SIEBEL 7
eBusiness

SIEBEL eCONSUMER GOODS HANDHELD GUIDE FOR WINDOWS-POWERED DEVICES

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Introduction

This guide describes Siebel eConsumer Goods 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"
- 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 eConsumer Goods 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 eConsumer Goods 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 100	New to 7.5.3: Added new topic.

1 Overview

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. 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.

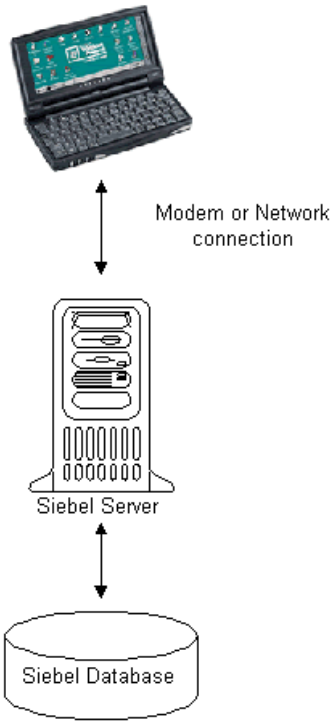

Figure 1. Direct Server Synchronization Architecture

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 32 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 46.

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 127.

2 Application Development

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.
- Assessment creation 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
DockingNodeRoutId	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 147 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.

Toggling Between Multiple-Applet Views

The Siebel Handheld Client application displays up to two applets at one time. If the view has only one applet, the applet takes up the entire display area. For views with two or more applets, the first two applets in the view are displayed, and the user toggles to see the other applets. The first applet is always displayed and the second applet changes as you toggle.

By default, the user toggles by choosing the View > Toggle menu item. In addition, it is recommended that you provide a toggle button as a visual cue to the end user that there are additional applets. Add a toggle button to each applet except the first applet. Identify the button with a Toggle caption and set methodInvoked to ToggleApplet.

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.

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 the Activities View

The Planned Start and Duration fields on general activities and appointments must be populated in order to be displayed in the correct time slot in the Calendar view. The Planned Start field is exposed in the Activities > My Activities view. However, it is not displayed in the Accounts > Activities view. It is recommended that you configure your application to expose the Planned Start field in this view.

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.

Home Page Applets

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

- Set the MethodInvoked property of these controls to GotoView. Then add a user property for the control, and set the Name parameter to "View" and set the Value parameter to the view name.
- Set the Caption field.
- Set the HTML Sequence field according to the order in which the buttons are laid out on the device. The buttons appear on the Home Page applet of the handheld device, laid out in rows of three buttons.

- Set the class property of the Applet to CSSFrameCEHome.

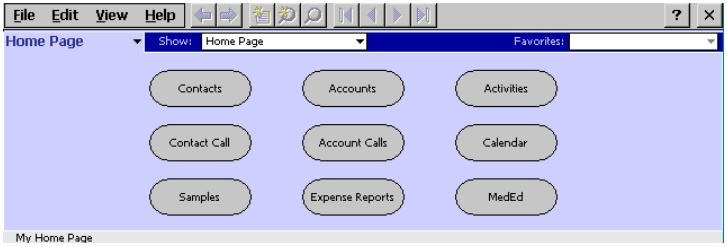

Figure 2. Home Page Applet Example

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.

With the exception of the Print button, you may not add buttons or modify the behavior of buttons on an applet. You may, however, remove buttons from an applet. Be careful when removing buttons because you may alter the behavior of your application in unintended ways. Table 4 describes the behavior of buttons on the different screens. Use this table to guide your decisions about removing buttons from your handheld applications.

Table 4. Button Functionality

Screen	View	Button	Button Functionality
Billings	Invoice Line Items	Cancel	Only applies to Invoices in which Type = Receivable. ■ Changes the invoice status to Cancelled. ■ Changes the Order status to Open. ■ Opens the Order Line Items view. If the order cannot be found, displays a warning message.
Billings	Invoice Line Items	Pay	Opens the Invoice Payments view.
Billings	Invoice Line Items	Print	Prints an invoice.
Billings	Invoice Line Items	Visit Home	Opens the Outlet Visits view, Activities screen. The focus is on the visit in progress for the account on the invoice.
Billings	Invoice Payments	Print	Prints a payment receipt.
Billings	Invoice Payments	Visit Home	Opens the Outlet Visits view, Activities screen. The focus is on the visit in progress for the account on the invoice.

Table 4. Button Functionality

Screen	View	Button	Button Functionality
Billings	Invoice Line Items	Deliver	If Type = Receivable: ■ Checks the inventory to see if there is sufficient stock to fill the order. If the requested quantity exceeds the on-hand stock, a message is displayed informing the user that there is insufficient inventory. ■ Compares the order total against the account's available credit. If the order exceeds the available credit, a warning message is displayed. ■ Changes the invoice status. ■ Decrements inventory. ■ Decrements available credit. If Type = Payable: ■ Creates a credit memo. ■ Increments inventory by the total quantity shipped. ■ Changes the invoice status to Credited.
Cycle Counting	Cycle Count Products	Count Complete	■ Makes all count fields read-only (Actual Count, Count UOM1, Count UOM2). ■ Calculates and displays the values of the Variance and Original fields.
Cycle Counting	Cycle Count Products	List Products	Lists all products that are in the current inventory—that is, those products that appear in the My Inventory view.
Cycle Counting	Cycle Count Products	Print	Prints a Cycle Count report.
Cycle Counting	Cycle Count Products	Adjust	Updates the inventory based on the count for the respective products, and makes the record read-only. Note: This action is performed only on the selected record in the Products list. The user may select multiple records by pressing Shift and tapping multiple records. Tapping Reconcile applies the logic to all selected records.

Table 4. Button Functionality

Screen	View	Button	Button Functionality
Cycle Counting	My Pending Cycle Counts	End	■ Records the current timestamps in the Actual End field. ■ Changes Status. ■ Makes the record read -only.
Cycle Counting	My Pending Cycle Counts	Start	■ Records the current timestamp in the Actual Start field. ■ Changes Status. ■ Navigates the user to the Cycle Count Products view.
Orders	Order Line Items	Invoice	■ Checks the inventory to see if there is sufficient stock to fill the order. If the requested quantity exceeds the on-hand stock, a message is displayed informing the user that there is insufficient inventory. The user is asked if he or she wants to update the order based on the available quantity. If the user chooses to continue, the system adjusts the Qty and Bonus Qty fields so that the totals do not exceed the available stock. Otherwise, the user is returned to the Order Line Items view where he or she can edit the quantities. ■ Compares the order total against the account's available credit. If the order exceeds the available credit, a warning message is displayed. ■ Changes the order status to Billed. ■ Generates an invoice for the order. ■ Cleans the order of all zero-quantity items. ■ Opens the Billings screen, Invoice Line Items view.
Orders	Order Line Items	List Products	Lists all products in the account's Product Distribution list that are flagged as orderable (Retail Order flag).
Order	Order Line Items	Print	Prints the order.

Table 4. Button Functionality

Screen	View	Button	Button Functionality
Outlet Visits	My Outlet Visits	End Visit	■ Records the current timestamp in the Actual End field. ■ Changes the status. ■ Makes the record read only. ■ Calculates the actual duration of the visit.
Outlet Visits	My Outlet Visits	Prepare Visits	■ Verifies that a retail order activity is assigned to a selected visit. ■ If a retail order activity exists, an order header is created for the account and products that are flagged as orderable for the account are listed as line items in the order. ■ If a retail order product does not exist for the selected visit, an order header is created for the account.
Outlet Visits	My Outlet Visits	Start Visit	■ Records the current timestamp in the Actual Start field. ■ Changes the status. ■ Opens the Visit Activities view.
Outlet Visits	Visit Activities	End Activity	■ Records the timestamp in the Actual End field. ■ Changes the status. ■ Makes the record read only.
Outlet Visits	Visit Activities	End Visit	■ Records the current timestamp in the Actual End field. ■ Changes the status. ■ Makes the record read only. ■ Calculates the actual duration of the visit.

Table 4. Button Functionality

Screen	View	Button	Button Functionality
Outlet Visits	Visit Activities	Start Activity	■ Records the current timestamp in the Actual Start field. ■ Changes the status. Opens one of the following views: ■ If Type = Retail Assessment, opens the Accounts screen, Assessments view ■ If Type = Retail Audit, opens the Retail Audit view ■ If Type = Retail Order, opens the Orders screen, Order Line Items view ■ If Type = Stock Transfer, opens the Activities screen, Product Movement view ■ If Type = Review Billings, opens the Accounts screen, Invoices view ■ If Type = Return Order, opens the Accounts screen, RMAs view
Outlet Visits	Visit Activities	Start Visit	■ Records the current timestamp in the Actual Start field. ■ Changes the status.
RMAs	RMA Line Items	Credit	■ Changes RMA status to Billed. ■ Generates a credit note. ■ Opens the Billings screen, Invoice Line Items view.

See "Toggling Between Multiple-Applet Views" on page 31 for more information on toggle buttons.

For more information on how button availability is affected by the status, see "Buttons" on page 36.

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 handheld applications is SHCE 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 5 show the supported toolbar functions for the HPC 2000 operating system.

Table 5. 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 6 shows the supported toolbar functions for the Pocket PC 2002 operating system.

Table 6. 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. For example, an invoice document may include the following fields from the Billings Invoice Line Items view: Account Name, Invoice #, Product Name, Quantity, Extended Price, and Total. However, this view may also include Document #, Order #, Site, Status, and Type, which are not shown on the invoice itself. In addition, the invoice may includes the following fields that are not shown in the Billings Invoice Line Items view: Address, Salesman, Date, Terms, Van ID and Bonus Quantity. The printed document contains data from applets that are visible on the handheld device and from print–only applets.

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."

For example, a van delivery sales representative typically needs to generate a sales order after filling an order. In the eConsumer Goods product, filling a sales order occurs in the Order Line Items view. The Order Line Items view includes the required product, quantity, and pricing information required to generate the order. However, a sales order requires much more data in addition to what appears in the Order Line Items view.

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 51. For more information on the Mail Template property, see "Views with Associated Print Templates or Reports" on page 31.

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 97. For more information on the server log files, see "Direct Server Sync Log Files" on page 180 and "Companion Sync Log Files" on page 180. For more information filtering data, see Chapter 4, "Data Filtering."

3 Application Administration

This chapter describes the application administration procedures for Siebel eConsumer Goods Handheld. These administrative procedures help to make the application run more efficiently on the device. In addition, this chapter describes the set of administrative tasks specific to tasks performed on the Siebel eConsumer Goods Handheld, such as setting up van inventories and administering price and tax lists.

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 (cgce.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*"
DefaultViews*n* = "*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.

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.

Setting Up a Van Inventory

Consumer goods organizations may collect orders and deliver products using a number of processes, including the following:

- A presales representative may capture an order one day that is then delivered the next day by a delivery representative.
- A van sales representative may capture an order and fulfill that order on site.

In the case of van sales, sales representatives are provided with a van filled with goods to be sold that day or week. Each delivery van can be viewed as a mobile warehouse.

Set up each van as a separate inventory location. To do this, you must complete some preliminary steps. First, create a product in the Siebel database to represent a van, then set up each van as an asset. Next, create an inventory location and associate it with the asset.

Setting up inventory locations allows organizations to manage and track assets and inventory more effectively. Inventory product details help van sales representatives manage their own inventory as they conduct their daily activities.

To set up a van inventory, complete each of the following procedures in the order shown:

- Creating a Van Product on page 57

- Setting Up a Van as an Asset on page 58
- Creating an Inventory Location for a Van on page 59

Creating a Van Product

In this procedure a product is created to represent a van and a unit of measurement, called a product measurement, is associated with the van. Product measurements are required.

To create a van product

1. From the application-level menu, select View > Site Map > Product Administration > Product Administration.
2. In the Products list, add a record and complete the necessary fields.

   Some of the fields are described in the following table.

Field	Comment
Name	The name of the product (for example, Van).
Part #	The part number of the product. This may be the model number of the vehicle or some other number.

3. In the More Info view, from the Show drop–down list, select Product Measurements.
4. Scroll down to the Product Measurements form and, in that form, add a record.
5. In the Type drop-down list, select Odometer.
6. In the Units drop-down list, select the appropriate unit for measuring distance (miles or kilometers).
7. In the Name field, provide an appropriate name (for example, Miles or Kilometers).
8. Complete the remaining necessary fields.

Setting Up a Van as an Asset

Each van is an asset with certain characteristics that identify it, such as its license plate number and vehicle identification number. In this procedure, you define these asset characteristics for each van and associate a measurement with the van.

To set up a van as an asset

1. Navigate to the Assets screen.
2. In the Assets list, add a record.
3. In the Product field, select the "van" product.
4. Complete the remaining necessary fields.

   Some of the fields are described in the following table.

Field	Comment
Asset #	This field is automatically populated, but you may change the value to the license plate number of the van or some other unique number.
Serial #	This field is automatically populated, but you may change the value to the serial number of the van or some other unique number.
Description	Includes the description of the specific van asset (for example, Van #20).
Status	Indicates the status of the van. For example, Available, In Repair, In Transit.
Registered	The date the vehicle was registered with the DMV or other appropriate authority.

NOTE: Associating the odometer measurement with a van is optional. Complete these Steps only if the sales representative will be tracking odometer readings.

5. Click the Measurements view tab.
6. Scroll down to the Measurements form and add a record.

7 In the Measurement Type field, select Odometer.

When you select Odometer as the Measurement Type, the Name field is automatically populated with the name you gave to the product measurement under "Creating a Van Product" on page 57.

Creating an Inventory Location for a Van

Once you have set up your van as an asset and set up a measurement for the van, you are now ready to create an inventory location for the van. This associates a position and an asset with a particular van.

To create an inventory location for a van

1 From the application-level menu, select View > Site Map > Inventory Location Management > Inventory Location Management.

2 In the Inventory Locations list, add a new record and complete the necessary fields.

Some of the fields are described in the following table.

Field	Comment
Name	The name of the van (for example, Van #20)
Type	Type of inventory location (for example, Trunk)
Position	The job title of the driver of the van
Asset	The asset number of the van

NOTE: It is recommended that you associate only one position to each van and only one van to each position. For example, the position Van Sales Rep for San Francisco is assigned to Van #20, whose asset number is 12-34567. Each sales representative can be primary to only one position.

Setting Up Product Inventories

For information about setting up a product inventory for an inventory location, see the Service Inventory chapter in *Siebel Field Service Guide*.

When setting up product inventories of Siebel eConsumer Goods Sales handheld, two product buckets should be created for each product: one with Status = Good and one with Status = Defective. These provide buckets for good items to be delivered and for defective items being returned. Both product buckets should have Availability = On Hand, so that the bucket is visible on the handheld device.

Setting Up Products

This section includes the following product–related procedures:

- Setting a Bonus Threshold on page 60
- Creating a Tax List on page 61

Setting a Bonus Threshold

Bonus thresholds allow you to control how many items trigger a bonus. For example, if you want to offer one free case of soda for every three that a customer purchases, you set the bonus threshold for soda cases to three.

For information about creating price lists, see *Pricing Administration Guide*.

To indicate a bonus threshold for an item in a price list

1. From the application-level menu, select View > Site Map > Pricing Administration > Price List.
2. In the Price Lists list, select a price list.
3. Click the Price List Line Items view tab.
4. In the Price List Line Items list, select a line item.

5 In the Bonus Threshold field, enter the number of items that triggers a bonus. For example, for a “buy three, get one free” offer, enter 3.

If the Bonus Threshold column is not displayed, click the list menu button and select Columns Displayed to add the Bonus Threshold column to the Displayed Columns list.

Creating a Tax List

Tax lists help you calculate multiple taxes that apply to specific locations or types of customers (for example, hotels versus convenience stores).

For information about assigning tax lists to accounts, see “Associating a Tax List with an Account” on page 63.

To create a tax list

1 From the application-level menu, select View > Site Map > Tax Administration > Tax Administration.

2 In the Tax Lists list, add a record and complete the necessary fields.

3 Click the Tax List Line Items view tab.

4 In the Tax List Line Items list, add a record for each product.

5 In the Tax 1, Tax 2, Tax 3, and Tax 4 fields, enter the tax rates in decimal format for federal, state, local, and other taxes, as appropriate.

For example, if a tax is 20%, enter 0.2.

The values represent the various taxes that may be applied to the product. These values are used in the Order Line Items and RMA Line Items views on the handheld to calculate the List Tax, Extended Tax, and Total fields. The tax fields are updated based on the tax values from the tax list and the order quantity at the line item level.

Accounts Administration

This section describes various tasks associated with administering consumer goods accounts. It includes the following procedures:

Setting Available Credit for an Account

Use the Available Credit field in the Accounts list to specify the amount of credit available to an account. The sales representative can determine whether to take an order based on the current balance or cancel the order if it would exceed the available credit.

To set available credit for an account

1. From the application-level menu, select View > Site Map > Data Administration > Accounts.
2. In the Accounts list, select an account.
3. In the Available Credit field, enter an amount.

   If the Available Credit column is not displayed, click the list menu button and select Columns Displayed to add the Available Credit column to the Displayed Columns list.

Associating a Price List with an Account

You determine the prices individual customers pay for your products by assigning price lists to their accounts. The price list that you use for a particular account may depend on the customer's location or type of business.

To associate a price list with an account

1. Navigate to the Accounts screen.
2. In the Accounts list, select an account.
3. In the More Info form, click the more button.

4 In the Price List field, select a price list.

Associating a Tax List with an Account

You determine the tax rate individual customers pay by assigning tax lists to their accounts. The tax list that you use for a particular account may depend on the customer's location or type of business.

To associate a tax list with an account

1 Navigate to the Accounts screen.

2 In the Accounts list, select an account.

3 In the More Info form, click the more button.

4 In the Tax List field, select a tax list.

Indicating Which Products an Account May Order

For each customer, you create a product distribution list to list all products the customer is authorized to sell, as well competitor products currently stocked in the outlet.

You use the Retail Order field in the Distribution view of the Accounts screen to indicate whether an item on the distribution list can be ordered by the customer.

To indicate which products an account may order

1 Navigate to the Accounts screen.

2 In the Accounts list, select an account.

3 Click the Distribution view tab.

4 In the Distribution list, for each product that can be ordered by the selected account, mark the Retail Order checkbox.

Indicating Which Products to Audit

When your van sales representatives visit a customer, you may want them to check the current stock levels of certain items in various locations (for example, soda cans may be displayed in the beverage aisle as well as in a refrigerator near the checkout counter).

You use the Retail Audit field in the Merchandising Location view of the Accounts screen to indicate whether the van sales representative should audit a particular item in a particular location.

To indicate which products to audit

1. Navigate to the Accounts screen.
2. In the Accounts list, select an account.
3. Click the Merchandising Location view tab.
4. Scroll down to the Products list.
5. In the Products list, for each product that can be ordered by the selected account, mark the Retail Audit checkbox.

   If the Retail Audit column is not displayed, click the list menu button and select Columns Displayed to add the Retail Audit column to the Displayed Columns list.

   Repeat Steps 3–5 for each merchandising location.

Product Administration

If you have an item that comes in two sizes and the larger size contains a multiple of the smaller size (for example, there are four six-packs of soda cans in a case), you can indicate the relationship between the two sizes by defining a case pack. This makes it easier for customers to order mixed numbers of an item (for example, two cases plus four packs).

To define a case pack

1. From the application-level menu, select View > Site Map > Product Administration > Product Administration.

2 In the Products list, select a product.

3 In the Case Pack field, enter the number of packs (or smaller size set) in a case (or larger size set).

If the Case Pack column is not displayed, click the list menu button and select Columns Displayed to add the Case Pack column to the Displayed Columns list.

Document ID Administration

Document IDs support the legal requirement to print unique numbers on legal documents, such as invoices and receipts. Governments provide specifications for the document ID format, and this format may be used to generate a document ID mask within the Siebel application.

Use the Document Id Mask view to create a document ID mask for each document, as required. A mask is a set of components that, when compiled together in a particular sequence, generate a completed document ID. For example, the first component of a mask may be a company code, the second component may be an employee ID, and the third component may be a code specific to the type of document. Together, these components make up a document ID.

Once the mask is created, it must be assigned to an individual user who has the authority to use it. When the user prints from the handheld, a unique sequence of numbers is printed onto each legal document defined with a document ID mask

In the Document Id Assignments view, associate each document with an individual who is authorized to print it. For example, if you have 200 van sales representatives who are all authorized to print both invoices and receipts, you will assign two document IDs to each representative, for a total of 400 records added to the Document Id Assignments view.

To create a document ID mask

1 From the application-level menu, select View > Site Map > Document Id Administration > Document Id Mask.

2 In the Document list, create a record and complete the necessary fields.

Some of the fields are described in the following table.

Field	Comment
Name	Unique name for the document (for example, California invoice).
Document Type	Type of document being printed (for example, invoice).
Mask Separator	A character used to separate the components of the document ID.

3 In the Mask list, add a record for each component of the document ID mask, and complete the necessary fields.

Some of the fields are described in the following table.

Field	Comment
Sequence	A number that indicates the position of the component in the mask.
Mask Type	Indicates whether the component is a literal value, a lookup value, or a concatenation of a literal value and a lookup value.
Value	The static value used if the mask type is literal or literal lookup.
Employee Field	The parameter to look up if the mask type is lookup or literal lookup (for example, Login Name or Position Id).

NOTE: Populate only one of the two fields, Value or Employee Field, not both.

4 From the Show drop-down list, select Document Id Assignments.

5 In the Sequence list, add a record and complete the necessary fields.

Some of the fields are described in the following table.

Field	Comment
Document	The name of the document you assigned in Step 2 of this procedure.
Document Type	This field is automatically populated when you choose the document.
Employee	The ID number of the employee authorized to print this document.
Login Name	This field is automatically populated when you choose the Employee.
Start Seed Number	The first sequence number to be used in the document ID mask. This number is incremented each time the document is printed by the employee on the handheld to make sure that each document ID is unique.
Last Sequence Number	This number is synchronized from the handheld and indicates the last number in the sequence used by this document/employee combination.
Mask Value	The generated value of the mask (minus the sequence number), based on the mask and employee selected.
Last Document Id	This value is synchronized from the handheld and indicates the last document ID used on the handheld by the employee.

Data Filtering 4

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. 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:

`DefaultSyncFilter`*`XXX`* `=` *`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:

```
DefaultSyncFilter1 = Action|[Status] = "Not Started" OR [Status] =
"In Progress" OR ([Status] IS NULL) OR [Status] = "On Hold" OR
([Status] = "Done" AND [Done] >= Today() - 7)
```

In this example, a Siebel Handheld filter has been created for the Action business component. This is the business component that underlies Activities in Siebel eBusiness Applications. This filter limits the Activities extracted for the Handheld application to those whose Status field is Not Started, In Progress, Null, On Hold, or Done. Activities whose Status is Done will only be allowed if the Done date occurred during the past week.

The example also demonstrates how these global QBE statements should be used during deployment. In the example, the QBE limits the handheld Activity records to those that are current. For every handheld application user and for every occurrence of the Activity business component, whether in a parent-child view or a pick applet, Activities are limited to those specified in this QBE. While this particular filter will not apply to every handheld deployment where Activities are used, most customers can use these global QBEs to rule out large sets of data not appropriate or necessary for the handheld application user.

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):

```
DefaultSyncFilter1 = List of Values| ([Type])="ACCOUNT_TYPE") AND
(([Value] = "Reseller") OR ([Value] = "Retailer"))
```

In this example, regardless of the number of values that have been defined for LOV type ACCOUNT_TYPE, only the Reseller and Retailer values are extracted to the handheld.

Be careful when you use QBE filters on LOVs. Multiple screens and views may use List of Values, such as ACCOUNT_TYPE, and may require that different values appear in the list. To avoid data loss, carefully review your filters and verify that all the required values are included.

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_My_Recent_Orders. See "Query by Example Filters" on page 71 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_Current Activities. 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.

Configuring Default PDQs

The default PDQs that are included in Siebel eConsumer Goods Handheld are designed to be placeholders for the PDQs that your users will need. Table 7 shows the PDQs that must be created and set as the default PDQs.

Table 7. Default PDQs for eConsumer Goods

Business Object	PDQ Name	PDQ Value
Account	PDADef_All Accounts	'Account'.Search = ""'Account'.Sort = "Name, Location"
Action	PDADef_All Calendar Activities	'Action'.Search = ""'Action'.Sort = "Due (DESCENDING)"
CPG Routes	PDADef_Active Routes	'CPG Routes'.Search = "[Active] = ""Y"""'CPG Routes'.Sort = "Route Name"
Contact	PDADef_All Contacts	'Contact'.Search = ""
Cycle Counting	PDADef_Today Open Cycle Counts	'Cycle Counting'.Search = "[Status] = LookupValue(""FS_CYC_CNT_STATUS"", ""Open"") OR [Status] = LookupValue(""FS_CYC_CNT_STATUS"", ""Assigned"") AND [Due Date] = Today()" 'Cycle Counting'.Sort = "Due Date"
In Store Visit	PDADef_*Today Not Started Visits	'In Store Visit'.Search = "[Start Date] = Today() AND [Status] = LookupValue (""EVENT_STATUS"", ""Not Started"")"
Internal Product	PDADef_Orderable Products	'Internal Product'.Search = "[Orderable] = ""Y"""'Internal Product'.Sort = ""
Order Entry (Sales)	PDADef_Open Orders	'Order Entry - Orders'.Search = "[Status] < > LookupValue(""FS_ORDER_STATUS"",""Closed"") AND [Status] < > LookupValue(""FS_ORDER_STATUS"",""Cancelled"") "

Table 7. Default PDQs for eConsumer Goods

Business Object	PDQ Name	PDQ Value
SIS HH FS Invoice - CE	PDADef_Open Billings	'FS Invoice'.Search = "[Status] = LookupValue (""PS_SUBCONTRACTOR_STATUS"", ""Open"") or [Status] = LookupValue (""PS_SUBCONTRACTOR_STATUS"", ""Partially Paid"")"
Price List	PDADef_Current Price Lists	'Price List'.Search = "[End Date] > Today()"'Price List'.Sort = "Name"

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.

An example of the All Records PDQ:

```
Name: PDAAll_All Activities, Query: 'Action'.Search = "".
```

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 71 for more information on filter naming conventions.

Summary of PDQ Filter Availability

Table 8 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 8. 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 84 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 84 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 74 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 9 summarizes popup visibility types and the corresponding visibility codes.

Table 9. 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 10 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 9 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 10. OverridePopupVisibility Syntax

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

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.

Deployment 5

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 99.

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 3 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.

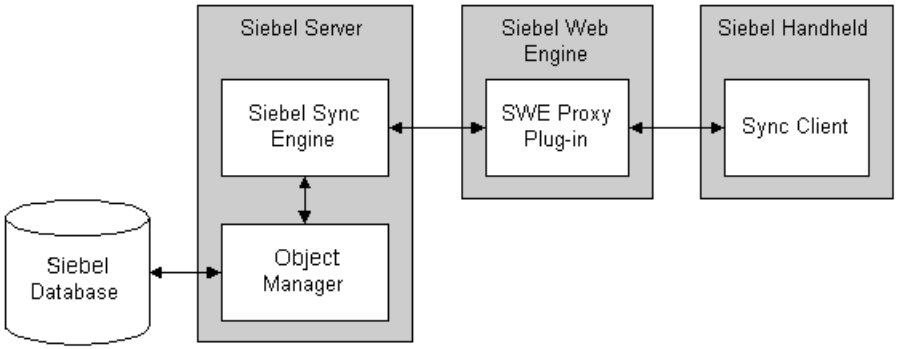

Figure 3. DSS Servers and Components

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 cgce.cfg, but you can change the name of this file.

2 Create a backup copy of the configuration file and name it cgce.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 CG Sales Enterprise CE	The handheld application. This value must match the name of the application as it is specified in Siebel Tools.
	ApplicationTitle	Siebel CG Sales Enterprise CE	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 CG Sales Enterprise 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 Sales Enterprise Client	Required for Direct Server Sync, it is entered in the registry on the handheld device.
[PDA] section	AppDir	hhsync\cgce	The directory location for the user's synchronization files.
	PDAQBEFile	cgceqbe.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 11 for the specific values.)
- The amount of information that is logged. (See Table 12 for the specific values.)

The different types of log records are described in Table 11 and correspond to the following format: LoggingLevels = emdts.

Table 11. 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 12:

Table 12. 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 4 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.

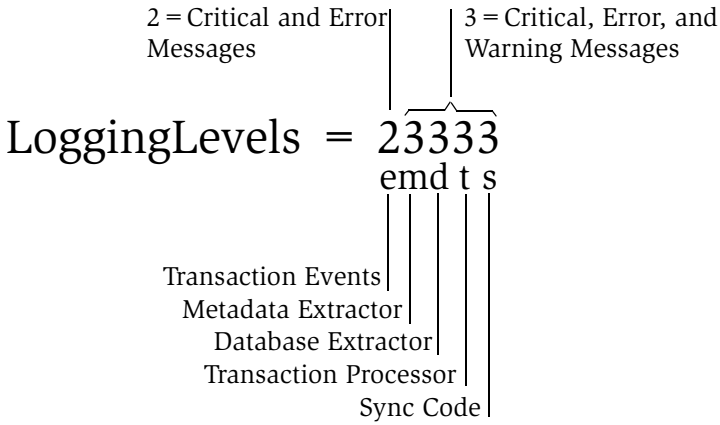

Figure 4. Logging Levels Parameter

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

- Setting the application restart parameter
- 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 eCG Sales 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 13 lists the parameters that you may need to modify in the setup.ini file, their default value, and a description of the parameter.

Table 13. 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	Siebel CG Sales Enterprise CE	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		The Siebel Handheld application name as shown on the splash screen.
MultiCurrency	True	Required for the application to handle multiple currencies.
PressureThreshold	29	Specifies when the end user is prompted to restart the application. See"Setting the Application Restart Parameter" on page 108 for more information on this parameter.

Table 13. Siebel Handheld Sync setup.ini Parameters

Parameter	Default Value	Description
DSSURL	http://*Web Server Name or IP address/Virtual Directory Name*	Required for Direct Server Sync. This value is entered in the registry on the handheld. See "Changing the DSS URL on Devices" on page 110 for more information on this parameter.
[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 107 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 108 for more information on the parameters in this section of the setup.ini file.
InternetOptionReceiveTimeout	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 13. 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 109 for more information on this parameter.

Table 13. 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 109 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 147.

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.

Setting the Application Restart Parameter

Because of the limited memory on handheld devices, users may find that the performance of the application degrades during the course of a handheld session. This is more likely to occur if the user is making many customer visits and carrying out transactions that involve intensive processing. To minimize the effects of these occurrences, the application can be restarted to release application memory that is not actively being used. The memory that becomes available allows for better performance in the next handheld session.

The application prompts the user to periodically restart the application. A dialog box appears with the message "For optimal application performance it is advised that you Restart your Siebel application by selecting File > Restart." The user can restart the application or ignore the message.

The application prompts the user after a specified number of visits, which is indicated by the number of times the user taps the End Visit button. The frequency with which this message appears is set with the PressureThreshold parameter in the setup.ini file. The default is:

```
PressureThreshold = 29
```

The message is triggered when the user taps the End Visit button N + 1 times, where N is the number specified by the parameter. For example, using the default value of 29, the message appears after the 30th time (29 + 1) that the user taps the End Visit button.

If the user restarts the application after the message appears, the application resets a counter to 0. If the user ignores the message and does not restart the application, the counter is not reset and, therefore, the message does not reappear.

To disable the display of the application restart message, set PressureThreshold to 0.

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 182.

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 5, 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.

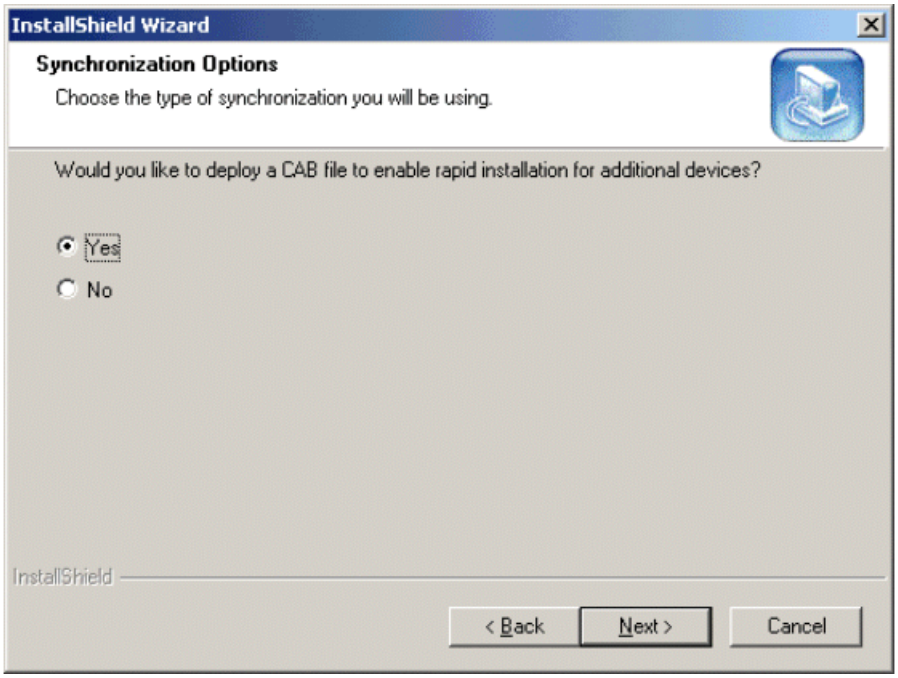

Figure 5. CAB File Option

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.

Synchronization Conflict Handling and Recovery 6

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 14 describes the settings for this parameter.

Table 14. Configuration File Setting

Configuration File Parameter	*Mode* 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 15) follow:

  HandheldSyncPickMode = *Fieldname*|*Mode*

Table 15. Business Component User Property Parameters

Business Component User Property	Parameter	Value	Description
HandheldSyncPickMode	*Fieldname*	—	Specify the field name as defined in Siebel Tools.
	Mode	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 "Recommended Extended Pick Processing Settings" on page 119 for an example. Conversely, you can enable Extended Pick processing on specific business components if the configuration file setting has disabled the functionality.

Table 16 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 16. 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

Recommended Extended Pick Processing Settings

It is recommended that you use the Extended Pick processing settings in the following way:

- By default, Extended Pick processing is globally turned off.
- Activate Extended Pick processing on the following fields for critical business components:
  - **Order Entry- Line Items.** Product|NoFail
  - **FS Invoice Payments.** Payment Num|NoFail
  - **FS Invoice.** Account Name|NoFail, Order Number|NoFail
  - **Retail Audit Product.** Product Name|NoFail
  - **Cycle Counting.** Inventory Location Name|NoFail
  - **Cycle Counting Execution.** Product|NoFail
  - **CPG Store Conditions in Retail Audit.** Product Name|NoFail
  - **CPG Account Merchandising Product.** Product Name|NoFail
  - **Asset Mgmt – Asset.** Product Name|NoFail

- **CG FS Activity Parts Movement.** Product Name |NoFail

The eConsumer Goods Handheld application is shipped with these recommended settings.

NOTE: When Extended Pick processing is enabled, any update conflicts that occur for that pick field are resolved using the "Client Wins" conflict resolution directive. For fields that do not have Extended Pick processing enabled or that are not pick fields, this does not apply. Please make a note of this behavior when using this feature.

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 17 shows the settings for this parameter.

Table 17. 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 18) follow:

  HandheldInsertFailMode = *Mode*

Table 18. Business Component User Property Parameter

Business Component User Property	Parameter	Value	Description
HandheldInsertFailMode	*Mode*	NoFail	Disables Extended Insert processing.
		FailOnError	Enables Extended Insert processing.

Table 19 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 19. 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
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 97 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\cgce

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

and the name of the file is: hhsync.cgce.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

7 Installing the Handheld Application

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 129 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 129 for details.

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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 149 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 130 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 127, and follow the instructions for installing the handheld application.

3 Synchronize your handheld application. See "Synchronizing Data" on page 149 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 149 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.

Working with Siebel Handheld Applications 8

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.

Figure 6 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.

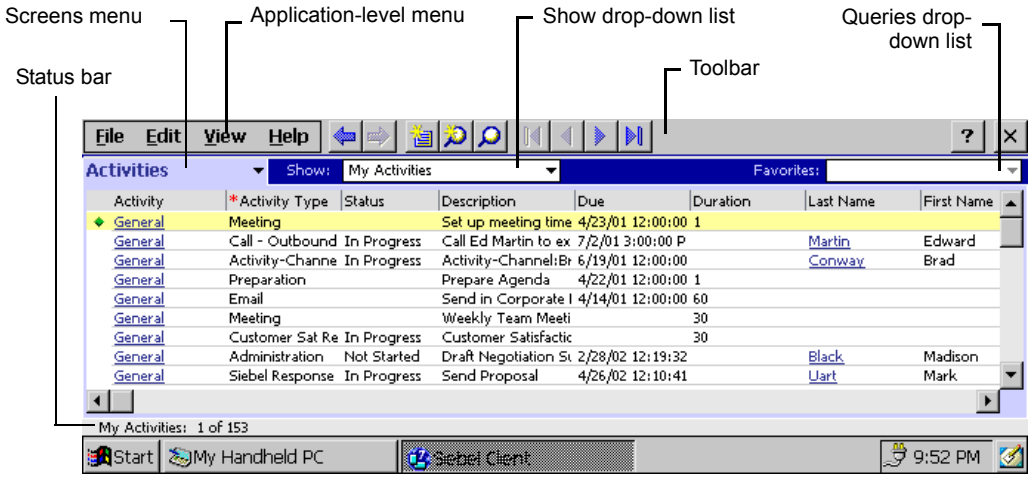


Figure 6. Handheld PC Application Window Components

Figure 7 shows the components of the Pocket PC application.

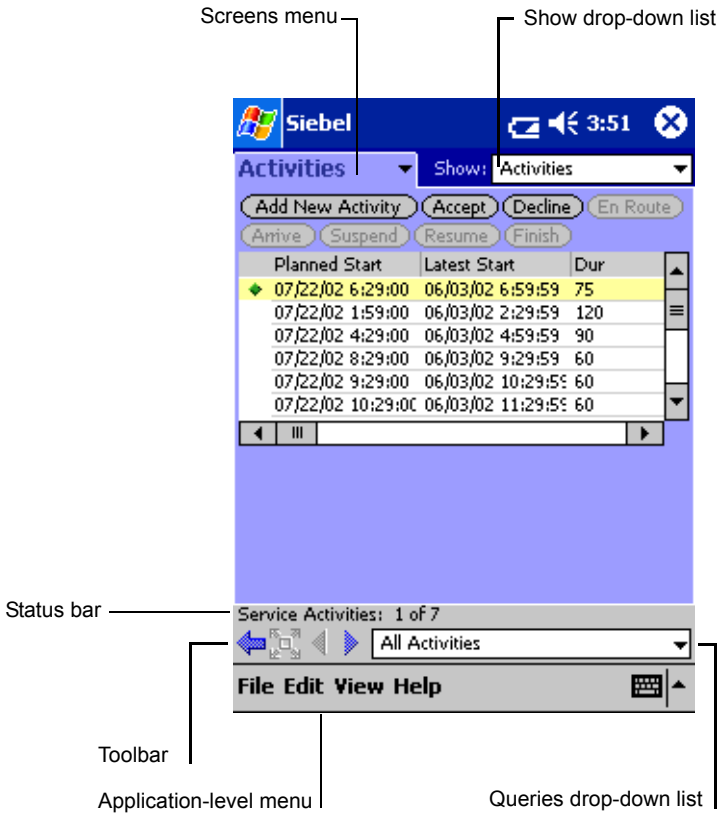


Figure 7. Pocket PC Application Window Components

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 6 shows that the Activities screen has been selected.

For information about configuring a start up view, see "Setting User Preferences" on page 147.

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 74.

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 32 for more information on configuring your toolbar buttons.

Figure 8 is an example of the Handheld PC toolbar.

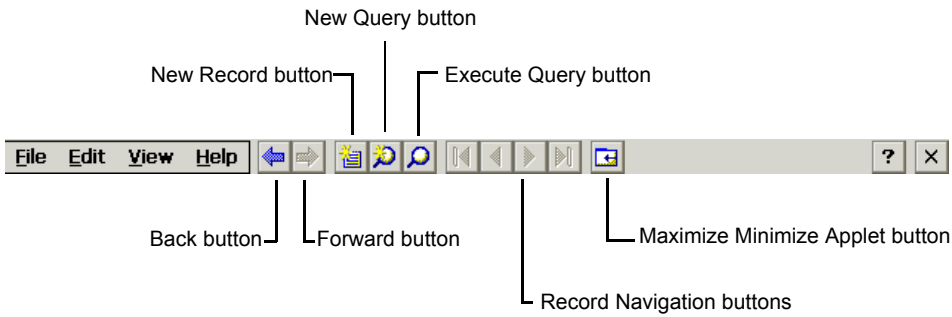


Figure 8. Handheld PC Toolbar Example

Figure 9 is an example of the Pocket PC toolbar.

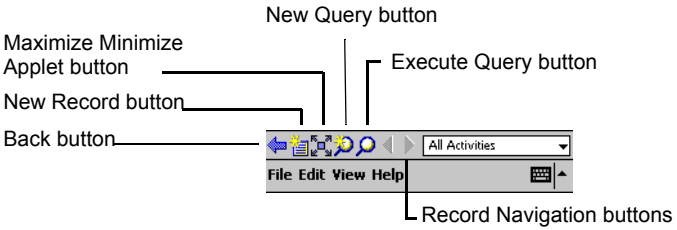


Figure 9. Pocket PC Toolbar Example

- 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 > Customize 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 6 on page 132 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, toolbar buttons, and toggling.

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 131.

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 My Activities view from the Show drop-down list.

More Info View

To view all of the information available for a record, make sure it is selected, and choose More Info from the Show drop-down list.

NOTE: Not all screens have a More Info view.

Toggling Between Applets

A maximum of two applets can be displayed at one time in a Siebel Handheld application. In situations where there are more than two applets configured and a Toggle button has been configured, you may tap the Toggle button on the applet. Or you may select View > Toggle from the menu to toggle between applets.

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 147.

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 are in the Outlet Visits > Visit Activities view, there are a number of different activity types you can see. If you drill down on the Retail Audit activity, you jump to the Retail Audit screen. If you drill down on the Retail Order activity, you jump to the Orders screen.

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 though a set of records. The navigation buttons are described in Table 20.

Table 20. 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 > Advanced 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 Displayed.

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.

Querying Data

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

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 Edit > 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 wild card function (*) can be used in the search criteria.

Executing a Query

After you have created the query, you can execute it by choosing Edit > 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 Edit > 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 21 for the correct formats to specify for the supported applications.

Table 21 describes how to set the parameters to export data to specific applications.

Table 21. 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.

Calendar and Calendar Views

To view your calendar, choose Calendar from the screens menu.

You can view your calendar in a monthly, a weekly, or a daily format. To navigate within the calendar, select the calendar view you want to see from the Show drop-down list.

Calendar Icons

Calendar icons appear in the monthly calendar to make it easier to see and understand your schedule at a glance. These calendar icons are explained in Table 22.

Table 22. Calendar Icons

Icon	Description
	Current day without an appointment
	Day with appointment before and after 12 pm
	Day with appointment before 12 pm
	Day with appointment after 12 pm

Customizing the Calendar

You can customize aspects of your calendar from the User Preferences view. For more information, see "Setting User Preferences" on page 147.

NOTE: Siebel Handheld Calendar does not support modification of single instances of recurring activities. For example, if you delete or modify an appointment scheduled to recur daily for 10 days, the entire series will be deleted.

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 > User Preferences 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.
- 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.
- Customize your calendar's default view, start time, time slot interval, and default appointment duration.
- 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 108.

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.

Using eConsumer Goods Handheld 9

This chapter is designed to show you how to use Siebel eConsumer Goods Handheld. A business scenario illustrates a few of the key tasks you can perform using Siebel eConsumer Goods Handheld. The business scenario presented is an example of a sequence of work performed by a van sales representative. Your company may follow a different sequence according to its business requirements.

The handheld can be used to support several responsibilities. Merchandising representatives can use the handheld to collect detailed store information, conduct retail audits, and perform assessments. Presales, delivery, and van sales representatives can collectively use the handheld to collect orders, fulfill orders, and manage inventory.

Business Scenario

Van sales representatives are responsible for performing retail audits, capturing orders, invoicing, and collecting payments. In addition to these primary sales responsibilities, they may also collect payment for outstanding billings, collect items that are being returned, exchange products with other delivery representatives, and deposit on-hand payments at the local bank.

As a van sales representative, you begin your day at the depot by synchronizing your handheld. You connect to the Siebel Server by docking the handheld device into its cradle and synchronize the Siebel handheld application with the Siebel database, retrieving updated details for the day, including visits, activities, and inventory information.

Procedures Presented

Instructions for the following tasks are presented:

- Backing up the handheld device
- Recording van information details
- Verifying the van inventory and do a cycle count
- Preparing for a visit
- Beginning a visit
- Reviewing billings and receive payments
- Conducting a retail audit (stock check) at an outlet
- Collecting returned product
- Creating a retail order
- Closing a visit
- Performing other activities

Backing Up the Handheld

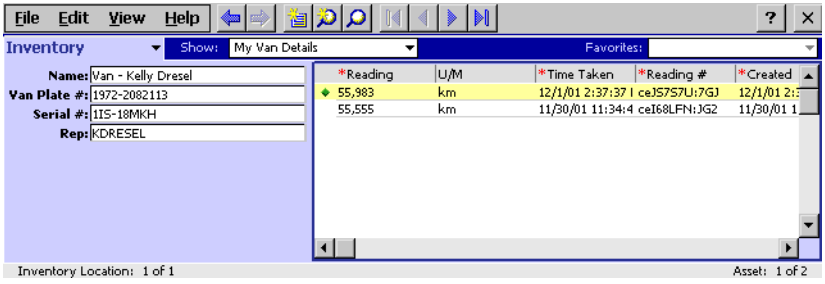
Before you start the day, you should back up the application configuration and data to the flashcard. Then, if the handheld fails, you can load all data and configuration information from the flashcard onto another device. For information on the procedure to back up the application on the handheld, see "Backing Up and Restoring Data" on page 147.

Recording Van Information

Before leaving the depot, a van sales representative verifies the van identification information and records the van's mileage.

To record van information

1. Navigate to the Inventory screen.
2. Choose My Van Details from the Show drop-down list.
3. Verify that the Van Plate # and Serial # are correct.
4. Select the list in the My Van Details view.



5. Tap the New Record button on the toolbar.

   Doing so adds a new Readings record to the list.
6. Enter the van's current mileage using the fields provided.
7. Check the Complete field to indicate that the reading has been completed.

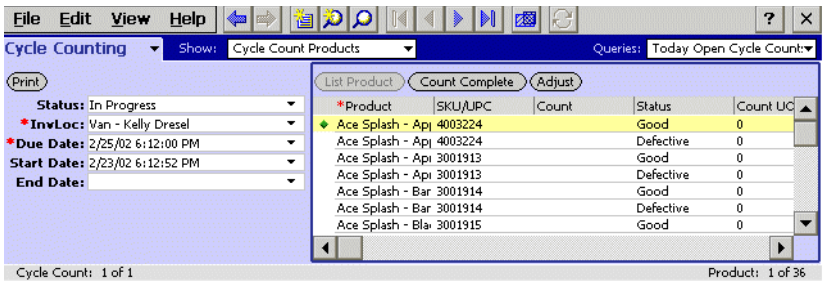
Verifying Van Inventory

As a van sales representative, before you visit outlets, you ned to verify that the inventory on the handheld matches the actual inventory in the van. The inventory is verified by performing a cycle count.

To do a cycle count

1. Navigate to the Cycle Counting screen.
2. Choose My Pending Cycle Counts from the Show drop-down list.
3. Select the appropriate cycle count record for the current date and time.
4. Use one of the following methods to start the cycle count:
   - Tap Start. Tapping Start displays the Cycle Count Products view, records the start time, and changes the status of the Cycle Count to In Progress.
   - Tap the hyperlink in the Status column. This displays the Cycle Count Products view. You will have to manually record the start time and change the status of the Cycle Count to In Progress.
5. Tap List Product. This populates the list of products for the cycle count.

NOTE: The List Products button in the Cycle Count Products view lists all products in the current van inventory belonging to a particular sales representative. This includes the various product buckets such as Good, Defective, and so on.



6 Verify the count of the stock in your van and enter the amounts of each item in the Count column.

NOTE: You can also use the Count UOM1 and Count UOM2 fields to capture the count of the physical inventory. These fields represent two units of measure that are related by Case Pack, which is a value set up by the administrator. Updates to Count UOM1 and Count UOM2 also updates Count when it is committed based on the Case Pack.

7 When you are finished entering the amounts for your inventory, tap Count Complete.

The Count Complete button locks the Cycle Count Product records, preventing any further changes.

8 If there are any products with variances greater than or less than zero, select those products and press Adjust to update inventory with the current count.

NOTE: The Adjust button only processes selected records. Use CTRL + Tap to select multiple records.

9 Return to My Pending Cycle Count by choosing it from the Show drop-down list and tap End.

Preparing for a Visit

Before you start your visits for the day, the assigned visits must be reviewed and the necessary records for the first visit created.

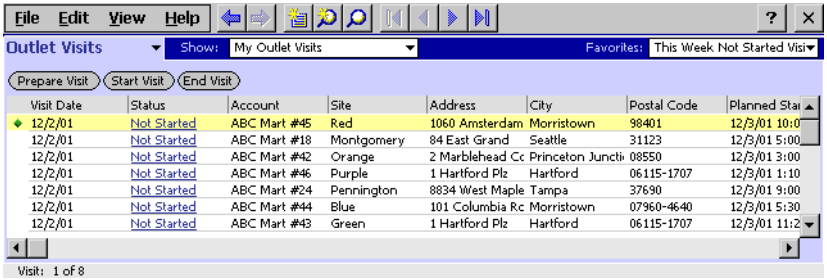
To review visits

1 Navigate to the Outlet Visits screen.

2 Choose My Outlet Visits from the Show drop-down list.

A list of the visits scheduled for the day appears.

NOTE: What is displayed depends on which filters were used during synchronization. For more information about filters, see Chapter 4, "Data Filtering."



3 Select the first outlet you will visit and tap Prepare Visit.

This creates any records required for a Retail Order activity, if one is assigned to the visit. For a Retail Order activity, the application creates the order header and all line items that have been marked as orderable. For more information, see Chapter 3, "Application Administration."

Beginning a Visit

At the first outlet, you open the My Outlet Visits view of the Outlet Visits screen. The visit you have prepared appears in the My Outlet Visits view with a status of Not Started.

To begin the visit

1 Navigate to the Outlet Visits screen.

2 Select the visit you want to begin.

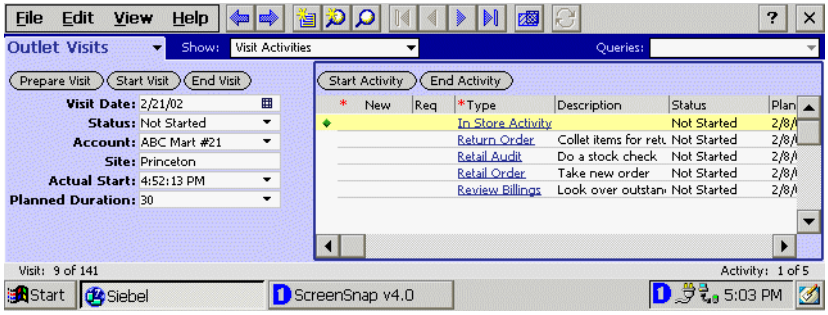
3 Do one of the following to begin the visit:

- Tap Start Visit.

  This takes you to the Visit Activities view, records the start time of the visit, and changes the status of the visit to In Progress.

- Tap the hyperlink in the Status column for this visit.

  This takes you to the Visit Activities view. Manually record the start time of the visit and change the status of the visit to In Progress.



Working With Visit Activities

As a sales representative, you perform a number of activities. You begin and end activities as follows.

Beginning an Activity

Begin an activity in one of two ways:

- Select the activity and tap Start Activity.

  This records the start time, changes the activity status to In Progress, and causes the relevant view for the activity to appear.

- Drill down on the hyperlink in the Type field of the activity.

  The relevant view for the activity appears. Manually change the activity's status and record the start time.

Ending an Activity

End an activity as follows:

- Navigate to the My Outlet Visits view. Select the activity and tap End Activity.

  This records the completion time of the activity, changes the status to Completed, and locks the activity, preventing any further changes.

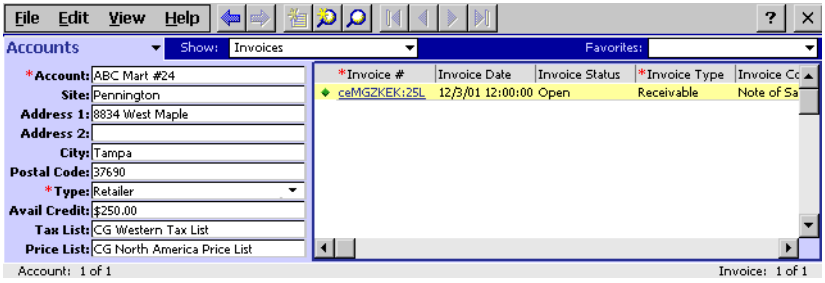
Reviewing Billings

A common activity at retail outlets is reviewing billings. The sales representative reviews all outstanding invoices, collects payment, and records the payments in his handheld.

To review outstanding invoices, collect payments, and record payments

1. From the Visit Activities view of the Outlet Visits screen, select the Review Billings activity and tap Start Activity.

   The Invoices view in the Accounts screen appears, displaying all outstanding invoices for the current account.

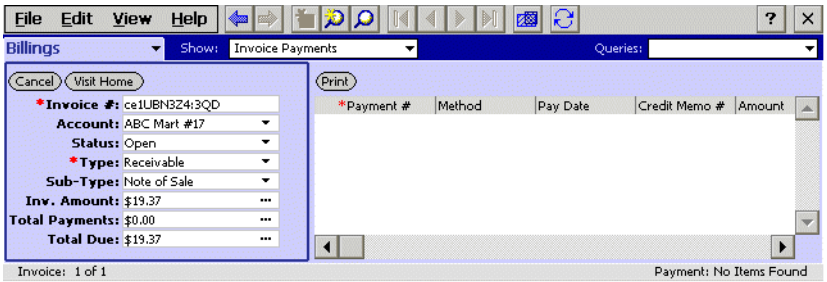


2. Select the invoice record and drill down on the Invoice # hyperlink.

   The Invoice Line Items view in the Billings screen appears.

3 Tap Pay.

The Invoice Payments view in the Billings screen appears.



4 Select the Payments list.

5 Create a new payment record using one of the following methods:

- Choose File > New Record.
- Tap the Add Record button on the toolbar.

Both actions create a blank record in the Payments list.

6 Tap the select button in the Payment # field.

This launches the Pick Payment dialog box in which all residual payments or credits that may be applied to the current invoice appear. The records show the balance in the Remaining Amount field.

7 To pay an invoice, the sales representative may either collect a new payment from the customer, or use existing credit to pay the invoice.

To collect a new payment from the customer, do the following:

a In the Pick Payment dialog box, tap New to create a new record.

b Enter the payment amount in the Amount field.

NOTE: The New Amount cannot exceed the values in either the Remaining Amount field on the invoice, or the Remaining Amount on the Payment record. If it does, an error message appears, prompting you to enter a different amount.

c Select a value from the Method drop-down list.

d Tap OK.

The payment record details are auto-populated in the Payments list.

8 To use an existing credit to pay off the invoice, do the following:

a Select an existing record in the Pick Payment dialog box.

NOTE: This is an open credit memo or residual payment credited to the customer.

b Enter the amount to apply to the invoice in the New Amount field.

c Tap OK.

9 Tap Visit Home to return to the Visit Activities view for the current visit.

10 Tap End Activity to record the actual end time and to change the activity status to Done.

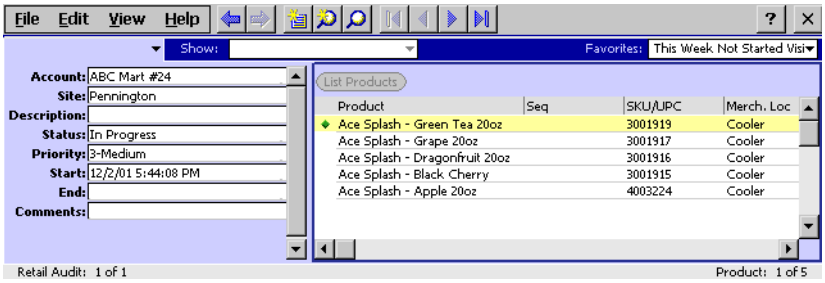
Conducting a Retail Audit

Sales representatives perform retail audits, also known as stock checks. The list of products assigned to the audit is created when you tap Prepare Visit on the My Outlet Visits view.

To perform a retail audit

1 In the Visit Activities view of the Outlet Visits screen, select the Retail Audit activity and tap Start Activity.

The Retail Audit view appears.



2 To add products to the audit list, tap List Products or select the list and tap the New Record button on the toolbar.

3 To delete a product from the audit list, select it in the list and choose Edit > Delete Record.

NOTE: The List Products button at the top of the list applet automatically creates a list of products authorized for auditing. The products displayed come from the Account > Merchandising Locations view and are filtered based on the audit flag.

4 Record the count for each product in the Display Count, Shelf Stock, and Back Stock fields, as well as any other applicable details.

5 When you have completed the count, return to the Visit Activities view by tapping the Back button.

6 Select the Retail Audit activity, and tap End Activity.

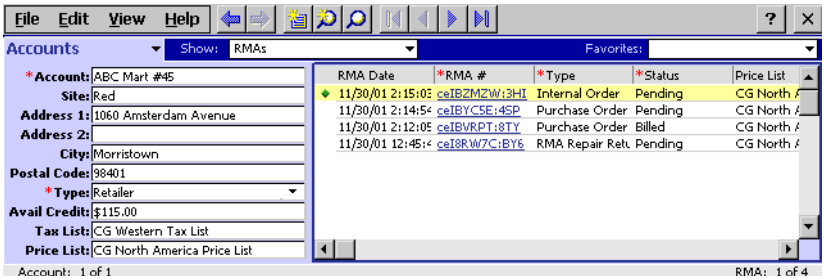
Collecting Returns

The sales representative checks to see if the customer has items to return.

To collect returns

1. If there are no returns, change the status of the Return Order activity to Acknowledged in the Visit Activities view of the Outlet Visits screen.
2. If there are items to collect, select the Return Order activity from the Visit Activities view of the Outlet Visits screen and tap Start Activity.

   This takes you to the RMAs view in the Accounts screen.



3. Create a new RMA record by selecting the RMA list and tapping the New Record button on the toolbar.
4. Select an RMA type for the new record from the Type drop-down list.
5. Drill down on the RMA #.

   The RMA Line Items view in the RMAs screen appears.
6. Select the Line Items list and tap the New Record button to record the line items and quantities of the products being returned.

NOTE: The RMA line items are not limited to the authorized product distribution list. You may add any product that is available on the handheld, including discontinued products.

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7. Tap Credit when you are finished adding line items.

   Tapping Credit does the following:

   - Changes the RMA status to Billed.

- Generates a Credit Note record.
- Creates a credit note for the RMA account.
- Displays the Invoice Line Items view in the Billings screen.

NOTE: If the RMA product does not currently exist in the van inventory, the inventory product is added when you tap the Credit button.

8 In the Line Items view, tap Deliver.

Tapping Deliver does the following:

- Creates a Credit Memo.
- Updates the inventory.
- Changes the invoice status to Closed.

9 Tap the Visit Home button to return to the Visit Activities view of the Outlet Visits screen.

10 Select the Return Order activity and tap End Activity.

TIP: When a product exchange between a sales representative and a customer results in a credit being issued, this is treated as an RMA. Each product is recorded as a line item in the RMA Line Items view and the value of the item is the current list price. You can make product exchanges of items with the same price through Product Movements.

Executing a Retail Order

At retail outlets, another frequent activity for sales representatives is taking retail orders.

To execute a retail order

1 In the Visit Activities view of the Outlet Visits screen, select the Retail Order activity and tap Start Activity.

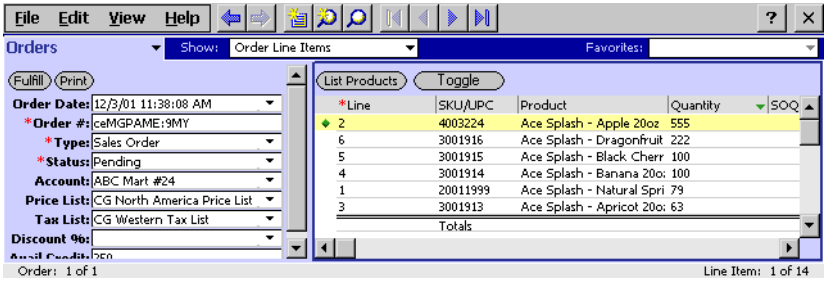
This takes you to the Order Line Items view.

NOTE: This assumes you prepared the visit as described in "Preparing for a Visit" on page 159.

2 Enter the order details in the list in the Order Line Items view.

List Price and List Tax fields are automatically populated based on the product listed. The Bonus quantity and Extended Tax and Price are calculated based on the quantity.

You can enter Order Qty for two units of measure and you can use the Qty UOM1 and Qty UOM2 to capture the order quantity. See "To do a cycle count" on page 158 for more information about Qty UOM1 and Qty UOM2.



NOTE: This is a three-applet view. To toggle between the applets, select the applet on the right and tap Toggle (or select View > Toggle from the menu).

3 When the order is complete, tap Invoice.

Tapping Invoice does the following:

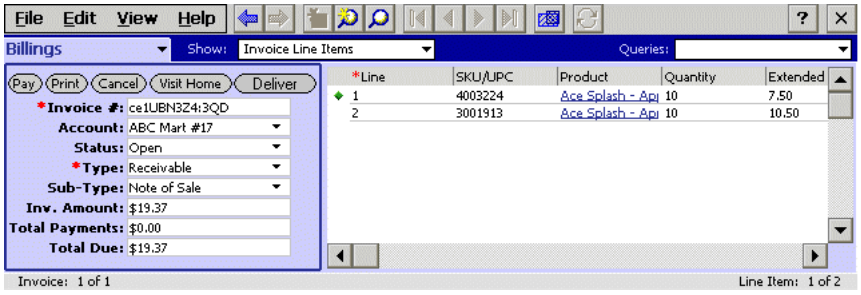
- Checks each line item to see if there is sufficient on-hand stock to fulfill the order. If there is not, an error message appears. You will have the option of having the system update the order based on available stock quantity or returning to the Order Line Items view to manually edit the order.
- If there is enough inventory, checks if the order total exceeds the Available Credit. If the order total is more than the available credit, a warning message appears.
- Changes the status of the order to Billed.
- Removes all zero-quantity line items.
- Creates the invoice.
- Opens the Invoice Line Items view.

4 From the Invoice Line Items view, tap Deliver.

Tapping Deliver does the following:

- Updates the inventory base on the order.
- Changes the status of the invoice.

5 Tap Print to print an invoice for the order.



6 To collect payment on the invoice, tap Pay.

For information on collecting payment for the invoice, see "Reviewing Billings" on page 162.

NOTE: If the end user has a belt printer, the documents can be printed as each activity is completed. Otherwise, the documents are sent to a queue to be printed in batch at a later time. For more information on printing, see Chapter 8, "Working with Siebel Handheld Applications."

7 Tap the Visit Home button to return to the Visit Activities view of the Outlet Visits screen.

8 Select the Retail Order activity and tap End Activity.

Closing the Visit

When you have completed all activities for this outlet, the visit is ready to be closed.

To close the visit and prepare for the next visit

1 From the My Outlet Visits view in the Outlet Visits screen, tap End Visit.

The status of the visit changes to Done and Actual End is recorded with the current time stamp.

2 Select the next visit on your route and tap Prepare Visit.

As you drive to the next location, eConsumer Goods prepares the necessary records.

Other Activities

Van sales representatives, presales representatives, and delivery representatives perform a number of tasks. This section explains how to perform some of the main ones, including:

- Recording a deposit
- Exchanging products between sales representatives
- Reconciling inventory

Recording a Deposit

As a van sales representative, you may have to deposit payments you have collected during the day. When you do so, you can record the information in your handheld.

To record a deposit

1. Navigate to the Billings screen.
2. Choose the Deposits view from the Show drop-down list.
3. Tap the New Record button on the toolbar to add a new deposit.
4. Complete the fields provided, such as Bank Name, Bank Account #, and Deposit Amount.

Exchanging Products Between Sales Representatives

If products are exchanged between two sales representatives, each representative has to complete a set of procedures.

To give product to another sales representative

1. Navigate to the Outlet Visits screen.
2. Tap the New Record button on the toolbar to add a new visit.
3. Select Visit Activities from the Show drop-down list.
4. In the Type drop-down list, select Stock Transfer.

5 Complete the fields in the new activity.

6 Tap the Stock Transfer hyperlink in the Type field.

This takes you to the Product Movement view.

7 Create a new record by selecting the Product list and tapping the New Record button on the toolbar.

8 Set the values for the Source and Destination fields:

- If you are taking product from your van, select Trunk from the Source field, and Customer from the Destination field.
- If you are adding inventory to your van, select Customer from the Source field, and Trunk from the Destination field.

9 Tap Commit to update the inventory.

Reconciling Inventory

Delivering products, taking returns, and exchanging products with other representatives all impact the van inventory. Periodically during the day, van sales representatives can check to be sure that the inventory properly reflects all these changes.

To see the inventory reconciliation

1 Navigate to the Inventory screen.

2 Choose Reconciliation from the Show drop-down list.

The Inventory Reconciliation screen displays a summary inventory status for all products. The table displays quantities including starting quantity, current on-hand quantity, sales orders, returned goods, transfers, adjustments, and the variance.

3 Verify that the variance for each product is 0 (zero).

If the Variance field is not zero, the value should be equal to the value in the Adjustments field, representing the adjustment made at the beginning of the day.

Buttons and Status

Buttons on the screen are enabled or disabled based on the status of the order, the RMA, or the invoice. The status also affects whether line items and header information can be modified.

Order Line Items View Buttons

The Invoice and Print buttons in the Order Line Items view are enabled for the status shown in Table 23.

Table 23. Button Availability per Status in the Order Line Items View

Button	Pending	Open	Booked	Billed	Others
Invoice	✔	✔	✔		✔
Print			✔	✔	✔

The order header information and the line items are read-only when the Status is Booked or Billed.

RMA Line Items View Buttons

The Credit and Print buttons in the RMA Line Items view are enabled for the status shown in Table 24.

Table 24. Button Availability per Status in the RMA Line Items View

Button	Pending	Open	Booked	Billed	Others
Credit	✔	✔	✔		✔
Print			✔	✔	✔

The order header information and the line items are read-only when the Status is Booked or Billed.

Invoice Line Items View Buttons

The buttons in the Invoice Line Items view are enabled for the status shown in Table 25.

Table 25. Button Availability per Status in the Invoice Line Items View

Button	Open	Cancelled	Delivered	PP	Paid	Credited	Closed	User Defined
Delivery	✔				✔			
Cancel	✔							
Pay	✔	✔	✔	✔	✔		✔	✔
Print			✔	✔	✔	✔	✔	✔
Insert Payment Record	✔		✔	✔				✔

Button behavior is also affected by the invoice type and status, as shown in Table 26. Notice in the table that the Type and Status are related by the T/S column. For example, the Cancel button is enabled when the Type is Receivable OR when the Status is Open.

Table 26. Default Button Behavior for Invoice Line Items View

Button	Type	T/S	Status	Result
Delivery	Receivable Payable	AND	Open Paid	Button is enabled.
Cancel	Receivable	AND	Open	Button is enabled.
Pay	Payable	OR	Credited	Button is disabled.

Table 26. Default Button Behavior for Invoice Line Items View

Button	Type	T/S	Status	Result
Print	Receivable Payable		Open Cancelled	Button is disabled.
Insert Record	Payable	OR	Closed Cancelled Paid Credited	Button is disabled.

The invoice status and the amount due together determine the subsequent status when you tap the Pay button. There are two possible cases:

- The payment will make the Invoice Total Due zero.
- The payment will leave the Invoice Total Due greater than zero.

For example, if the status of an invoice is Open, and the payment will leave an amount due of zero, the next status is always Paid.

The complete set of such relationships is shown in Table 27.

Table 27. Invoice Status After Invoking the Pay Button

If Invoice Status Is . . .	and Invoice Total Due becomes . . .	Next Invoice Status is . . .
Delivered	**0.00**	Closed
Open		Paid
Partially Paid		Paid
User Defined		Closed
Delivered	**> 0.00**	Partially Paid
Open		Partially Paid
Partially Paid		Partially Paid
User Defined		Partially Paid

The Deliver button can be invoked from an invoice with a status of either Open or Paid. The subsequent status is shown in Table 28.

Table 28. Invoice Status After Invoking the Deliver Button

Invoice Status	Next Invoice Status
Open	Delivered
Paid	Closed

Troubleshooting A

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 130.

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 108.

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 109 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 109 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 152.

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:
  - Numusers = Server_Memory*threads_per_process_ratio/64 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 KB/56 KB/sec = 8928 seconds = 148 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.

Screens and Views B

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 eConsumer Goods Handheld sample application are shown in Table 29.

Table 29. Siebel eConsumer Goods Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools (cgce.cfg)
Inventory	My Inventory	CPG HH Van Inventory View - CE
	My Van Details	CPG HH Van Details View - CE
Cycle Counts	My Pending Cycle Counts	CG My Cycle Counts - CE
	Cycle Count Products	CG Part List CE
Outlet Visit	My Outlets Visit	CG Outlet Visit Activities List View CE
	Visit Activities	CG Outlet Visit Activities View - CE
Activities	No view name on UI	FS Activity Part Movements CE
	My Activities	SIS HH Activity List View - CE
Orders	My Sales Orders	CPG HH Order Entry - Order List View (Sales) CE
	Order Line Items	CPG HH Order Entry - Line Items View (Sales) CE
RMA	My RMAs	CPG HH Order Entry - All Orders View CE
	RMA Line Items	CPG HH Order Entry - Line Items View CE
Invoices	My Invoices	SIS HH My Invoices View - CE
	Invoice Line Items	SIS HH Invoice Line Item Details View - CE
	Invoice Payments	CG Invoice Payments View - CE
	Deposits	SIS HH Deposits View - CE
Calendar	Daily	SHCE Sales eCalendar Daily View - My

Table 29. Siebel eConsumer Goods Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools (cgce.cfg)
	Weekly	SHCE Sales eCalendar Weekly View - My
	No view name on UI	SHCE Sales Calendar Add/Modify View
Contacts	My Contacts	SHCE Sales Contact List View
Accounts	My Accounts	Account List View - CE
	Activities	SIS HH CG Account Detail - Activities View - CE
	Assets	SIS HH CG Account Asset Mgmt - Asset View - CE
	Profile	CG Retail Account Profile View - CE
	Agreements	SIS HH CG Account Agreement List View - CE
	Product Distribution	CPG Product Distribution View - CE
	Orders	CPG HH Account Orders View CE
	Assessments	CG Account Assessment View - CE
	Merchandising Location	CG Account Merchandising Location Product View - CE
	Credit Memos	CPG Account Credit Memo View - CE
	Invoices	CPG HH Account Invoices View CE
	RMAs	CPG HH Account RMAs View CE
	Addresses	SIS CG Accounts Addresses View - CE
	Private Notes	SIS CG Accounts Private Notes View - CE
	Shared Notes	SIS CG Accounts Shared Notes View - CE
Products	All Products	Product List View - CE
Routes	Route Accounts	CPG Route Account List View - CE

Table 29. Siebel eConsumer Goods Handheld Screens and Views

Screen	View Name on UI	View Name in Siebel Tools (cgce.cfg)
	My Routes	CPG Routes List View - CE
No screen name on UI	Note: This view does not have a name in the UI. This is a drill-down view.	CG Retail Audit List View - CE

Business Components and Classes C

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 30 lists the supported Business Components for Siebel eConsumer Handheld.

Table 30. eConsumer Goods Handheld Business Components

Supported Business Components
Account
Account Note
Account Private Note
Action
Asset Mgmt - Asset
CG FS Activity Parts Movement
CG Inventory Location
CG MerchLoc Product
CG Retail Product
Contact
CPG Account Credit Memo
CPG Account Merchandising Product

Table 30. eConsumer Goods Handheld Business Components

Supported Business Components
CPG HH Inventory Location CE
CPG Route Account
CPG Routes
CPG Store Conditions in Retail Audit
CPG Tax List
CS HH Deposits
CS HH FS Payments
CUT Address
Cycle Counting
Cycle Counting Execution
FS Asset Measurement Characteristics
FS Asset Reading
FS Bucket
FS Inventory Location
FS Invoice
FS Invoice Line Items
FS Invoice Line Item Details
FS InvLoc Product
FS Invoice Payments
FS Picklist Product
FS Product Inventory Category
FS Rollup Bucket Picklist
In Store Activity

Table 30. eConsumer Goods Handheld Business Components

Supported Business Components
In Store Visit
Internal Product
Order Entry - Line Items
Order Entry - Orders
Price List
Retail Audit Product
Retail Outlet Best Call Time
Sales Assessment
Sales Assessment Attributes
Sales Assessment Template
Sales Assessment Value
Service Agreement
SIS Document ID Number CE
SIS Document Type

Business Component Classes

NOTE: The business component classes for the handheld application are based on the classes for the Web Client. However, in most instances, because of the limitations of the handheld, only the subset of the class functionality that is required for the handheld is supported.

Table 31 lists the supported Business Component classes for Siebel eConsumer Handheld.

Table 31. eConsumer Goods Handheld Business Component Classes

Supported Business Component Classes
CSSBCActivityPartMvmt
CSSBCAccountSIS
CSSBCAgreement
CSSBCAssess
CSSBCAssessValue
CSSBCAssetReading
CSSBCAutoProduct
CSSBCBase
CSSBCCalAct
CSSBCCGActivityPartMvmt
CSSBCContactSIS
CSSBCCredMem
CSSBCCUTAgreement
CSSBCCYCInvLoc
CSSBCCGCyclCntExecution
CSSBCDivision
CSSBCDocId
CSSBCDocInvoice
CSSBCFINSActivity
CSSBCInStoreActivity
CSSBCInStoreVisit

Table 31. eConsumer Goods Handheld Business Component Classes

Supported Business Component Classes
CSSBCInvPay
CSSBCLineItem
CSSBCRetailProduct
CSSBCRollupBucket
CSSBCRoute
CSSBCRouteAcct
CSSBCSHMAsset
CSSBusComp
CSSSIABCOrder

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 Consumer Goods Handheld application. Refer to Table 32 for the supported applet classes.

Table 32. Siebel eConsumer Goods Handheld Applet Classes

Supported Applet Classes
CSSFrame
CSSFrameAlarmList
CSSFrameBase
CSSFrameCECalAddModify
CSSFrameCEGridDay
CSSFrameCEGridWeek
CSSFrameCylCnt
CSSFrameCylCntExe
CSSFrameHHInvoice
CSSFrameHHOrder
CSSFrameList
CSSFrameListBase
CSSFrameListInStoreActivity
CSSFrameListInStoreVisit
CSSFrameListInvPay
CSSFrameListRetailAudit
CSSFramePopupCurrency

User Properties D

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

Global User Properties

The following user properties apply to all business components.

Table 33. 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 115 for more information.
HandheldSyncInsertMode	User property on a business component. When set to FailOnError, enables Extended Insert processing. See "Extended Insert Processing" on page 120 for more information.

Order Entry – Orders Business Component

Printing order documents uses multiple user properties in the Order Entry – Orders business component. The application follows a sequential logic that steps through each of the user properties.

Table 34. User Properties for the Order Entry – Orders Business Component

User Property	Values	Default Value	Description of Application Logic
Use Document Type Field	Y (Yes), N (No)	Y	When a user prints an order, the application checks the Use Document Type Field user property. If the user property is set to N, the other user properties are ignored and the document is printed.
Document Type Field	User-defined field	Order Type	If Use Document Type Field is set to Y (Yes), then the application checks the value of Document Type Field which specifies a field in the business component.
Document Type LOV Type	User-defined pick list type value in List of Values Type = FS_ORDER_TYPE.	FS_ORDER_TYPE	The Document Type LOV Type user property is a list of values for the Document Type Field. By default, it is a list of values for Order Type.

Table 34. User Properties for the Order Entry – Orders Business Component

User Property	Values	Default Value	Description of Application Logic
Document Type1	User-defined order type and user-defined document type.	Sales Order,Sales Order	Values for the user property are in the format: Order Type,Document Type. The application takes the values of the Use Document Type Field, Document Type Field, and Document Type LOV Type user properties and searches for the corresponding document type. Using the default values, if the Document Type LOV Type is of type "Sales Order," then Document Type1 user property is used and the "Sales Order" document is printed.
Document Type2	User-defined order type and user-defined document type.	RMA Return, RMA	Values for the user property are in the format: Order Type,Document Type. If the Document Type LOV Type is RMA Return, then the application searches for the Document Type1 user property. Since the Document Type LOV (equal to "RMA Return" in this instance) does not match the setting of Document Type1, the process searches Document Type2 user property for a match, and the RMA document is printed. In this instance, the print templates for a Sales Order and RMA Return are identical; however, the document Ids that are generated differ for Sales Orders and RMA orders.

Table 34. User Properties for the Order Entry – Orders Business Component

User Property	Values	Default Value	Description of Application Logic
Fulfilled Order Status	User-defined. The values that are provided, by default, in the application are Billed and Booked.	Billed	When the order's status matches the value of the Fulfilled Order Status user property, then the order is considered fulfilled and no other invoices can be generated for that order. Once the Invoice button is tapped, the order status changes to the value of the Fulfilled Order Status user property. By default, the order status is changed to Billed.
ReadOnlyOrderStatus	User-defined. This can be multiple values, delimited by commas.	Billed	When the order status matches any of the values listed for this user property, the order becomes read-only, and the Invoice button is disabled.
Two Digit Currency Rounding	Y (Yes), N (No)	Y	If set to Y, the Invoice Amount is rounded off to two digits.

FS Invoice Business Component

Printing invoice documents uses multiple user properties in the FS Invoice business component. The application follows a sequential logic that steps through each of the user properties.

Table 35. User Properties for the FS Invoice Business Component

User Property	Values	Default Value	Description of Application Logic
Use Document Type Field	Y (Yes), N (No)	Y	When a user prints an order, the application checks the Use Document Type Field user property. If the user property is set to N, the other user properties are ignored and the document is printed.
Document Type Field	User-defined field	Type Code	If Use Document Type Field is set to Y (Yes), then the application checks the value of Document Type Field. Its value is one of the possible values in the Document Type LOV Type user property.
Document Type LOV Type	User-defined pick list type value in List of Values Type = FS_INVOICE_TYPE.	FS_INVOICE_TYPE	The Document Type LOV Type user property is a list of values for the Document Type Field. By default, it is a list of values for Invoice Type.

Table 35. User Properties for the FS Invoice Business Component

User Property	Values	Default Value	Description of Application Logic
Document Type1	User-defined invoice type and user-defined document type.	Invoice Type: French (France) Payable. Document Type: French (France) Credit Note French (France).	Values for the user property are in the format: Invoice Type,Document Type. The applicationtakes the values of the Use Document Type Field, Document Type Field, and Document Type LOV Type user properties and searches for the corresponding document type. Using the default values, if the Document Type LOV Type is of type "Payable," then Document Type1 user property is used and the Credit Note document is printed.
Document Type2	User-defined invoice type and user-defined document type.	Receivable,Invoice	Values for the user property are in the format: Invoice Type,Document Type. If the Document Type LOV Type is Receivable, then the application searches for the DocumentType2 user property and the Invoice document is printed. In this instance, the print templates for a Credit Note and an Invoice are identical; however, the generated document Ids differ for Credit Notes and Invoices.

FS Invoice Payments Business Component

Printing receipt documents uses multiple user properties in the FS Invoice Payments business component. The application follows a sequential logic that steps through each of the user properties.

Table 36. User Properties for the FS Invoice Payments Business Component

User Property	Values	Default Value	Description of Application Logic
Use Document Type Field	Y (Yes), N (No)	Y	When a user prints an order, the application checks the Use Document Type Field user property. If the user property is set to N, the other user properties are ignored and the document is printed.
Document Type	User-defined field payment type and user-defined document type	Receipt	If Use Document Type Field is set to Y (Yes), then the application prints the Receipt print template.
Credit Payment Inc Types	User-defined	Cash, Check, Credit Memo	When the value of the Payment Method field matches one of the value of the Credit Payment Inc Types user property, the Accounts Available Credit field is incremented by the value of the New Payment field in the Payment record.
Credit Payment Dec Types	User-defined	No default value	When the value of the Payment Method field matches one of the value of the Credit Payment Inc Types user property, the Accounts Available Credit field is decremented by the value of the New Payment field in the Payment record.

Print Tagging Language

E

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 238 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:	
	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:

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.

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

<TAG:Format Face="Helvetica" Size="18" Bold="TRUE" Align="Center">

-- Quotation --

<TAG:Format Face="Courier New" Size="14">
<TAG:Divider Weight="2">
<TAG:Applet Name="Quote Header">
<TAG:Divider>
<TAG:Applet Name="Order List">
<TAG:Divider>
<TAG:Applet Name="Order List"
<TAG:Divider Dash="TRUE">
<TAG:Applet Name="Order Total">
```

```
<TAG:Format Face="Helvetica" Size="12">
This quote provided based on information provided to Sales
Representative and is subject to change at any time. Some other
contractual language could go here, based on how the company designs
or customizes the document.<TAG:Divider Dash=TRUE">
```

The following is an example of what might get printed.

--QUOTATION--

Date	3/1/2001	Sales Rep	Mark Jewett
Quote #	12-44RLCZ	Effective From	3/1/2001
Revision #	1	Valid Through	3/15/2001

To:	Bill To:	Ship To:
XYZ Soda Company	Jim Jarvison	Jim Jarvison
123 Anywhere Street	123 Anywhere Street	123 Anywhere Street
Somewhere, AA 99999	Somewhere, AA 99999	Somewhere, AA 99999

Line	Product	Part #	Qty	UnitPrice	Line Price
1	Sizzle Word Processing	WP00011	25	$500.00	$12,500.00
2	Sizzle Spreadsheet	SP000012	25	$450.00	$11,250.00
3	Sizzle Page Layout	PL00013	10	$900.00	$9,000.00
4	One Year Service Agreement	SERVICE	1	$15,000.00	$15,000.00

Products	$32,750.00
Tax	$2,816.50
Services	$15,000.00
Total	$50,566.50

This quote provided based on information provided by Sales Representative and is subject to change at any time. Some other contractual language could go here, based on how the company designs or customizes the document.

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
```

Print Configuration Settings F

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 218.

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 228.

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 37.) 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 37. 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 38.)

Table 38. 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 39.) For the printers supported in this release, always set PrinterCompressed to 1.

Table 39. 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 40.) For the printers supported in this release, PrinterDither should always be set to 0.

Table 40. Print Dithering

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

PrinterDraftMode

Use PrinterDraftMode to specify the quality of the printing. (See Table 41.) For the printers supported in this release, PrinterDraftMode should always be set to 0.

Table 41. 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 42.) 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 42. 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 43.) 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 43. 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 44.) Not all printers can print in landscape orientation. Therefore, you will need to check the specifications for your printer.

Table 44. 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 45.)

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

Table 45. 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 45. 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 46 for the list of supported printers.

Table 46. 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
```

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