



SIEBEL[®] 7
eBusiness

**SIEBEL SERVICE HANDHELD GUIDE
FOR WINDOWS-POWERED DEVICES**

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Contents

Introduction

How This Guide Is Organized	14
Additional Resources	15
Revision History	15

Chapter 1. Overview

Siebel Handheld	17
Functional Differences	17
Using Siebel Tools	18
Filtering	18
Deploying	18
Backing Up and Restoring Data	18
Synchronization Overview	18
Synchronization Methods and Architecture	19
Configuring the Siebel Handheld Client Application	21

Chapter 2. Application Development

Architectural Overview	23
Unsupported Features	24
Multi-Value Groups (MVG)	25
Functions	26
Defining User Functionality	27
General Guidelines	27

Taking Advantage of the Handheld Device	28
Creating a Handheld Project	29
Designing Screens and Views	30
Multiple Applet Views	30
Drill-down Only Views	31
Applet Focus Behavior	31
Views with Associated Print Templates or Reports	32
Configuring User Interface Elements	33
List Applets	33
Form Applets	34
Auto Pop-Up Lists	35
Buttons	36
Menu Bar	37
Toolbars	37
Status Bar	39
Hyperlinks	39
Preventing Synchronization Conflicts	39
Recommended Configuration Guidelines	39
Compiling the Application	41
Configuring Printing from the Handheld	41
Defining Documents	42
Designing Print Applets	43
Configuring Applets for Printing	44
Configuring Print Buttons	44
Creating Print Templates	45
Testing the Handheld Application	46
Chapter 3. Application Administration	
Assigning User Responsibilities	47
Administering Handheld Views	47

Adding Views to the Application 47
 Specifying Default Views in the Configuration File 48
 Setting up Inventory Locations 49
 Preventing Synchronization With Another Handheld Device 50

Chapter 4. Data Filtering

Types of Data Filters 51
 Developing Data Filters 52
 Query by Example Filters 53
 Adding Business Component Filters 54
 Filtering Out List of Values 56
 Predefined Query Filters 56
 General and Default PDQ Filters 57
 All Records PDQ 59
 Summary of PDQ Filter Availability 60
 Administration of PDQ Filters 60
 Stand-Alone Deployments 60
 Filtering Data for Pick Applets 61
 Configuration File Directives 62
 Examples of Business Object Declarations 63
 Designating Visibility 64
 Overriding the Popup Visibility 66
 Service Handheld Filters 67
 Primary Service Business Components 68
 Child Service Business Components 72
 Supporting Service Business Components 73
 Summary of Service Handheld Filters 74
 Customizing Data Filters for Siebel Service Handheld 75

Chapter 5. Deployment

Scripting	77
Server Installation	79
Server Topology Overview	80
Recommended Hardware and Network Configuration	80
Server Installation for Direct Server Sync	82
Configuring Server Logging Levels	85
Optimizing Server Process Management	87
Synchronization Performance and Scalability	88
Handheld Device Installation	88
Editing the Installation Configuration File	90
Enabling Database Backup	94
Setting up Installation on a CompactFlash Card	96
Configuring Handheld Logging Parameters	96
Changing the DSS URL on Devices	97
Installing Print Templates	97
Installing from External Media	98

Chapter 6. Synchronization Conflict Handling and Recovery

Preventing Synchronization Transaction Conflicts	101
Extended Pick Processing	101
Enabling Extended Pick Processing	102
Extended Insert Processing	105
Recovering Data with Siebel Handheld Journaling	108
Location and Name of Journal Log Files	108
Companion Sync Journal Files	109
Automatic Forwarding of Journal Log Files	109
Concatenating Journal Log Files	110
Macro Constants	110
Viewing Transaction Errors	110

Using the Journal Viewer 111

Chapter 7. Installing the Handheld Application

Installing on the Handheld 113
 Installing for Direct Server Sync Users 113
 Reinstalling or Upgrading the Handheld Application 115
 Uninstalling the Handheld Application 116

Chapter 8. Working with Siebel Handheld Applications

Components of the Handheld Interface 117
 Screens Menu 120
 Show Drop-Down List 120
 Application-Level Menu 120
 Queries Drop-Down List 120
 Siebel Toolbar 121
 Customizing the Toolbar 123
 Minimize Button 123
 Status Bar 123
 Navigating the Handheld Interface 124
 Screens Menu 124
 Show Drop-Down List 124
 Expandable Fields 124
 Navigating a List of Records 124
 History Arrows 125
 Record Navigation Buttons 126
 Entering Data 126
 Working with Columns 126
 Finding and Querying Data 127
 Printing 129
 Exporting Data 130

Setting User Preferences	131
Backing Up and Restoring Data	132
Automatic Backup After Synchronization	132
Backing Up Data	132
Restoring Data from a Backup	133
Synchronizing Data	134
Using Direct Server Synchronization	134
Troubleshooting	136
Improving Application Performance	137

Chapter 9. Using Service Handheld

Business Scenario	139
Preparing for the Day	140
Preparing for a Visit	142
Performing the Job	143
Closing Out the Visit	147
Ad Hoc Tasks	148
Reviewing Customer History	149
Logging a New Service Request	149
Generating a Sales Order	150
Adding an Activity	151
Verifying Inventory Update	152

Appendix A. Troubleshooting

Installation	153
Client Installation, Backup, and Restore	153
Synchronization	154
Direct Server Sync Checklist	155
Re-synchronizing Problems	155
Log Files	155

Direct Server Sync Log Files	156
Companion Sync Log Files	156
Handheld Device Logs	158
SQLTrace	159
End User Error Messages	159
Web Server Timeout Errors	160
Performance	161
Client Performance	161
Server Performance	162
Network Performance	163
Siebel Services	164
Siebel Professional Services	164
Siebel Expert Services	164

Appendix B. Screens and Views

Screens and Views	165
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Appendix C. Business Components and Classes

Business Components	169
Business Component Classes	171
Applet Classes	173

Appendix D. User Properties and Methods

User Properties	175
Methods	177

Appendix E. Print Tagging Language

Overview	181
Applet	183
Cell	185

Comment	187
Divider	188
EndOfLine	189
Footer	190
Format	192
GetCount	194
GetDate	195
GetField	196
GetRegistry	197
GetTime	198
GetTotal	199
Header	200
Page Break	202
Picture	203
SetVariable	205
Static Text	206
Title	207
Print Template File Examples	207
Using Variables in Print Templates	208

Appendix F. Print Configuration Settings

Overview	211
MarginBottom	212
MarginLeft	212
MarginRight	212
MarginTop	212
PaperHeight	213
PaperSize	213
PaperWidth	213
PrinterBaudrate	214
PrinterCompressed	214
PrinterDensity	214

PrinterDither	215
PrinterDraftMode	215
PrinterFormFeed	215
PrinterHandshake	216
PrinterOrientation	217
PrinterPort	217
PrinterType	218
Default Printing Settings	218

Index

Introduction

This guide describes Siebel Service Handheld, providing information on configuration, installation, application administration, and the user interface.

This book will be useful primarily to people whose titles or job descriptions match one of the following:

Database Administrators	Persons who administer the database system, including data loading, system monitoring, backup and recovery, space allocation and sizing, and user account management.
Siebel Application Administrators	Persons responsible for planning, setting up, and maintaining Siebel applications.
Siebel Application Developers	Persons who plan, implement, and configure Siebel applications, possibly adding new functionality.
Siebel System Administrators	Persons responsible for the whole system, including installing, maintaining, and upgrading Siebel applications.

This guide assumes that you already have an understanding of Siebel Tools.

Your project team members will benefit from attending Siebel University's configuration training before they begin working with and configuring Siebel Handheld applications.

Trained technical professionals should configure Siebel Handheld applications carefully. Keep in mind that improper application configuration can adversely affect the reliability and performance characteristics of your configured Siebel application. Thorough testing is strongly recommended before production rollout of your configured application.

Product Modules and Options

This guide contains descriptions of modules that are optional and for which you may not have purchased a license. Siebel's Sample Database also includes data related to these optional modules. As a result, your software implementation may differ from descriptions in this Bookshelf. To find out more about the modules your organization has purchased, see your corporate purchasing agent or your Siebel sales representative.

How This Guide Is Organized

This guide provides instructions for configuring and using the Siebel Handheld application. The instructions assume a working knowledge of Siebel Tools; therefore, information that appears in *Siebel Tools Reference* is not repeated. This guide is designed to be read from start to finish, although it can also be used as a reference thereafter to look up specific topics.

The following chapters and appendixes are directed to database administrators, Siebel application administrators, Siebel application developers, and Siebel system administrators:

- [Chapter 1, “Overview”](#)
- [Chapter 2, “Application Development”](#)
- [Chapter 3, “Application Administration”](#)
- [Chapter 4, “Data Filtering”](#)
- [Chapter 5, “Deployment”](#)
- [Chapter 6, “Synchronization Conflict Handling and Recovery”](#)
- [Appendix A, “Troubleshooting”](#)
- [Appendix B, “Screens and Views”](#)
- [Appendix C, “Business Components and Classes”](#)
- [Appendix D, “User Properties and Methods”](#)
- [Appendix E, “Print Tagging Language”](#)

- [Appendix F, “Print Configuration Settings”](#)

The following chapters are directed to end users of the application. These chapters will also be helpful, as a reference, to administrators and application developers who need to understand the handheld application in order to customize it.

- [Chapter 7, “Installing the Handheld Application”](#)
- [Chapter 8, “Working with Siebel Handheld Applications”](#)
- [Chapter 9, “Using Service Handheld”](#)

Additional Resources

The following Siebel application guides contain information that may be relevant to your use of the Siebel handheld application.

- For detailed coverage of the Siebel user interface and how to use it, working with data, locating information with the query and find features, sharing information with other users and other basic functionality topics, see *Fundamentals*.
- For development and configuration information, see *Siebel Tools Reference* and *Siebel Tools Online Help*.
- For information on installing the server components that are required for Siebel Handheld, see *Siebel Server Installation Guide for Microsoft Windows*.
- For more information on assigning user access to catalogs, see *Siebel eSales Administration Guide*.
- For information on creating user accounts, adding views and associating views with responsibilities, and assigning responsibilities and passwords for each handheld user, see *Applications Administration Guide*.

Revision History

Siebel Service Handheld Guide for Windows-Powered Devices

Version 7.5.3**Table 1. Changes Made in Version 7.5.3**

Topic	Revision
“Unsupported Features” on page 24	Revised for 7.5.3: Added more information to this topic.
“Synchronization Security” on page 88	New to 7.5.3: Added new topic.

Siebel Handheld provides Siebel functionality to Windows-powered mobile devices employed by mobile Siebel users working in the field. Siebel Handheld provides the subset of the Web Client functionality that is required by the handheld user. It differs from Siebel Web Client and Siebel Mobile Web Client in that it uses a selected subset of views, accommodates smaller screen sizes, and has a reduced memory capacity.

Siebel Handheld

The Siebel Handheld client is a streamlined version of the Siebel Mobile Web Client. It includes only the functionality required by end users/field technicians. The Siebel Handheld client supports the same data relationships, the same configuration in Siebel Tools, and much of the same functionality as the Siebel Mobile Web Client.

Some features that are available on the Siebel Mobile Web Client are not available on the Siebel Handheld. Scripting and Siebel engines (for example, Pricing and Reporting) are not supported on the handheld.

Functional Differences

Siebel Handheld applications provide the functionality to support Siebel Handheld users working in the field. Not all functionality that is appropriate for the desktop or server environment is required by the handheld user. See [Chapter 2, “Application Development,”](#) for details on functional differences.

Using Siebel Tools

Siebel Handheld applications for Windows-powered devices can be configured in Siebel Tools using Web mode. You can take your existing Siebel application and use this as the basis for the handheld application, or you can create a new application by using the Siebel Tools application shipped on the Siebel Handheld application CD-ROM. See [Chapter 2, “Application Development,”](#) for more information.

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 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 sufficient time is allocated in the project plan to create and test the handheld filters. See [Chapter 4, “Data Filtering,”](#) for more information.

Deploying

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 handheld application from external media, for example, a Cabinet (CAB) file.

Handheld patches can be remotely deployed using PatchAgent. For more information, see [Chapter 5, “Deployment.”](#)

Backing Up and Restoring Data

The Siebel Handheld application provides database backup functionality. A database restore utility is also included with the application. See [Chapter 3, “Application Administration,”](#) and [Appendix A, “Troubleshooting,”](#) for details.

Synchronization Overview

The Siebel Handheld Synchronization (Sync) client synchronizes data between the Siebel Handheld database and a server database. The synchronization process:

- Updates the Siebel server database with changes made to the Siebel Handheld 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

Synchronization Methods and Architecture

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

Synchronization Servers

A direct synchronization server runs in a Siebel server installation and can accept concurrent synchronization requests from multiple synchronization clients. When connecting to a direct synchronization server, the Siebel Handheld Sync client synchronizes its data with the server-side database.

In Direct Server Sync mode, the Siebel Handheld Synchronization client uses the HTTP protocol over a network connection to communicate with the handheld synchronization server. Users should configure their handheld devices for communication over the desired network.

Direct Server Sync

Direct Server Sync 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 an IIS Web server to the Siebel Gateway server and application server, where the Sync server components are installed.

[Figure 1](#) illustrates DSS architecture.

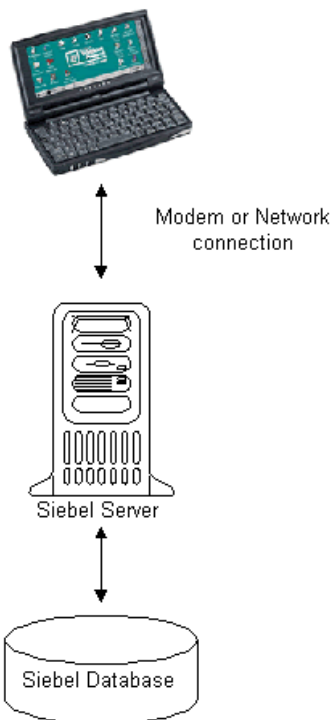


Figure 1. Direct Server Synchronization Architecture

Direct Server Sync via Proxy

Direct Server Sync 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 an IIS Web server to the Siebel Gateway server and application server, where the Sync server components are installed.

Configuring the Siebel Handheld Client Application

Complete the following steps to configure your handheld client application.

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 end users. For more information, see [“Defining User Functionality” on page 27](#).

2 Configure the Siebel Handheld Client user interface.

The process for configuring user interface elements in the Siebel Handheld Client is the same as the process for designing user interface elements in the Siebel Mobile Web Client. For more information, see [“Configuring User Interface Elements” on page 33](#) and *Siebel Tools Reference*.

3 Identify all eScript or VB script used in the Siebel application, and make sure that it does not conflict with the handheld application configuration. Siebel Handheld applications do not currently support scripting.

4 Compile the new configuration.

For more information, see [“Compiling the Application” on page 41](#).

5 Update directives in the Siebel Handheld Client configuration file.

For more information, see [Chapter 4, “Data Filtering.”](#)

6 Test the new configuration.

Test the configuration, repeating [Step 2](#) through [Step 6](#), to address any configuration errors.

After completing the Siebel Handheld Client configuration, you are ready to install it on the handheld devices. To install the Siebel Handheld configuration on a handheld device, see the instructions in [“Installing on the Handheld” on page 113](#).

This chapter describes the Siebel Handheld Client configuration process for application developers. The process for configuring a Siebel Handheld Client has a few differences, described in this chapter, from the process for configuring a Siebel Web Client.

NOTE: Readers should familiarize themselves with the Siebel Web Client configuration process described in *Siebel Tools Reference* before attempting to configure the Siebel Handheld Client.

Architectural Overview

The five layers in the Siebel Handheld 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 users' actions.

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 users will access.

You configure an application using Siebel Tools and compile the Siebel repository (.srf) file. During the synchronization process, information specific to the Siebel Handheld Client is extracted from the Siebel repository file. This information is used to create a repository meta language (.rml) file, which is downloaded to the handheld device. The repository meta language file has all of the layout information for the handheld device. For more information, see *Siebel Tools Reference*.

Unsupported Features

The differences between configuring user interface elements for the Siebel Web Client and the Siebel Handheld Client are shown in [Table 2](#).

Table 2. 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:

- The following applet types are not supported:
 - Chart
 - Explorer
- More than two applets per view is not supported. A maximum of two applets may be displayed at one time.
- Group boxes are not supported. See [“Group Boxes” on page 35](#) for information on how to accommodate this limitation.
- Alarm Manager is not supported. Therefore, if an alarm check box is added to an applet and the check box is selected, no alarm will sound.
- The base time zone is determined by the system settings on the server and cannot be changed on the handheld device.

- Alphabet tabs are not supported.
- Scripting is not supported. However, any scripts on the business components will be executed during synchronization.
- Siebel Workflow is not supported.

Multi-Value Groups (MVG)

The Multi-Value Group applet is not supported on the Siebel Handheld Client; however, the Multi-Value Group relationship is supported. The Multi-Value Group (MVG) control button does not appear on fields in Siebel Handheld Client applications. Instead, MVGs can be implemented as parent-child views. As a result, MVG fields are not editable within the parent record. In the Siebel Web Client, addresses of accounts are added, deleted, or edited through the Business Address MVG applet. However, in the Siebel Sales Handheld Client, these functions must be done through a Business Address child applet with an Account applet as its parent.

On the handheld, all MVG fields are displayed as read-only fields with the primary record visible. If you have an application or business requirement that requires the user to view or update all the records in the MVG, you must configure a separate view for that MVG. For example, the Address field in the Accounts or My Accounts view is an MVG. In the Siebel Handheld Client that field is read-only and displays the primary record. In order for the handheld user to see and update the addresses, the new Address view is configured in Siebel Tools. This new Address view is visible in the Show drop-down list.

CAUTION: Multi-Value Group fields are automatically displayed as read-only fields in the handheld application. If the fields are set to be editable, the application will crash during synchronization.

Functions

Siebel Handheld applications support most of the calculated fields and operations used in the Siebel Web applications with a few exceptions. See [Table 3](#) for a list of the unsupported functions.

Table 3. Unsupported Functions

Function Name	
BCHasRows	GetXAval*
DockingNodeId	IsDocked
DockingNodeName	LanguageName
DockingNodeRouteId	LocaleName
EAILookupExternal	LookupMessage
EAILookupSiebel	LookupTranslation
EXISTS	NOT
GetHQInstanceId	RepositoryId
GetHQInstanceName	RepositoryName
GetNumBCRows	RowIdToRowNum
GetProfileAttr*	ToolsLanguage

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

The RowIdToRowNum function is supported differently in the handheld applications than in the Web applications. In Web applications, RowIdToRowNum converts a row Id to a numeric value. In the handheld applications, it returns the row ID itself.

Defining User Functionality

The first step in configuring a Siebel Handheld Client is to determine which user interface elements are necessary. 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 end users to use and which take advantage of the strengths of the handheld device platform. Because of processing speed, memory limitations, and form factor differences, you should only include those user interface elements that are necessary for users to complete their job responsibilities.

General Guidelines

The following list provides some general guidelines for defining user functionality:

- Limit the number of screens and views.
- Design each view so that it has one or two applets.

NOTE: In some instances, Siebel Systems found it necessary to create a view with three applets in its handheld applications. For these views, a toggle button was added to the applet so that the user can easily navigate between the two child applets.

- Design each applet so that it only contains columns and fields that are required for end-user tasks.

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. This is important because very few applets are shared between the two types of clients.

Taking Advantage of the Handheld Device

Siebel Handheld Client users have different requirements from Siebel Web Client users. Typically, handheld devices have limited screen space and use different methods for entering data, such as smaller keyboards or a touch-sensitive screen. By keeping the Siebel Handheld Client user experience in mind, you will build applications that will allow your users to be more productive. Some guidelines for taking advantage of the handheld device are discussed in the following sections.

Identify User Activities

To conserve memory (and thereby improve performance) and ease navigation, identify business processes that are required by end users and develop applications that support these processes. If more than one type of user needs a Siebel Handheld Client 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.

Support Stop-and-Go Workflow

Design Siebel Handheld Client applications to support a stop-and-go workflow. End users interact daily with the Siebel Handheld Client application, performing job-related tasks. These end users frequently start the Siebel Handheld Client application, navigate to data, read or enter data, and later return to the application to resume entering information. Frequently, an end user needs to navigate to another view to retrieve information while in the middle of a task. Design your applications so that end users perform a minimum number of taps to navigate to the desired information.

Design Applications That Require Minimal Navigation

Design applications that are as flat as possible. In a Web-based application, you may have views with many applets, and the user toggles between the applets. However, for handheld applications, create a larger number of views with fewer applets to allow users to quickly find information with a minimal amount of toggling.

Design for the Handheld Screen

Consider the type of handheld device that is being used and the way the screen is laid out. Consider the following questions when designing your applets:

- Are the applets laid out side by side (on a HPC 2000 handheld device) or stacked one on top of another (on a Pocket PC handheld device)?
- If you are using a list applet, how wide is that list applet going to be? Is it a full-screen list applet or a child list applet?
- What are the most important fields and columns that a user needs to see at a glance before scrolling?
- If you have a form applet that is a parent, for example, what fields do you really need in order to avoid scrolling?

Because there is less screen space on a handheld device than on a laptop or desktop, the most important data should be immediately visible.

Creating a Handheld Project

The Siebel Handheld 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 easily identify applications, screens, views, and applets belonging to a particular Siebel 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 Siebel Handheld Client 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 Siebel Handheld Client 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 could use PPC_SHCE for an application that is designed for handheld devices using the Pocket PC operating system.

Designing Screens and Views

Each view in a handheld application can display a maximum of two applets at a time, regardless of the number of applets in the view. If there are more than two applets in a view, the user can navigate to additional applets by toggling. For more information, see [“Multiple Applet Views” on page 30](#).

Multiple Applet Views

Screen Allocation

The amount of screen space available for applets is determined by the handheld device’s operating system and the type of applets in the view.

Pocket PC For handheld devices using the Pocket PC operating system, the two applets are stacked one above the other. A parent form applet in a two-applet view displays up to five fields on the screen. 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. See [“Setting User Preferences” on page 131](#) for more information on this user preference.

Handheld PC For handheld devices using the HPC 2000 operating system, additional screen space is provided for list applets. The following examples illustrate how the screen space is allocated depending upon the type of applets in the view.

- For views containing a form applet (on the left) and a list applet (on the right), the form applet receives 3/8 of the screen space and the list applet receives the remaining 5/8 of the screen space.
- For views containing two form applets or two list applets, the screen space is allocated equally between the two applets.
- For views containing a list applet (on the left) and a form applet (on the right), the list applet receives 5/8 of the screen space and the form applet receives the remaining 3/8 of the screen space.

Drill-down Only Views

Some views may be drill-down only views—that is, they can only be accessed by navigating from another view. These views should not be accessible through the Show drop-down list. However, when the end 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 would for any other view and set the ScreenMenu property to FALSE. See *Siebel Tools Reference* for more information.

Applet Focus Behavior

When navigating between views, there may be instances when you 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, create a new record, then you must use the GotoViewNewRecord method. This method calls two methods; 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. The valid values are 0 (parent), 1 (child), 2 (grandchild), and so on. For example, if you create a button labeled "Create Service Request Order," you would define the following 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 an end user chooses to print 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:

- Only one print template can be associated with an applet.
- 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 should not include a path name or extension. For example, if the full path of the template is `\Program Files\Siebel Handheld\Templates\InvoiceTemplate.txt`, you would 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, see [Appendix F, “Print Configuration Settings.”](#)

Configuring User Interface Elements

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.

List Applets

List applets display in the Siebel Handheld Client application almost identically to their display on the Siebel Web Client. The list columns in the Siebel Handheld application are identical to the list columns that appear as Applet Web Template Items under the Applet Web Template.

The recommended strategy when configuring the Siebel Handheld Client 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 may either remove the columns from the application or set the Show in List property on the column to FALSE.

- 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.

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

NOTE: All required fields on form and list applets appear with an asterisk (*). If an administrator specifies that a field is required, the field appears with an asterisk in the user interface.

When designing list applets, consider using hyperlinks on the list applet as a convenient way to drill into the form applet.

Use the Web Applet Designer in Siebel Tools to add, remove, or rearrange list columns. Open the applet in the Web Applet Designer and choose the List Columns option from the Format menu. For more information on the List Column options, see information about the Siebel Web Applet Designer in *Siebel Tools Reference*.

You may make columns available, but not visible by default, by setting the Show In List property of the column to FALSE. From the handheld application, you can make the columns visible from the View > Columns Displayed menu option. In order for the change to be reflected in the application, you must compile the application and synchronize with the handheld device. In addition, you must delete the \Program Files\Siebel Handheld\siebel.ssf file on the handheld. If this file is not deleted, the change to the Show In List parameter will not be reflected in the application.

Form Applets

Layout Sequence

When configuring for the handheld device, 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 device is determined by the HTML Sequence field set on control objects.

Handheld PC On form applets on the HPC 2000 operating system, controls are laid out left-to-right, top-to-bottom, according to their HTML Sequence number.

Pocket PC The HTML Sequence field determines the screen layout of a handheld device. 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 using the Pocket PC operating system 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 may 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 will be lost, and two fields with the identical Address label will remain. Therefore, you must rename the Address labels “Ship To Addr” and “Bill To Addr,” or some other label that distinguishes them.

Auto Pop-Up Lists

Sometimes when a user is navigated to a new view, there is an action he or she must perform, for example, filling in a required field by selecting a value from a pop-up list. Rather than requiring the end user tap the control to open the pop-up list, you can configure the view so that the pop-up list automatically opens when the end user gets to that view. 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.

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 may 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 end-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.

Data in picklists are filtered like any other data in a handheld application. For information on how to filter picklists, see [Chapter 4, “Data Filtering.”](#)

NOTE: Catalogs control visibility of data in pick applets. To make sure that pick applets contain valid data, the administrator must add data to a relevant catalog and make sure users have visibility to the catalog using the Catalog screen’s Access Groups view tab.

Buttons

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 handheld applications.

Menu Bar

You can use the same menu configuration for handheld devices using the Pocket PC or HPC 2000 operating system. The menu in Siebel Tools that is used for the Service handheld application is ServiceCE Generic. The default menu bar configuration for the Siebel Handheld Client includes the following menus: File, Edit, View, and Help. You may remove or rename menus on the menu bar, but you cannot add new menus. You may reorder the menu items by changing the Position property for the menu items. Generally, use the default menu bar configuration for all of your Siebel Handheld Client applications.

Toolbars

This section describes how to configure the toolbar for your application.

Handheld PC

[Table 4](#) show the supported toolbar functions for the HPC 2000 operating system.

Table 4. HPC 2000 Toolbar Functions

HPC 2000 Toolbar Functions
Back, Forward
New Record
New Query, Execute Query
Next Record, Previous Record, First Record, Last Record
Minimize, Maximize

The toolbar for the HPC 2000 operating system is not configurable.

Pocket PC Table 5 shows the supported toolbar functions for the Pocket PC 2002 operating system.

Table 5. Pocket PC 2002 Toolbar Functions

Pocket PC 2002 Toolbar Functions
Back, Forward
New Record
New Query, Execute Query
Next Record, Previous Record, First Record, Last Record
Minimize, Maximize
Delete Record

On the Pocket PC 2002 operating system, 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.

An end user can personalize the toolbar by selecting View > Customize Toolbar.

For more information on toolbars, refer to *Siebel Tools Reference*.

Status Bar

The location and type of information available on the status bar depends on the operating system of the handheld device.

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

Handheld PC For handheld devices using the Handheld PC operating system, the status bar is located above the taskbar, at the bottom of the screen. The status bar displays information about both visible applets in the view.

Hyperlinks

Configuring a hyperlink or dynamic hyperlink in the Siebel Handheld Client is performed the same way as in the Siebel Web Client. For more information on configuring hyperlinks and dynamic hyperlinks, see *Siebel Tools Reference*.

Preventing Synchronization Conflicts

Because multiple users are synchronizing with the server, conflicts may occur when any single user synchronizes their handheld. For more information on how to configure your application to prevent synchronization conflicts, see [Chapter 6, “Synchronization Conflict Handling and Recovery.”](#)

Recommended Configuration Guidelines

The Siebel Handheld Client application will perform 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.
- For each screen, create a view called My * 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.
- For each screen, create a single-applet More Info view. Create this applet as a form applet. For example, for the Contacts screen, create a More Info view that has the Contacts form applet only.
- 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.
- 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.
- 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.
- 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 you should 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).
- 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 20 characters or fewer so that they fit in the View drop-down list. The number of characters is a general guide because characters vary in width.

- Limit the size of the dbfile.txt file to less than two 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. See [Chapter 4, “Data Filtering,”](#) for information on how to design data filters to limit the amount of data that is synchronized to the handheld.

Compiling the Application

Compiling the repository for the Siebel Handheld Client is identical to compiling on the Siebel Web Client (see *Siebel Tools Reference*). Perform a full compilation the first time; subsequent compilations can be incremental, replacing only the projects that are affected. This assumes that you have organized all of your handheld object definitions 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 this .srf file the source of repository information for the Siebel Handheld 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. For more information, see *Siebel Tools Reference*.

Configuring Printing from the Handheld

Users may print from any view in the application. However, they are not necessarily printing what they see on their screen. They may 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.

This section provides information on the following topics:

- Defining documents

- Designing print applets
- Configuring applets for printing
- Creating print buttons
- Creating print templates

Defining Documents

Defining documents for printing includes several steps:

- Determine the documents your users will 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 which are a superset of the data in the view. These applets, in turn, direct the data to the print templates discussed in [Appendix E, "Print Tagging Language."](#)

Designing Print Applets

The print template references applets associated with the view and is how you specify what data appears in the printed document. As you design your applets, you should 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 will 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 may 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.

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, data from a field may not all 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 (PaperWidth - [LeftMargin + RightMargin]). These parameters are set in the setup.ini file. For more information on setting these parameters, see [Appendix F, “Print Configuration Settings.”](#)

Configuring Applets for Printing

Configure print applets as you would any other applet using Siebel Tools. In addition, set the following properties for each applet in the view.

- Set the HTML Popup Dimension value to 0x0.

The 0x0 setting hides the applet from the end user who should not see the applet that is used to generate the document. Exposing these applets would complicate a product that is tightly configured for an effective and efficient workflow on a small mobile device.

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

- Set the name of the Mail Template to be the name of the print template file. For more information on the print template file, see [“Creating Print Templates” on page 45](#). For more information on the Mail Template property, see [“Views with Associated Print Templates or Reports” on page 32](#).

Configuring Print Buttons

While users can use the File > Print menu option to print a document, it is helpful to 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 may 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 end user will not be able to print from that view. If you only want the end 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 HTML Type = Button.
- 2** Set Method Invoked = Print.
- 3** Set the Display Name property of the button. Generally, this is set to Print.

Creating Print Templates

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.”](#)

Testing the Handheld Application

Before deploying your application to your end users, be sure to thoroughly test the application by synchronizing to a handheld device. The handheld configuration is downloaded to the device where you can test the functionality and verify that you have the desired behavior. Another equally important aspect of handheld testing is to check to see how much data is downloaded to the device. If too many records are downloaded, this increases the length of time it takes to synchronize the handheld and slows down the application performance. Check the server log file to see how many records are downloaded for each business component. You must set the LoggingLevels parameter to 25555 to capture this information in the log file.

For more information on the LoggingLevels parameter, see [“Configuring Server Logging Levels” on page 85](#). For more information on the server log files, see [“Direct Server Sync Log Files” on page 156](#) and [“Companion Sync Log Files” on page 156](#). For more information filtering data, see [Chapter 4, “Data Filtering.”](#)

This chapter describes the application administration procedures for Siebel Handheld applications. These administrative procedures help to make the application run more efficiently on the device.

The audience for this chapter is Siebel application administrators.

Assigning User Responsibilities

You must create user accounts and assign responsibilities and passwords for each handheld user. The steps are the same as those for creating user accounts, assigning responsibilities and passwords for the Siebel Web Client. See *Applications Administration Guide* for more information on this topic.

Administering Handheld Views

There are two administrative tasks associated with handheld views:

- If you have added a new view or changed the name of a view, you must add the view or update the name of the view in the Application Administration screen.
- Specify the default views in the configuration file.

Adding Views to the Application

Add new views to the Siebel Handheld application from the Application Administration screen in any Siebel Web Client application. You must be logged on as an administrator. (If you are using the Siebel Mobile Web Client to log in as an administrator, you must also specify the `/editseeddata` parameter.)

To add new views to Siebel Handheld

- 1 Launch the Web Client application that uses the same database that the handheld application synchronizes to (or will use to synchronize to).

NOTE: If you launch the application from a mobile Web client, specify the `/editseeddata` parameter.

- 2 In the Siebel Web Client, from the application-level menu, choose View > Site Map > Application Administration > Views.
- 3 Add the new views.
- 4 From the application-level menu, choose View > Site Map > Application Administration > Responsibilities.
- 5 Associate each view with the appropriate handheld responsibility.
- 6 Add appropriate users to the responsibility.

NOTE: For more detailed instructions on adding views and associating views with responsibilities, see *Applications Administration Guide*.

Specifying Default Views in the Configuration File

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

There are two methods for specifying which views will be extracted to the handheld. The first method is to compile an `.srf` of only those views that are relevant to the Siebel Handheld application. Or, alternatively, you may specify the handheld views in the Siebel Handheld configuration file located in the `\siebsrvr\BIN\Language` directory (Direct Server Sync deployments) or `client\BIN\Language` directory (Companion Sync deployments), where *Language* is the language of the application (for example, ENU for English).

The views are specified in the [PDA] section of the handheld configuration file (servicece.cfg). By default, all views for the handheld application are listed here. Edit the list so that only those views which your application is using appear in the list. Use the following syntax to specify the views:

```
DefaultViews1 = "view_name"  
DefaultViews2 = "view_name"  
DefaultViews3 = "view_name"  
DefaultViewsn = "view_name"
```

where *view_name* is the name of the view as it appears in Siebel Tools. The name must match precisely or it will be ignored during synchronization. It is recommended that you copy and paste the name from Siebel Tools into the handheld configuration file.

The combination of the .srf file, the handheld .cfg file, and the user's responsibility determines which views are extracted. Siebel Server uses the information in the handheld configuration file and the .srf file during synchronization in the following way:

- If no default views are specified in the handheld configuration file, all the views in the .srf are extracted during synchronization. If the .srf contains only the handheld-specific views, then this is the same as listing each handheld view in the handheld configuration file.
- If default views are specified in the handheld configuration file, then only those views are extracted. If there are some views that do not match the views in the .srf file, these are ignored.
- If default views are specified in the handheld configuration file, but *none* of the views match those listed in the .srf file, then all the views in the .srf are extracted.

Setting up Inventory Locations

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

Preventing Synchronization With Another Handheld Device

End users should not synchronize their mobile client database with any other handheld device except their own. Doing so can result in data integrity errors and data loss. Siebel Handheld ties a companion PC to a specific handheld device and prevents the end user from synchronizing with another end user's handheld device. Uninstalling the software from the companion PC and the handheld device does not remove this link. If you need to remove the link between the two, contact Siebel Technical Support for the hhunlock.exe utility.

This chapter provides information on deploying and developing data filters. Effective filtering is a key component of handheld deployment. Filtering restricts the amount of data downloaded to the handheld device in order to accommodate the reduced memory and processing resources of the handheld device. The user experience is improved if Siebel Handheld users do not need to navigate through unnecessary records. Device performance and synchronization times are improved as well.

The audience for this chapter is Siebel application administrators and Siebel application developers.

Types of Data Filters

There are three filtering methods that can be used to control the data synchronized to the handheld, which are discussed in greater detail later in this chapter.

- **Repository Configuration.** By specifying links between business components in business objects, you are filtering the data that gets downloaded to the device. For example, the Activity business component is tied to the Account business component through a parent-child link. This filters account data so that only accounts related to activities are downloaded. These links are defined in Siebel Tools by the application developer.
- **Query by Example Filters (QBEs).** QBEs are business component-level filters that are primarily used to filter data at the business component level across all business objects. It defines the overall set of data available to the handheld. This filtering mechanism is used to provide handheld-specific business component level filtering and to define the overall set of data available to the handheld application. QBEs can also be used to filter picklists. It is strongly recommended that these filters be thoughtfully designed and be in place before synchronizing data to the handheld.

- **Predefined Query Filters (PDQs).** PDQs, sometimes called *synchronization filters*, select data at the business object (screen) level. End users use PDQs to select the data downloaded during synchronization. The list of PDQs appear in the Set Filters dialog box.

Users select one PDQ filter per business object, or one per screen. Therefore, all views in the same screen must be associated with the same business object. The filters apply to the screen the same way PDQs apply to screens in the desktop applications. The data on all views within the Handheld application screen is filtered by the PDQ filter.

Developing Data Filters

Siebel Systems suggests the following general steps for developing Handheld synchronization filters.

- 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 default sync filter declarations for those that will cause large numbers of records to synchronize to the device. These declarations are maintained in the PDAQBE file.
- For each business component, determine whether it is possible to apply a search specification to all instances of the business component within the handheld application. Develop a set of suitable Query by Example (QBE) declarations in the PDAQBE file. Common examples of business components that are suitable for global QBEs 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 PDQ synchronization filters for each business object or screen and make sure that each screen includes a default filter. Default filters make sure that users avoid accidental download of an excessive number of records.

Query by Example Filters

During the synchronization process, the synchronization engine accesses a text file that contains handheld-specific filters applied at the business component level. These filters are QBE (Query by Example) statements that apply only to the handheld data extraction, so you can think of these QBE filters as handheld-specific business component search specifications. You can combine these QBE filters with PDQ synchronization filters or search specifications defined in Siebel Tools for flexible data filtering. There is one PDAQBE file per application on a server. (The PDAQBE file is the file defined by the PDAQBEFile parameter in the .cfg file. The PDAQBE file is located in the Siebel Root\siebsrvr\BIN\language directory for DSS deployments and in the Siebel Root\client\BIN\language directory for CS deployments.) Therefore, if you require different QBE definitions for different user populations, you will need a separate server for each PDAQBE file.

Unlike the PDQ filters, which are visible to the end user and can be selected through the Set Filters dialog box of Siebel Handheld Sync, QBE filters can only be created by the administrator and are hidden from the end user. QBE filters are always applied when the end user synchronizes a handheld device.

Adding Business Component Filters

The handheld PDAQBE file is installed by default into the `\BIN\language` directory of the Siebel Application Server or Siebel Mobile Web Client where the handheld application is installed. The name of the file is application-specific, but always ends with PDAQBE file (for example, `pharmaceqbe.txt`, `cgceqbe.txt`, `salesceqbe.txt`). You can create new QBE filters or modify the default QBE filters by editing this file directly. Changes are applied to all subsequent synchronizations. You can also change the name of the file PDAQBE file by adding the following line to the [PDA] section of the Siebel Handheld application .cfg file:

```
PDAQBEFILE = "PDA filename"
```

NOTE: The Siebel Handheld application configuration file is located in the `\bin\enu` directory of the Siebel server for DSS or in the `\bin\enu` directory of the Siebel Mobile Web Client application for CS.

To create new business component filters, add rows to the PDAQBE file. The syntax for new filters is as follows:

```
DefaultSyncFilterXXX = Business Component Name/QBE Statement
```

where:

- XXX is a unique number. The numbers should be in sequential order.
- Business Component Name is the name of the business component to which the filter is applied.
- QBE Statement is the query language that limits the records downloaded for the specified business component.

For example, the following is a QBE Statement from the PDAQBE file:

```
DefaultSyncFilter3 = Service Request|[Closed Date] > Today() - 30 OR  
[Closed Date] IS NULL
```

In this example, a filter has been created for the Service Request business component. This filter will only download service requests that were closed within the last month or that are open. The example also illustrates how global QBE statements should be used during deployment by limiting the service request records to the most current records.

Filtering Out List of Values

You can use QBE filters to filter out values that are not used in picklists in your handheld application. For example, there may be account types, such as Distributor and Competitor, that are only used by users in the Web Client application and are not used by sales representatives out in the field. By including only those values that are used by the sales representative, you simplify the application for the user and improve the application performance.

The following is an example of a QBE filter that filters List of Values (LOV):

```
DefaultBusObjs7=List of Values|5|List of Values|  
([Type]="PROD_REL_TYPE") OR ([Type]="FS_ORDER_TYPE_CODE")
```

The QBE allows only LOV values for two types: PROD_REL_TYPE and FS_ORDER_TYPE_CODE to be downloaded.

QBEs can be used to reduce the amount of background data that is downloaded to the device. For example, there is a large number of products. However, for the field technician using the Service Handheld application, only a very limited number of products are relevant. Therefore, we specify a QBE that downloads only those products typically used by a field technician—that is, products that are orderable and replaceable in the field or products that have the Position Bill Product Flag set to billable. An example would be a billable service that the field technician renders for the customer.

```
DefaultSyncFilter4 = Internal Product|([Field Replaceable Unit] = "Y" OR [Position  
Bill Product Flag] = "Y") AND ([Orderable] = "Y")
```

Predefined Query Filters

Siebel Handheld provides synchronization filters that allow users to select the data they want to synchronize to their handheld applications. These filters are specifically named Predefined Queries (PDQs) that reside in the Siebel database. During synchronization, Siebel Handheld Sync accesses the database and processes the handheld-specific PDQs. The user can select one synchronization filter from the Set Filters drop-down list for each screen in their application. The selected filter determines the parent data that gets downloaded to the device.

You may also define a sort specification in your PDQs. These sort specifications are applied when the data is displayed on the device and is helpful for displaying records in a particular order. An example of a PDQ that includes a sort specification is shown below. The sort specifies that Activity records display according to the required Start Date, so that the first activities to complete appear at the beginning of the activity list.

Name: PDA_Current Activities

```
Query: 'Action'.Search = "[Start Date] >= Today () - 90 AND [Start Date] < Today () + 365"
```

```
'Action'.Sort = "Start Date (ASCENDING)"
```

General and Default PDQ Filters

There are two types of synchronization filters in Siebel Handheld—general and default filters.

- **General sync filters.** Filters users select to specify the records users want downloaded to their handheld application.
- **Default sync filters.** Filters displayed by default the first time the user taps the Select Filters button on the Handheld Sync user interface or if the user synchronizes without first selecting a filter.

The naming convention for general sync filters is:

```
PDA_<filter name>
```

An example of a general filter name is PDA_This Week's Activities. See [“Query by Example Filters” on page 53](#) for more information on filter naming conventions.

General filters with the PDA_ prefix appear in the Set Filters dialog when users synchronize their data and, if selected, in the handheld application in the Queries or Favorites drop-down list.

The naming convention for default sync filters is:

```
PDADef_<filter name>
```

or

PDADef_*<filter name>

Default filters with the PDADef_ prefix appear in the Set Filters dialog when the user synchronizes their data and, if selected, in the handheld application in the Queries or Favorites drop-down list. Default filters with the PDADef_* prefix only appear in the Set Filters dialog; this filter does not show up in the application.

There should only be one default query for each business object or screen. An example of a default filter is PDADef_*NoAccounts. The sync engine is case-sensitive, so pay close attention to using filter prefixes exactly as shown (PDA_, PDADef_).

CAUTION: Administrators must be sure to define a default filter for each screen in the handheld application. If no filters are applied during the synchronization process, an unacceptably high volume of data will probably be downloaded to the handheld device.

All Records PDQ

The All Records PDQ has special implications for Siebel Handheld users. When an All Records PDQ has been defined for a screen, the user can select it from the Favorites or Queries drop-down list in the application. This PDQ returns all records for the primary business component defined for the screen. The purpose of this query is to eliminate a potentially confusing scenario for users.

Suppose a user chooses a synchronization filter called My California Accounts that applies to the Account screen and causes only Accounts with State = CA to synchronize to the handheld application. However, during the course of the day, the handheld user creates a new Account on the device with State = NY. When the user leaves and later returns to the Accounts screen, the original PDQ (State = CA) is applied, and the new NY Account is absent from views within the screen. If the user selects the All Accounts PDQ from the Favorites drop-down list on the device, the NY Account reappears.

To avoid this kind of confusion, you should create a PDQ for each screen following this naming convention:

```
PDAAll_<filter name>
```

The query syntax should be written to return all records.

The following query statement is for an All Records PDQ named PDAAll_All Activities:

```
'Action'.Search="" 'Action'.Sort="Planned"
```

NOTE: This filter only appears in the application. It is not used during synchronization and does not appear in the Set Filters dialog.

See [“Query by Example Filters” on page 53](#) for more information on filter naming conventions.

Summary of PDQ Filter Availability

Table 6 summarizes how the different filters are used. Some filters are synchronization filters—that is, they are only visible when the user synchronizes their data. Other filters are display filters—these filters are only available in the handheld application and are used to filter the records that are displayed on a screen. Some filters are both synchronization and display filters.

Table 6. Availability of PDQ Filters

Filter Prefix	Synchronization Filters	Display Filters
PDA_ < filter name >	Available	Available, if selected during synchronization from the Set Filters dialog
PDADef_ < filter name >	Available	Available, if selected during synchronization from the Set Filters dialog
PDADef_* < filter name >	Available	Not available
PDAAll_ < filter name >	Not available	Available

Administration of PDQ Filters

The following sections provide recommendations for creating and managing filters with various synchronization methods.

Stand-Alone Deployments

For Direct Server Sync deployments, only administrators or users with access to the Siebel Application Server through a Web client can manage the PDQ sync filters. This simplifies end-user training, but requires you to carefully manage the filters on an ongoing basis.

Administrators manage most end user filtering needs through the use of public PDQs. These PDQs are made available to all end users and, therefore, must be defined with the needs of all end users in mind. Private filters, targeted for individual user needs, can be created only if the administrator logs into the Siebel Web Client application as an end user, navigates to the applicable screen, and creates the desired filter

Filtering Data for Pick Applets

Configuration file directives are used only in specific situations and should not be considered the primary method for filtering data. Modify these filters cautiously and only with the support of skilled Siebel configurators.

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. (See [“Designating Visibility” on page 64](#) for more information on visibility designations.) 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 may 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 that would 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 may 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 end-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.

NOTE: Catalogs control visibility of data in pick applets. To make sure that pick applets contain valid data, the administrator must add data to a relevant catalog and make sure users have visibility to the catalog using the Catalog screen's Access Groups view tab.

Configuration File Directives

Within the Siebel Handheld application .cfg file, there is a [PDA] section that contains a number of handheld-specific parameters. One of these parameters, the Default Business Objects declarations (DefaultBusObjs), can be used as a Handheld Sync data filtering tool. Two directives that are used to filter data are:

- **DefaultFields.** This directive specifies which fields in the specified Business Component are downloaded to the device.
- **DefaultBusObjs.** This directive determines the Business Objects and Business Components that are downloaded. This directive is used primarily for those Business Objects and Business Components that are used internally in the code, but do not have applets or views based on them.

In the DefaultBusObjs directive, you can specify that a QBE be applied to a Business Component. You can also use the directive to set the visibility on the Business Object. This visibility is applied to the parent Business Component of the Business Object.

However, be extremely careful when modifying these declarations. The default .cfg file created during installation of the application includes certain Default Business Object declarations that are required for the application to function properly. Be sure that Default Business Object declarations for business objects like Shift, System Preferences, List of Values, System, and others are never modified. The business objects that are required for internal application functioning differ by application, so consult Siebel Technical Support or Siebel Expert Services before modifying these parameters.

Examples of Business Object Declarations

You can set the PDQ in the Default Business Object declarations as described in the following examples.

The general format of a .cfg file is as follows:

```
DefaultBusObjs<##> = <Business Object name> | <Visibility> | <PDQ>
| <Business Component 1> | <QBE for Business Component 1> | <Business
Component 2> | <QBE for Business Component 2>
```

An example from the Handheld .cfg file:

```
DefaultBusObjs22 = Opportunity | 3 | | Account | [Account Status] =
"Active" | Action | [Start Date] >= Today () - 30 AND [Start Date]
< Today () + 90
```

The example Default Business Object declaration results in an extraction of the Account and Action business components where they occur with visibility of 3 within the Opportunity Screen. See [“Designating Visibility” on page 64](#) for further information on visibility codes. The Account business component is filtered to include only Active status Accounts. The Action business component is filtered to include current Activities (those occurring in the previous months and over the next three months).

Note that there is no PDQ included in the example. A PDQ is only included when you want to force the use of a particular PDQ synchronization filter. See [“Predefined Query Filters” on page 56](#) for more information on PDQ synchronization filters.

In the following example, the declaration is used to extract all of the Price List Line Items that will display within the Orders screen.

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

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

Another less common way to use the Default Business Object declarations is to set a single PDQ synchronization filter for the Business Objects or Screens that are synchronized.

Designating Visibility

It is very important that you use the correct visibility designation in the Default Business Object declarations. The visibility entered should 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 7](#) summarizes popup visibility types and the corresponding visibility codes.

Table 7. 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, and Sub Organization PopupVisibilityType. This is not supported in the CE handheld applications.

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 should 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 could 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, go to Applet > Applet User Properties, and define the `OverridePopupVisibility` user property on the applet containing the control that opens the pick applet. See [Table 8](#) for a description of the syntax. Assign a value to this property using the syntax shown, where `< buscomp field n >` is the underlying business component field of an applet control or column, and `< visibility type >` is the code corresponding to the desired visibility of the picklist's business component. (See [Table 7](#) for a list of the visibility codes.) Because the name of the `OverridePopupVisibility` parameter must be unique, append a unique number to the name of the parameter for any other picklists, for example, `OverridePopupVisibility1`, `OverridePopupVisibility2`, and so on.

Table 8. OverridePopupVisibility Syntax

Name	Value
<code>OverridePopupVisibility</code>	<code>< buscomp field 1 > , < visibility type ></code>
<code>OverridePopupVisibility1</code>	<code>< buscomp field 2 > , < visibility type ></code>
<code>OverridePopupVisibility < n ></code>	<code>< buscomp field n + 1 > , < visibility type ></code>

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

Service Handheld Filters

The purpose of the handheld data filters is to identify a select amount of data that is downloaded to the device. The Service data filters use a QBE and PDQ to identify the activities that are downloaded. All other data is selected based on their relationship to these activities.

Before you begin designing your own filters or customizing the default QBE and PDQ filters, it is recommended that you read this section to understand the preconfigured filters. The filters are very tightly configured—that is, the repository configuration defines a very complex set of relationships between the business components—and, in combination with the PDQs and QBEs, this results in downloading a very select and finite number of records. This is designed for optimal synchronization and application performance.

In addition, see [Chapter 9, “Using Service Handheld”](#) to see how the preconfigured application works and how the relationship between the business components is implemented in the application.

Primary Service Business Components

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

Action

The primary Business Component in the Service Handheld application is the Action Business Component.

NOTE: The 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 are based on the Action Business Component:

- Activities Activities view
- Activities Details view
- The parent applets in each Activities screen
- New Activity view in the Activities screen

The 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 QBE, and a PDQ. The QBE is defined to select activities that meet both of the following criteria:

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

Therefore, the end user sees only his or her open activities—that is, activities that require some action. Generally, the end user does not see activities for other users or activities that do not require action. For example, a field repair activity may be assigned to a field technician, and this activity automatically gets downloaded.

There may 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 PDQs which specify a time frame for the activities:

- Today
- Past Due and Today
- 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

The QBEs and PDQs determine which activities are downloaded. In turn, these activities determine the accounts that are downloaded. Only those accounts that are associated with the selected activities are downloaded. Activities are typically children of accounts. Therefore, a reverse relationship must be configured to support the described behavior. This reverse relationship is configured in Siebel Tools at the business object level by linking Account ID on Activity with Account ID on Account.

Service Requests

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 a QBE that selects only service requests that are open or that were closed in the last 30 days.

The following table shows an example of the relationship between activities, accounts, and service requests.

Activity	Account	Service Request
1	A	X
	A	Y
2	A	X
	A	Z
	B	

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

The downloaded service requests determine which orders are downloaded. Therefore, only those orders associated with the selected service orders are downloaded. The following table shows an example of the relationship between activities, accounts, service requests, and orders.

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

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 PDQs

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 would result in an unacceptably large number of records on the device. In the Service application, the relationship between the business components, as defined in Siebel Tools, determines which accounts, contacts, and service requests are selected and downloaded. Therefore, PDQs 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:

- PDADef_*No Accounts
- PDADef_*No Contacts
- PDADef_*No Service Requests
- PDADef_*No Assets

These filters appear, by default, in the Choose drop-down list when end users synchronize their devices. (The exception to this is the PDADef_*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:

- Expenses
- Instructions
- Invoices
- Parts Movement
- Recommended Tools and Parts
- Steps
- Time

Child Business Components of Accounts. The following child components of the selected Accounts business component are downloaded:

- Assets
- Contact Notes
- Contacts
- Entitlements

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. Since, for most businesses, this would result in a very large number of records being downloaded, default QBEs are provided that reduce the amount of data.

The preconfigured QBEs 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 QBE 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 could break one large organization into several smaller organizations and assign different products, price lists, and rates lists to different organizations.
- Design multiple QBE filters. This requires multiple servers, one for each QBE filter.
- Add a field to each of the business components and filter on that field. For example, you could add a field called Product Family and use this field to categorize your products. Or you could 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 Service Handheld Filters

Table 9 shows the list of Service Handheld filters and the query defined for each filter. All filters are public—that is, they are visible to end users. Any user who has permissions to modify seed data can modify the PDQ definitions.

The Service Handheld application includes all PDQs for all of the Siebel Handheld applications, some of which are not relevant to Service Handheld. Therefore, it is recommended that you delete any Handheld PDQs that are not listed in Table 9 so that your end users do not attempt to use PDQs that do not apply.

Table 9. Service Handheld Filters

Business Object	PDA Name	Query
Account	PDADef_*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	PDADef_Today's Activities	'Action'.Search = "[Planned] = Today() OR ([Planned] = "" AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
Contact	PDADef_*No Contacts	'Contact'.Search = [Id] IS NULL"

Table 9. Service Handheld Filters

Business Object	PDA Name	Query
SHCE Asset Management	PDADef_*No Assets	'FS Asset Measurement Characteristics'.Search = [Id] IS NULL"
Service Request	PDADef_*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	PDADef_Today's Activities	'Action'.Search = "[Planned] = Today() OR ([Planned] = "" AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	PDA_Past Due and Today	'Action'.Search = "[Planned] <= Today() OR ([Planned] = "" AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	PDA_Past Due till Tomorrow	'Action'.Search = "[Planned] <= Today() + 1 OR ([Planned] = "" AND [Created] = Today() AND [Created By] = LoginId())" "'Action'.Sort = "Planned"
ActionSHCE	PDA_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	PDAAll_All Accounts	'Account'.Search = "" "'Account'.Sort = "Name, Location"
ActionSHCE	PDAAll_All Activities	'Action'.Search = "" "'Action'.Sort = "Planned"
Contact	PDAAll_All Contacts	'Contact'.Search = "" "'Contact'.Sort = "Last Name, First Name"

Customizing Data Filters for Siebel Service Handheld

CAUTION: It is strongly recommended that you consult Siebel Technical Support or Siebel Expert Services before you modify the filters or the business component relationships and that you work with a Siebel Product Manager during the initial deployment of your application.

The Siebel Service Handheld application is configured to filter a specific subset of data using a combination of CFGs, QBEs, and PDQs. Therefore, you need to thoroughly understand the preconfigured application and the relationship between the screens and views. The interrelationship between the business components is very complex and, therefore, a change to those relationships could result in the exclusion of data that is required by the application. Many views are drill-down only views that are only accessible from other prescribed views, and the application assumes that certain data is available. For example, the SHCE Service FS Measurement Readings View is a drill-down view. If the business component relationships are modified so that the asset measurements data is not downloaded, you will not be able to access the Measurements Readings view.

Without the correct data, your users will not be able to generate transactions, effectively rendering the application unusable. It is strongly recommended that you start with the preconfigured software and modify it as necessary, rather than creating an entirely new configuration. You may modify the QBE and PDQ filters. For example, you can change these to query for different statuses, dates, and values. Be aware, however, that modifications to these filters typically result in more data, longer synchronization times, and slower device performance.

This chapter discusses the following aspects of deploying the handheld application:

- Server installation, including how to optimize the server
- Web client installation
- Handheld installation, including administrative tasks that must be performed before the handheld application is deployed

The audience for this chapter is Siebel application developers, database administrators, and system administrators.

Scripting

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

The Siebel Web Client 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.

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. The script is probably used by the Siebel Web Client, and you can cause damage elsewhere.

- **Calls to user interface methods.** When a business component script makes a call to a user interface method (such as MsgBox), the script cannot be executed, and the record update, deletion, or addition is rejected during synchronization. Strictly speaking, a script attached to a business component should not interact with the user interface, but it is nevertheless a common practice.

Any Siebel Visual Basic code should be restricted to the business component level. Applet-level Siebel Visual Basic will not be executed and, therefore, should not be written for the Siebel Handheld Client application. As a substitute to using Siebel Visual Basic on the Siebel Handheld Client 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 on the Siebel Visual Basic code used in conjunction with the Siebel Handheld Client application business components. If the business component is shared between the Siebel Handheld Client application and a laptop, use the following construct to determine if the code is being executed in real time on the laptop or during synchronization:

```
'ActiveViewName is only available when the script is called real time  
on the laptop
```

```
If (TheApplication.ActiveViewName<>"") then
```

```
MsgBox"....."
```

```
End If
```

Server Installation

This section provides an overview of important factors to consider when planning Direct Server Synchronization (DSS) infrastructure. One aspect of successful planning and execution of a Siebel Handheld DSS deployment 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 highly recommended that customers conduct detailed configuration, sizing, and production readiness reviews with Siebel Expert Services. This is especially important for complex deployments, such as those supporting large numbers of users over wide geographic areas.

For each new customer deployment of Siebel Handheld, there is a mandatory Siebel Professional Services program called the Siebel Mobile eBusiness Competency QuickStart Engagement or the Siebel Expert Services Handheld Review Package. For more information about this program, contact Siebel Global Services or your district manager.

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 Server Process Management” on page 87](#).

NOTE: The recommendations in this chapter are general ones and are intended to raise your awareness of the key factors in handheld synchronization, performance, and scalability. These factors must be confirmed for your actual environment, and the usage patterns in your enterprise should be taken into consideration.

Server Topology Overview

The diagram in [Figure 2](#) shows the servers and components that are required to deploy Direct Server Sync. The components are the Siebel database, Siebel server, Siebel Web engine, and Siebel Handheld. The synchronization components are the Siebel Sync engine which resides on Siebel server and the Sync client on Siebel Handheld.

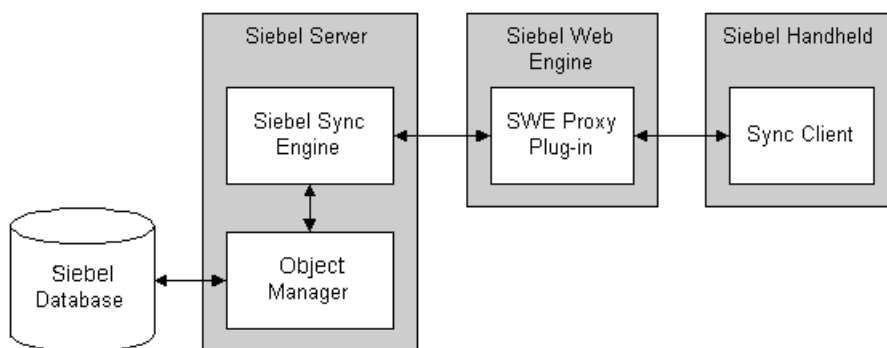


Figure 2. DSS Servers and Components

You can improve performance by properly selecting the machine that each server runs on (Web server, Siebel server, database server). For example, increasing the memory and number of spindles improves the database server performance, and increasing the number of CPUs and the amount of memory improves the performance of the application server.

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 database. The critical factor in sizing a handheld implementation is the expected peak synchronization load. Specific 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 should be considered within the context of the hardware specifications, including memory and processor speed.

The following resources are available as you plan your Siebel Handheld implementation:

- Refer to Microsoft and manufacturer documentation for comprehensive information on server hardware and registry parameters.
- Refer to Siebel Technical Note 405, *Siebel Handheld Synchronization* for specific recommendations on the following topics:
 - Server Architecture
 - Server Hardware and Registry Parameters
 - Database Server Sizing
 - Database Tuning
 - Dial-Up and Network
 - Wireless
 - VPN (Virtual Private Networks)
- The Expert Services Handheld Review Package assists customers with planning their hardware and network for handheld implementations. Contact Siebel Global Services for more information about this program.

Server Installation for Direct Server Sync

The server components that are required for Siebel Handheld are installed when you install the Siebel server. See *Siebel Server Installation Guide for Microsoft Windows* for details on installing and configuring Siebel server. The Siebel server installer copies the necessary DLLs to create an Object Manager for Direct Server Sync and creates and configures a Server Component and Component Group. The rest of this subsection describes which options you must select to correctly install the software, along with creating or configuring additional Object Managers.

Installing the DSS Components 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 will see 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 Direct Server Sync components with your Siebel Server installation

- 1 Choose the Custom setting, and then click Next.

NOTE: At this screen, you may also choose a different directory for your Siebel server installation.

- 2 Choose from the following components:
 - Object Manager Component
 - Handheld Synchronization
 - Siebel Data Quality Connector
 - Remote Search Support

- Siebel Java Integrator

The listed Custom Installation options are all selectable.

NOTE: You must Handheld Synchronization to enable Direct Server Sync for your DSS installation.

- 3 Click Next.

Continue with the installation in *Siebel Server Installation Guide for Microsoft Windows*.

The install wizard automatically installs and configures the DSS components. In addition, the installer creates a configuration file that includes the parameters necessary to properly run the DSS server components and the Business Component filters file.

Editing the DSS Object Manager Configuration File

You must edit the configuration (.cfg) file associated with the DSS server components that you installed and configured to reflect your company's environment.

To edit your configuration file

- 1 In Windows Explorer, navigate to the directory where the Siebel server is installed and locate the configuration file associated with the DSS server component. By default, this directory is `C:\Siebel Root\ siebsrvr\BIN\ENU`.

NOTE: By default, the name of the DSS Object Manager configuration file is `servicece.cfg`, but you can change the name of this file.

- 2 Create a backup copy of the configuration file and name it `servicece.cfg.bak`.

This step allows you to recover the original version of the file if you encounter errors.

- 3 Open the configuration file using Microsoft Notepad.

4 Enter parameter values appropriate for your deployment.

The following parameters in the .cfg file may need to be edited to reflect your environment. All other parameters in this section should not require change.

	Parameter	Default Value	Description
[Siebel] section	ApplicationName	Siebel Service for CE	The handheld application. This value must match the name of the 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 Tools application developed for the handheld is run on the Web client.
	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 is run on the Web client.
	ComponentName	Siebel Field Service Client	Required for Direct Server Sync, it is entered in the registry on the handheld device.
[PDA] section	AppDir	hhsync/fsce	The directory location for the user's synchronization files.
	PDAQBEFile	fsceqbe.txt	The Business Components filtering file used by the synchronization process.

5 Save your changes.**6** Restart the component or server.

Configuring Server Logging Levels

You can specify the level of logging to the server hhsync.*.log files by setting the LoggingLevels parameter in the [PDA] section of the .cfg file. By default, the parameter is set to the following:

```
[PDA]
LoggingLevels = 23333
```

Generally, you should start with the default values. These values work for most customers and were selected to optimize performance. If you are experiencing problems with the application, change the logging levels to 77777 to capture additional diagnostic information. Performance degrades slightly as you increase the logging levels, but in most instances, this is not discernible. Once the problem is resolved, reset the logging levels to their default values.

Each number specifies two things:

- The type of log record. (See [Table 10](#) for the specific values.)
- The amount of information that is logged. (See [Table 11](#) for the specific values.)

The different types of log records are described in [Table 10](#) and correspond to the following format: LoggingLevels = emdts.

Table 10. Types of Log Records

Log Record	Description
e	Transaction events captured and returned to the client application as error messages
m	Log records created by the metadata extractor
d	Log records created by the database extractor
t	Log records created by the transaction processor
s	Log records created by the mainline synchronization code

Each type of log record (emdts) can be set to one of the logging levels described in [Table 11](#):

Table 11. Logging Levels

Logging Level	Description
0	Suppress all log records
1	Process Critical records only
2	Process Critical and Error records only
3	Process Critical, Error, and Warning records only
4	Process Critical, Error, Warning, and Information records only
5	Process Critical, Error, Warning, Information, and Debug records

[Figure 3](#) shows the default settings for the LoggingLevels parameter. The parameter specifies both the type of log record and the logging level. The figure describes the logging levels for the default setting.

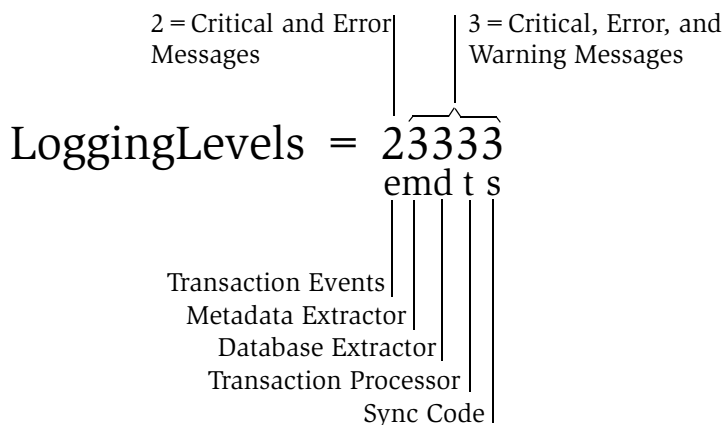


Figure 3. Logging Levels Parameter

CAUTION: The maximum level for transaction events (e) is 2. It is recommended that you do not lower the value for logging transaction events. If the transaction events level is set to 0 or 1, transaction error messages are not sent to the client, and transactions will silently fail.

NOTE: The salesceqbe.txt that is shipped with the application does not include a [PDA] section. What this means is that the defaults for all PDA parameters apply. For example, the default setting of 23333 applies for the LoggingLevels parameter. If the LoggingLevels parameter or any other PDA parameter needs to be changed, administrators can add this section to the end of the file and manually enter the parameter.

Optimizing Server Process Management

Several parameters are outlined below that help optimize server processing for Direct Server Sync. To set these parameters, log into a Siebel client as a user with Administrative responsibility and navigate to Servers > Components > Component Parameters through the Screens menu. Select the SalesCE ObjManager (or the appropriate Siebel Handheld application) and update the following parameters to optimize threads per process. For further information and assistance, see Technical Note 405, *Siebel Handheld Synchronization*, and contact Siebel Global Services about the Siebel Expert Services Handheld Review Package.

- **Max tasks.** This parameter determines the maximum number of threads that can run concurrently for a given component. The value of this parameter should equal the maximum expected peak number of concurrent synchronizations.
- **Min MT servers.** This parameter determines how many multithreaded server processes are started by default for the Siebel Object Manager.
- **Max MT Servers.** This parameter defines the maximum number of processes supported by the instance of the Siebel Object Manager. The value for this parameter should be the same as Min MT servers and should be set so that threads per process (Max Tasks/Max MT Servers) is optimized.

Synchronization Performance and Scalability

There are a number of factors that affect the performance and scalability of handheld synchronization. It is very important that administrators and those involved in the design and deployment of Siebel Handheld understand the impact of usage parameters on synchronization performance and scalability. For more information, see Technical Note 405, *Siebel Handheld Synchronization* for application-specific variables affecting synchronization and data from synchronization scalability tests. In addition, the Siebel Expert Services Handheld Review Package assists customers with optimizing the synchronization performance of their handheld installations. Contact Siebel Global Services for more information about this program.

Using Multiple Synchronization Servers

As you scale your deployment, you may need to use multiple synchronization servers to accommodate all of your users. Your end users must be manually assigned to a particular server. Resonate products cannot be used for load balancing. Refer to Technical Note 405, *Siebel Handheld Synchronization* and to your hardware manufacturer's documentation for more information on scaling deployments.

Synchronization Security

In Siebel Handheld Version 7.5.3 and beyond, the synchronization data stream can be secured using SSL (Secure Sockets Layer).

Handheld Device Installation

Before you deploy the handheld application, there are several tasks you need to perform:

- Editing the installation configuration file (setup.ini)
- Enable database backup
- Setting up installation on the CompactFlash card

- Verifying that the logging parameters are set correctly
- Changing the DSS URL
- Print Templates
- Creating a stand-alone installer (This is optional.)

Editing the Installation Configuration File

The Siebel Handheld application setup.ini file configures the Siebel Handheld Client application 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 client installer to end users.

The setup.ini file resides in the Siebel Handheld application directory (for example, the Service Handheld directory) on the Siebel Handheld CD-ROM. To modify this file, create a Siebel Handheld installation directory on the network, or create and duplicate a custom CD-ROM for distribution to end users. This installation directory must include the same files and directory structure as the original CD-ROM. Then, modify the setup.ini file in the custom installation directory.

[Table 12](#) lists the parameters that you may need to modify in the setup.ini file, their default value, and a description of the parameter.

Table 12. Siebel Handheld Sync setup.ini Parameters

Parameter	Default Value	Description
Version	7.5.2	Version of the desktop Siebel application against which the Siebel Handheld version synchronizes.
ApplicationName		The handheld application. This value can be ignored in the setup.ini file because the value will be read from the configuration file on the server (for DSS).
ApplicationSplashText	Service Handheld	The Siebel Handheld application name as shown on the splash screen.
MultiCurrency	True	Required for the application to handle multiple currencies.
DSSURL	<i>http://Web Server Name or IP address/Virtual Directory Name</i>	Required for Direct Server Sync. This value is entered in the registry on the handheld. See “Changing the DSS URL on Devices” on page 97 for more information on this parameter.

Table 12. Siebel Handheld Sync setup.ini Parameters

Parameter	Default Value	Description
[Printing] Section		See Appendix F, “Print Configuration Settings,” for more information on the parameters used to configure printing.
[Backup] Section		Enables handheld database backups. See “Editing the Database Backup Parameters” on page 95 for more information on settings for the parameters in this section of the setup.ini file.
[ApplicationLocation] Section		Specifies where the handheld application and database are installed. See “Setting up Installation on a CompactFlash Card” on page 96 for more information on the parameters in this section of the setup.ini file.
InternetOptionReceiveTime out	600000	Length of time to receive data (except data extraction) from the server before the handheld client times out. This parameter only applies to synchronizations using Direct Server Sync. In milliseconds. The default value, 600000, is 10 minutes.
InternetOptionSendTimeout	600000	Length of time to send data to the server in a single call the handheld client times out. This parameter only applies to synchronizations using Direct Server Sync. In milliseconds. The default value, 600000, is 10 minutes.

Table 12. Siebel Handheld Sync setup.ini Parameters

Parameter	Default Value	Description
InternetOptionDataExtractionTimeout	900000	Length of time to extract data from the server to the handheld device the handheld client times out. This parameter only applies to synchronizations using Direct Server Sync.
LogSqlStmts	N	This outputs all SQL statements generated by the handheld application to a log file in the Siebel Handheld directory on the handheld. See “Configuring Handheld Logging Parameters” on page 96 for more information on this parameter.

Table 12. Siebel Handheld Sync setup.ini Parameters

Parameter	Default Value	Description
LogSSAErrors	N	This outputs all system error messages generated by the handheld application to a log file in the Siebel Handheld directory on the handheld. See “Configuring Handheld Logging Parameters” on page 96 for more information on this parameter.
SyncLogReportingLevel	1	Specifies the level of logging by Siebel Handheld Sync. Valid values are: 0 - includes critical errors for the Siebel Handheld Sync client and all messages that are displayed to the end user. 1 - includes all error messages for the Siebel Handheld Sync client, repository version information, device Id, extraction Id, and last processed transaction Id. 2 - includes transactions that are sent to the server, schema file and repository file activity, and device information.
TXNErrorLevel	1	Specifies the level of transaction errors returned by the server and displayed to the end user. Valid values are: 0 - returns only critical messages from the server. This setting is not recommended. 1 - returns all error messages from the server.

Enabling Database Backup

Siebel Systems provides a way to automatically back up a snapshot of the user's database and current settings, and to restore those settings in the event of a total device failure. The backup functionality automatically copies all the necessary files to a single compressed file. Each time the user backs up, the backup process creates a new copy of the file and deletes older backups. The backup process must close the application in order to copy the RDBMS and handheld configuration files. After the files are copied, it automatically restarts the application.

The backup feature must be enabled in the application. (For more information on enabling the backup feature, see [“Setting Up Database Backups.”](#)) 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 database, and older backup versions are removed.

When the database backup feature is enabled, a database backup occurs automatically at the end of each synchronization. This 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.

NOTE: Backups should not be used as a replacement for synchronization.

Setting Up Database Backups

In order to back up the database:

- Provide users with an external memory card.
- Install the handheld application with the backup functionality enabled.
- Instruct users to back up their database on a regular basis.

Backing Up to External Media

It is recommended that you back up to external media—for example, a CompactFlash card.

Backing up data to a directory in memory is an option, if external media is not available on the handheld device. However, if the handheld device is damaged, the backup in memory may not be retrievable. Also, when backup data is stored in memory, the amount of memory available to run the application decreases, and application performance may suffer.

Editing the Database Backup Parameters

Before users can back up the database on their handheld devices, you must first enable the Backup menu item on the handheld application. This requires editing the setup.ini file to enable backup.

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 will 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. It is recommended that you do not back up to internal RAM because this may have a negative effect on the performance of the application. However, if you back up to RAM, then specify the directory location where you want the data backed up.

For more information on the setup.ini file, see [Chapter 7, “Installing the Handheld Application.”](#)

Restoring from a Backup

For information on restoring a database from a backup, see [“Backing Up and Restoring Data” on page 132.](#)

Setting up Installation on a CompactFlash Card

The default, when installing Siebel Handheld applications, is to install both the application and the database into RAM on the device. In most instances, there is sufficient available memory, and end users are satisfied with the application performance. There are situations, however, where you may need to optimize the application performance. You can improve performance by installing the Siebel Handheld application on an external storage device.

To improve the performance of the application, it is recommended that you install the application binary files on a CompactFlash card. By doing so, you can free up program memory. Installing the data on the CompactFlash card is not recommended because performance will likely degrade.

You can specify, in the application's setup.ini file, where the application files and 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. The default is Device. To improve application performance, set this to CF (CompactFlash).
- ApplicationDataLocation = Device. The default is Device. It is recommended that you always install the data files on the device.

After you have edited the setup.ini file, follow the instructions for installing the Siebel Handheld application on the client.

Configuring Handheld Logging Parameters

Before you deploy your application, verify that your logging parameters are set correctly in the setup.ini file. The parameters and their default values are:

```
[Logging]
LogSqlStmts = N
```



```
LogSSAErrors = N
```

The LogSQLStmts and LogSSAErrors parameters log messages to the sql_stmt_log.txt and ssa_errors_log.txt files, respectively. You may want to set these parameters to Y for debugging while you are developing your application. However, once you are ready to deploy your application, be sure to reset the values of both parameters to N. For more information on these log files, see [“Handheld Device Logs” on page 158](#).

CAUTION: If the LogSQLStmts and LogSSAErrors parameters are set to Y, then the log files will get very large and use up the available memory on the handheld device.

Changing the DSS URL on Devices

Once the handheld application is installed, the DSS URL cannot be changed. If you need to change the DSS URL, contact Siebel Technical Support.

Installing Print Templates

If your application allows printing, you must include all print templates in the template subdirectory of the Siebel Handheld 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). See the system requirements and supported platforms documentation for your application for the language codes.

See [Appendix F, “Print Configuration Settings”](#) for more information about Printing.

Installing from External Media

You may create an image of the Handheld 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. On the Pocket PC platform, this file is named `siebel.hpc2k_arm.cab`. On the Handheld PC platform, this file is named `siebel.hpc2k_arm.cab`. You can copy the CAB file to a CompactFlash card, insert the card into the handheld device, and double-click on the file to install the Siebel Handheld application on the device.

NOTE: When installing the application on the device, the end user is asked if he or she wants to install the application in the default directory. Regardless of the user's answer, the application is always installed in the directory specified by the `setup.ini` file. Therefore, the only way to change the directory the application is installed in is to modify the parameters in the `ApplicationLocation` section of the `setup.ini` file.

Creating a Stand-Alone Installer

Users who synchronize in DSS mode may not have a PC, and so may not be able to create a partnership and synchronize using Microsoft ActiveSync. You can install the application for each user through a standard partnership, or you can configure a stand-alone installer as shown in the following pages.

During the installation, as shown in [Figure 4](#), 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.

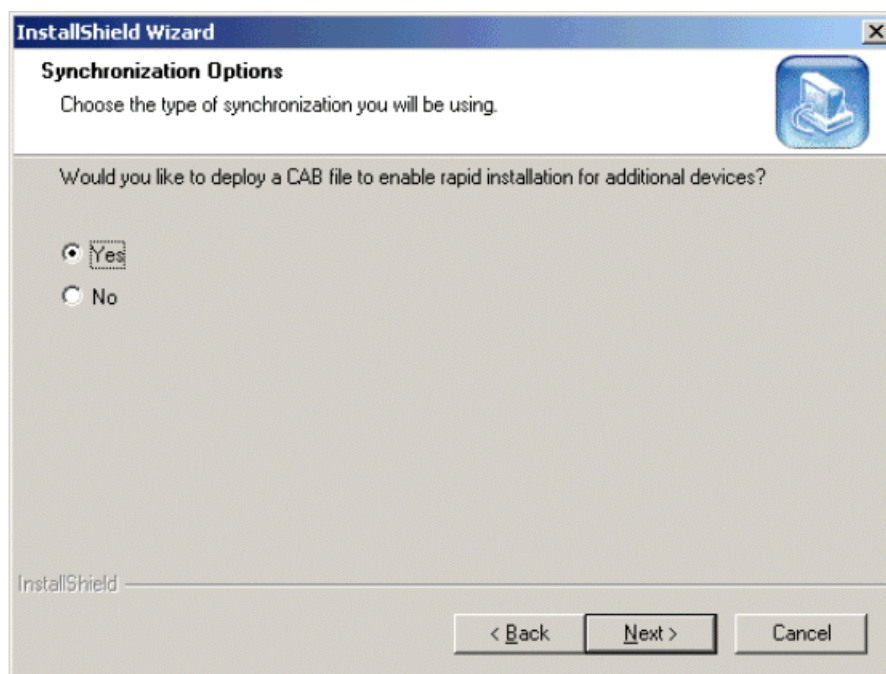


Figure 4. CAB File Option

You are prompted to select a language for the 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 double-click the file, the CAB file installs the application.

Deployment

Handheld Device Installation

When multiple end users synchronize with a remote database, transaction conflicts may occur which can result in data loss. The Extended Pick and Extended Insert functionality minimizes synchronization conflicts. If transaction conflicts are unavoidable, then Siebel Handheld Journaling captures the transaction information so that the data can be recovered. The combination of Extended Pick, Extended Insert, and journaling eliminates the potential for data loss.

Preventing Synchronization Transaction Conflicts

There are two features that minimize synchronization transaction conflicts.

- Extended Pick processing
- Extended Insert processing

The next several sections describe these features in detail.

Extended Pick Processing

The handheld is used to capture and record transactions entered by the handheld user. During synchronization, these transactions are processed on the server. A situation may arise in which a transaction fails when it is applied to the Siebel server (through Direct Server Sync) or Siebel Mobile Web Client (through Companion Sync)—both of which are referred to as “server.” For example, a Siebel ePharma Handheld user creates a professional call activity for one of his contacts. However, since he last synchronized with the server, the contact involved in this transaction was deleted from the server database. When he tries to synchronize his handheld, the server does not find his 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 pick lists or pick applets will fail on the server if that pick data is not present at the time of synchronization.

With many handheld users synchronizing with Siebel server and modifying data at different times, this scenario is not uncommon.

The following describes how a pick transaction is recorded on the handheld device and processed on the server during synchronization. Assume that the handheld 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, the Row Id of the contact (Contact Id) is recorded. However, on the handheld, 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 his handheld, 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 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 transaction and applies the data directly to the server.

Enabling Extended Pick Processing

You can enable Extended Pick processing in two ways:

- Configuration file parameter

The configuration file parameter applies globally throughout the application. When enabled, every handheld pick transaction is subject to pick processing. The parameter is set as follows:

DefaultHandheldSyncPickMode = *Mode*

[Table 13](#) describes the settings for this parameter.

Table 13. Configuration File Setting

Configuration File Parameter	<i>Mode</i> 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 .cfg file.

- Business component user property

The user property is defined on specific business components. The syntax for setting Extended Pick on a business component and the parameter values (Table 14) follow:

`HandheldSyncPickMode = Fieldname|Mode`

Table 14. Business Component User Property Parameters

Business Component User Property	Parameter	Value	Description
HandheldSyncPickMode	<i>Fieldname</i>	—	Specify the field name as defined in Siebel Tools.
	<i>Mode</i>	NoFail	Turns Extended Pick processing ON.
		FailOnError	Turns Extended Pick processing OFF.

You may apply Extended Pick processing to multiple fields in a single business component, using the following syntax:

`HandheldSyncPickMode = Fieldname1|Mode1, Fieldname2|Mode2`

The setting on the business component takes precedence over the setting in the configuration file. For example, you can use the business component setting to nullify the global application of Extended Pick in the configuration file. See “[Extended Insert Processing](#)” on page 105 for an example. Conversely, you can enable Extended Pick processing on specific business components if the configuration file setting has disabled the functionality.

Table 15 shows the combined effect of the settings in the configuration file and on a business component.

- The business component setting always takes precedence over the setting in the configuration file.
- If there is no setting on a particular business component, the configuration file setting applies.

- If there is no setting in either the configuration file or on the business component, the default behavior is for Extended Pick to be turned OFF.

Table 15. Combined Effect of Extended Pick Settings

Business Component Setting HandheldSyncPickMode=	Configuration File Setting DefaultHandheldSyncPickMode=		
	NoFail	FailOnError	No Setting in .cfg file
NoFail	NoFail	NoFail	NoFail
FailOnError	FailOnError	FailOnError	FailOnError
No Setting on Business Component	NoFail	FailOnError	FailOnError

Extended Insert Processing

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. If it is enabled, the Handheld Sync Journal can be used to recover the data.
- The insert failure is logged, including details of the failure, and synchronization is interrupted. This is the extended insert behavior. Extended insert behavior guarantees that, should an insert fail, data loss does not occur since synchronization is stopped until the circumstances causing the failure are resolved.

NOTE: If Extended Insert processing takes place, synchronization is interrupted. The synchronization process will continue to fail until the problem is resolved. End users will need to contact their system administrators to recover from the failure. The recovery effort may involve modifying transactions queued for processing, modifying data on the server, or reentering transactions through the handheld application.

Enabling Extended Insert Processing

You can enable Extended Insert processing in two ways:

- Configuration file parameter

The configuration file parameter applies globally throughout the application. When enabled, every failed insert interrupts synchronization. The parameter is set as follows:

`DefaultHandheldInsertMode = Mode`

[Table 16](#) shows the settings for this parameter.

Table 16. Configuration File Setting

Configuration File Parameter	Mode Value	Description
DefaultHandheldInsertMode	NoFail	Disables Extended Insert processing. This is the default behavior if the parameter is not specified in the .cfg file.
	FailOnError	Enables Extended Insert processing.

- Business component user property

The user property is defined on specific business components. The setting in the business component takes precedence over the configuration file setting. The syntax for setting the Extended Insert on a business component and the parameter values (Table 17) follow:

HandheldInsertFailMode = *Mode*

Table 17. Business Component User Property Parameter

Business Component User Property	Parameter	Value	Description
HandheldInsertFailMode	<i>Mode</i>	NoFail	Disables Extended Insert processing.
		FailOnError	Enables Extended Insert processing.

Table 18 shows the combined effect of the setting in the configuration file and the setting on a business component.

- The business component setting always takes precedence over the setting in the configuration file.
- If there is no setting on a particular business component, the configuration file setting applies.
- If there is no setting in either the configuration file or on the business component, the default behavior is for Extended Insert to be disabled.

Table 18. Combined Effect of Extended Insert Settings

Business Component Setting HandheldInsertFailMode=	Configuration File Setting DefaultHandheldInsertMode=		
	NoFail	FailOnError	No Setting in .cfg File
NoFail	NoFail	NoFail	NoFail

Table 18. Combined Effect of Extended Insert Settings

Business Component Setting HandheldInsertFailMode=	Configuration File Setting DefaultHandheldInsertMode=		
FailOnError	FailOnError	FailOnError	FailOnError
No Setting on Business Component	NoFail	FailOnError	NoFail

Recovering Data with Siebel Handheld Journaling

Siebel Handheld Journaling compiles the details on all transaction conflicts in a log file dedicated for that purpose. This log file, in XML format, can be viewed in a Journal Viewer which allows administrators to review data and to copy and recover data.

In order to use the handheld journaling, three parameters in the handheld configuration (.cfg) file must be set.

The parameters and their default settings are as follows:

EnableJournaling = False
LoggingLevels = 23333

- EnableJournaling = False. This parameter, when set to True, enables journaling. The default (False) disables journaling.
- LoggingLevels = 23333. Specifies the level of logging for log records. The default is the minimum level of logging required for journaling. See [“Configuring Server Logging Levels” on page 85](#) for more information about configuring the LoggingLevels parameter.

Location and Name of Journal Log Files

The journal log file resides in the Siebel application directory on the server. The name of the file is derived from the AppDir parameter in the handheld .cfg file.

For example, if the AppDir parameter is set as follows:

AppDir = hhsync\servicece

then the location of the file is: *Client Root\log*

and the name of the file is: *hhsync.servicece.journal.log*.

Companion Sync Journal Files

Any journal log files that are generated during Companion Synchronization are saved in the Siebel application directory on the Mobile Web Client. To facilitate the administration of Companion Sync deployments, a mechanism is embedded in Siebel Handheld that uses MAPI integration to transfer the journal log files to the Siebel Administrator. When this functionality is enabled, if a journal log file is generated, it is automatically attached to an email and sent to an email alias. The administrator can then use an Outlook macro to concatenate these attachments into a single XML file that can then be viewed in the Journal Viewer.

NOTE: This functionality is only available to clients using Microsoft Outlook.

Automatic Forwarding of Journal Log Files

In order for the journal log files to be forwarded to the Siebel Administrator, the following parameters need to be set in the handheld .cfg file.

AdminEmail =
JournalGenerations = 60

- **AdminEmail**—Email alias of the Siebel Administrator. The default is null. If this parameter is null, the email with the journal log file is not sent.
- **JournalGenerations**—Number of journal log files that are archived on the Mobile Web Client. The default value is 60. When the 61st journal log file is archived, the oldest file is deleted.

If a network connection is not available when the email is generated, the email resides in the end user's Outbox until a connection with the server is established. The forwarding of the log files requires no action on the part of the end user.

Concatenating Journal Log Files

Siebel Administrators will generally receive numerous emails from end users with journal log files attached. To facilitate viewing the journal log files, you can use an email macro to concatenate the various files into a single file. Contact Siebel Technical Support to obtain this macro.

When it is executed, the macro:

- Locates all email in the System Administrator's Inbox whose subject line begins with "Sync Journal for."
- Concatenates the text from the files that are attached to the emails into a single text file. The name of this file, by default, is centraljournal.log.
- Saves the file to the default location, D:\journalfiles.
- Deletes the emails after the attached files are processed.

Before you can use the macro, you must add the macro to Microsoft Outlook and create the directory where the concatenated journal log file is saved.

Macro Constants

You may modify the following constants and tailor them to your environment. The constants and their default values are:

- Const JOURNALROOTDIR = "d:\JournalFiles\"—Specifies the location of the concatenated journal log file.
- Const JOURNALFILE = "CentralJournal.log"—Specifies the name of the concatenated journal log file.

Viewing Transaction Errors

The Journal Viewer is used to view the journal log files and allows Siebel Administrators to recover data. Contact Siebel Technical Support to obtain the software for the Journal Viewer. Once you have received the software, run the Journal Viewer installer to install the viewer on your machine.

To open a file

- 1** From the Windows Start menu, choose Programs > Journal Viewer to start the application.
- 2** Choose File > Open and open the journal log file you wish to view.

Using the Journal Viewer

When you open a journal log file in the Journal Viewer, you will see a list of log records. When you double-click on a record in the Journal Viewer, the Error Details window displays the following information for the record:

- Business component
- Previous field values and new field values
- Error message describing the sync conflict

Installing the Handheld Application

7

This chapter provides instructions for the end user for installing the Siebel Handheld application on their device. Installation instructions are provided for each of the different synchronization methods and for installing the application on a Compact Flash card. System administrators may also find the information in this chapter useful for maintaining their end users' systems.

Installing on the Handheld

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 application from type of external media. See [“Reinstalling or Upgrading the Handheld Application” on page 115](#) for more information.

It is important to remember that end users must synchronize their handhelds to download the application configuration and populate the database before they can use the application. Therefore, an administrator may install the application for an end user, but the synchronization must occur using the end user's name and password.

Installing for Direct Server Sync Users

Most DSS users do not have access to a PC for creating a partnership with their handheld device. In this case, the administrator has to create partnerships with each user's device and install the application. Siebel Handheld applications can be installed in DSS mode using the Siebel Installer as described in this section.

To install the Siebel Handheld application using DSS

- 1 Using Microsoft ActiveSync, establish a partnership between the handheld device and the PC.

- 2** On the PC network or CD-ROM, locate the folder where the Siebel Handheld Application folder is installed. In this folder, double-click setup.exe.
- 3** From the Choose Setup Language window, choose the language you want to use for the installation and click OK.
- 4** From the Welcome screen, click Next.

The next screen displays and asks, “Would you like to deploy a CAB file to enable rapid installation for additional devices?”

NOTE: If you want to create a stand-alone installer, choose Yes, and then click Next. See [“Reinstalling or Upgrading the Handheld Application” on page 115](#) for details.

- 5** To install the application on the device, click Next.
- 6** Select the desired language of the Siebel Handheld Application, and click Next.
A window appears showing the setup status, followed by several DOS windows.
- 7** The Add/Remove Programs dialog appears. This is followed by the Installing Applications dialog that asks if you want to install in the default directory. Click Yes to install the Siebel Handheld application on the handheld device.

NOTE: The default directory in the Applications dialog is the directory specified by the system administrator in a setup file. So that the application works correctly, the Siebel Installer installs the application in the default directory. Therefore, even if you specify a different location for the application, the application will be installed in the default location.

The Siebel Handheld installation automatically installs SSCE Service Pack 1 and overwrites existing files on your system. A message may appear asking if you want to replace existing files. Respond by tapping “Yes to All.”

During the installation, the Installing Applications dialog box displays a progress bar. It may take several minutes to install on the handheld device. When the application has been downloaded to the handheld device, the Application Downloading Complete dialog box displays on the PC.

- 8 Click OK.

A window appears informing you that setup has finished installing the Siebel Handheld application on your computer.

- 9 Click Finish.

The Siebel Handheld and Siebel Handheld Sync icons appear in the Startup screen on the handheld device.

After installing the handheld application and Siebel Handheld Sync, you must perform an initial synchronization before the application can be used. Refer to [“Synchronizing Data” on page 134](#) for the procedure for synchronizing your data.

See [Chapter 4, “Data Filtering,”](#) for more information on using Direct Server Sync and setting filters.

Reinstalling or Upgrading the Handheld Application

Follow the steps below to reinstall or upgrade your handheld application.

To reinstall or upgrade the handheld application

- 1 Before you reinstall the current application or upgrade to another version of the handheld application, you must first uninstall the current application on your device. See [“Uninstalling the Handheld Application” on page 116](#) for more information.
- 2 Once you have uninstalled the application, you may then reinstall the application or install the newer version. See [“Installing on the Handheld” on page 113](#), and follow the instructions for installing the handheld application.
- 3 Synchronize your handheld application. See [“Synchronizing Data” on page 134](#) and follow the instructions for synchronizing your data.

Uninstalling the Handheld Application

Uninstalling the application deletes the database files as well as the application files.

CAUTION: Before you uninstall your application, you must synchronize your database to save any changes to your data since the last synchronization. If you do not synchronize before uninstalling, these changes will be lost.

See [“Synchronizing Data” on page 134](#) and follow the instructions for synchronizing your data.

Handheld PC

To uninstall the handheld application

- 1** Select Start > Settings > Control Panel.
- 2** Double tap Remove Programs.
- 3** From Remove Program Properties dialog, select the Siebel handheld application from the list of Programs and tap Remove.

Pocket PC

To uninstall the handheld application

- 1** Select Start > Settings.
- 2** Select the System tab and tap Remove Programs.
- 3** From Remove Programs, select the Siebel handheld application and tap Remove.

NOTE: A dialog box will appear that says that a file cannot be deleted. This occurs because a file may still reside in memory. Ignore this message and tap OK to delete all application and database files. No additional steps are required to remove the application and database files.

This chapter provides an overview of the Siebel Handheld application's interface. Once you understand the basics of the interface, you will find it easier to complete your tasks. This chapter discusses:

- Navigating the interface
- Working with data
- Using the calendar
- Setting user preferences

In addition, this chapter also provides procedures for performing the following end-user tasks:

- Backing up and restoring data
- Synchronizing data

Components of the Handheld Interface

The components of the handheld interface include the Screens menu, Show drop-down list, application-level menu, Queries drop-down list, toolbar, and status bar.

Working with Siebel Handheld Applications

Components of the Handheld Interface

Figure 5 shows components of the Handheld PC application including the Screens menu, Show drop-down list, Queries drop-down list, application toolbar, application menu, and the status bar.

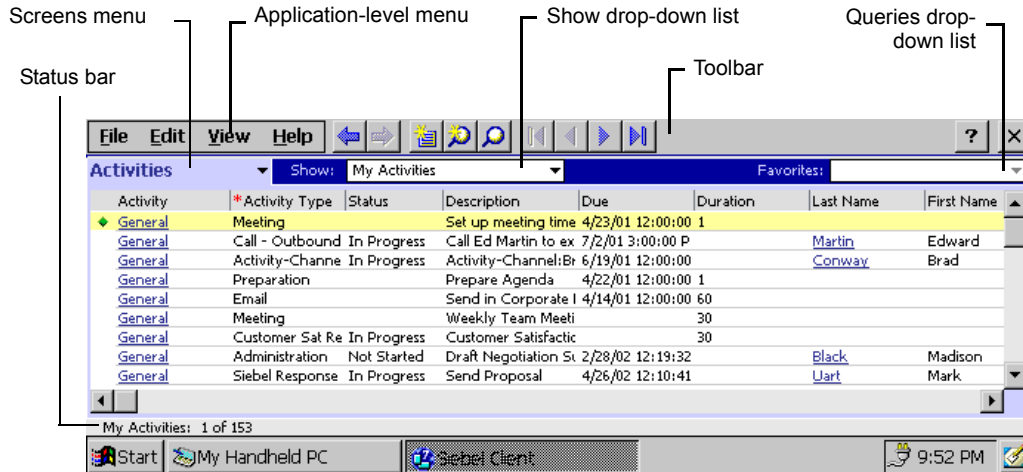


Figure 5. Handheld PC Application Window Components

Figure 6 shows the components of the Pocket PC application.

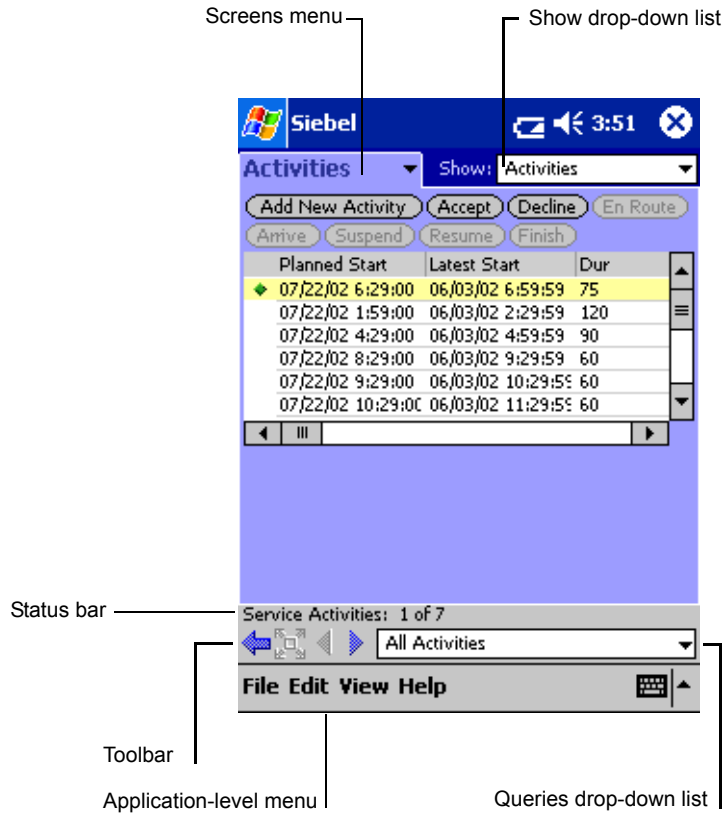


Figure 6. Pocket PC Application Window Components

Screens Menu

The screens menu is the first level of navigation in the Siebel Handheld application. When you launch the Siebel Handheld application for the first time, this tab is labeled Screens unless you have configured a start up view to appear. When you tap the screens menu, a drop-down list of all available screens appears. Tap the desired screen in the list to navigate to it. [Figure 5](#) shows that the Activities screen has been selected.

For information about configuring a start up view, see [“Setting User Preferences” on page 131](#).

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.

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 (PDQs) 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, see [“Predefined Query Filters” on page 56](#).

Siebel Toolbar

The Siebel toolbar has buttons for frequently used functionality like record navigation and querying.

NOTE: There may be a slight variation in your version of Siebel software, and the toolbar may not look exactly as shown here. You can configure your toolbar and specify which buttons are displayed. See [“Configuring User Interface Elements” on page 33](#) for more information on configuring your toolbar buttons.

Figure 7 is an example of the Handheld PC toolbar.

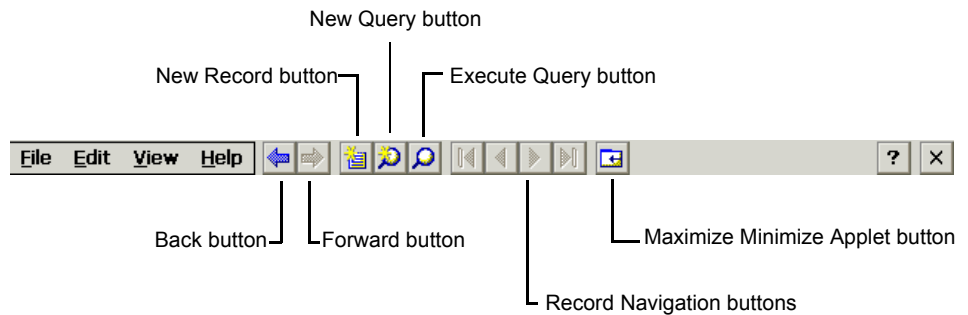


Figure 7. Handheld PC Toolbar Example

Figure 8 is an example of the Pocket PC toolbar.

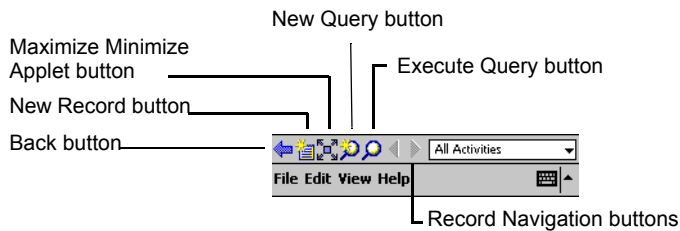


Figure 8. Pocket PC Toolbar Example

- Tap the New Record button to add a new record to the active list or form.
- Tap the Back button to navigate to the previous view.
- Tap the Forward button to navigate to the view you were in before you selected the Back button.
- Tap the Record Navigation buttons to move through records in a form or a list.
- Tap the New Query button to begin a new query in a form or a list.
- Tap the Execute Query button to run the query you just created.
- Tap the Maximize Minimize Applet button to expand the active applet so that it is the only applet displayed and takes up the entire screen display. This allows you to see more columns or more rows of data at one time. Tap again and the screen displays two applets.

NOTE: On the Handheld PC operating system, the Maximize Minimize Applet button works only on list applets. On the Pocket PC operating system, it works on both form and list applets.

Customizing the Toolbar

You can customize which buttons appear on your toolbar by selecting View > Toolbar... from the application menu.

Pocket PC To add and remove buttons from the toolbar, drag and drop the desired buttons between the Choose Toolbar Buttons dialog box and the toolbar.

Handheld PC From the Choose Toolbar dialog box, select the check boxes for the buttons you want to appear on the toolbar.

Minimize Button

The minimize button appears in the upper right corner of your window.

NOTE: Do not confuse the Minimize button that appears in the upper right corner with the Maximize Minimize Applet button that appears on the Toolbar.

Pocket PC When you tap the Minimize button, the application minimizes, but does not close. To reopen the application, from the Start menu, tap the Siebel Handheld icon. Minimizing the application merely hides it; it does not close the application.

NOTE: Be sure to close the application before you synchronize.

Handheld PC The Minimize button appears in the upper right corner of your screen. When you tap the button, the application closes.

Status Bar

The status bar appears at the bottom of the application window. It provides information about the current view. See [Figure 5 on page 118](#) for an image of the status bar.

Navigating the Handheld Interface

Navigating the Siebel Handheld application is achieved through the screens menu, the Show drop-down list, drilling down, drilling across, and toolbar buttons.

Screens Menu

The screens menu provides the first level of navigation. Here you select the screen you want to work in. For more information about the screens menu, see [“Components of the Handheld Interface” on page 117](#).

Show Drop-Down List

The Show drop-down list is the second level of navigation. After you have selected a screen from the screens menu, 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 Parts & Tools view from the Show drop-down list.

Expandable Fields

Due to the limited screen size on the handheld, it is not always easy to view the data in a field without scrolling or resizing the field width. Therefore, some fields that could 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.

Navigating a List of Records

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 see [“Setting User Preferences” on page 131](#).

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 only allow you navigate between views. They will not recover data that may 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 19](#).

Table 19. Record Navigation Buttons

Button	Description
	Navigates back to the first record in the list or form.
	Navigates back to the previous record in the list or form.
	Navigates forward to the next record in the list or form.
	Navigates forward to the last record in the list or form.

Entering Data

Pocket PC There are several different methods for entering data on the Pocket PC operating system. 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

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 open the Sort Order dialog box to sort up to three columns at one time. Open the Sort Order dialog box by choosing **View > Sort...** from the application-level menu.

Resize columns by tapping and dragging the divider between the column headings until the column is the desired size.

You can change the order of columns using the Columns Displayed dialog box. Open the Columns Displayed dialog box by choosing **View > Columns ...**

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.

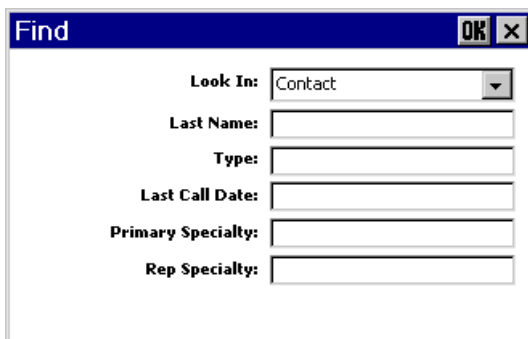
Finding and Querying Data

You can search for data using the Find or Query functionality in your Siebel Handheld application.

Find

Use Find to do a simple search for a record. You can access Find by choosing View > Find... from the application-level menu. This launches the Find dialog box, in which you can enter your search criteria. The asterisk wildcard function (*) can be used in the search criteria. Figure 9 shows an example of the Find dialog window with the following fields: Look In, Last Name, Type, Last Call Date, Primary Specialty, and Rep Specialty.

NOTE: There may be a slight variation in your version of Siebel software, and the Find dialog box may not look exactly as shown here.



The image shows a screenshot of a 'Find' dialog box. The title bar is blue with the text 'Find' and two buttons: 'OK' and 'X'. Below the title bar, there are six input fields arranged vertically. The first field is labeled 'Look In:' and has a dropdown menu with 'Contact' selected. The other five fields are labeled 'Last Name:', 'Type:', 'Last Call Date:', 'Primary Specialty:', and 'Rep Specialty:', each with an empty text box.

Figure 9. Find Dialog Box

Query

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.

Creating a Query

To begin a query, you can choose View > Query > New from the application-level menu, or you can tap the New Query button on the toolbar. Both will provide you with a blank form or list where you can enter your query criteria, depending on where you are in the application when you invoke the command. The asterisk wildcard function (*) can be used in the search criteria.

Executing a Query

After you have created the query, you can execute it by choosing View > Query > Run from the application-level menu or by tapping the Execute Query button in the toolbar.

Refining a Query

You can refine your current query by choosing View > Query > Refine from the application-level menu.

Printing

You may print from any view in the handheld application that has been configured to support printing. When you print from the handheld, 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 may not be relevant for the document. The document may contain only a portion of what is in the view, and it may 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 to generate the printed documents are downloaded to the handheld during the synchronization process. After you have synchronized your handheld with the server or a desktop computer, you are ready to print.

For a list of supported printers, see the system requirements and supported platforms documentation for your application.

Printing From the Handheld Device

Your handheld device is configured for a particular printer by the Siebel administrator. You may print directly to this printer, or, if your handheld is not connected to a printer, the print job is sent to a print queue. Print jobs may be queued until you have access to a printer, at which time you may print all of the jobs in the queue.

Print from the Siebel Handheld application by choosing File > Print. If you are connected to a printer, the print job will run. If you are not connected to a printer, the print job is sent to a print queue. View the print queue by choosing File > Print Queue.

Exporting Data

You may 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.

To export data, select File > Export... to open the Export dialog box.

In the Export dialog box, you may specify the following:

- **Format.** Specify either HTML or Tab delimited text file. (On the Handheld PC platform, this field is labeled Output format.)
- **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 views. (On the Handheld PC platform, this field is labeled Applets to export.)
- **Output file name.** By default, the file is saved in the temp directory with the filename "output." You may tap Browse to specify a different location or filename.
- **And paste output to clipboard.** Select the checkbox to save the data to the clipboard.
- **And open file.** This option is only available on the Pocket PC platform. Select the checkbox 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.

- **And run.** This option is only available on the Handheld PC platform. Tap Browse and navigate to an application on the device. When you tap OK, the application exports the data and opens the file with the application you specified.

NOTE: You must specify a valid output format for the application. See [Table 20](#) for the correct formats to specify for the supported applications.

[Table 20](#) describes how to set the parameters to export data to specific applications.

Table 20. Exporting Data

To export data to	Do the following
Microsoft Word	Set Format (or Output Format on the Handheld PC platform) to “Tab delimited text file.”
Microsoft Excel	Select the “And paste output to clipboard” check box. The Output format may be set either to HTML or “Tab delimited text file.” Paste the data from the clipboard into an Excel spreadsheet.
Internet Explorer	Set Format (or Output Format on the Handheld PC platform) to HTML.

Setting User Preferences

You can customize aspects of your Siebel Handheld application from the User Preferences dialog box. Access the User Preferences dialog box by choosing View > Display... from the application-level menu.

In the User Preferences dialog box you can:

- Set a default startup screen.
- Set number of maximum history threads to be saved.

CAUTION: Do not change the default setting for Maximum threads saved. This setting is optimized for the application.

- Set the maximum percentage of the display area that the parent applet can take up (Pocket PC operating system only).
- Change font size.
- Customize list spacing, column width settings, and grid lines.
- Specify screen aesthetics such as alternating colors for rows and showing drilldown sources as hyperlinks.

Backing Up and Restoring Data

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 may not be retrievable. If you store your backups in RAM, depending on the size of your application and data extract, you may decrease the amount of memory available for the application, and your application performance may 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. 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 will try 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 this will make 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.

Backing Up Data

The following procedure describes how to back up the database on the handheld device.

To back up the database

- 1 From the application-level menu, choose File > Backup.

NOTE: If the Backup menu item is disabled, contact your system administrator to have backup enabled in your application.

A dialog box appears, telling you that backing up the data will restart the application and prompts you to confirm that you want to continue.

- 2 Tap Yes to start the backup.

A status dialog box appears indicating that the backup is in progress and may take a few minutes. The Handheld 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. In some cases, the location is a directory in memory.

A dialog box appears telling you if the backup succeeded and asks if you want to return to the application.

- 3 Tap Yes to return to the application.

NOTE: If the backup fails, consult your system administrator.

Restoring Data from a Backup

In order to restore the application to its previous state, the user should 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

You must synchronize the data on your handheld device:

- After you install or upgrade the handheld application
- Before uninstalling the handheld application
- On a regular basis to keep your data synchronized with Siebel Server

The sections that follow describe how to synchronize using Direct Server Sync (DSS) and Direct Server Sync via Proxy (DSSvP), and provide some troubleshooting tips.

Using Direct Server Synchronization

There are two methods for synchronizing between the handheld device and the Siebel application server:

- Direct Server Sync (DSS) provides synchronization between the Siebel Handheld application and the Siebel application server.

- Direct Server Sync via Proxy (DSSvP) provides synchronization between the Siebel Handheld application and the Siebel application server, using the desktop or companion PC to provide the network connection between the handheld device and the server.

NOTE: DSSvP is only supported on the Pocket PC 2002 platform.

To synchronize with the Siebel application server

NOTE: You must close your handheld application before you synchronize with the Siebel 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** From the device, verify that the Siebel Handheld application is closed.
- 3** From the device, choose Start > Programs > Siebel Handheld Sync.

The Siebel Handheld Sync dialog box appears.

- 4** Enter your user name and password.

Selecting Bypass Set Filters skips the step of selecting the filters and immediately starts the synchronization process. If you select Bypass Set Filters, then the filters that you selected the last time you synchronized are used. If this is the first time you are synchronizing, then the default filters are used.

- 5** Tap Login.

The Siebel Handheld Sync dialog box appears.

- 6** Tap Set Filters.

The Filters dialog box appears.

- 7** From the Filter list box, select the screen for which you want to choose a filter.

- 8 From the Choose drop-down box, select the filter you want to associate with the screen you selected in Step 6.

NOTE: Tap Default Filters to restore the filter selection to the default setting.

- 9 Tap OK, and then tap Start to begin synchronization.

NOTE: If a handheld patch needs to be installed, the synchronization process is interrupted and the patch is installed. After the patch is installed, you must restart Siebel Handheld Sync to complete the data extract process. If you fail to do this, you will not be able to start your application.

The Finished dialog box appears indicating the synchronization has successfully completed.

- 10 Tap OK to exit Siebel Handheld Sync.

NOTE: If synchronization errors occur, an error dialog box appears.

Troubleshooting

This section lists potential error messages that are associated with synchronization. In addition, this section explains how to fix 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

When these errors occur, the user should exit Siebel Handheld Sync and launch the application again.

NOTE: When you restart Siebel Handheld Sync, you may see an error message that says that another instance of syncmanager.exe is running. You will be asked whether you want to terminate the first instance or not, and you should 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 handheld client and the server between synchronization events, a transaction update conflict will occur. In this instance, the user will be 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. The Siebel Handheld application behaves in the same way as the Siebel Web application in that if any part of the transaction fails, the entire transaction fails. Assume, for example, that you update four fields in a record. If, during synchronization, three fields update correctly and one field fails to be updated, none of the fields in the record is updated.

Improving 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 your device meets the minimum memory requirements. See *Siebel System Requirements and Supported Platforms* documentation for your Siebel application.
- When you run the Siebel Handheld application, it is recommended that you do not run any other applications. By doing so, you maximize the amount of memory that is available to run the application.

- Increase the amount of memory that is allocated for running applications.
- Installing the binaries to a CompactFlash card. For more information, see [“Setting up Installation on a CompactFlash Card” on page 96](#).

Handheld PC

To increase application memory

- 1** From the Start menu, select Settings > Control Panel > System.
- 2** In the System Properties dialog box, go to the Memory tab.
- 3** Move the slider bar so that more memory is allocated to Program Memory, then tap OK.

Pocket PC

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.

This chapter outlines the end user procedures for the activities that a field technician typically performs, using the Siebel Service Handheld application. Application developers and application administrators may also find the information in this chapter useful.

Business Scenario

This scenario provides an example of workflow process performed by field technicians using Siebel Service. Your company may follow a different process flow according to its business requirements.

Each morning, the field technician synchronizes her mobile client. After the synchronization is complete, she reviews her activities for the day, determines what parts she needs for her jobs, and verifies that she has the required parts. She records that she is enroute to her first visit. When she arrives at the customer site, she records the time of her arrival and reviews the instructions and steps for the first activity. She checks off the steps as she completes them and records the starting and ending times for each step. She takes a reading and records the measurement. She needs to replace a part, and she records that the part is coming out of her trunk and generates an order for the movement. She completes all the steps for the activity, records her time, enters her expenses, and generates an invoice for the billable expenses, time, and parts. She closes out the activity and continues on to the next activity.

The procedures for each of these activities is covered in the following sections:

- Preparing for the Day
- Preparing for a Visit
- Performing the Job

- Closing Out the Visit

Preparing for the Day

Before the field technician starts her day, she typically does the following:

- **Reviews an activity.** Before starting out for the day the field technician reviews the details of the activities assigned for that day.
- **Adds a note for a contact.** The field technician adds a contact note for one of her accounts.
- **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.
- **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, she records that she 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 may be performed in any order.

To review an activity

- 1 Navigate to the Activities view in the Activities screen.

The Activities list shows 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.
- 3 In the Activities Details form, view the details for that activity by tapping the hyperlink in the following fields:
 - SR # (Service Request #)
 - Account

- Asset #

From the detail view for each field, tap the OK 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.
- 2 In the Accounts Details form, tap the hyperlink in the Contact field.
- 3 In the Accounts Contact Details 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, then tap OK.
- 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 In the Activities Details form, select Parts & Tools from the Show drop-down list.
- 3 In the Parts & Tools list, tap Check Trunk.

The application checks the inventory in your 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.

- 4 Tap Order Part.

If an order does not already exist for the part, the application generates an order.

NOTE: You may generate an order for a line item from the 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.

- 5 Tap the hyperlink in the Order # field.
- 6 In the Order Details list, tap the hyperlink in the Order Line # field.
- 7 After you have reviewed the order line details in the Order Line Details list, tap OK.
- 8 In the Order Details form/list, tap Print Order.
- 9 Tap OK.

To accept and decline activities

- 1 Navigate to the Activities screen.
- 2 In the Activities list, select the activity and
 - 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

Before the field technician starts an activity, she performs 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 may be performed in any order.

To record the time of arrival

- In the Activities list, select the activity and tap Arrive.

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 Steps.
- 6 In the Steps list, review the steps.

To review the recommended parts and tools

- 1 Select an activity in the Activities list.
- 2 From the Show drop-down list, select Parts & Tools.
- 3 Review the parts and tools for the job.

Performing the Job

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, she marks 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, she selects 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.
- 3** From the Show drop-down list, select Steps.
- 4** Select the first step in the Steps list.
- 5** When you have completed the step, select Done.
- 6** Enter any comments in the Comments field.
- 7** Complete [Step 4–Step 6](#) 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

- 1** Select an activity in the Activities list.
- 2** From the Show drop-down list, select Readings.
- 3** In the Readings list, select the first record and tap the hyperlink in the Measurement field.
- 4** In the Readings list, tap Take Reading.

A new record is added and the SIP or calculator opens.
- 5** Enter the reading for the record and tap OK.

Non-serialized Parts

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.

- 4 In the Move Part form, tap the Product field or the Part # field and select a product from the drop-down list.
- 5 Select Billable.
- 6 Tap OK to return to the Move Parts list.
- 7 Tap Commit.

Serialized Assets

There are three steps to installing and replacing a serialized asset:

- 1 Remove the serialized asset.
- 2 Generate an RMA.
- 3 Install a serialized replacement part.

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
Asset	Select an asset from the picklist.
Status	Select Defective from the picklist.
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 Tap Commit.

After removing a serialized part, you generate an RMA 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 From the Move Parts list, tap RMA.
- 2 Tap the hyperlink in the Order # field.
- 3 In the Order Details form, tap the hyperlink in the Order Line # field for the first record.
- 4 After reviewing the order line item details in the Order Line Details form, tap OK.
- 5 In the Order Details form, tap Print Order.
- 6 Tap OK 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.
Status	Select Good from the picklist.
Comments	Add any comments.

- 4 Select Billable.
- 5 Tap OK to return to the Move Parts list.
- 6 Tap Commit.

Closing Out the Visit

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 Steps.
- 3 Select Done for 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 may 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 Record Expense.
- 4** Select an item from the Type drop-down list.
- 5** Specify an amount in the Amt field.
- 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 Print Invoice.

To close the job

- 1** Select the activity in the Activities list.
- 2** Tap Finish.
- 3** Tap the hyperlink in the Activity # field.
- 4** In the Activities Details form, tap the % Complete field to open a numeric SIP or calculator.
- 5** Enter 100.
- 6** Select the Resolution field and select an item from the drop-down list.
- 7** Tap Back to return to the Activities list.

Ad Hoc Tasks

The following ad hoc tasks are performed by the field technician as needed:

- Reviews customer history
- Logs a new service request
- Generates a new sales order
- Adds an activity
- Verifies inventory updates

Reviewing Customer History

A field technician may want to review the history of service requests for a customer so that she is 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

While out on a customer visit, the field technician discovers another problem requiring attention and logs a new service request for the customer. She 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 the 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, query for the asset.
- 4 Tap the hyperlink in the Asset # field.
- 5 In the Asset Details list, verify the applicable warranties.
- 6 Tap Back to return to the Assets list.

To confirm the 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

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.
- 2 Query for the service request for which you want to generate a sales order.
- 3 Select the service request and select Orders from the Show drop-down list.
- 4 In the Orders list, tap Create New Order.
- 5 In the Service Reqs form, select Sales Order from the Type drop-down list.

- 6 Select a date in the Req Ship (Requested Ship Date) field.
- 7 In the Order Details list, tap Add Order Line.
- 8 Select a product from the Pick Product dialog box.
- 9 Complete all fields in the Order Line Details view.
- 10 Tap OK.
- 11 In the Order Details list, tap Print Order to print the order.
- 12 In the Service Reqs form, tap OK.

Adding an Activity

A field technician can add an activity to an existing service request or she can add a sundry activity, such as making a bank deposit or taking her truck in for servicing, which is not associated with a particular account.

To add an activity to a service request

- 1 Navigate to the Service Reqs screen and select the service request to which you want to add an activity.
- 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 and a picklist opens for the Activity field.
- 4 Select an activity from the Activity 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.

To add a sundry activity

- 1 Navigate to the Activities view of the Activities screen.
- 2 In the Activities list, tap Add New Activity.

- 3** In the Activities New Activity form, select an activity from the Activity drop-down list.
- 4** Delete the text in the SR # and Account fields.
- 5** Tap the drop-down arrow in the Status field and select Not Started from the picklist.
- 6** Enter any text in the Comments field.
- 7** Tap OK.

Verifying Inventory Update

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** In the Availability view, compare the balances with your printed inventory report.

This appendix addresses some of the common issues faced while deploying Siebel Handheld. The appendix presents troubleshooting tips in three areas:

- Installation
- Performance
- Log Files

The audience for this appendix is Siebel database administrators, system administrators, and application administrators.

Installation

Siebel Handheld supports a specific and limited set of devices, handheld OS, desktop OS, server OS, server databases, and languages. This range of devices and platform support varies widely across the range of Siebel Handheld releases and must be carefully checked to confirm support. See the system requirements and supported platforms documentation for your Siebel application for information on supported Handheld OS, desktop OS, server OS, and server databases.

Client Installation, Backup, and Restore

If you run into problems while installing the handheld application on client devices from a desktop PC, refer to the following checklist. Most installation problems are covered by this checklist.

- Is the device certified and supported? Refer to the system requirements and supported platforms documentation for the handheld application.
- Confirm that the device has 64 MB of RAM with the majority of it available for the Siebel Handheld application.

- Is an ActiveSync connection running (green icon)? If not, check your computer to make sure that the serial or USB port is activated and functioning correctly.
- If previous versions of Siebel Handheld were installed to the device, did you uninstall the application? See [“Uninstalling the Handheld Application” on page 116](#).

Siebel Handheld binaries may also be installed to a CompactFlash card to conserve (RAM) memory. The application will still be loaded into memory when it executes. To install to the CompactFlash card, set the ApplicationBinariesLocation and ApplicationDataLocation parameters in the setup.ini file. See [“Setting up Installation on a CompactFlash Card” on page 96](#).

Siebel Handheld (application only - no data) may also be backed up to a CompactFlash card to aid in deployments. Using the built-in backup utility that comes with Compaq (QUtilities) and HP Jornada (HP Backup) devices, a backup image may be created which can then be restored onto other devices. The initial backup image should 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.

It is also possible to back up Siebel Handheld to a PC using the Backup/Restore feature within ActiveSync.

Synchronization

Synchronization problems can be caused by incorrect settings in the Siebel Handheld setup.ini or .cfg files. Be sure that application names, data sources, and SRFs are correct.

Make sure to set the URL setting (DSSURL) in the client setup.ini for direct server synchronization installations. Be sure to list the views (DefaultViews) in the application .cfg file. Also, do not forget to grant the user visibility to these views in the Application Administration > Responsibilities view.

NOTE: Check the log files and confirm the accuracy of the generated connect string.

Direct Server Sync 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 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 DSS URL defined in the setup.ini file?
- Is the network connection working from the device? Try Pocket IE.
- 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 1:1 ratio of users to devices. Only a single user may log in to sync each device. Failure to do so causes data corruption.

Re-synchronizing Problems

Generally if, for whatever reason, synchronization is terminated, the end 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 may not have a chance to close before the connection is broken. Therefore, if the end user tries to immediately synchronize again, he may get an error message and may not be able to synchronize. Should this occur, the end user should wait for a period of time (generally, 15 minutes) to allow the session to time out and terminate. Once the session terminates, the end user should be able to synchronize again.

Log Files

This section discusses issues related to log files.

Direct Server Sync Log Files

To assist Siebel Technical Support, collect the following files when logging a Siebel Handheld service request. The following files are found on the machine where Siebel Server is installed:

- All server sync user files in the *Siebel Root*\siebsrvr\hhsync\application directory\user id\node id directory
- Server NT application event log extract
- Server NT system event log extract
- All files in the *Siebel Root*\siebsrvr\log directory including hhsync.*.log files

The hhsync.*.log files log every message returned by Object Manager (including informational messages, synchronization errors, debugging messages, and warnings.) The information logged depends on the logging level set in the .cfg file.

- All files from all subdirectories under the *Siebel Root*\siebsrvr\logarchive directory.
- Server perfmon 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 NT application event log extract
- IIS server system event log extract
- IIS server perfmon log files (showing memory, network, disk performance), if available

Companion Sync Log Files

To assist Siebel Technical Support, collect the following log files when logging a Siebel Handheld service request. The following files are found on the companion PC where Siebel Mobile Web Client is installed:

- Client Siebel Handheld Sync log file: \log\syncmanager_log.txt
- All files in the *Siebel Root\client\hhsync\application directory\user id\node id* directory
- NT application event log extract
- NT system event log extract
- All files in the *Siebel Root\client\log* directory including hhsync.*.log files
The hhsync.*.log files log every message returned by Object Manager (including informational messages, synchronization errors, debugging messages, and warnings.)
- Perfmon log files (showing memory, network, disk performance), if available

Handheld Device Logs

The following log files are found in the /Program Files/Siebel Handheld directory on the handheld device:

- **dbimport_log.txt**—This file is a log of the database objects that were imported during synchronization. The file is located in the \Program Files\Siebel Handheld directory on the handheld client.
- **sql_stmt_log.txt**—This file logs all SQL statements generated by the application. You must set a parameter in the setup.ini file to turn this log on. The log file is located in the \Program Files\Siebel Handheld directory on the handheld client. See [“Configuring Handheld Logging Parameters” on page 96](#) for more information about setting the parameter.
- **ssa_errors_log.txt**—This file is a log of all system error messages. You must set a parameter in the setup.ini file to turn this log on. The log file is located in the \Program Files\Siebel Handheld directory on the handheld client. See [“Configuring Handheld Logging Parameters” on page 96](#) for more information about setting the parameter.
- **syncmanager_log.txt**—This file contains 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 SyncLogReportingLevel parameter in the setup.ini file.

For Direct Server Sync deployments, the file is located in the \Program Files\Siebel Handheld directory on the handheld client. For Companion Sync deployments, the file is located in the *Siebel Root*\client\log on the companion PC.

Logging Handheld Synchronization Errors

Siebel Handheld Sync logs all the strings that the user sees in the sync 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. Siebel Handheld Sync determines which messages get logged based on a value stored in the registry under the key SyncLogReportingLevel. The values range from 0 to 4; 0 logs all error messages and strings that the user sees, and 4 logs all data that Siebel Handheld Sync sends and receives.

If Siebel Handheld Sync fails for some reason, check the `syncmanager_log.txt` file immediately after the failure. If you need more detail, increase the logging level and run Siebel Handheld Sync again. Use the `LoggingLevels` parameter in the `setup.ini` file to change the logging level. Furthermore, each time a user synchronizes, the `syncmanager_log.txt` file is overwritten with the new data.

SQLTrace

Use SQLTrace for diagnostic purposes if you encounter serious configuration errors or performance problems and cannot otherwise diagnose the problem. The problem may quickly become apparent in the log entries from SQL tracing.

To enable SQL tracing, set the `EnableSqlTrace` parameter in the `.cfg` file. By default, `EnableSqlTrace = FALSE`, and SQL tracing is disabled. Set `EnableSqlTrace = TRUE` to enable tracing. Log entries are written to the `hhsync.*.log` server log file.

NOTE: SQL tracing only logs SQL statements for one user at time. SQLTrace is applied to the first user who synchronizes after tracing is enabled.

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.

End User Error Messages

End users may encounter error messages when they synchronize their data. For more information on these messages, see [“Troubleshooting” on page 136](#).

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 end users may 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. If after doing this, your end 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 2000

- 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.

To change the timeout parameter on Windows NT

- 1** From the Start menu, select Programs > Windows NT 4.0 Option Pack > Microsoft Personal Web Server > Internet Service Manager.
- 2** Under Internet Information Server, 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.

Performance

This section 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 should be considered normal.

It is strongly recommended that customers follow these general guidelines to optimize the performance of their handheld applications:

- Keep configuration under 30 views.
- Keep RML file size under 1.75 MB.
- Keep database files (dbfile.txt) under 2 MB.

Use filters as outlined in the Siebel 2000 Handheld Synchronization Technical Note.

- Keep the number of records for each business component under 2,500.
- Avoid installing other applications on the device at the same time.
- Users should synchronize their data frequently.

Additional configuration information can be found in the Siebel Technical Note 405, *Siebel Handheld Synchronization*.

The Professional Services Mobile eBusiness Competency group has a Siebel Handheld Quickstart program that is mandatory for all new Siebel Handheld customers to assess their configuration and deployment.

The Siebel Handheld client will benefit from periodic closing and restarting the application to release memory consumed by the handheld operating system. Use File > Exit in the menu to exit from 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 Sync processes. Customers should engage Expert Services to do a Scalability Review. The following guidelines are general in nature and pertain to the Siebel Handheld sync components 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.
- Siebel Handheld Sync components will stress Siebel Server and database performance because of the intensive interactions during large concurrent synchronizations.
- Estimate that 64 MB is used per 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 per Process Ratio (Max Tasks/Max MT Servers) per Technical Note 405, *Siebel Handheld Synchronization*.
- 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 (only performed with the assistance of Siebel 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. Timeouts should be set 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 Sync 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 per 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.
- Nonvalidated 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. Noisy phone lines in some countries may benefit from the use of an external modem card from Xircom or Pretec instead of the built-in modem on the HP Jornada 720.

Siebel Services

You may wish to consult experts who have experience designing and configuring handheld applications, and who are knowledgeable about optimizing the performance of the applications.

Siebel Professional Services

To make deployment planning and implementation successful, Siebel Handheld customers are encouraged to engage the Siebel Mobile eBusiness Competency group. The Siebel Professional Services team has developed a Siebel Handheld Quickstart solution which defines the strategy, approach, and roadmap for successful Siebel Handheld deployments. Working directly with experienced handheld experts from the Mobile eBusiness Competency, customers can develop a complete deployment strategy, approach, and roadmap to facilitate their handheld implementation in a short time period.

Siebel Expert Services

All Siebel Systems customers should work with Siebel Expert Services to conduct detailed configuration and hardware sizing reviews. This helps customers make sure they have implemented the most effective and efficient solutions possible. Siebel Handheld customers benefit by making sure Siebel Handheld applications are configured according to best practices and that server environments are properly designed.

Siebel Handheld Client supports a subset of the screens and views supported by the Siebel Web Client application. Other screens and views can be configured for your Siebel Handheld Client application if they are based on currently supported classes. Application developers and application administrators will find the information in this appendix useful.

If you configure screens and views based on unsupported classes, you may see anomalous results. For information on how to determine the classes used by other screens and views, see *Object Types Reference*.

Screens and Views

The screens and views shipped with the Siebel Service Handheld application are shown in [Table 21](#).

Table 21. Siebel Service Handheld Screens, Views, and Business Components

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 Account Assets View	■ Account ■ Asset Mgmt - Asset
	Contact Details *	SHCE Service Account Contact Details View	■ Contact
	Contact Notes *	SHCE Service Account Contact Notes View	■ Contact Note

Table 21. Siebel Service Handheld Screens, Views, and Business Components

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	Contacts	SHCE Service Account Contacts View	<ul style="list-style-type: none"> ■ Account ■ Contact
	Details *	SHCE Service Account Details View	<ul style="list-style-type: none"> ■ Account
	Entitlements	SHCE Service Account Entitlements View	<ul style="list-style-type: none"> ■ Account ■ Entitlement Account
	New SR *	SHCE Service Account SR Details View	<ul style="list-style-type: none"> ■ Service Request
	Service Requests	SHCE Service Account SRs View	<ul style="list-style-type: none"> ■ Account ■ Service Request
Activities	Activities	SHCE Service Activity List View	<ul style="list-style-type: none"> ■ Action
	Details *	SHCE Service Activity Detail View (More Info)	<ul style="list-style-type: none"> ■ Action
	Expenses	SHCE Service FS Expense View	<ul style="list-style-type: none"> ■ Action ■ FS Expense Item
	Instructions	SHCE Service Instructions View	<ul style="list-style-type: none"> ■ FS Instructions
	Invoices	SHCE Service FS Activity Invoice View	<ul style="list-style-type: none"> ■ Action ■ FS Invoice
	Move Part *	SHCE Service FS Activity Part Movements (More Info)	<ul style="list-style-type: none"> ■ FS Activity Parts Movement
	Move Parts	SHCE Service FS Activity Part Movements	<ul style="list-style-type: none"> ■ Action ■ FS Activity Parts Movement
	New Activity *	SHCE Service Activity Entry View	<ul style="list-style-type: none"> ■ Action

Table 21. Siebel Service Handheld Screens, Views, and Business Components

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	Parts & Tools	SHCE Service FS Activity Recommended Parts Tools View	<ul style="list-style-type: none"> ■ Action ■ FS Activity Recommended Parts_Tools
	Readings	SHCE Service FS Readings View	<ul style="list-style-type: none"> ■ Action ■ FS Asset Measurement Characteristics
	Readings *	SHCE Service FS Measurement Readings View	<ul style="list-style-type: none"> ■ FS Asset Reading
	Steps	SHCE Service FS Steps View	<ul style="list-style-type: none"> ■ Action ■ FS Activity Step
	Time	SHCE FS Time View	<ul style="list-style-type: none"> ■ Action ■ Time Sheet Daily Hours
Browser	Availability *	SHCE Service Part Browser Availability	<ul style="list-style-type: none"> ■ FS Bucket Header - Part browser ■ FS Bucket - Part Browser
	Products	SHCE Service My Part Browser View	<ul style="list-style-type: none"> ■ FS Bucket Header - Part browser
	Substitutes *	SHCE Part Browser Substitute View	<ul style="list-style-type: none"> ■ FS Bucket Header - Part browser ■ FS Substitute Part Bucket - Part Browser
Service Reqs	Activities	SHCE Service Service Request Detail View	<ul style="list-style-type: none"> ■ Service Request ■ Action
	Details *	SHCE Service Service Request View	<ul style="list-style-type: none"> ■ Service Request

Table 21. Siebel Service Handheld Screens, Views, and Business Components

Screen	View Name on UI	View Name in Siebel Tools	Business Component
	Invoice Lines *	SHCE Service FS SR Invoice List View	■ FS Invoice Line Items
	Invoices	SHCE Service FS SR Invoice View	■ FS Invoice
	New Activity *	SHCE Service Service Request Activity Entry View	■ Action
	New SR *	SHCE Service Service Request SR Entry View	■ Service Request
	Order Details *	SHCE Service Order Line Items View	■ Order Entry - Order ■ Order Entry - Line Items
	Order Line Details *	SHCE Service Service Request Order Line Items View	■ Order Entry - Line Items
	Orders	SHCE Service Service Request Orders View	■ Service Request ■ Order Entry - Orders
	Service Requests	SHCE Service SR List View	■ Service Request

* These are hidden views and are accessible only by drilling down from another view.

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.

Business Components

[Table 22](#) lists the supported Business Components for Siebel Service Handheld.

Table 22. Siebel Service Handheld Business Components

Supported Business Components
Account
Action
Agreement Entitlement
Asset Mgmt - Asset
Asset Mgmt - Asset - Sub Components
Contact
Contact Note
Currency
Employee
Entitlement Account
FS Activity Parts Movement
FS Activity Parts Movement Admin
FS Activity Recommended Parts_Tools

Table 22. Siebel Service Handheld Business Components

Supported Business Components
FS Activity Step
FS Activity Entitlement Service Detail
FS Asset Measurement Characteristics
FS Asset Reading
FS Asset Warranty
FS Bucket
FS Bucket - Part Browser
FS Bucket Header - Part browser
FS Expense Item
FS Instruction
FS Inventory Location
FS Inventory Transaction
FS InvLoc Product
FS Invoice
FS Invoice Line Items
FS InvTxn Ledger Entry
FS PickList Inventory Txn Type
FS Product Inventory Category
FS Rate List Item
FS Service Detail Expense Bill Item
FS Service Detail Product Bill Item
FS Service Detail Time Bill Item
FS Substitute Part Bucket - Part Browser
FS Transaction Assets

Table 22. Siebel Service Handheld Business Components

Supported Business Components
FS Transaction Assets Alt
Internal Product
Order Entry - Line Items
Order Entry - Order Sales Items
Order Entry - Order Types
Order Entry - Orders
Price List
Price List Item
Project
PS Rate List
Service Request
Time Sheet Daily Hours
Time Zone

Business Component Classes

[Table 23](#) lists the supported Business Component classes for Siebel Service Handheld.

Table 23. Siebel Service Handheld Business Component Classes

Supported Business Component Classes
CSSBCActivity
CSSBCActivityPart
CSSBCActivitypartMvmt

Table 23. Siebel Service Handheld Business Component Classes

Supported Business Component Classes
CSSBCAssetReading
CSSBCAssetWrnty
CSSBCBase
CSSBCBusComp
CSSBCInvoice
CSSBCLineItem
CSSBCOrder
CSSBCPMAsset
CSSBCServiceRequest
CSSBCTmshtitem
CSSBCUser

Applet Classes

You may create additional screens and views for your handheld application. Any new screens and views must be based on classes and Business Components that are supported for the Service Handheld application. Refer to [Table 24](#) for the supported applet classes.

Table 24. Siebel Service Handheld Applet Classes

Supported Applet Classes
CSSFrameBase
CSSFrameList
CSSFrameListBase
CSSFramePopupCurrency
CSSFrameServiceRequest
CSSFrameSRActivity
CSSSWEFrameListPick

User Properties and Methods

D

This appendix documents the handheld-specific user properties and methods for the Siebel Handheld application.

User Properties

Table 25. User Properties

Name	Description
HandheldSyncPickMode	User property on a field of a business component. When set to NoFail, turns Extended Pick processing ON. See “Extended Pick Processing” on page 101 for more information.
HandheldSyncInsertMode	User property on a business component. When set to FailOnError, enables Extended Insert processing. See “Extended Insert Processing” on page 105 for more information.
OrderAccessControl	User property on the Order business component. When set to TRUE, all fields except Status are set to read-only for all users except the user who created the order.
OverridePopupVisibility	Overrides Popup Visibility Type on a business component. Use OverridePopupVisibility to change the visibility on a picklist without changing the Popup Visibility Type. See “Overriding the Popup Visibility” on page 66 for more information.

Table 25. User Properties

Name	Description
OverrideDefaultApplet	Overrides the default behavior for giving focus to an applet. The OverrideDefaultApplet user property is typically used with GotoViewNewRecord method. See “Applet Focus Behavior” on page 31 for more information.
View	Used with the GotoView method. Specifies the view to be displayed when navigating from one view to another. See “Applet Focus Behavior” on page 31 for more information.

Methods

The following details methods you can use for your Siebel Handheld application.

Table 26. Siebel Service Handheld Supported Methods

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.

Table 26. Siebel Service Handheld Supported Methods

Business Component	Method	Description
	FinishedStatus	<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.</p> <p>Method is enabled when Status = In Progress and Start field is not empty.</p>
	Start	<p>Sets the Start field of an activity to the current time.</p> <p>Method is enabled when Status = In Progress and the Start field is not set.</p>
	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 & 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>

Table 26. Siebel Service Handheld Supported Methods

Business Component	Method	Description
	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 end user's trunk.</p>
FS Activity Parts Movement	CommitPartMvmt Client	<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.
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>

Table 26. Siebel Service Handheld Supported Methods

Business Component	Method	Description
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.

This chapter describes the print tagging language that is used to create print templates for your handheld device.

The audience for this appendix is Siebel application developers.

Overview

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 may 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.

The following tags are used to specify the format of the print output, which applets are included, and the query that is executed:

- Applet—Specifies which applets are used in the document.
- Comment—Adds comments that do not appear in the final document.

- Divider—Adds visual lines to visually separate different parts of the document.
- Footer—Adds information such as page numbers, date, and time.
- Format—Specifies characteristics such as font, boldface, italics, and underline.
- Header—Adds information such as page numbers, date, and time.
- Page Break—Specifies a break in the text, forcing the text that follows to appear on the next page.
- Picture—Adds graphic images to the document.
- Title—Specifies a name for the template that appears in the print job list.

In addition, you may add static text in the print template.

The following print tags allow you to calculate additional information and add it to your reports:

- GetTotal—Calculates the total for a column of data
- GetField—Gets the value of a field
- GetCount—Calculates the number of records

You can also calculate dates and times using the GetDate and GetTime tags, and you can retrieve the value of the registry using GetRegistry.

All of this information is stored in variables that you specify. In addition, you can assign any value to a variable using the SetVariable tag. You can present this information in your report using the Cell and EndofLine tags to create tables of information. See [“Using Variables in Print Templates” on page 208](#) for an example of how variables can be used to present information in print templates.

Applet

Description 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 will produce the data required for your document.

Use the Applet tag to specify any 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 per row are supported.

Syntax < TAG:Applet Name = "APPLET NAME" Query = "QUERY STRING"
Caption = "CAPTION" Headerdivider = "HEADERDIVIDER"
Recorddivider = "RECORDDIVIDER" Wrap = "WRAP" >

Parameter	Description
TAG:Applet	(Required) Applet tag indicator.
APPLET NAME	(Required) Applet name as defined in Siebel Tools.
QUERY STRING	(Optional) Specifies the query string directly set to the business component supporting the document. 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.
HEADERDIVIDER	(Optional) Specifies whether a divider is printed below the column heading in list applets. Valid values are TRUE and FALSE (default). This parameter does not apply to form applets.

Parameter	Description
RECORDDIVIDER	(Optional) Specifies whether a horizontal divider is printed between records in list applets. Valid values are TRUE and FALSE (default). This parameter does not apply to form applets.
WRAP	(Optional) Specifies whether text field values are word wrapped. Valid values are TRUE and FALSE (default). This parameter does not apply to numeric fields.

Example <TAG:Applet Name = "Order List" Headerdivider = "TRUE" >

Cell

Description Prints the string stored in STRING or VARIABLE NAME 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 Startat and Endat, it wraps to the next line.

Syntax <TAG:Cell Startat = "START" Endat = "END" Name = "STRING"
Variable = "VARIABLE NAME" Align = ALIGNMENT"

Parameter	Description
TAG:Cell	(Required) Required tag indicator.
START	(Required) 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.
END	(Required) 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.
STRING	(Optional) String value. If Variable is not specified, then String is a required parameter.
VARIABLE NAME	(Optional) Name of variable where the value is stored. If String is not specified, then Variable is a required parameter.
ALIGNMENT	(Optional) Specifies the alignment of the string. Valid values are LEFT (default), CENTER, and RIGHT.

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 = "vvv1total" Align = "RIGHT" >
<TAG:EndOfLine >
<TAG:Cell Startat = "0" Endat = "50" name = "TOTAL Defective:"
Align = "RIGHT" >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvvDefectiveTotal"
Align = "RIGHT" >
<TAG:EndOfLine >
<TAG:Cell Startat = "0" Endat = "50" name = "TOTAL Good:" Align = "RIGHT" >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvvGoodTotal"
Align = "RIGHT" >
<TAG:EndOfLine >
<TAG:Cell Startat = "0" Endat = "50" name = "Defective Count:"
Align = "RIGHT" >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvvDefectiveCount"
Align = "RIGHT" >
<TAG:EndOfLine >
<TAG:Cell Startat = "0" Endat = "50" name = "Good Count:" Align = "RIGHT" >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvvGoodCount"
Align = "RIGHT" >
<TAG:EndOfLine >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvv3reg" >
<TAG:EndOfLine >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvv5str" >
<TAG:EndOfLine >
<TAG:Cell Startat = "0" Endat = "30" Variable = "vvv4date" >
<TAG:Cell Startat = "30" Endat = "70" Variable = "vvv4longdate" >
<TAG:Cell Startat = "70" Endat = "100" Variable = "vvv8time" >
<TAG:EndOfLine >
```

Comment

Description Adds code comments to the print template.

Usage Use 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 < REM: COMMENT >

Parameter	Description
REM	(Required) Comment tag indicator.
COMMENT	(Optional) Comment text.

Example < REM: Quotation Print Template. This template includes four applets. >

Divider

Description Renders a horizontal line across the width of the page.

Usage Use to visually separate the different sections of your document. The Divider tag can be used between other tags; therefore, you may add a line between two applets. However, you cannot embed a Divider within an applet.

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.
START	(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" >

EndOfLine

Description Specifies the end of a row and advances to the next line.

Usage Use to create rows of data in a table. Used with the Cell tag.

Syntax <TAG:EndOfLine >

Example <TAG:Cell Startat = "0" Endat = "50" Name = "TOTAL:" Align = "RIGHT" >
<TAG:Cell Startat = "50" Endat = "100" Variable = "vvv1total" Align = "RIGHT" >
<TAG:EndOfLine >

Footer

Description Adds footer information such as page numbers, the current date, and the current time.

Usage You may, for example, always want the text “Thank you for your business!” to appear on the bottom of your receipts. If so, you may include this text in a Footer tag.

The Footer tag may 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 <TAG:Footer Left = "DATA" Center = "DATA" Right = "DATA" >

Parameter	Description								
TAG:Footer	(Required) Footer tag indicator.								
DATA	(Optional) Static text or one of the following data tags:								
	<table><thead><tr><th>Data tag</th><th>Description</th></tr></thead><tbody><tr><td>< page ></td><td>Page number</td></tr><tr><td>< date ></td><td>Date of the printing</td></tr><tr><td>< time ></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

Description Specifies the characteristics of the text—the typeface or font, whether the text is in boldface, italics, or underlined, and the text alignment.

Usage The font specification specifies the characteristics of all text that follows the tag until the next Format tag.

The text alignment tag (Align) behaves somewhat differently. When the applet is rendered, the field alignment specification takes precedence over the Align parameter.

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.
FONT FACE	(Required) Specifies the typeface of the text. Any typeface installed on the handheld device may be specified. There is no default for this parameter.
FONT SIZE	(Required) Specifies the text size. Any installed font size for an installed typeface on the handheld device may 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.

Parameter	Description
UNDERLINE	(Optional) Specifies whether the text is underlined. Valid values are TRUE or FALSE (default). If TRUE, text is set to underline.
TEXT ALIGNMENT	(Optional) Specifies the text alignment. Valid values are LEFT (default), RIGHT, and CENTER.

Example <TAG:Format Face = "Helvetica" Size = "10" >

GetCount

Description Calculates the number of records in the selected rows and assigns this value to a variable.

Usage Use GetCount to calculate the number of records and print this value in your report.

Syntax < TAG:GetCount Appletname = "APPLET NAME" Query = "QUERY STRING"
Variable = "VARIABLE NAME" >

Parameter	Description
TAG:GetCount	(Required) Required tag indicator.
APPLET NAME	(Required) Name of the applet.
QUERY STRING	(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 may specify one or more query strings separated by a vertical bar (). For example, Query = "Name LIKE 'Sieb*'" "Location LIKE 'H*'"
VARIABLE NAME	(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

Description Gets the current date, offsets the date by the number of days specified in Dayoffset, and stores the result in a variable.

Usage Use GetDate to print a specific date in your report.

Syntax < TAG:GetDate Dayoffset = "NUMBER OF DAYS" Variable = "VARIABLE NAME" Logformat = "DATE FORMAT" >

Parameter	Description
TAG:GetDate	(Required) Required tag indicator.
NUMBER OF DAYS	(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 NAME	(Required) Name of variable where the value is stored.
DATE FORMAT	(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" >

GetField

Description Gets the value of the specified column of the first row of selected rows and assigns the result to a variable.

Usage Use GetField 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. GetField only allows you to get the value in the first record.

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.
APPLET NAME	(Required) Name of the applet.
FIELD NAME	(Required) Name of the field or column.
QUERY STRING	(Optional) Search specification for the rows to be included in the total. If not specified, the current search specification is used.
SORT STRING	(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 NAME	(Required) Name of variable where the value is stored.

Example < TAG:GetField AppletName = "CS HH Product Bucket List Applet"
Fieldname = "Quantity" Variable = "ProdBucketListField" >

GetRegistry

Description Gets a value in the registry for Siebel Handheld and assigns it to a variable.

Usage Use GetRegistry to print the contents of the registry key in your report.

Syntax <TAG:GetRegistry Name = "REGISTRY NAME" Variable = "VARIABLE NAME" >

Parameter	Description
TAG:GetRegistry	(Required) Required tag indicator.
REGISTRY NAME	(Required) Value the registry.
VARIABLE NAME	(Required) Name of variable where the value is stored.

Example <TAG:GetRegistry Name = "InstallDir" Variable = "Registry" >

GetTime

Description Gets the current time, offsets the time by the number of seconds specified in Secondoffset, and assigns the result to a variable.

Usage Use GetTime to print a specific time in your report.

Syntax < TAG:GetTime Secondoffset = "NUMBER OF SECONDS" Variable = "VARIABLE NAME" >

Parameter	Description
TAG:GetTime	(Required) Required tag indicator.
NUMBER OF SECONDS	(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 NAME	(Required) Name of variable where the value is stored.

Example < TAG:GetTime Secondoffset = "3600" Variable = "Time" >

GetTotal

Description Calculates the total for the specified column for all selected rows and assigns the value to a variable.

Usage Use GetTotal to calculate a column total and display the total in your report.

Syntax < TAG:GetTotal AppletName = "APPLET NAME" FieldName = "FIELD NAME"
Query = "QUERY STRING" Variable = "VARIABLE NAME" >

Parameter	Description
TAG:GetTotal	(Required) Required tag indicator.
APPLET NAME	(Required) Name of the applet.
FIELD NAME	(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.
QUERY STRING	(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 may specify one or more query strings separated by a vertical bar (). For example, Query = "Name LIKE 'Sieb*'" "Location LIKE 'H*'"
VARIABLE NAME	(Required) Name of variable where the value is stored.

Example < TAG:GetTotal AppletName = "CS HH Product Bucket List Applet"
Fieldname = "Quantity" Variable = "ProdBucketListTotal" >

Header

Description Adds header information such as page numbers, the current date, and the current time.

Usage You may always want the current date and time to appear on your invoices. If so, you may include this information in a Header tag.

The Header tag may 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; any 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 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 <TAG:Header Left = "DATA" Center = "DATA" Right = "DATA"

Parameter	Description								
TAG:Header	(Required) Header tag indicator.								
DATA	(Optional) Static text or one of the following data tags:								
	<table><thead><tr><th>Data tag</th><th>Description</th></tr></thead><tbody><tr><td>< page ></td><td>Page number</td></tr><tr><td>< date ></td><td>Date of the printing</td></tr><tr><td>< time ></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" >

Page Break

Description Forces text that follows the tag to appear on the next page.

Usage Use this for multipage documents or forms.

Syntax < TAG:PageBreak >

Parameter	Description
TAG:PageBreak	(Required) Page break tag indicator.

Example < TAG:PageBreak >

Picture

Description Specifies graphic files included in the print template.

Usage Use to add graphic images, such as a company logo, to your documents.

The 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 distance, specified in millimeters, from the left edge of the paper.

- If Alignment = "Left" and Position = "30", then the left edge of the graphic is set 30 millimeters from the left edge of the paper.
- If Alignment = "Center" and Position = "30", the center of the graphic is set 30 millimeters from the left edge of the paper.
- If Alignment = "Right" and Position = "30", the right edge of the graphic is set 30 millimeters from the left edge of the paper.

If Position is not specified, it defaults to 0. Depending on the Alignment setting, the graphic is left-aligned (Alignment = "Left"), the graphic is right-aligned (Alignment = "Right"), or the graphic is centered (Alignment = "Center")

Syntax < TAG:Picture Name = "FILE NAME" Alignment = "ALIGNMENT"
Position = "POSITION" >

Parameter	Description
TAG:Picture	(Required) Picture tag indicator.
FILE NAME	(Required) Specifies the full path and name of the graphics file.

Parameter	Description
ALIGNMENT	(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, it 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" >

SetVariable

Description Sets a value to a variable.

Usage Use SetVariable to assign a value to a variable. You can then print the value by specifying the variable in the Cell tag.

Syntax <TAG:SetVariable Name = "VALUE" Variable = "VARIABLE NAME" >

Parameter	Description
TAG:SetVariable	(Required) Required tag indicator.
VALUE	(Required) A value.
VARIABLE NAME	(Required) Name of variable where the value is stored.

Example <TAG:SetVariable = "100" Variable = "TotalQuantity" >

Static Text

You may add static text anywhere in your template by using the current Format settings. The text goes across the entire page width. If it 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.

Title

Description Name used to identify the template.

Usage The Title tag is a required tag in your print template file.

When you print your document, this title appears in the print job list. This title does not appear on the document that is printed. Use static text to add the document title to your template.

Syntax < TAG:Title Title = "TITLE" >

Parameter	Description
TAG:Title	(Required) Title tag indicator.
TITLE	(Required) Title text. May be between 1-255 characters.

Example < TAG:Title Title = "Quotation" >

Print Template File Examples

The following is an example of a print template file.

```
<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
```

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
```

You configure printing attributes in the setup.ini file. This appendix describes the printing parameters for Siebel application developers and application administrators.

Overview

The administrator sets up the default printer setting in the setup.ini file located in the setup directory.

There are a number of parameters to specify printing on the handheld. 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 may use any text editor to edit the file.

See [Appendix E](#) for a list of the printing parameters and valid values.

The parameters are set using the following syntax:

```
PARAMETER_NAME = VALUE
```

For example: `PrinterType = 1`

The parameters are listed below in alphabetical order by the parameter name.

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` should be set to a minimum of 20 millimeters. For more information, see [“Footer” on page 190](#).

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` should be set to a minimum of 20 millimeters. For more information, see [“Header” on page 200](#).

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. (See [Table 27.](#)) If you specify custom paper size (5), you must also specify the PaperWidth and PaperHeight parameters. The default is custom paper dimensions.

See also PaperWidth and PaperHeight.

Table 27. 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 (Specify PaperWidth and PaperHeight parameters.)

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. (See [Table 28.](#))

Table 28. Printer Baud Rate

Value	Description
0	Always use 0 for LPT or Network 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. (See [Table 29.](#)) For the printers supported in this release, always set PrinterCompressed to 1.

Table 29. 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 may 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. (See [Table 30.](#)) For the printers supported in this release, PrinterDither should always be set to 0.

Table 30. Print Dithering

Value	Description
0 (default)	Use color diffusion
1	Use dithering

PrinterDraftMode

Use PrinterDraftMode to specify the quality of the printing. (See [Table 31.](#)) For the printers supported in this release, PrinterDraftMode should always be set to 0.

Table 31. 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. (See [Table 32.](#)) If using sheets of paper, set PrinterFormFeed to 0.

Specify 1 or 2 for continuous-feed paper:

- 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 never exceeds PageHeight.

Table 32. 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. (See [Table 33.](#)) The PrinterHandshake parameter applies only when the printer port is a Com1 or Com2 port. If PrinterPort is set to Com1 or Com2, then set PrinterHandshake to 1.

Table 33. Printer Handshake

Value	Description
0	Uses Xon/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). (See [Table 34.](#)) Not all printers can print in landscape orientation. Therefore, you will need to check the specifications for your printer.

Table 34. 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. (See [Table 35.](#))

If PrinterPort is an LPT port or a network path (2 or 9), then the PrinterBaudrate must be set to 0.

Table 35. 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 file OUTPUT.PRN
9	Print to network address

Table 35. Printer Port

Value	Description
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. See [Table 36](#) for the list of supported printers.

Table 36. Printer Type

Value	Description
6	Pentax PocketJet 200
14 (default)	O'Neil microFlash2i and microFlash4t printers
108	O'Neil microFlash8i printer

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
```

Print Configuration Settings

Overview

Index

A

Accounts business component, about 69
Action business component, about 68
activities
 See also activities, performing
 accepting and declining 142
 parts, ordering for 141
 reviewing 140
 service request, adding to 151
 sundry activities, adding 151
activities, performing
 See also activities; field technician
 completed steps, checking off 143
 non-serialized part or product,
 installing 144
 reading, taking a 144
 serialized asset, generating an RMA 146
 serialized asset, installing a replacement
 part 146
 serialized asset, removing 145
All Records PDQs, about 59
Applet print tag 183
applets
 See also business components
 classes (table) 173
 default behavior, overriding 31
 multiple applet views, screen
 allocation 30
architecture overview, five layers listed 23
Assets business component, about 71
asterisk (*), meaning in forms and
 applets 34
audience for guide 13
auto pop-up lists
 about 35

data visibility, about controlling 36, 62

B

backup
 See database backups, enabling
business components
 See also applets
 child service business components,
 about 72
 filters, creating 54
 Server classes (table) 171
 Service Handheld filters, list of 68
 service supported (table) 169
business object declarations, setting PDQ
 examples 63
buttons, about and functionality (table) 36

C

Cabinet file (CAB), about creating 98
Cell print tag 185
child business components of activities 72
client installation, troubleshooting 153
Comment print tag 187
CompactFlash card
 backing up, about 94
 installation, setting up on 96
 installing from 98
Companion Sync
 journal files, about 109
 journal files, automatic forwarding 109
 journal files, viewing 110
 journal log files, concatenating 110
 log files, using for troubleshooting 156
macro constants, about and
 tailoring 110

- compiling the repository, about 41
- configuration file
 - See also* configuring
 - default views, specifying 48
 - directives, about 62
 - location 54
- configuring
 - See also* configuration file
 - guidelines, recommended 39
 - Siebel Handheld client 21
 - Siebel Web Client and Siebel Handheld Client, differences in configuring 24
- contact
 - note, adding for 141
- customer
 - customer history, reviewing 149
 - customer visit, recording en route to 142
- D**
- data filtering
 - child service business components 72
 - developing data filters, steps 52
 - methods, list of 51
 - pick applet, data filtering for 61
 - preconfigured QBEs, about using to filter 73
 - Predefined Queries (PDQs) 56
 - Query by Example filters (QBE) 53
 - Service Handheld filters, about 67
 - Service Handheld filters, summary (table) 74
 - Siebel Service Handheld, customizing
 - data filters 76
- database backups, enabling
 - about 94
 - database backup parameters, editing 95
 - external media, about backing up 94
 - setting up, steps to 94
 - troubleshooting 153
- DDvP
 - See* Direct Server Sync via Proxy
- default sync filters, about 57
- Direct Server Sync via Proxy, about 21
- Direct Server Synchronization
 - See also* Direct Server Synchronization (DDS) infrastructure
 - about 60
 - about and diagram 20
 - checklist, using to troubleshoot 155
 - described 19
 - log files, using for troubleshooting 156
- Direct Server Synchronization (DDS) infrastructure
 - CompactFlash card, setting up
 - installation on 96
 - database backup, enabling 94
 - DDS components, installing (procedure) 82
 - DDS components, installment options described 82
 - DDS Object Manager configuration file, editing 83
 - DSS URL, about changing 97
 - external media, installing from 98
 - handheld logging parameters, configuring 96
 - handheld, installing on 113
 - hardware and network configuration, recommended 80
 - installation configuration file, editing 90
 - planning, about 79
 - print templates, about installing 97
 - server logging levels, configuring 85
 - server process management, optimizing 87
 - server topology overview, about and diagram 80
 - synchronization performance and scalability 88
- Divider print tag 188
- drill-down only views, about 31
- DSS URL, about changing 97
- E**
- end user error messages

J

- job, performing
 - See activities, performing
- Journal Viewer, using to 110

L

- list applets
 - See also applets
 - about and guidelines 33
- List of Values, filtering out 56
- log files
 - Companion Sync logs, using for troubleshooting 156
 - Direct Server Sync logs, using for troubleshooting 156
 - handheld device logs, using for troubleshooting 158
 - server logging levels, configuring 85
- logging parameters, configuring 96
- LogSQLStmts parameter, caution setting 97
- LogSSAErrors parameter, caution setting 97

M

- MarginBottom parameter, about 212
- MarginLeft parameter, about 212
- MarginRight parameter, about 212
- MarginTop parameter, about 212
- memory
 - caution, log files using available memory 97
- multiple synchronization servers, about using 88
- Multi-Value Group applet, support of 25

N

- network performance, about 163
- no record filters, about and list of 72
- non-serialized part or product, installing 144
- note

- contact, adding for 141

O

- Orders business component, about and examples 71
- organization of guide 14

P

- Page Break print tag 202
- PaperHeight parameter, about 213
- PaperSize parameter, about 213
- PaperWidth parameter, about 213
- parts, ordering for an activities 141
- PDQ filters, administration
 - Direct Server Sync mode, about 60
- performance
 - client performance, about 161
 - network performance, about 163
 - server performance, about 162
 - SQLTrace, enabling 159
- pick applets, data filtering for
 - about 61
 - business object declarations, setting examples 63
 - configuration file directives 62
 - Popup Visibility Type setting, overriding 66
 - visibility, designating 64
- Picture print tag 203
- Pocket PC
 - form applets, layout sequence 35
 - menu bar, about using 37
 - multiple applet views, screen allocation 30
 - status bar, about 39
 - toolbars, configuring 38
 - uninstalling handheld application 116
- pop-up lists
 - auto pop-up lists, about 35
 - data visibility, about controlling 36, 62
- Popup Visibility Type setting, overriding 66

- preconfigured QBEs, about using to filter 73
- Predefined Queries (PDQs)
 - about and example 56
 - All Records PDQs, about 59
 - general and default PDQ filters, described 57
 - PDQ filters, summary of use (table) 60
- print applets, designing
 - See also *individual print entries*
 - about 43
 - form applets, designing 43
 - list applets, designing 43
- Print button
 - See also *individual print entries*
 - configuring (procedure) 45
 - configuring, about 44
- print tagging language
 - See print templates
- print templates
 - See also server installation; *individual print entries*
 - Applet print tag 183
 - Cell print tag 185
 - Comment print tag 187
 - Divider print tag 188
 - EndofLine print tag 189
 - Footer print tag 190
 - Format print tag 192
 - GetCount print tag 194
 - GetDate print tag 195
 - GetField print tag 196
 - GetRegistry print tag 197
 - GetTime print tag 198
 - GetTotal print tag 199
 - Header print tag 200
 - Page Break print tag 202
 - Picture print tag 203
 - print template file example 207
 - print template file, creating overview 181
 - SetVariable print tag 205
 - Static Text print tag 206
 - Title print tag 207
 - variables, example using in template 208
- PrinterBaudrate parameter, about 214
- PrinterCompressed parameter, about 214
- PrinterDensity parameter, about 214
- PrinterDither parameter, about 215
- PrinterDraftMode parameter, about 215
- PrinterFormFeed parameter, about 215
- PrinterHandshake parameter, about 216
- PrinterOrientation parameter, about 217
- PrinterPort parameter, about 217
- PrinterType parameter, about 218
- printing, configuration settings
 - See also server installation; *individual print entries*
 - default printing settings, list of 218
 - MarginBottom parameter, about 212
 - MarginLeft parameter, about 212
 - MarginRight parameter, about 212
 - MarginTop parameter, about 212
 - PaperHeight parameter, about 213
 - PaperSize parameter, about 213
 - PaperWidth parameter, about 213
 - parameters and syntax, about 211
 - PrinterBaudrate parameter, about 214
 - PrinterCompressed parameter, about 214
 - PrinterDensity parameter, about 214
 - PrinterDither parameter, about 215
 - PrinterDraftMode parameter, about 215
 - PrinterFormFeed parameter, about 215
 - PrinterHandshake parameter, about 216
 - PrinterOrientation parameter, about 217
 - PrinterPort parameter, about 217
 - PrinterType parameter, about 218
- printing, configuring for the handheld
 - See also *individual printing entries*; print templates
 - about 41
 - defining documents for printing 42
 - print applets, configuring for printing 44
 - print applets, designing 43

- Print buttons, about configuring 44
 - Print buttons, configuring (procedure) 45
- Q**
- Query by Example filters (QBE)
 - about 53
 - business component filters, adding 54
 - List of Values, filtering out 56
- R**
- recovering data
 - Companion Sync journal files 109
 - Siebel Handheld Journaling 108
 - reinstalling handheld application 115
 - remote database
 - See synchronization, conflict handling and recovery
 - report
 - views, associating with 32
 - repository
 - .SRF file, location of 41
 - compiling, about 41
 - Repository Configuration, about 51
 - resources, additional 15
 - restore, troubleshooting 153
- S**
- sales order
 - generating (procedure) 150
 - screens and views (table)
 - Siebel Service 165
 - screens and views, designing
 - applet, overriding default behavior 31
 - drill-down only views, about 31
 - multiple applet views, screen allocation 30
 - print templates and reports, views associated with 32
 - scripting
 - deactivating scripts, about 77
 - user interface methods, calls to 78
 - serialized asset, installing
 - removing 145
 - RMA, generating 146
 - serialized replacement part, installing 146
 - server installation
 - CompactFlash card, setting up installation on 96
 - database backup, enabling 94
 - Direct Server Synchronization (DDS), installation 82
 - DSS URL, about changing 97
 - external media, installing from 98
 - handheld logging parameters, configuring 96
 - hardware and network configuration, recommended 80
 - installation configuration file, editing 90
 - planning for, about 79
 - print templates, about installing 97
 - server logging levels, configuring 85
 - server process management, optimizing 87
 - server topology overview, about and diagram 80
 - synchronization performance and scalability 88
 - Service Handheld filters
 - about 67
 - customizing data filters 76
 - no record filters, about and list of 72
 - primary service business components 68
 - summary of filters (table) 74
 - service request, logging new activities, adding to 151
 - asset and warranty coverage, confirming 149
 - new service request, logging 150
 - service level entitlement, confirming 150
 - Service Requests business component, about and example 70

- setup.ini file, location and editing 90
 - SetVariable print tag 205
 - Siebel eScript, issues and validation 77
 - Siebel Expert Services, about using 164
 - Siebel Handheld Client
 - handheld screen, about designing for 28
 - identify user activities, improving performance 28
 - minimal navigation, about designing applications 28
 - Multi-Value Group applet, support of 25
 - naming conventions, about 29
 - scripting, about 77
 - Siebel Web Client, differences in configuring 24
 - stop-and-go workflow, about supporting 28
 - testing the handheld application 46
 - unsupported functions (table) 26
 - user functionality, defining 27
 - Siebel Handheld Journaling
 - about and parameter settings 108
 - journal log files, location and name 108
 - Siebel Professional Services, about using 164
 - Siebel Service Handheld
 - See* Service Handheld filters
 - Siebel Visual Basic (VB), issues and validation 77
 - Siebel Web Client
 - Multi-Value Group applet, support of scripting, issues and validation 77
 - Siebel Handheld client, differences in configuring 24
 - unsupported functions (table) 26
 - SQLTrace, enabling 159
 - .SRF file, location of 41
 - stand-alone installer, about creating 98
 - Static Text print tag 206
 - status bar, about 39
 - sundry activities, adding 151
 - synchronization
 - See also* synchronization, conflict handling and recovery
 - Direct Server Sync via Proxy, about 21
 - Direct Server Sync, about and diagram 20
 - handheld synchronization errors, logging 158
 - methods and architecture 19
 - overview 18
 - preventing synchronization with another handheld 50
 - resynchronization problems, troubleshooting 155
 - synchronization conflicts, preventing 39
 - troubleshooting, about problems caused by 154
 - synchronization filters
 - See* Predefined Queries (PDQs)
 - synchronization, conflict handling and recovery
 - See also* Siebel Handheld Journaling; synchronization
 - about 101
 - extended insert processing 105
 - extended pick processing, about 101
 - extended pick processing, enabling 102
- ## T
- templates, associating views with 32
 - testing the handheld application 46
 - timeout parameter, changing on Windows 160
 - Title print tag 207
 - toolbars, configuring
 - HPC 2000 toolbar functions (table) 37
 - Pocket PC 2002 toolbar functions (table) 38
 - transaction errors, viewing 110
 - troubleshooting
 - client installation, backup, and restore 153
 - client performance, about 161
 - Companion Sync log files 156

- Direct Server Sync checklist, using 155
 - Direct Server Sync log files 156
 - handheld device logs 158
 - network performance, about 163
 - resynchronization problems 155
 - server performance, about 162
 - Siebel Expert Services, about using 164
 - Siebel Professional Services, about using 164
 - SQLTrace, enabling 159
 - synchronization, about problems caused by 154
 - timeout parameter, changing on Windows 2000 160
 - timeout parameter, changing on Windows NT 160
- U**
- uninstalling handheld application 116
 - upgrading handheld application 115
 - user functionality, defining
 - about 27
 - general guidelines 27
 - user interface elements, configuring
 - about 33
 - auto pop-up lists, about 35
 - buttons, about and functionality (table) 36
 - form applets, group boxes 35
 - form applets, labels 35
 - form applets, layout sequence 34
 - hyperlinks, about configuring 39
 - list applets, about and guidelines 33
 - menu bar, about using 37
 - status bar, about 39
 - toolbars, configuring 37
 - user interface methods, business
 - component script calls to 78
 - user properties (table) 175
- V**
- views
 - drill-down only views, about 31
 - new views, adding 47
 - visibility, designating 64
 - visit, closing out
 - See also* field technician; visit, preparing for
 - billable time, tracking 147
 - expenses, recording 147
 - invoice, generating 148
 - job, closing 148
 - remaining steps, checking off 147
 - visit, preparing for
 - See also* field technician; visit, closing out
 - arrival, recording time of 142
 - instructions and steps, reviewing 143
 - recommended parts and tools, reviewing 143
- W**
- Windows, changing timeout parameter 160