

To use this tag, use the following syntax:

<TAG>Title title="TITLE">

Parameter	Description
TAG>Title	(Required) Title tag indicator.
title	(Required) Title text can be between 1 to 255 characters.

**Example**

<TAG>Title title="Quotation">

<TAG>Title title="Invoice">

<REM: Invoices Print Template. This template includes 3 applets.>

<TAG:Format face="Helvetica" size="16" align="Center">

[Distributor Name  
 Street Address  
 City, Country Postal Code  
 Phone Number Fax Number]

```
<TAG:Format face="Helvetica" size="20" bold="TRUE" align="Center">
```

INVOICE

```
<TAG:Format face="Helvetica" size="8" >
```

```
<TAG:Applet name="SHCE Service Print Invoice Header Applet" caption="TRUE" wrap="TRUE">
```

```
<TAG:Format face="Helvetica" size="8">
```

Parts:

```
<TAG:Applet name="SHCE Service Print Invoice Parts Applet" maxlines="25" line="FALSE" wrap="TRUE" headerdivider="TRUE" recorddivider="FALSE">
```

Time:

```
<TAG:Applet name="SHCE Service Print Invoice Time Applet" maxlines="25" Line="FALSE" wrap="TRUE" headerdivider="TRUE" recorddivider="FALSE">
```

Expenses:

```
<TAG:Applet name="SHCE Service Print Invoice Expense Applet" maxlines="25" line="FALSE" wrap="TRUE" headerdivider="TRUE" recorddivider="FALSE">
```

```
<TAG:Divider weight="2">
```

```
<TAG:Format face="Helvetica" Size="12" align="LEFT">
```

Customer

```
<TAG:Divider weight="2">
```

```
<TAG:Format face="Helvetica" size="12" align="LEFT">
```

Rep

## Get and Set Tags

You can add static text to the print template and also set variables. The following print tags allow you to calculate additional information and add it to your reports:

- ["GetCount Tag" on page 257](#)—Calculates the number of records.
- ["GetDate Tag" on page 257](#)—Gets the current date.
- ["GetDirect Tag" on page 258](#)—Returns the business component fields for any specified business component.
- ["GetField Tag" on page 259](#)—Gets the value of a field.
- ["GetRegistry Tag" on page 260](#)—Returns registry values.
- ["GetTime Tag" on page 260](#)—Gets the current time.
- ["GetTotal Tag" on page 261](#)—Calculates the total for a column of data.
- ["SetVariable Tag" on page 262](#)—Assigns a value to a variable.

All of this information is stored in variables that you specify. You can present this information in a report using the Cell and EndofLine tags to create tables of information. For more information about how variable parameters can be used to manipulate data output, see ["Variable Parameter Tags" on page 270](#). For an example of how variables can be used to present information in print templates, see ["Using Variables in Print Templates" on page 271](#).

## GetCount Tag

The GetCount tag calculates the number of records in the selected rows and assigns this value to a variable.

### Usage

Use the GetCount tag to calculate the number of records and print this value in your report.

### Syntax

To use this tag, use the following syntax:

```
<TAG:GetCount appletname="APPLET NAME" query="QUERY STRING" variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetCount	(Required) Required tag indicator.
appletname	(Required) Name of the applet.
query	(Optional) Search specification for the rows to be included in the row set. If not specified, the current search specification is used.  The syntax for the query string is: Field Name Query Statement. You can specify one or more query strings separated by a vertical bar ( ).  For example, Query="Name LIKE 'Sieb*'" "Location LIKE 'H*'"
variable	(Required) Name of variable where the value is stored.

### Example

```
<TAG:GetCount appletname="CS HH Product Bucket List Applet" query="Status|Good" variable="StatusGood">
```

## GetDate Tag

The GetDate tag obtains the current date, offsets the date by the number of days specified in the dayoffset parameter, and stores the result in a variable.

### Usage

Use the GetDate tag to print a specific date in your report.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:GetDate dayoffset="NUMBER OF DAYS" variable="VARIABLE NAME" longformat="DATE FORMAT">
```

Parameter	Description
TAG:GetDate	(Required) Required tag indicator.
dayoffset	(Optional) Number of days by which the current date is offset. For example, -100 subtracts 100 days from the current date; 100 adds 100 days to the current date. The default is 0.
variable	(Required) Name of the variable where the value is stored.
longformat	(Optional) TRUE prints the date in long date format (for example, Monday, February 11, 2002). FALSE prints the short date format (for example, 2/21/02). The default is FALSE.

**Example**

```
<TAG:GetDate longformat="TRUE" variable="LongDate">
```

## GetDirect Tag

The GetDirect tag returns the data in any business component of the Siebel Handheld application configuration, and stores it in the specified variable.

**Usage**

Use GetDirect to obtain the field data in any business component of your Siebel Handheld application configuration. GetDirect works the same way as GetFieldData, except that it specifies the business object name and business component name for the appropriate table. GetDirect is similar to the GetField tag in that the specified

field value of the first record is stored in the specified variable.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:GetDirect businessobject="BUSINESSOBJECT" businesscomponent="BUSINESSCOMPONENT" fieldname="FIELD" variable="VARIABLE" query="QUERY" sort="SORT" sql="SQL">
```

Parameter	Description
TAG:GetDirect	(Required) Required tag indicator.
businessobject	(Required) Business object name.
businesscomponent	(Optional) Business component name.

Parameter	Description
fieldname	(Required) Field name.
variable	(Required) Variable to store the data.
query	(Optional) Query specification.
sort	(Optional) Sort specification.
sql	(Optional) Where clause for SQL statement; sql="\status\"='good'" selects all records where status field is set to good.  <b>NOTE:</b> Enclose the field name in double quotes and use backslash followed by double quotes to include a double quote within the parameter, then enclose the value in single quotes.

### Example

The following example returns the Name field of the first record from the Account business component which is part of the Account business object, and puts it into the variable called getdirectresult1:

```
<TAG:GetDirect businessobject="Account" businesscomponent="Account" fieldname="Name" variable="getdirectresult1" sql="var_equal">
```

## GetField Tag

The GetField tag returns the value of the first record (in the first row of selected rows) in a specified column and assigns the result to a variable.

### Usage

Use the GetField tag to print a value without developing a print applet. Design the query and sort strings so that the desired record is the first record in the selected rows (or column).

GetField only allows you to obtain the value in the first record.

### Syntax

To use this tag, use the following syntax:

```
<TAG:GetField appletName="APPLET NAME" fieldname="FIELD NAME" query="QUERY STRING" sort="SORT STRING" variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetField	(Required) Required tag indicator.
appletname	(Required) Name of the applet.
fieldname	(Required) Name of the field or column.

Parameter	Description
query	(Optional) Search specification for the rows to be included in the total. If not specified, the current search specification is used.
sort	(Optional) Sort specification. If not specified, the current sort specification is used.  The syntax is: Field Name [ASC][DESC]. The default is ASC (Ascending).  For example: Sort="Account DESC, Date". In the example, the Account field is sorted in descending order, then the date field is sorted in ascending order.
variable	(Required) Name of variable where the value is stored.

#### Example

```
<TAG:GetField appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
variable="ProdBucketListField">
```

## GetRegistry Tag

The GetRegistry tag obtains a value in the registry and assigns it to a variable.

#### Usage

Use GetRegistry to print the contents of the registry key in your report.

#### Syntax

To use this tag, use the following syntax:

```
<TAG:GetRegistry name="REGISTRY NAME" variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetRegistry	(Required) Required tag indicator.
name	(Required) Value in the registry.
variable	(Required) Name of the variable where the value is stored.

#### Example

```
<TAG:GetRegistry name="InstallDir" variable="Registry">
```

## GetTime Tag

The GetTime tag obtains the current time, offsets the time by the number of seconds specified by the Secondoffset parameter, and assigns the result to a variable.

**Usage**

Use the GetTime tag to print a specific time in your report.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:GetTime secondoffset="NUMBER OF SECONDS" variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetTime	(Required) Required tag indicator.
secondoffset	(Optional) Number of seconds by which the current time is offset. For example, -100 subtracts 100 seconds from the current time; 100 adds 100 seconds to the current time. The default is 0.
variable	(Required) Name of variable where the value is stored.

**Example**

```
<TAG:GetTime secondoffset="3600" variable="Time">
```

## GetTotal Tag

The GetTotal tag calculates the total for a specified column (or for all selected rows) and assigns the value to a variable.

**Usage**

Use the GetTotal tag to calculate a column total and display the total in your report.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:GetTotal appletname="APPLET NAME" fieldName="FIELD NAME" query="QUERY STRING" variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetTotal	(Required) Required tag indicator.
appletname	(Required) Name of the applet.
fieldname	(Required) Name of the field or column. Specify a field or column with numeric data. If you specify a field with non-numeric data, a 0 is assigned to the variable.

Parameter	Description
query	(Optional) Search specification for the rows to be included in the total. If not specified, the current search specification is used.  The syntax for the query string is: Field Name Query Statement. You can specify one or more query strings separated by a vertical bar ( ).  For example, Query="Name LIKE 'Sieb*'" "Location LIKE 'H*'"
variable	(Required) Name of variable where the value is stored.

### Example

```
<TAG:GetTotal appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
variable="ProdBucketListTotal">
```

## SetVariable Tag

The SetVariable tag sets a value to a variable.

### Usage

Use the SetVariable tag to assign a value to a variable. You can then print the value by specifying the variable in the Cell tag.

### Syntax

To use this tag, use the following syntax:

```
<TAG:SetVariable name="VALUE" variable="VARIABLE NAME">
```

Parameter	Description
TAG:SetVariable	(Required) Required tag indicator.
name	(Required) A value.
variable	(Required) Name of variable where the value is stored.

### Example

```
<TAG:SetVariable name="100" variable="TotalQuantity">
```

## Control Positioning Tags

The following tags can be used to control positioning of printer heads. These tags can be used in conjunction with the Applet (SetY only), Cell, Picture, and LineTo tags to position objects in the printable area.

- “GetX Tag” on page 263—Returns the position of the printer head along the X axis.
- “GetY Tag” on page 263—Returns the position of the printer head along the Y axis.
- “Offset Tag” on page 264—Adds a number to a number value stored in a variable.
- “SetX Tag” on page 265—Sets the position of the printer head along the X axis.
- “SetY Tag” on page 266—Sets the position of the printer head along the Y axis.

## GetX Tag

The GetX tag returns the printer head position, measured from the left margin (in millimeters) along the X axis, and assigns it to the input variable.

### Usage

GetX is an absolute mode-only tag which can be used along with the SetX, SetY, and GetY tags to control the position of the printer head. Use the GetX tag in conjunction with the Cell, Picture, and Lineto tags to position objects in the printable area.

### Syntax

To use this tag, use the following syntax:

```
<TAG:GetX variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetX	(Required) Applet tag indicator.
variable	(Required) Name of the variable to which the X axis value of the current printer head position is stored.

### Example

The following example returns the current X axis position of the printer head and stores it in the posx variable:

```
<TAG:GetX variable="posx">
```

## GetY Tag

The GetY tag returns the printer head position, measured from the top margin (in millimeters) along the Y axis, and assigns it to the input variable.

### Usage

GetY is an absolute mode-only tag that can be used with the SetX, SetY, and GetX tags to control the position of the printer head. Use the GetY tag in conjunction with the Cell, Picture, and Lineto tags to position objects in the printable area.

### Syntax

To use this tag, use the following syntax:

```
<TAG:GetY variable="VARIABLE NAME">
```

Parameter	Description
TAG:GetY	(Required) Applet tag indicator.
variable	(Required) Name of the variable to which the Y axis value of the current printer head position is stored.

### Example

The following example returns the current Y axis position of the printer head and stores it in the posy variable:

```
<TAG:GetY variable="posy">
```

## Offset Tag

The Offset tag adds a value to a number value in a variable.

### Usage

Use the Offset tag to perform (positive or negative) offset variable calculations. Offset can be used with SetX and SetY to position the printer head. Special variable names `_X` and `_Y` are reserved variables which indicate the current x and y coordinates of the printer head position. These variable names can be used to offset current printer head coordinates by a specified number value.

### Syntax

To use this tag, use the following syntax:

```
<TAG:Offset variable="VARIABLE NAME" offset="NUMBER VALUE">
```

Parameter	Description
TAG:Offset	(Required) Applet tag indicator.
variable	(Required) Name of the variable to be offset. <code>_X</code> and <code>_Y</code> can be used to offset the current printer head position.
offset	(Required) Number value with which to offset the variable. This can be a positive or negative value.

**Example**

The following examples yield the same result. The examples place the printer head position at (+40,-40) from the current head position (\_X, \_Y). If the current printer head is (100,50), then this means that the new printer head position is (140,10):

```
<TAG:GetX variable="posx">
<TAG:GetY variable="posy">

<TAG:Offset variable="posx" offset="40">
<TAG:Offset variable="posy" offset="-40">

<TAG:SetX x="<variable>posx">
<TAG:SetY y="<variable>posy">

<TAG:Offset variable="_X" offset="40">
<TAG:Offset variable="_Y" offset="-40">
```

## SetX Tag

The SetX tag sets the printer head position along the X axis.

**Usage**

SetX is an absolute mode-only tag that can be used with the GetX, GetY, and SetY tags to control the position of the printer head. Use the SetX tag in conjunction with the Cell, Applet, and Lineto tags to position objects in the printable area.

SetX cannot be used to position static text because full-line text is meant for printing text across the full width of the page. It is recommended that you use the Cell tag to position text in the exact location.

**Syntax**

To use this tag, use the following syntax:

```
<TAG:SetX x="X">
```

Parameter	Description
TAG:SetX	(Required) Applet tag indicator.
x	(Required) String value or variable if used with GetX tag specifying where to position the printer head based on its distance to the right, in millimeter from the left margin of the paper.

**Example**

The following sets the printer head position to 100 millimeters from the left margin:

```
<TAG:SetX x="100">
```

If using SetX with the GetX and Offset tags, the following example sets the printer head position 40 millimeters to the right of the current printer head position. This means that if the current printer head position is 100 millimeters from the left margin, then the new printer head position is 140 millimeters from the left margin:

```
<TAG:GetX variable="posx">  
<TAG:Offset variable="posx" offset="40">  
<TAG:SetX x="<variable>posx">
```

## SetY Tag

The SetY tag sets the printer head position along the Y axis.

### Usage

SetY is an absolute mode-only tag which can be used along with the GetX, GetY, and SetX tags to control the position of the printer head. Use the SetY tag in conjunction with the Cell, Applet, and Lineto tags to position objects in the printable area.

### Syntax

To use this tag, use the following syntax:

```
<TAG:SetY y="Y">
```

Parameter	Description
TAG:SetY	(Required) Applet tag indicator.
y	(Required) String value or variable (if used with GetY tag) specifying where to position the printer head based on its distance to the bottom (in millimeters) from the top margin of the paper.

### Example

The following sets the printer head position to 40 mm from the top margin:

```
<TAG:SetY y="40">
```

If using SetY with the GetY and Offset tags, the following example sets the printer head position 40 mm below the current printer head position. This means that if the current printer head position is 100 mm from the top margin, then the new printer head position is 140 mm from the top margin:

```
<TAG:GetY variable="posy">  
<TAG:Offset variable="posy" offset="40">]  
<TAG:SetY y="<variable>posy">
```

## Data Manipulation and Logic Tags

The following tags are used to manipulate data, perform logical calculations and queries on print data output:

- "Concat Tag" on page 267—Appends or prepends a string to a string already stored in a variable
- "Conditional Tags" on page 268—Enable the conditional output of print data
 

**NOTE:** Double quote characters—Can be used in values, provided they are preceded by a leading backslash.
- "sql (WHERE) Tag" on page 269—Used in various tags to perform a simple query on the underlying print data
- "Variable Parameter Tags" on page 270—Are accepted for Applet, Header, and Footer tags

### Concat Tag

The Concat tag appends or prepends a value to a string stored in a variable.

#### Usage

Use the Concat tag to combine string variables or simple string texts. The resulting (concatenated) string is stored in the original variable specified.

#### Syntax

To use this tag, use the following syntax:

```
<TAG:CONCAT variable= "VARIABLE NAME" prepend="PREPEND" append="APPEND">
```

Parameter	Description
TAG:Concat	(Required) Applet tag indicator.
variable	(Required) Name of the variable to be appended or prepended. The resulting string is stored in this variable
prepend	(Optional) Specifies whether to add a simple text string or variable in front of an existing stored variable. The variable must be specified in the form "<variable>name of variable".  Prepend is required if Append is not specified.
append	(Optional) Specifies whether to add a simple text string or variable to the end of an existing stored variable. The variable must be specified in the form "<variable>name of variable".  Append is required if Prepend is not specified.

### Example

The following example sets the variables `var_equal` and `var_criteria`, then appends `var_criteria` and prepends a simple text string to `var_equal`. The concatenated string is stored in `var_equal`:

```
<TAG:SetVariable variable="var_equal" name="=">
<TAG:SetVariable variable="var_criteria" name=" `Good` ">
<TAG:Concat variable="var_equal" prepend="\`status\` " " append="<variable>var_criteria">
```

## Conditional Tags

The conditional tag compares a variable against a criterion according to the operator, and decides to execute either an IF or an ELSE clause.

### Usage

Use conditional tags to develop simple if-then logic to control the output of your print data. It is recommended that if-then-else tags are kept simple to ensure that print output is successful.

### Syntax

To use this tag, use the following syntax:

```
<TAG:IF variable="VARIABLE NAME" operator="OPERATOR" criteria="CRITERIA" numeric=
"NUMERIC">
  <TAG:...>
  <TAG:...>
<TAG:ELSE>
  <TAG:...>
  <TAG:...>
```

**NOTE:** If the comparison is true, the tags immediately following the `<TAG:IF...>` tag are executed; if the comparison is false, the tags immediately following the `<TAG:ELSE...>` tag are executed.

Parameter	Description
TAG:IF	(Required) Applet tag indicator.
TAG:ELSE	(Required) Applet tag indicator
variable	(Required) Name of the variable being compared.
criteria	String value to which the variable will be compared.

Parameter	Description
operator	(Required) This can be one of the following: <ul style="list-style-type: none"> <li>■ EQ signifies Equal to</li> <li>■ GT signifies Greater than</li> <li>■ GE signifies Greater than or equal to</li> <li>■ LT signifies Less than</li> <li>■ LE signifies Less than or equal to</li> </ul>
numeric	Specifies whether the condition is evaluated as a numeric comparison or a string comparison. Valid values are TRUE (numeric comparison) or FALSE (string comparison). <p>For a string comparison, use the vertical bar ( ) as an OR operator.</p>

### Example

The following example evaluates whether the variable numrows is equal to 15, 17, or 19:

- If true, then a string similar to the following is printed: Printed [numrows] rows that are odd
- If false, then a string similar to the following is printed: Printed [numrows] rows that are even

```
<TAG:IF variable="numrows" operator="EQ" criteria="15|17|19">
    <TAG:Concat variable="numrows" append=" rows." prepend="Printed ">
    <TAG:Concat variable="numrows" append=" that are odd.">
<TAG:ELSE>
    <TAG:Concat variable="numrows" append=" rows." prepend="Printed ">
    <TAG:Concat variable="numrows" append=" that are even.">
<TAG:ENDIF>
```

## sql (WHERE) Tag

The sql (WHERE) tag is placed as a parameter, and so can be a value stored in a string variable.

### Usage

Use the sql (WHERE) tag, for example, as follows:

```
sql="\"Status\"='Defective' and \"Quantity\">500"
```

in the Applet, GetTotal, GetField, GetDirect, and GetCount tags.

**Syntax**

To use this tag, use the following syntax:

```
SQL="\Status\"='Defective'
```

**Example 1**

```
<TAG:Applet name="CS HH Product Bucket List Applet" sql="\Status\"='Defective'"
maxlines="2" startat="10" recorddivider="FALSE" wrap="TRUE" grid="TRUE" offset="0"
width="75" linewidth="0.4">

<TAG:SETVARIABLE variable="var_equal" name="">

<TAG:SETVARIABLE variable="var_fieldname" name="\Status\">

<TAG:SETVARIABLE variable="var_criteria" name="'Good'">

<TAG:Concat variable="var_equal" prepend="<variable>var_fieldname">
append="<variable>var_criteria">

<TAG:SETY y="0">

<TAG:Applet name="CS HH Product Bucket List Applet" sql="<variable>var_equal"
maxlines="2" startat="10" recorddivider="FALSE" wrap="TRUE" grid="TRUE" offset="80"
width="75">
```

**Example 2**

```
<TAG:Getfield appletname="CS HH Orders Print Applet" fieldname="Account" variable=
"var_name">

<TAG:SETVARIABLE variable="var_where" name="">

<TAG:SETVARIABLE variable="var_fieldname" name="\Name\">

<TAG:CONCAT variable="var_where" prepend="<variable>var_fieldname" append=
"<variable>var10">

<TAG:CONCAT variable="var_where" append="">

<TAG:GETDIRECT sql="<variable>var_equal" businessobject="Account"
businesscomponent="Account" fieldname="Name" variable="var15">

<TAG:CELL name="<variable>var15" left="10" top="80" right="70" bottom="100"
box="TRUE" linewidth="0.4" align="RIGHT">
```

**Variable Parameter Tags**

Most parameters support variables. For example, a user can store a field value and use the field value as one of the parameters in a subsequent tag. Combining this feature with the Concat and Conditional tags and the SQL (WHERE) tag, you can construct complex query statements and print out the results.

**Example 1**

After the following tag sequence, var\_equal contains "\"Status\"='Defective'":

```
<TAG:SETVARIABLE variable="var_equal" name="">
<TAG:SETVARIABLE variable="var_fieldname" name=""Status\">
<TAG:SETVARIABLE variable="var_criteria" name="'Good'">
<TAG:CONCAT variable="var_equal" prepend="<variable>var_fieldname" append=
"<variable>var_criteria">
```

**NOTE:** To include double quotes in a parameter, include a backslash before them.

**Example 2**

The following example includes a variable in the header tag:

```
<TAG:HEADER left="<page>" center="<variable>numrows" right="<date>">
```

## Using Variables in Print Templates

The following example shows how to use variables in a print template.

```
<TAG:Title Title="Inventory Report">
<REM: *****Variable Assignment Examples*****>

<TAG:SetVariable name="THIS IS VARIABLE" variable="VarStr">
<TAG:GetRegistry name="InstallDir" variable="VarReg">
<TAG:GetDate dayoffset="10" variable="VarDate">
<TAG:GetDate longformat="TRUE" variable="VarLongDate">
<TAG:GetTime secondoffset="-3600" variable="VarTime">
<TAG:GetTotal appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
variable="VarTotal">
<TAG:GetTotal appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
query="Status|Good" variable="VarGoodTotal">
<TAG:GetTotal appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
query="Status|Defective" variable="VarDefectiveTotal">
<TAG:GetField appletname="CS HH Product Bucket List Applet" fieldname="Quantity"
variable="VarQuantityField">
<TAG:GetCount appletname="CS HH Product Bucket List Applet" query="Status|Good"
variable="VarGoodCount">
```

```
<TAG:GetCount appletname="CS HH Product Bucket List Applet" query="Status|Defective"
variable="VarDefectiveCount">
<REM: *****Variable Assignment Examples End*****>
<REM: Inventory Print Template. This template includes 3 applets. The ENU template>
<TAG:Format Face="Helvetica" Size="16" Align="Center">
[Distributor Name
Street Address
City, Country Postal Code
Phone Number Fax Number]
<TAG:Format Face="Helvetica" Size="20" Bold="TRUE" Align="Center">
Inventory Report
<TAG:Format Face="Helvetica" Size="8" >
<TAG:Applet Name="CS HH Inv Loc Print Applet" Caption="TRUE" Wrap="TRUE">
<TAG:Applet Name="CS HH Product Bucket List Applet" Line="FALSE"
Headerdivider="TRUE" Recorddivider="FALSE" wrap="TRUE">
<REM: *****Variable Usage Example*****>
<TAG:Divider weight="3" startat="20" endat="80">
<TAG:Cell startat="0" endat="50" name="TOTAL:" Align="RIGHT">
<TAG:Cell startat="50" endat="100" variable="VarTotal" Align="RIGHT">
<TAG:EndOfLine>
<TAG:Cell startat="0" endat="50" name="TOTAL Defective:" Align="RIGHT">
<TAG:Cell startat="50" endat="100" variable="VarDefectiveTotal" Align="RIGHT">
<TAG:EndOfLine>
<TAG:Cell startat="0" endat="50" name="TOTAL Good:" Align="RIGHT">
<TAG:Cell startat="50" endat="100" variable="VarGoodTotal" Align="RIGHT"
<TAG:EndOfLine>
<TAG:Cell startat="0" endat="50" name="Defective Count:" Align="RIGHT">
<TAG:Cell startat="50" endat="100" variable="VarDefectiveCount" Align="RIGHT">
<TAG:EndOfLine>
<TAG:Cell startat="0" endat="50" name="Good Count:" Align="RIGHT">
<TAG:Cell startat="50" endat="100" variable="VarGoodCount" Align="RIGHT">
```

```
<TAG:EndOfLine>
<TAG:Cell startat="50" endat="100" variable="VarReg">
<TAG:EndOfLine>
<TAG:Cell startat="50" endat="100" variable="VarStr">
<TAG:EndOfLine>
<TAG:Cell startat="0" endat="30" variable="VarDate">
<TAG:Cell startat="30" endat="70" variable="VarLongDate">
<TAG:Cell startat="70" endat="100" variable="VarTime">
<TAG:EndOfLine>
<REM: *****Variable Usage Example End*****>
<TAG:Divider weight="2">
<TAG:Format Face="Helvetica" Size="12" Align="LEFT">
Warehouse Signature
<TAG:Divider weight="2">
<TAG:Format Face="Helvetica" Size="12" Align="RIGHT">
Rep Signature
```



# F

## Print Configuration Settings

This appendix describes the print configuration settings that can be set up for your Siebel Handheld application, and includes the following topic:

- [“Overview of Print Configuration Settings for Siebel Handheld Applications” on page 275](#)
- [“Print Configuration Settings” on page 276](#)

### Overview of Print Configuration Settings for Siebel Handheld Applications

The administrator sets up the default printer settings in the setup.ini file located in the setup directory. There are a number of parameters to specify printing on Siebel Handheld applications. The parameters specify the following:

- Printer attributes (printer model, port, baud rate, and printer handshake).
- Printing attributes (portrait or landscape orientation, print density and quality, use of compression techniques, and advancing continuous-feed paper).
- Dimensions of the paper (U.S. or European standard paper sizes or custom-size paper).
- Margin settings of the pages (left, right, top, and bottom margins).

These parameters are specified in the [Printing] section of the setup.ini file located in the setup directory. The file contains default settings for all the printing parameters. Review the settings in the file to verify that these settings will work for your printing environment. If necessary, edit the settings as required. You can use any text editor to edit the file.

Printing parameters are listed below in alphabetical order. Parameters are set up using the following syntax:

```
PARAMETER_NAME = VALUE
```

For example:

```
PrinterType = 1
```

# Print Configuration Settings

The print configuration settings that can be set up for your Siebel Handheld application are:

- "MarginBottom" on page 276
- "MarginLeft" on page 276
- "MarginRight" on page 277
- "MarginTop" on page 277
- "PaperHeight" on page 277
- "PaperSize" on page 277
- "PaperWidth" on page 278
- "PrinterBaudrate" on page 278
- "PrinterCompressed" on page 278
- "PrinterDensity" on page 279
- "PrinterDither" on page 279
- "PrinterDraftMode" on page 279
- "PrinterFormFeed" on page 280
- "PrinterHandshake" on page 280
- "PrinterOrientation" on page 281
- "PrinterPort" on page 281
- "PrinterType" on page 282
- "PrinterUserSelect" on page 283
- "Default Printing Settings" on page 283

## MarginBottom

Use the MarginBottom parameter to specify the dimensions of the bottom margin of your page. Specify the margin in millimeters using a whole number; decimal fractions are not valid. The default is 5 millimeters.

The data specified in the Footer tag of the print template is printed in the margin specified by MarginBottom. Therefore, if the print template includes a Footer tag, you must specify a wide enough bottom margin to accommodate the footer. MarginBottom must be set to a minimum of 20 millimeters. For more information about MarginBottom, see "[Footer Tag](#)" on page 246.

## MarginLeft

Use the MarginLeft parameter to specify the width of the left margin of your page. Specify the margin in millimeters using a whole number; decimal fractions are not valid. The default is 5 millimeters.

## MarginRight

Use the MarginRight parameter to specify the width of the right margin of your page. Specify the margin in millimeters using a whole number; decimal fractions are not valid. The default is 5 millimeters.

## MarginTop

Use the MarginTop parameter to specify the dimensions of the top margin of your page. Specify the margin in millimeters using a whole number; decimal fractions are not valid. The default is 5 millimeters.

The data specified in the Header tag of the print template is printed in the margin specified by MarginTop. Therefore, if the print template includes a Header tag, you must specify a wide enough top margin to accommodate the footer. MarginTop must be set to a minimum of 20 millimeters. For more information about MarginTop, see ["Header Tag" on page 249](#).

## PaperHeight

If the paper that your printer uses is not one of the supported standard sizes, then set PaperSize to 5 (custom paper dimensions). Then, specify the height of the paper, in millimeters, using the PaperHeight parameter. You must use a whole number; decimal fractions are not valid. The default is 280 millimeters. If you specify a value of 1–4 for PaperSize, the PaperHeight parameter is ignored.

Use the PaperWidth parameter to specify the width of the paper.

## PaperSize

Specify one of the standard paper sizes, or specify a custom paper size. [Table 34](#) describes the valid paper dimension values that you can specify for PaperSize. If you specify a custom paper size (value 5 in [Table 34](#)), you must also specify the PaperWidth and PaperHeight parameters.

Table 34. Paper Dimensions

Value	Description
1	Letter size (8.5" x 11.5")
2	A4 (210 mm x 297 mm)
3	B5 (176 mm x 250 mm)
4	Legal size (8.5" x 14")
5 (default)	Custom paper dimensions

## PaperWidth

If the paper that your printer is printing to is not one of the supported standard sizes, then set PaperSize to 5 (custom paper dimensions). Then, you must specify the width measurement of the paper, in millimeters, using the PaperWidth parameter. You must use a whole number; decimal fractions are not valid. The default is 5 millimeters. If you specify a value of 1–4 for PaperSize, the PaperWidth parameter is ignored.

Use the PaperHeight parameter to specify the length of the paper.

## PrinterBaudrate

Use PrinterBaudrate to specify the speed of the data transmission for the printer. [Table 35](#) describes the valid values you can specify for PrinterBaudRate. The PrinterBaudrate is applicable only when the PrinterPort is set to serial port.

Table 35. Printer Baud Rate

Value	Description
0	Always use 0 for LPT or printer ports, or for COM ports that communicate with the printer at 4800 baud.
1 (default)	9600 baud
2	19200 baud
3	38400 baud
4	57600 baud
5	115200 baud

## PrinterCompressed

Use PrinterCompressed to specify the data compression mode. [Table 36](#) describes the valid values you can specify for PrinterCompressed. For the printers supported in this release, always set PrinterCompressed to 1.

Table 36. Data Compression

Value	Description
0	No compression techniques used
1 (default)	Use any known compression

## PrinterDensity

Use the PrinterDensity parameter to get a lighter or darker output from the printer. Start with the default setting, 2, which corresponds to the printer manufacturer's default. As you get feedback from the field, you might need to adjust this setting.

The valid values are 0–4 where 0 is the lightest print density, 4 is the heaviest print density, and 2 is average print density.

## PrinterDither

Use to specify the method by which different colors are represented. [Table 37](#) describes the valid values you can specify for PrinterDither. For the printers supported in this release, PrinterDither must always be set to 0.

Table 37. Print Dithering

Value	Description
0 (default)	Use color diffusion
1	Use dithering

## PrinterDraftMode

Use PrinterDraftMode to specify the quality of the printing. [Table 38](#) describes the valid values you can specify for PrinterDraftMode. For the printers supported in this release, PrinterDraftMode must always be set to 0.

Table 38. Print Quality

Value	Description
0 (default)	Use the highest quality printing
1	Use a lower quality printing if available

## PrinterFormFeed

Use PrinterFormFeed to specify how paper advances to the next page. [Table 39](#) describes the valid values you can specify for PrinterFormFeed.

If using sheets of paper, set PrinterFormFeed to 0.

Specify 1 or 2 for continuous-feed paper, as follows:

- Set PrinterFormFeed to 1 if you do not need to conserve paper or if you want pages of uniform length. The printer scrolls to the length specified by the PageHeight parameter and trims the page there.
- Set PrinterFormFeed to 2 to conserve paper or if it does not matter if your pages are of varying length. In this case, the printer scrolls 25 millimeters beyond the last printed line and trims the page there. The scroll distance, 25 mm, is not customizable.

For both values, 1 and 2, the page length must never exceed PageHeight.

Table 39. Printer Form Feed

Value	Description
0 (default)	Printer sends a form feed command to the printer at the end of each page. Use this setting for sheet paper.
1	Printer scrolls the page to the length specified by the PaperHeight parameter.
2	Printer scrolls the page 25 millimeters past the last printed line of the page.

## PrinterHandshake

Use PrinterHandshake to define the serial port handshake. [Table 40](#) describes the valid values you can specify for PrinterHandshake. The PrinterHandshake parameter applies only when the printer port is a Com1, Com2, or any COM port. If PrinterPort is set to Com1 or Com2, then set PrinterHandshake to 1.

Table 40. Printer Handshake

Value	Description
0	Uses Xon or Xoff
1 (default)	Uses hardware control lines
2	No handshaking of serial port

## PrinterOrientation

Specify whether the paper is to be oriented vertically (portrait) or horizontally (landscape). [Table 41](#) describes the valid values you can specify for PrinterOrientation. Not all printers can print in landscape orientation. Therefore, you will need to check the specifications for your printer.

Table 41. Paper Orientation

Value	Description
1 (default)	Portrait (vertical)
2	Landscape (horizontal)

## PrinterPort

Specify the port to which the printer is connected with the PrinterPort parameter. [Table 42](#) describes the valid values you can specify for PrinterPort. If PrinterPort is an LPT port or a network path (value 2 or 9 in [Table 42](#)), then the PrinterBaudrate must be set to 0.

**NOTE:** The communication port on the printer must be compatible with the host PDA. For IrDA, the serial communication setting must be set correctly to allow reliable printing.

Table 42. Printer Port

Value	Description
0	Com1: serial port
1	Com2: serial port
2	LPT: parallel port
3 (default)	IR Infrared port
4	Com3: serial port
5	Com4: serial port
6	Com5: serial port
7	Com6: serial port
8	Print to OUTPUT.PRN
9	Print to network address
10	Bluetooth BlueCard solution by Wireless Solutions
11	Socket PNC Bluetooth card support
12	Bluetooth BlueCard solution by Anycom
13	Com7: serial port
14	Com8: serial port

## PrinterType

Specify the type of printer using the PrinterType parameter. [Table 43](#) lists the printers supported by the Printer CE print driver used by Siebel applications.

Table 43. Supported Printers

Value	Description
0	Canon BubbleJet compatible printers
1	Citizen PD-04
2	Citizen PN60i
3	Epson ESC/P 2 compatible printers
4	Epson Stylus compatible printers
5	HP PCL compatible - includes DeskJet and LaserJet
6	Pentax PocketJet 200
7	Pentax PocketJet II
8	Seiko DPU-3445
9	Generic Epson compatible 180DPI 24-pin printers (LQ/ESC)
10	Generic Epson compatible 360DPI 24-pin printers (LQ/ESC)
11	Generic Epson compatible 203DPI 24-pin printers (LQ/ESC)
12	Extech 2"
13	Extech 3"
14	O'Neil MicroFlash
15	DymoCoStar label printers
16	Seiko LabelWriter printers
17	Extech 4"
18	SiPix A6 printer
20	Zebra RW 220
102	Generic 40 column Dot Matrix Printer
108	Generic 80 column Dot Matrix Printer

## PrinterUserSelect

Use PrinterUserSelect to enable a printer dialog box for Siebel Handheld applications, whereby users are prompted via a dialog box to specify the settings for their printer each time they initiate a print job. For more information about the printer settings dialog box, see ["Configuring a Printer Settings Dialog Box for the Siebel Handheld Application"](#) on page 58.

Table 44 describes the valid values you can specify for PrinterUserSelect.

Table 44. Printer User Select

Value	Description
1	Displays a printer dialog box for each copy of each form if multi-form, multi-copy printing is used.
2	Displays a printer dialog box only once when the first form starts printing. The same settings are used for all copies if multi-form, multi-copy printing is used.

## Default Printing Settings

The following are the printing parameters from the setup.ini file. The values shown are the default settings.

```
[Printing]
PrinterType= 14
PrinterPort= 3
PrinterBaudrate= 1
PrinterHandshake= 1
PrinterOrientation= 1
PrinterDensity= 2
PrinterCompressed= 1
PrinterDither= 0
PrinterDraftMode= 0
PrinterFormFeed= 0
PaperSize= 5
Paperwidth= 115
PaperHeight= 280
MarginLeft= 5
MarginRight= 5
MarginTop= 5
MarginBottom= 5
```





# COM Extensibility

This appendix covers the extension of Component Object Model (COM) support for Siebel Handheld applications. The audience for this appendix includes Siebel application developers and Siebel integration developers. The following topics are covered in this appendix:

- [About COM Extensibility on page 285](#)
- [Process of Implementing a SCEC on page 292](#)

## About COM Extensibility

COM support for Siebel Handheld applications allows customers to programmatically extend the functionality of the Handheld application. By developing a COM object according to a predefined Siebel specification, users can customize responses to Siebel events. Action request methods allow a customized COM object to interact with the Siebel Handheld application.

## Overview of the SCEC Framework

This topic describes the major components of the Siebel Handheld CE (SHCE) COM Extension Framework.

An SHCE COM Extension Component (SCEC) is part of the Siebel Handheld application architecture. One or more SCECs can subscribe to event notifications on Siebel objects, including applets, business components, business services, and the application. A SCEC can perform action requests on the Siebel Handheld application to manipulate Siebel objects. SCECs implement an interface derived from `ISHCEEEvent`, which is defined by the COM Extension Framework.

*Siebel events* are defined as actionable requests triggered by application logic. Externally defined program modules, implemented by the customer, will handle these events. This feature allows customer-defined business logic to extend the application to handle third-party logic and validation. For example, `Buscomp::PreWriteRecord` will be called before any record is written to the Siebel Server database, thus allowing you to perform early, specialized validation on a particular field.

*Siebel action requests* are defined as APIs, implemented by the Siebel Handheld architecture, which allow external customer modules to perform standard operations on the Siebel Handheld application. All action request interfaces are derived from the base `ISHCEActionReq` interface. For example, `BusComp::SetFieldValue` can be called by a SCEC in order to set a specific value for a Business Component.

Both Siebel objects and SCECs exist within the Siebel process boundary in each layer of the Siebel architecture. For example, COM components can extend the applet functionality in the user interface layer, while on the object manager layer, extension objects can implement specialized logic by interacting with business components, business objects, and services.

The Siebel object and the SCEC maintain references to each other and interact through synchronous method calls. The Siebel object blocks while the SCEC implements custom behavior for the event to which it is subscribed. After the SCEC handles an event, it returns control to the Siebel object. The COM component uses a returned value to specify whether the Siebel object can continue processing the event normally, cancel operations, or return an error.

## Receiving Event Notifications

To intercept Siebel object events, a customer must create a SCEC that implements one of the exported SHCE COM Event Interfaces (SCEI) derived from ISHCEEEvent. Although both the Siebel object and the SCEC are within the Siebel Handheld application process boundary, the SCEC is the COM server, and the Siebel Handheld application is the COM client consumer. All SCECs are free-threaded, in-process (.dll) COM servers.

A SCEC implements one of the event interfaces derived from the generic event interface (ISHCEEEvent). The event interfaces are listed in [Table 45](#).

Table 45. SCEI Interfaces

SHCE COM Event Interface (SCEI)	Description
ISHCEEEvent	Contains generic interfaces common to all SCEIs. All event interfaces are derived from ISHCEEEvent.
ISHCEAppletEvent	Used for applet events.
ISHCEApplicationEvent	Used for application and global events.
ISHCEBusCompEvent	Used for business component events.
ISHCEServiceEvent	Used for service events.

For example, to receive notifications that a business component (such as Account) is committing a record, a SCEC implements the event interface corresponding to the business component events (ISHCEBusCompEvent interface), and adds the specialized handling code in the method (PreWriteRecord).

User properties of the Siebel object in Siebel Tools indicate the events for which a SCEC will be notified. For more information about Tools configuration, see [Configuring SCEC User Properties in Siebel Tools on page 304](#). When a Siebel event, to which a SCEC is subscribed, occurs, the Siebel object will instantiate the SCEC and notify it of the event by invoking one of the SCEI interface methods.

A SCEC can manipulate the program flow by returning one of the HRESULT codes listed in [Table 46](#).

Table 46. SCEI Return Codes

SHCE COM Event Interface (SCEI) Return Codes	Description
EL_EVENT_EMPTY	No event procedure was found. Log a warning and perform normal processing.
EL_EVENT_CONTINUE	The event procedure ran successfully. The Siebel application should continue to perform normal processing.
EL_EVENT_COMPLETE	The event procedure performed the operation and ran successfully. The Siebel application should return without performing any additional processing (without performing normal processing).
EL_EVENT_ERROR	The event procedure generated an error. Return with error.
EL_EVENT_CANCEL	The event procedure was cancelled. Return without error.

COM extensibility supports the following Siebel events:

Applet_GotFocus	Application_PreSync	BusComp_PreNewRecord
Applet_InvokeMethod	Application_Start	BusComp_PreQuery
Applet_Load	BusComp_Associate	BusComp_PreSetFieldValue
Applet_PreInvokeMethod	BusComp_ChangeRecord	BusComp_PreWriteRecord
Applet_TaskButtonPressed	BusComp_DeleteRecord	BusComp_Query
Application_Close	BusComp_InvokeMethod	BusComp_SetFieldValue
Application_InvokeMethod	BusComp_NewRecord	BusComp_WriteRecord
Application_Navigate	BusComp_PreAssociate	Service_InvokeMethod
Application_PreClose	BusComp_PreDeleteRecord	Service_PreCanInvokeMethod
Application_PreInvokeMethod	BusComp_PreGetFieldValue	Service_PreInvokeMethod
Application_PreNavigate	BusComp_PreInvokeMethod	

## Invoking Siebel Methods (Action Requests)

A SCEC uses action request interface references to interact with Siebel objects. Immediately after creating a SCEC, Oracle's Siebel Handheld applications provides the action request interface pointers of the root Siebel objects to the SCEC and invokes the appropriate SCEC event method. A SCEC can use the root interface references to access and manipulate all other Siebel objects. When a SCEC intercepts a Siebel event, it can customize business logic by invoking action requests through the SHCE COM Action Request Interfaces (SCARI). Action request interface references to other objects are available from the root interfaces listed in [Table 47](#).

Table 47. SCARI Interfaces

SHCE COM Action Request Interface (SCARI)	Description
ISHCEActionReq	Generic interface from which all other callback interfaces are derived.
ISHCEApplet	Used for applet methods.
ISHCEApplication	Used for application and global methods.
ISHCEBusComp	Used for business component methods.
ISHCEBusObject	Used for business object methods.
ISHCEPropertySet	Property sets used to pass input arguments to other object methods.
ISHCEService	Used for service events.

COM Extensibility supports the Siebel Action Requests listed in [Table 48](#).

Table 48. SCARI Interfaces and Action Requests

SHCE COM Action Request Interface (SCARI)	Action Request
Applet Action Requests: ISHCEApplet	BusComp
	BusObject
	DrillDown
	GetChildProperty
	InvokeMethod
	Name
	SetChildProperty

Table 48. SCARI Interfaces and Action Requests

SHCE COM Action Request Interface (SCARI)	Action Request
Application Action Requests: ISHCEApplication	ActiveApplet
	ActiveBusComp
	ActiveBusObject
	GetBusObject
	GetLastErrCode
	GetLastErrText
	GetLocalString
	GetProperty
	GetService
	GetUserProperty
	GotoView
	InvokeMethod
	NewPropertySet
	PlaySound
	SetActiveApplet
	SetErrorCode
	SiebelMessageBox
Trace	
Business Component Action Requests: ISHCEBusComp	Associate
	BusObject
	CheckActiveRow
	ClearToQuery
	DeleteRecord
	EnableFullFetch
	ExecuteQuery
	FirstRecord
	GetAssocBusComp
	GetFieldValue
	GetNamedSearch
	GetPicklistBusComp

Table 48. SCARI Interfaces and Action Requests

SHCE COM Action Request Interface (SCARI)	Action Request
Business Component Action Requests: ISHCEBusComp (continued)	GetSearchExpr
	GetSearchSpec
	GetViewMode
	InvokeMethod
	IsFullFetch
	LastRecord
	Name
	NewRecord
	NextRecord
	ParentBusComp
	Pick
	PreviousRecord
	SetFieldValue
	SetNamedSearch
	SetSearchExpr
	SetSearchSpec
	SetSortSpec
	SetViewMode
	UndoRecord
WriteRecord	
Business Object Action Requests: ISHCEBusObject	GetBusComp
	Name

Table 48. SCARI Interfaces and Action Requests

SHCE COM Action Request Interface (SCARI)	Action Request
Property Set Action Requests: ISHCEPropertySet	AddChild
	Copy
	GetChild
	GetCount
	EnumProperty
	GetProperty
	GetType
	GetValue
	InsertChildAt
	RemoveChild
	Reset
	SetProperty
	SetValue
Business Service Action Requests: ISHCEService	GetPropertySet
	InvokeMethod
	Name

## Obtaining and Using Action Request Interface References

The action request interface corresponding to the application object (ISHCEApplication) allows access to all other ISHCEActionReq derived interfaces. A pointer to this interface is stored in `m_pApp`, which is a member of the `CSiebelSCECBase` class. For example, `ISHCEApplication::ActiveApplet` returns a reference to the `ISHCEApplet` interface of the active applet. Similarly, a reference to the Contact business component can be obtained by invoking `ISHCEBusObject::GetBusComp` on the business object interface reference returned by `ISHCEApplication::GetBusObject`.

A SCEC is also passed a reference to the corresponding action request object of the Siebel object that created it. For example, a SCEC implementing `ISHCEAppletEvent` will be able to access the `ISHCEApplet` interface reference of the current applet. A pointer to this interface is stored in `m_pRootObj`, which is a member of the `CSiebelSCECBase` class.

A SCEC can use this interface to obtain references to other action request interfaces. For example, if created from a service, a SCEC could access the service's property set using the `ISHCEService::GetPropertySet` method. Once the SCEC handles an event and returns control to the Siebel object that created it, the action request interfaces are invalidated and can no longer be used by the SCEC. Only action requests invoked on the same thread as event notification (the SCEC method invoked by the Siebel object) are supported. When the SCEC has finished handling the event, it releases all action request interface pointers.

## Process of Implementing a SCEC

To create a SHCE COM Extension Component (SCEC), perform the following tasks:

- [Obtaining the SCEC Support Files on page 292](#)
- [Generating and Configuring a SCEC on page 293](#)
- [Modifying SCEC Files on page 294](#)
- [Deploying SCEC Files to a PDA Device on page 303](#)
- [Configuring SCEC User Properties in Siebel Tools on page 304](#)
- [Configuring SCEC Registry Settings on page 305](#)

### Obtaining the SCEC Support Files

This task is a step in [Process of Implementing a SCEC on page 292](#).

Contact your Oracle Expert Services or Account Support representative to obtain the following SCEC support files:

<code>actionrequest.h</code>	<code>application_ar_i.c</code>	<code>busobj_ar.h</code>	<code>service_ar.idl</code>
<code>actionrequest.idl</code>	<code>application_ar_p.c</code>	<code>busobj_ar.idl</code>	<code>service_ar_i.c</code>
<code>actionrequest_i.c</code>	<code>application_ev.h</code>	<code>busobj_ar_i.c</code>	<code>service_ar_p.c</code>
<code>actionrequest_p.c</code>	<code>application_ev.idl</code>	<code>busobj_ar_p.c</code>	<code>service_ev.h</code>
<code>applet_ar.h</code>	<code>application_ev_i.c</code>	<code>dlldata.c</code>	<code>service_ev.idl</code>
<code>applet_ar.idl</code>	<code>application_ev_p.c</code>	<code>event.h</code>	<code>service_ev_i.c</code>
<code>applet_ar_i.c</code>	<code>buscomp_ar.h</code>	<code>event.idl</code>	<code>service_ev_p.c</code>
<code>applet_ar_p.c</code>	<code>buscomp_ar.idl</code>	<code>event_i.c</code>	<code>shcecom.h</code>
<code>applet_ev.h</code>	<code>buscomp_ar_i.c</code>	<code>event_p.c</code>	<code>siebelscecmacro.h</code>
<code>applet_ev.idl</code>	<code>buscomp_ar_p.c</code>	<code>propset_ar.h</code>	<code>t_siebelsceec.h</code>
<code>applet_ev_i.c</code>	<code>buscomp_ev.h</code>	<code>propset_ar.idl</code>	<code>t_siebelsceecapp.h</code>
<code>applet_ev_p.c</code>	<code>buscomp_ev.idl</code>	<code>propset_ar_i.c</code>	<code>t_siebelsceecapplet.h</code>
<code>application_ar.h</code>	<code>buscomp_ev_i.c</code>	<code>propset_ar_p.c</code>	<code>t_siebelsceecbc.h</code>
<code>application_ar.idl</code>	<code>buscomp_ev_p.c</code>	<code>service_ar.h</code>	<code>t_siebelsceecsrvc.h</code>

## Generating and Configuring a SCEC

This task is a step in [Process of Implementing a SCEC on page 292](#).

### *To generate and modify a SCEC using the ATL Wizard in Visual Studio 2005*

- 1 Create a new project in Visual Studio 2005 with the following settings:
  - Project type = Visual C++ > Smart Device
  - Template = ATL Smart Device Project
  - Name = Name of the SCEC (for example, SampleSCEC)
- 2 In the ATL Smart Device Project Wizard, click Next.
- 3 Click the left arrow button to remove the Pocket PC 2003 SDK from the list of Selected SDKs.
- 4 Click the right arrow button to add the Windows Mobile 5.0 Pocket PC SDK to the list of Selected SDKs. Click Next.
- 5 In the Application Settings screen, choose Dynamic-link library for the Server type. Do not check any other options. Click Finish.

This step generates SCEC files, such as SampleSCEC.cpp and SampleSCEC.idl.

- 6 Switch from the Solution Explorer to the Class view, right-click the SampleSCEC project, and select Add > Class.
- 7 From the Visual C++ Category, select Smart Device. From Visual Studio installed templates, select ATL Simple Object. Click Add.
- 8 In the Welcome to the ATL Simple Object Wizard screen, enter a name for the SCEC in the Short Name field (for example, SampleSCEC). This will automatically populate the other fields.

**NOTE:** If the project name is the same as the Short Name (for example, SampleSCEC), you must slightly modify the names of the .h and .cpp files, because by default they will be SampleSCEC.h and SampleSCEC.cpp, respectively. The ATL wizard will generate an error if you leave these names unchanged and click Next, because SampleSCEC.h is generated by MIDL and therefore cannot be used, and SampleSCEC.cpp has already been generated by the ATL wizard. For example, you can modify the names to be SampleSCECObj.h and SampleSCECObj.cpp.

Click Next.

- 9 In the Options screen, select the following options:
  - Threading Model = Free
  - Interface = Custom

Click Finish.

- 10 Navigate to the Solution Explorer, right-click the generated .idl file (for example, SampleSCEC.idl), and select Properties.
- 11 Navigate to Configuration Properties > General and change the value of the Tool property from MIDL Tool to Custom Build Tool. Click Apply.

- 12 Navigate to Configuration Properties > Custom Build Step > General. In the Command Line text box, add the location of the Siebel (COMMIDL) .idl files in the following format:

```
midl /nologo /oicf /I <action requests location> /I <events location> /h
"<ProjName>.h" /iid "<ProjName>_i.c" "<ProjName>.idl"
```

For example:

```
midl /nologo /oicf /I ..\..\com\interfaces\actionrequests /I
..\..\com\interfaces\events /h "SampleSCEC.h" /iid "SampleSCEC_i.c"
"SampleSCEC.idl"
```

- 13 Select Outputs and add the following files to the Outputs text box:

- .\<ProjName>.tlb
- .\<ProjName>.h
- .\<ProjName>\_i.c

For example:

- .\SampleSCEC.tlb
- .\SampleSCEC.h
- .\SampleSCEC\_i.c

Click OK.

- 14 Right-click the Project name and select Properties.

- 15 Navigate to Configuration Properties > C/C++ > General and modify the settings to include the generated Siebel COMMIDL idl files, t\_siebelscec.h, and shcescec.h by specifying the appropriate directories in the Additional Include Directories text box.

For example:

```
..\..\com\comimpl;..\..\com\scec;..\..\com\interfaces\midl
```

Click OK.

## Modifying SCEC Files

This task is a step in [Process of Implementing a SCEC on page 292](#).

### To modify SCEC files

- 1 Open and modify the .cpp file generated by the ATL wizard (for example, SampleSCEC.cpp) by including one or more appropriate \_i.c files.

For example:

```
#include "application_ev_i.c"
#include "buscomp_ev_i.c"
```

```
#include "service_ev_i.c"
#include "applet_ev_i.c"
```

- 2** Open the stdafx.cpp file, and add the following code above #include "stdafx.h":

```
#define _CE_ALLOW_SINGLE_THREADED_OBJECTS_IN_MTA
```

- 3** Modify the .idl files (for example, SampleSCEC.idl) as follows:

- a** Remove the definition of the interface generated by the ATL wizard. For example, remove the following code:

```
import "oaidl.idl";
import "ocidl.idl";
import "atliface.idl";
```

```
[
object,
uuid (D26E065A-3365-4A41-ACDE-486E98C204A8),
helpstring ("ISampleSCEC Interface"),
pointer_default (unique);
]
Interface ISSampleSCEC : IUnknown{
};
```

- b** Import the appropriate Siebel .idl files for the event to be implemented.

For example, if you are implementing a business component SCEC, add the following:

```
import "application_ar.idl";
import "application_ev.idl";
import "buscomp_ev.idl";
```

- c** Replace the automatically generated interface name (for example, ISampleSCEC) with the appropriate ISHCEXXXEvent interface. For example, if you are implementing a business component SCEC, change the interface name to ISHCEBusCompEvent. The final lines of code resemble the following:

```
coclass SampleSCEC
{
    [default] interface ISHCEBusCompEvent;
};
```

```
};
```

**4** Modify the SampleSCECObj.h file as follows:

- a** Add statements to include SampleSCEC.h and any Siebel templates for the implemented objects. For example:

```
#include "SampleSCEC.h"
#include "t_siebel scecbc.h"
```

- b** Add any events that you intend to implement to the class definition. Use the appropriate template according to the event. Possible events and templates are listed in the following table:

Event	Template
Application events	CSiebelSCECAppBase
Business Component events	CSiebelSCECBusCompBase
Applet events	CSiebelSCECAppletBase
Service events	CSiebelSCECServiceBase

For example, to replace the ATL-generated class definition for CSampleSCEC, replace the following code:

```
class ATL_NO_VTABLE CSampleSCEC :
    public CComObjectRootEx<CComMultiThreadModel>,
    public CComCoClass<CSampleSCEC, &CLSID_SampleSCEC>,
    public ISampleSCEC
```

with this definition:

```
class ATL_NO_VTABLE CSampleSCEC :
    public CSiebelSCECBusCompBase
        <CSampleSCEC, &CLSID_SampleSCEC,
        &LIBID_SampleSCECLib, IDR_SAMPLESCEC>
```

where:

- The first parameter (CSampleSCEC) indicates the class name.
  - The second and third parameters hold class and library Ids, respectively, and are defined in the <ProjName>\_i.c file.
  - The fourth parameter (IDR\_xxx) is defined in the resourceppc.h file.
- c** Replace the ATL-generated interface name (for example, ISampleSCEC) with the appropriate ISHCEXXXEvent interface. For example:

```
BEGIN_COM_MAP(CSampleSCEC)
    COM_INTERFACE_ENTRY(ISHCEBusCompEvent)
END_COM_MAP()
```

- d** Remove the following:

```
DECLARE_PROTECT_FINAL_CONSTRUCT()

HRESULT FinalConstruct()
{
    return S_OK;
}

void FinalRelease()
```

- e** Add the appropriate STDMETHODS that you want to implement. For example, to add InvokeMethod, add the following code:

```
STDMETHOD (InvokeMethod) (BSTR pMethod, BSTR* args, int nArgs);
```

- 5** Implement the SCEC in the .cpp file (for example, SampleSCECObj.cpp). To implement CSampleSCEC::InvokeMethod, add the following code:

```
STDMETHODIMP CSampleSCEC::InvokeMethod(BSTR pMethod, BSTR* args, int nArgs)
{
    // Your implementation here
}
```

The following extended example first implements a helper method (URLEncode), then queries the selected account for an address, and displays it on a map.

```
#include "stdafx.h"
#include "SampleSCECObj.h"

// CSampleSCEC
// METHOD NAME
// URLEncode
// DESCRIPTION
```

```

// This function is used to encode a URL.
CComBSTR URLEncode (LPCTSTR pStr)
{
    CComBSTR pURL = _T("");

    if (!pStr)
    {
        return pURL;
    }

    TCHAR pBuffer[4];

    memset (pBuffer, 0x00, sizeof(TCHAR) * 4);

    for ( ; *pStr != _T('\0'); pStr++)
    {
        switch (*pStr)
        {
            case 0x0009 : case 0x000A : case 0x000D :
            {
                // put a 0, since these are single digit chars
                _stprintf (pBuffer, _T("%0%x"), *pStr);
                pURL.Append (pBuffer);
                break;
            }

            case 0x0020 :
            {
                // encode space as a plus sign
                pURL.Append (_T("+"));
            }
        }
    }
}

```

```

        break;
    }

    case 0x0021 : case 0x0022 : case 0x0023 : case 0x0024 :
    case 0x0025 : case 0x0026 : case 0x0027 : case 0x0028 :
    case 0x0029 : case 0x002B : case 0x002C : case 0x002F :
    case 0x003A : case 0x003B : case 0x003C : case 0x003D :
    case 0x003E : case 0x003F : case 0x0040 : case 0x005B :
    case 0x005C : case 0x005D : case 0x005E : case 0x0060 :
    case 0x007B : case 0x007C : case 0x007D : case 0x007E :
    {
        // encode the special characters
        _stprintf (pBuffer, _T("%%x"), *pStr);
        pURL.Append (pBuffer);
        break;
    }

    default:
    {
        // no encoding is needed
        TCHAR pChar[1];
        _stprintf (pChar, _T("%c"), *pStr);
        pURL.Append (pChar);
        break;
    }
}

return pURL;
}

```

```

STDMETHODIMP CSampleSCEC::InvokeMethod(BSTR pMethod, BSTR* args, int nArgs)
{
    CComPtr<ISHCEBusComp>    pBusComp;
    CComPtr<ISHCEBusObject> pBusObj;

    START_EVENT_ARG (CSampleSCEC::InvokeMethod);

    // Check if the Map Address button was clicked
    if (pMethod && _tcscmp (pMethod, _T("EventMethod")) == 0)
    {
        /// Make sure there is at least 1 account record present
        if (m_pRootObj->CheckActiveRow () == S_OK)
        {
            // get the primary address id
            CComBSTR bstrPrimaryAddressId;
            CALL_INT (m_pRootObj, GetFieldValue (FALSE, CComBSTR (_T("Primary Address
            Id")), &bstrPrimaryAddressId));

            // now get the appropriate business object and business component
            CALL_INT (m_pApp, GetBusObject (CComBSTR (_T("Account")), &pBusObj));
            CALL_INT (pBusObj, GetBusComp (CComBSTR (_T("CUT Address")), &pBusComp));

            // query for the record:
            BOOL bBool = FALSE;
            CALL_INT (pBusComp, ClearToQuery ());

            CComBSTR bstrSearchSpec = CComBSTR (_T("[Id] = ''"));
            bstrSearchSpec += bstrPrimaryAddressId;
            bstrSearchSpec += CComBSTR (_T(""));
        }
    }
}

```

```

CALL_INT (pBusComp, SetSearchExpr (bstrSearchSpec));
CALL_INT (pBusComp, ExecuteQuery ());
if (pBusComp->FirstRecord (&bBool) == S_OK && bBool)
{
    // get the required info about the address

    // get Street Address
    CComBSTR bstrStreetAddress;
    CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("Street Address")),
    &bstrStreetAddress));

    // get Street Address 2
    CComBSTR bstrStreetAddress2;
    CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("Street Address
2")), &bstrStreetAddress2));

    // get City
    CComBSTR bstrCity;
    CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("City")),
    &bstrCity));

    // get State
    CComBSTR bstrState;
    CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("State")),
    &bstrState));

    // get Zip Code
    CComBSTR bstrZipCode;
    CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("Postal Code")),
    &bstrZipCode));

```

```
// get Country
CComBSTR bstrCountry;

CALL_INT (pBusComp, GetFieldValue (FALSE, CComBSTR (_T("Country")),
&bstrCountry));

// construct and encode the URL
CComBSTR bstrURL = CComBSTR (_T("www.mapquest.com/pda/
maps.adp?address="));

if (_tcscmp (bstrStreetAddress2, _T("")) != 0)
{
    bstrStreetAddress += CComBSTR (_T(" "));
    bstrStreetAddress += bstrStreetAddress2;
}

bstrURL += URLEncode (bstrStreetAddress);

bstrURL += CComBSTR (_T("&city="));
bstrURL += URLEncode (bstrCity);

bstrURL += CComBSTR (_T("&state="));
bstrURL += URLEncode (bstrState);

bstrURL += CComBSTR (_T("&zipcode="));
bstrURL += URLEncode (bstrZipCode);

bstrURL += CComBSTR (_T("&country="));
bstrURL += URLEncode (bstrCountry);

// map the address
PROCESS_INFORMATION inf;
```

```

        CreateProcess (_T("\\windows\\iexplore.exe"), bstrURL, NULL, NULL, FALSE,
0, NULL, NULL, NULL, &inf);
    }
    else
    {
        // log message that there is no address to map
        CComBSTR bstrInfoMessage =
            CComBSTR (_T("CSampleSCEC::InvokeMethod : The currently selected
account record has no address to map."));

        CALL_INT (m_pApp, Trace (bstrInfoMessage, 0));
    }
}
}

!!_abort:
    FINISH_EVENT;
}

```

## Deploying SCEC Files to a PDA Device

This task is a step in [Process of Implementing a SCEC on page 292](#). You can either deploy the SCEC files to the PDA using Visual Studio, or deploy them manually.

### *To Deploy SCEC files to a PDA Device using Visual Studio*

**CAUTION:** Do not choose the `\windows` directory as the deployment location on the PDA.

- 1 To specify the deployment location, right-click the project and select Properties.
- 2 Navigate to Configuration Properties > Deployment and specify a Remote Directory, such as `\program files\siebel handheld\scec`.
- 3 Choose Build > Deploy. This copies the .dll to the specified directory on the PDA and automatically registers the .dll.

### *To Manually Deploy SCEC files to a PDA device*

**CAUTION:** Do not choose the `\windows` directory as the deployment location on the PDA.

- 1 Copy the SCEC .dll to a directory on the PDA.
- 2 Register the .dll by running regsvrce.exe (located in \windows on the PDA). Specify the path of the .dll path, such as \program files\siebel handheld\scec\samplescec.dll.

## Configuring SCEC User Properties in Siebel Tools

This task is a step in [Process of Implementing a SCEC on page 292](#).

Once the SCEC has been created, locate the corresponding Siebel object in Oracle's Siebel Tools and add a user property to specify the class ID (CLISD), the Siebel method to subscribe to, and any additional information.

Format the user properties as follows:

Property Name: SHCE COM Event <x>

Property Value: "<MethodName>", "<CLISD>", "<extra info>"

**NOTE:** You must use quotes around the concatenated values.

where:

- <x> indicates number starting with 1. For example, SHCE COM Event 1.
- <MethodName> indicates the name of the method, such as BusComp\_PreWriteRecord.
- <CLISD> indicates the Class ID of the SCEC. The Class ID can be found in the SampleSCEC.idl file by searching for "library SampleSCECLib" and locating the uuid string. For example, uuid(85342298-0FD5-4F58-B454-07B1F6671A8C).
- <extra info> indicates optional extra information. Some events allow the specification of additional information, such as the method or field name for which events should be dispatched. The event will be dispatched only if the current method or field name match. If no additional arguments are specified, the event is always dispatched. For example, if you formatted the property value as "BusComp\_InvokeMethod", "12373DB6-4CEA-11D2-A3DC-0008C78A05F9", "FooBar Method", the event is dispatched when the FooBar Method is invoked. For all other methods, no event is dispatched.

The following Siebel events support the <extra info> information:

Applet_InvokeMethod	Application_PreNavigate	Service_InvokeMethod
Applet_PreInvokeMethod	BusComp_InvokeMethod	Service_PreCanInvokeMethod
Applet_TaskButtonPressed	BusComp_PreGetFieldValue	Service_PreInvokeMethod
Application_InvokeMethod	BusComp_PreInvokeMethod	
Application_Navigate	BusComp_PreSetFieldValue	
Application_PreInvokeMethod	BusComp_SetFieldValue	

For example:

Name: SHCE COM Event 1

Value: "Buscomp\_PrewriteRecord", "37073DB6-4CEA-11D2-A3DC-0008C78A05F9"

## Configuring SCEC Registry Settings

This task is a step in [Process of Implementing a SCEC on page 292](#).

Configure the following Windows Registry PDA settings for each SCEC:

- **SHCE COM Disable.** This registry setting is not present by default. Add this setting and set it to Y to disable COM Extensibility.
- **SCEC Dir.** This registry setting specifies the location of the directory of the SCEC. All \*.dll files in this directory are preloaded. This registry setting is not present by default; you must add this setting.

For example:

`\program files\siebel handheld\scec`

**CAUTION:** Specify a directory containing only SCEC .dll files. Using `\windows` causes the application to attempt to preload all .dll files.



# Index

## A

### About BatchSync for Siebel Handheld

**Applications** 94

**Absolute print tag** 234

### activities

- accept and decline 183
- parts, ordering for an activity 182
- reviewing 181
- service request, adding to an activity 191
- sundry activity, adding 191

### activities, performing

- completed steps, checking off 184
- non-serialized part or product, installing 185
- reading, taking a 184
- serialized assets, generating an RMA 186
- serialized assets, installing a replacement part 186
- serialized assets, removing 185

**administration screens** 67

### applet classes

- CSSFrameBase 214
- CSSFrameList 214
- CSSFrameListBase 214
- CSSFramePopupCurrency 214

**applet classes, list of** 214

**applet print tag** 235

### applets

- default behavior, overriding 31
- form applets, designing 56
- list applets, designing 56
- print applets, designing 56
- Print buttons, configuring 57
- printing, configuring 57
- screen allocation 31
- toggling between 164
- URLs in applet fields 164

**application memory, increasing** 174

**application-level menu** 162

**architecture, five layers described** 24

### arrival

- recording time of 183

### assets

- coverage, confirming 189
- serialized assets, generating RMA 186
- serialized assets, installing replacement part 186
- serialized assets, removing 185

**asterisk (\*), and required fields** 36

### asynchronous query

- about 167
- icons 163
- Siebel Service Handheld, using in 180

### audit trail

- obtaining audit trail for synchronization sessions 107

**auto pop-up list, about using** 40

### automatic backup, after

**synchronization** 170

## B

**Back button, about** 165

**Background print tag** 242

### backing up data

- about 169
- automatic backup after synchronization 170
- editing database parameters 141
- external media 141
- restoring data 170
- restoring from 141
- troubleshooting 193
- user database backups, enabling 140

### barcode scanning

- views, enabling for 89

### barcode, administering

- barcode scanning, enabling views for 89
- scanning, enabling views for 89

**BarcodeNewRecord user property** 83

### barcodes, administering

- about 82
- barcode definition, creating 84, 92
- barcode scanning, enabling 93
- enabling views for barcode scanning 89
- enhancing the behavior of barcode scan 89
- setting new record behavior for scans 83

**billable time, tracking** 187

### business component classes

- CSSBCActivity 213
- CSSBCAssetReading 213
- CSSBCBase 213
- CSSBCUser 214

**business component classes, list of** 209, 212

### business components

- list of supported components 209
- synchronization conflicts, obtaining

- information 107
- business object declarations**
  - setting PDQ examples 116
- business object filters**
  - stand-alone deployments 116
- buttons, about and behavior** 43

**C**

- Calendar**
  - color codes, configuring 46
  - settings, user properties 46
- Cell tag** 237
- client**
  - installation, troubleshooting 193
  - performance, troubleshooting 201
- columns, working with** 166
- COM Extensibility, about** 285
- Comment print tag** 243
- CompactFlash card**
  - backing up to 141
  - Siebel Handheld application, setting installation on 142
- component level settings, configuring** 81
- Concat print tag** 267
- Conditional print tags** 268
- configuring**
  - Siebel Handheld Client 21
  - Web Client and Handheld Client, differences in configuring 24
- configuring calendar settings** 45
- configuring the goto view button** 47
- conflicts**
  - See synchronization, conflict handling and recovery
- contact**
  - adding note 182
- customer**
  - customer history, reviewing 189
  - customer visit, recording en route to 183

**D**

- data**
  - asynchronous query, about 167
  - automatic backup after synchronization 170
  - backing up, about and restoring 169
  - columns, working with 166
  - Direct Server Synchronization, using with Siebel Handheld Application Client 171
  - Direct Server Synchronization, using with Siebel Handheld Client 171
  - entering, about 166
  - exporting 168

- find, about using 167
- queries, about 167
- restoring data from a backup 170
- Siebel Handheld application synchronization, using with Siebel Handheld Client 171
- synchronizing data, about 171

**data filtering**

- business object declaration examples 116
- business object filters, general and default 115
- developing data filters, steps 113
- popup visibility, overriding 118
- stand-alone deployments 116
- visibility, designating 118

**database**

- backup, restoring from 141
- database backup parameters, editing 141
- external media, backing up to 141
- user database backups, about enabling 140

**database backups**

- about and restoring 169
- automatic backup after synchronization 170
- restoring data from a backup 170
- troubleshooting 193

**default synchronization filters, about** 115

**deploying**

- attachments, deploying with Direct Server Synchronization 146
- CompactFlash card, setting Handheld application installation on 142
- DSS components, using Siebel Server installer 129
- external media, installing Handheld application from 143
- multiple synchronization servers 134
- optimizing server process management 133
- patches, deploying with Direct Server Synchronization 144
- patches, distributing 143
- patches, downloading 148
- print templates, installing 141
- server installation, server topology overview 128
- server installation, support of Siebel Handheld Client 127
- server logging levels, configuring 132
- setup.ini file, editing 136
- Siebel Handheld application, process of installing 136
- Siebel Handheld Client, issues and validation 51
- Siebel Handheld Direct Server Synchronization, server

- configuration 132
    - Siebel Handheld Direct Server
      - Synchronization, server
        - installation 129
    - stand-alone installer, creating 143
    - synchronization performance and scalability 134
    - synchronization security 134
    - SyncURL, changing on handheld device 142
    - user database backups, enabling 140
  - Design Data Filters** 175
  - diagnostics, enabling SQLTrace** 199
  - Direct Server Synchronization**
    - architecture 20
    - checklist, using to troubleshoot 194
    - deploying, about 128
    - deployments, stand-alone deployments 116
    - described 19
    - Handheld application, using to install 158
    - log files, using for troubleshooting 197
    - network performance, troubleshooting 202
    - optimizing server process management 133
    - patches, deploying using 144, 146
    - server performance, troubleshooting 201
    - Siebel Handheld Client, using with 171
  - Direct Server Synchronization by proxy** 20
  - Divider print tag** 244
  - documents, defining** 55
  - Downloading a Database Extract** 96
  - downloading patches** 148
  - DrawRect print tag** 244
  - drilldowns, about** 45
  - drilling down, about** 164
  - DSS components**
    - using Siebel Server installer 129
  - dynamic drilldown, about** 164
  - dynamic hyperlink, about** 45
- E**
- ellipsis, and expandable fields** 164
  - Enabling BatchSync for Siebel Handheld Applications** 94
  - end user error messages**
    - See troubleshooting
  - EndOfLine print tag** 245
  - EndOfPage print tag** 246
  - entitlement**
    - confirming service level 190
  - error messages. See troubleshooting**
  - errors**
    - error data, accessing 155
    - error details, obtaining from synchronization session 107
    - general synchronization errors 173, 174
    - synchronization transaction conflicts 173
  - expenses, recording** 187
  - exporting data** 168
  - extended insert processing**
    - about and synchronization 153
  - extended pick processing**
    - about and synchronization 151
    - enabling 152
  - external media**
    - backing up to 141
    - Siebel Handheld application, installing from 143
    - stand-alone installer, creating 143
- F**
- field technician scenario** 179
  - Find**
    - asynchronous query, about 167
  - find**
    - about using 167
  - Footer print tag** 246
  - form applets, configuring**
    - about 38
    - designing, about 56
    - group boxes, about 39
    - labels, about 38
    - layout sequence 38
    - radio buttons, about 39
  - form UI applets, configuring**
    - about 39
  - Format print tag** 247
  - Frame print tag** 248
  - Full Sync** 94
- G**
- general synchronization filters, about** 115
  - GetCount print tag** 257
  - GetDate print tag** 257
  - GetDirect print tag** 258
  - GetField print tag** 259
  - GetRegistry print tag** 260
  - GetTime print tag** 260
  - GetTotal print tag** 261
  - GetX print tag** 263
  - GetY print tag** 263
  - Goto View**
    - configuring button 47
  - GotoView method, using** 31
  - group boxes, about configuring** 39
  - Guidelines** 175
  - guidelines**
    - Siebel Handheld Client, configuration

- guidelines 26
- Guidelines for Designing Data Filters** 175
- Guidelines for Reducing the Synchronization Time** 174
- Guidelines on Improving the Configuration of the Siebel Handheld Application** 177

## H

- Handheld application interface**
  - See interface
- Handheld application synchronization**
  - improving performance, about 174
  - See synchronizing
- handheld device**
  - list of log files 198
  - logging synchronization errors 198
  - working with different specifications 33
- Header print tag** 249
- History button, about** 165
- Home Page applet, using** 43
- hyperlinks, about** 45

## I

- installation**
  - Direct Server Synchronization, using to install Handheld application 158
  - reinstalling the Handheld application 157
  - software on handheld devices, about 158
  - uninstalling the Handheld application 157
  - upgrading from a previous release 157
- installing**
  - attachments, deploying with Direct Server Synchronization 146
  - CompactFlash card, setting Handheld application installation on 142
  - Direct Server Synchronization checklist, using 194
  - external media, installing Handheld application from 143
  - patches, deploying with Direct Server Synchronization 144
  - patches, distributing 143
  - patches, downloading 148
  - resynchronization problems 195
  - Siebel Handheld application, editing setup.ini file 136
  - Siebel Handheld application, process of installing 136
  - stand-alone installer, creating 143
  - synchronization, about problems caused by 194
  - SyncURL, changing on handheld device 142

- the client, troubleshooting 193
- user database backups, enabling 140
- installing the Handheld application** 157

## interface

- application-level menu 162
- asynchronous query icons 163
- components, about and diagram 161
- expandable fields 164
- More Info view, navigation level 171
- queries drop-down list 163
- Screens drop-down list, about 162
- Screens drop-down list, navigation level 164
- Show drop-down list, about 162
- Show drop-down list, navigation level 164
- Siebel toolbar, about 163
- status bar 163
- store-and-forward messaging 163
- tooggling between applets 164
- URLs in applet fields 164

## inventory

- inventory updates, verifying 191
- locations, setting up 82

## invoice, generating 188

## J

- job, performing**
  - See activities, performing

## L

- labels, about configuring** 38
- Landscape print tag** 250
- LineTo print tag** 252
- list applets, configuring**
  - about 36, 37
  - designing, about 56
  - recommended strategy 36

## List print tag 250

## log files

- Direct Server Synchronization logs, using for troubleshooting 197
- handheld device logs, using for troubleshooting 198

## M

- Margin print tag** 253
- MarginBottom parameter** 276
- MarginLeft parameter** 276
- MarginRight parameter** 277
- MarginTop parameter** 277

## media

- backing up to external media 141
- Siebel Handheld application, installing from external media 143

- stand-alone installer, creating 143
- memory, increasing** 174
- menu bar, about** 44
- methods, supported, list of** 229
- More Info view, navigation level** 171
- multi-form, multi-quantity printing, configuring** 59
- multiple synchronization servers** 134

## N

- naming conventions, about** 28
- network performance, about** 202
- non-serialized part or product**
  - installing 185

### note

- contact, adding for 182

## O

- Offset print tag** 264

## P

- PageBreak print tag** 254
- PaperHeight parameter** 277
- PaperSize parameter** 277
- PaperWidth parameter** 278
- Parameters for Scheduling Handheld Database Extract Jobs** 97
- parent form applet, about** 31
- patches**
  - Direct Server Synchronization, deploying using 144, 146
  - distributing 143
  - downloading to the handheld device 148
- PDQs, and Queries drop-down list** 163
- Performance** 174, 175, 176, 177
- performance**
  - application memory, increasing 174
  - client performance, about 201
  - improving by identifying user activities 26
  - improving performance, about 174
  - network performance, about 202
  - server performance, about 201
  - SQLTrace and synchronization 199
- pick applets**
  - business object declaration examples 116
  - popup visibility, overriding 118
  - visibility, designating 118
- Picture print tag** 239
- Planned Start Date**
  - caution, changing and error message 191
- pop-up lists, about using auto pop-up lists** 40
- pop-up text areas in list applets,**

- configuring** 37
- popup visibility, overriding** 118
- Portrait print tag** 254
- predefined queries, and Queries drop-down list** 163
- preferences, setting user preferences** 169
- print applets, about designing** 56
- Print buttons, configuring** 57
- print tagging language** 233
  - See print templates
- print templates**
  - Absolute print tag 234
  - Applet print tag 235
  - Background print tag 242
  - Cell tag 237
  - Comment print tag 243
  - Concat print tag 267
  - Conditional print tags 268
  - creating print templates 58
  - Divider print tag 244
  - DrawRect print tag 244
  - EndOfLine print tag 245
  - EndOfPage print tag 246
  - Footer print tag 246
  - Format print tag 247
  - Frame print tag 248
  - GetCount print tag 257
  - GetDate print tag 257
  - GetDirect print tag 258
  - GetField print tag 259
  - GetRegistry print tag 260
  - GetTime print tag 260
  - GetTotal print tag 261
  - GetX print tag 263
  - GetY print tag 263
  - Header print tag 249
  - Landscape print tag 250
  - LineTo print tag 252
  - List print tag 250
  - Margin print tag 253
  - Offset print tag 264
  - PageBreak print tag 254
  - Picture print tag 239
  - Portrait print tag 254
  - print template file example 271
  - print template file, creating overview 233, 285
  - Relative print tag 234
  - SetVariable print tag 262
  - SetX print tag 265
  - SetY print tag 266
  - sql (WHERE) print tag 269
  - Static Text print tag 241
  - Title print tag 255

- Variable parameters print tag 270
  - variables, example using in template 271
  - views, associated with 32
  - print templates, installing** 141
  - printer settings dialog box** 58
  - PrinterBaudrate parameter** 278
  - PrinterCompressed parameter** 278
  - PrinterDensity parameter** 279
  - PrinterDither parameter** 279
  - PrinterDraftMode parameter** 279
  - PrinterFormFeed parameter** 280
  - PrinterHandshake parameter** 280
  - PrinterOrientation parameter** 281
  - PrinterPort parameter** 281
  - PrinterType parameter** 282
  - PrinterUserSelect parameter** 283
  - printing with the Handheld application** 167
  - printing, configuration settings**
    - default printing settings, list of 283
    - MarginBottom parameter 276
    - MarginLeft parameter 276
    - MarginRight parameter 277
    - MarginTop parameter 277
    - PaperHeight parameter 277
    - PaperSize parameter 277
    - PaperWidth parameter 278
    - parameters and syntax 275
    - PrinterBaudrate parameter 278
    - PrinterCompressed parameter 278
    - PrinterDensity parameter 279
    - PrinterDither parameter 279
    - PrinterDraftMode parameter 279
    - PrinterFormFeed parameter 280
    - PrinterHandshake parameter 280
    - PrinterOrientation parameter 281
    - PrinterPort parameter 281
    - PrinterType parameter 282
    - PrinterUserSelect parameter 283
  - printing, configuring from Handheld application**
    - about 55
    - applet, configuring for printing 57
    - documents, defining 55
    - form applets, designing 56
    - list applets, designing 56
    - multi-form, multi-quantity printing 59
    - print applets, designing 56
    - Print buttons, configuring 57
    - print templates, creating 58
    - printer settings dialog box 58
  - Process for Administering Batch Sync for Siebel Handheld Applications** 95
  - projects**
    - naming conventions, and 28
- ## Q
- queries**
    - about using 167
    - drop down list, about 163
- ## R
- radio buttons, about configuring** 39
  - record navigation buttons** 165
  - records, navigating a list of**
    - about 164
    - Back button 165
    - record navigation buttons 165
  - Reduce size of RML file** 177
  - Reduce Synchronization Time** 176
  - Reduce the amount of Data Download** 174
  - Reduce the Time of Data Extraction** 176
  - reinstalling the Handheld application** 157
  - Relative print tag** 234
  - removing**
    - business component filter setting 71
    - business object filter section 73
  - reports**
    - associating views with 32
  - repository, compiling** 52
  - responsibilities, assigning** 69
  - restoration, troubleshooting** 193
  - restoring data**
    - from a backup 170
    - Siebel Handheld Client, using 169
  - restoring from a backup** 141
  - Review Configuration** 177
  - Reviewing Batch Sync Status** 97
  - RMA**
    - generating for serialized asset 186
  - running a batch extract** 99
  - running a batch transaction process** 99
- ## S
- sales order**
    - activity, adding to a service request 191
    - generating 190
    - sundry activity, adding 191
  - screens**
    - administrative screens, about 67
    - and views, list of 205
    - designing screens for Siebel Handheld, about 30
    - screen allocation 31
  - Screens drop-down list**
    - about 162
    - navigation level 164
  - scripting**
    - Siebel Handheld Client, issues and

- validation 51
- serialized assets**
  - removing 185
  - RMA, generating 186
  - serialized replacement part, installing 186
- serialized replacement part**
  - installing 186
- server**
  - logging levels, configuring 132
  - multiple synchronization servers 134
  - performance, troubleshooting 201
- server installation**
  - DSS components, using Siebel Server installer 129
  - hardware and network configuration recommended 128
  - optimizing server process management 133
  - server logging levels, configuring 132
  - server topology overview 128
  - Siebel Handheld Client, support of 127
  - Siebel Handheld Direct Server Synchronization, server installation process 129, 132
- service level entitlement**
  - confirming 190
- service requests**
  - activity, adding to an activity 191
  - asset and warranty coverage, confirming 189
  - logging a service request tasks 189
  - new service request, logging 190
  - service level entitlement, confirming 190
- ServiceCE Generic, about** 44
- Session Administration screen** 68
- SetVariable print tag** 262
- SetX print tag** 265
- SetY print tag** 266
- SHCE COM Extension Component (SCEC)**
  - about 285
  - implementing 292
- Show drop-down list**
  - about 162
  - navigation level 164
- Siebel Handheld Application**
  - general synchronization errors 174
- Siebel Handheld application**
  - and device specifications 33
  - attachments, deploying with Direct Server Synchronization 146
  - CompactFlash card, setting installation on 142
  - external media, installing from 143
  - form UI applets, about configuring 39
  - patches, deploying with Direct Server Synchronization 144
  - patches, distributing 143
  - patches, downloading 148
  - process of configuring 24
  - process of installing 136
  - projects, about creating and naming conventions 28
  - setup.ini file, editing 136
  - stand-alone installer, creating 143
  - synchronization, general synchronization errors 173
  - SyncURL, changing on handheld device 142
  - user database backups, enabling 140
- Siebel Handheld application synchronization**
  - application memory, increasing 174
  - Direct Server Synchronization, using with Siebel Handheld Client 171
  - general synchronization errors 173
  - Siebel Handheld Client, using 171
  - synchronization transaction conflicts 173
- Siebel Handheld Client**
  - alpha tabs, configuring 37
  - application memory, increasing 174
  - auto-pop-up list, using 40
  - backing up and restoring data, using 169
  - configuration guidelines 26
  - Direct Server Synchronization, using with Siebel Handheld Client 171
  - form applets, about configuring 38
  - general synchronization errors 173
  - hardware and network configuration recommended 128
  - Home page applet, about 43
  - hyperlinks, about 45
  - improving performance, about 174
  - list applets, configuring 36
  - menu bar, about 44
  - multi-value groups, about 43
  - pop-up text areas in list applets, configuring 37
  - printing, configuring 55
  - repository, compiling 52
  - scripting, issues and validation 51
  - server installation, support of Siebel Handheld Client 127
  - server topology overview 128
  - Siebel Web Client, differences in configuring 24
  - status bar, about 45
  - synchronization transaction conflicts 173
  - tabbed applets, configuring 31
  - testing the Handheld application 65
  - toolbars, about 44
  - tree applets, configuring 41

- unsupported functions 25
    - user functionality, defining 26
    - user interface elements, about
      - configuring 34
  - Siebel Handheld Direct Server Synchronization**
    - DSS components, using installer 129
    - optimizing server process management 133
    - server configuration 132
    - server installation 129
    - server logging levels, configuring 132
  - Siebel Sales Handheld application**
    - business component classes, list of 209
    - business components, list of 209
  - Siebel Service Handheld application**
    - applet classes, list of 214
    - business component classes, list of 212
    - business components, list of 209
  - Siebel Store-and-Forward Messaging**
    - and Siebel Service Handheld 180
  - Siebel Task UI, developing tasks in Siebel Handheld applications** 48
  - Siebel Tasks, for Siebel Handheld applications**
    - creating 49
    - designing 49
    - developing 48
    - example of how to create 50
  - Siebel toolbar, about** 163
  - Siebel Web Client**
    - Siebel Handheld Client, differences in configuring 24
    - unsupported functions 25
  - software, about installing on handheld device** 158
  - sql (WHERE) print tag** 269
  - SQLTrace, enabling** 199
  - .SRF file**
    - compiling repository file 52
  - SSL (Secure Sockets Layer)**
    - synchronization security 134
  - stand-alone deployments, about** 116
  - stand-alone installer, creating** 143
  - Static Text print tag** 241
  - status bar**
    - application window, appears at bottom of 163
    - toolbar, located above 45
  - store-and-forward messaging, about** 163
  - sundry activity, adding** 191
  - synchronization server, described** 20
  - synchronization sessions**
    - error details, obtaining from 107
    - monitoring 105
    - monitoring, about 105
    - synchronization conflicts, obtaining information 107
    - synchronization sessions, obtaining an audit trail 107
    - synchronization transaction errors, responding to 108
  - synchronization, conflict handling and recovery**
    - about 151
    - error data, accessing 155
    - extended insert pick processing, about 153
    - extended pick processing, about 151
    - extended pick processing, enabling 152
  - synchronizing**
    - application memory, increasing 174
    - automatic backup after synchronization 170
    - data, about 171
    - Direct Server Synchronization 20
    - Direct Server Synchronization by means of proxy 20
    - Direct Server Synchronization, using with Siebel Handheld Client 171
    - filters, general and default business object filters 115
    - general synchronization errors 173, 174
    - handheld application synchronization errors, logging 198
    - improving performance, about 174
    - methods and architecture 19
    - multiple synchronization servers 134
    - overview 18
    - performance and scalability, about 134
    - resynchronization problems, troubleshooting 195
    - servers, types of 20
    - Siebel Handheld application synchronization, using with Siebel Handheld Client 171
    - synchronization security 134
    - transaction conflicts 173
    - troubleshooting, about problems caused by 194
  - SyncURL, changing on handheld device** 142
- T**
- tabbed applets, configuring**
    - about 31
  - tasks**
    - creating Siebel tasks 49
    - designing Siebel tasks 49
    - developing Siebel tasks 48
    - example Siebel task 50

**templates**

- install templates, installing 141
- print templates, creating 58
- print templates, views associated with 32

**testing the Handheld application** 65**time**

- tracking billable time 187

**timeout parameter**

- changing on Windows 2000 200

**Title print tag** 255**tooggling between applets** 164**toolbars**

- about 163
- toolbar functions 44

**tree applets, about configuring** 41**troubleshooting**

- client installation, backup, and restoration 193
- client performance, about 201
- Direct Server Synchronization checklist, using 194
- Direct Server Synchronization log files 197
- general synchronization errors 173
- handheld device logs 198
- network performance, about 202
- resynchronization problems 195
- server performance, about 201
- SQLTrace, enabling 199
- synchronization transaction conflicts 173
- synchronization, about problems caused by 194
- timeout parameter, changing on Windows 2000 200

**TxnProcOk** 99**TxnRcvOk** 99**U****UI**

- See user interface elements, configuring

**uninstalling the Handheld application** 157**upgrading**

- Handheld application 157

**Upload Only** 94**Upload Only, Auto Download Later** 94**URLs, in applet fields** 164**User Administration screen** 67**user database backups**

- backup, restoring from 141
- database backup parameters, editing 141
- enabling, about 140
- external media, backing up to 141

**user functionality, about defining** 26**user interface elements, configuring**

about 34

- alpha tabs, about configuring 37
- auto pop-up lists, about using 40
- buttons, about and behavior 43
- form applets, about configuring 38
- form UI applets, about configuring 39
- Home Page applet, about 43
- hyperlinks, about 45
- list applets, about configuring 36
- menu bar, about 44
- pop-up text areas in list applets 37
- status bar, about using 45
- tabbed applets, about configuring 31
- toolbars functions 44
- tree applets, about configuring 41

**user preferences, about customizing** 169**user properties**

- AlphaTab Named Search 38, 215
- AutoPopupField 215
- BarcodeNewRecord 83, 216
- BC Read Only Field 216
- BorderStyle 65, 216
- BrowserPath 60, 216
- ConfirmAccept 65, 216
- Credit Payment Dec Types 217
- Credit Payment Inc Types 217
- DefaultViewType 31, 217
- Disable Second Applet 217
- DisableAlphaTabGroups 38, 218
- DisableParentBar 31, 218
- Document Type Field 218
- Document Type LOV Type 218
- Document Type1 218
- Document Type2 218
- EncryptKey 65, 218
- Expired Product Message Box 218
- Explorer Applet Size 43, 218
- Field Read Only Field fieldname 218
- FormUI 39, 51, 219
- Fulfilled Order Status 219
- HandheldInsertFailMode 219
- HandheldSyncPickMode 219
- InkColor 65, 220
- InkWidth 65, 220
- MaximumFooterLines 65, 220
- MaximumHeaderLines 65, 220
- On Field Update Set n 221
- OrderAccessControl 221
- OverrideDefaultApplet 32, 221
- OverridePopupVisibility 221
- PrintForms 59, 221
- Read-Only Order Status 222
- SHCE COM Disable 223
- SHCEDailySlotHeight 223

- SHCEHideStatusBar 46, 223
  - SHCEHideToolBar 46, 223
  - SHCEMenuBackButton 46, 224
  - SHCEMenuForwardButton 46, 224
  - SHCEMenuNewButton 46, 224
  - ShowData 65, 224
  - Signature 65, 225
  - SignatureDataField 65, 225
  - SignatureDate 65, 225
  - SignatureField 225
  - SignatureFooterField 65, 225
  - SignatureFooterSaveField 65, 226
  - SignatureHeaderField 65, 226
  - SignatureHeaderSaveField 65, 226
  - SignatureHeight 65, 226
  - SignatureTime 65, 226
  - SignatureWidth 227
  - SingleSelect 227
  - Synchronize Rollup Data 227
  - TaskUI 50, 227
  - TriggerFindRecord 227
  - Two Digit Currency Rounding 227
  - Use Document Type Field 227
  - UseSystemLocale 46, 227
  - View 32, 228
  - ViewType 31, 42, 46, 228
  - WritingGuide 65, 228
- users, setting up**
- barcode definition, creating 92
  - barcode definition, process of creating 92
  - barcode scanning, enabling the SHCE Service FS Activity Parts Movements views 93
  - barcode scanning, enabling views for 89
  - barcode settings, administering 82
  - business component filter setting, adding 71
  - business object filter section, adding 72
  - business object filter section, removing 73
  - component level settings, configuring 81
  - enhancing the behavior of barcode scan 89
  - error details, obtaining from synchronization sessions 107
  - inventory locations, setting up 82
  - new barcode definitions, creating 84
  - process tasks 69
  - responsibilities, assigning 69
  - synchronization conflicts, obtaining information 107
  - synchronization sessions, about monitoring 105
  - synchronization sessions, monitoring 105
  - synchronization sessions, obtaining an audit trail 107
  - synchronization transaction errors,
    - responding to 108
    - user level settings, removing 71
    - views, administering 69
    - views, methods for specifying 70
- using Siebel Service Handheld, process of**
- activities, accept and decline 183
  - activity, ordering parts for 182
  - activity, reviewing 181
  - contact, adding a note for 182
  - customer visit, recording en route to 183
  - list of tasks 180
- using Siebel Service Handheld, scenario 179**
- V**
- Variable parameters print tag 270**
- views**
- default behavior, overriding 31
  - drill-down only 31
  - print templates or reports, associated with 32
  - Siebel Handheld, about designing views for 30
- views, administering**
- business component filter setting, adding 71
  - business object filter section, adding 72
  - business object filter section, removing 73
  - component level settings, configuring 81
  - inventory locations, setting up 82
  - tasks associated with 69
  - user level settings, removing 71
  - views, methods for specifying 70
- visibility**
- designating in default Business Object declarations 118
  - popup visibility, overriding 118
- visit, closing out**
- expenses, recording 187
  - invoice, generating 188
  - job, closing 188
  - remaining steps, checking off 187
  - tracking billable time 187
- visit, preparing for**
- arrival, recording time of 183
  - instructions and steps, reviewing 183
  - list of tasks 183
  - recommended parts and tools, reviewing 184
- W**
- warranty**
- confirming coverage 189
- Web Server timeout errors**
- changing timeout parameter on Windows

**Windows** 2000 200

changing timeout parameter on Windows  
2000 200

