

Peregrine

ServiceCenter

ReportCenter

Release 6

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Introducing ReportCenter

ReportCenter is a Microsoft Windows application that allows you to generate graphical reports from ServiceCenter data. The report engine ships with a variety of useful reports that the user can expand through the addition of new reports to the report library. The report engine uses the Crystal Decisions Crystal Reports format and can print any report generated with that package.

ReportCenter can use other databases as well. You do not need to have ServiceCenter installed to use ReportCenter. The following table shows you where in this guide to find the information you need.

This section	Provides information about
<i>Chapter 1, Installing and Using the ReportCenter Client</i>	procedures for installing the ReportCenter user components, starting the application, processing reports, and using command line parameters.
<i>Chapter 2, The ReportCenter Scheduler</i>	using the Scheduler, a background process that automatically updates and prints reports at scheduled intervals.
<i>Chapter 3, ReportCenter Installation for Administrators</i>	the ReportCenter organization and system requirements and outlines the procedures for a full ReportCenter installation.
<i>Chapter 4, The ReportCenter Administrator</i>	the process of updating the ReportCenter initialization file (<code>report.ini</code>) with ReportCenter Administrator.
<i>Chapter 5, Structure of the <code>report.ini</code> File</i>	the various elements that make up the ReportCenter initialization file.

This section	Provides information about
<i>Chapter 6, Creating and Editing Your Own Reports</i>	Crystal Reports commands and procedures for joining multiple tables to help you create your own reports.
<i>Appendix A, SQL Views</i>	SQL views and how to create them.
<i>Appendix B, Troubleshooting</i>	tips for finding and correcting problems with ReportCenter.
<i>Appendix C, Reports Packaged with ReportCenter</i>	out-of-box reports that come with ReportCenter.
<i>Glossary on page 115</i>	terms used in ReportCenter.

Knowledge requirements

ReportCenter users need a working knowledge of their ServiceCenter system. System Administrators using this guide must have a working knowledge of ServiceCenter applications and utilities and an understanding of Crystal Reports. Administrators installing this product must be familiar with their operating system and the client/server environment.

You can find more information in the following:

- For information about a particular platform, see the appropriate platform documentation.
- For database configuration information, refer to the *Database* online help topics within the *Concepts*, *Tasks*, and *Reference* sections of *Administering ServiceCenter*.
- For information about using ServiceCenter, customizing your environment using parameters, administration and configuration, go to the *ServiceCenter* online help.
- For copies of the guides, download PDF versions from the CenterPoint web site using the Adobe Acrobat Reader, which is also available on the CenterPoint Web Site. You can also order printed copies of the documentation through your Peregrine Systems sales representative.

Examples

The sample windows and the examples included in this guide are for illustration only, and may differ from those at your site.

Need further assistance?

For further information and assistance with this release, you can download documentation or schedule training.

Customer Support

For further information and assistance, contact Peregrine Systems Customer Support at support.peregrine.com.

If the KnowledgeBase does not contain an article that addresses your concerns, you can search for information by product; search discussion forums; and search for product downloads.

Documentation Web site

For a complete listing of current ServiceCenter documentation, see the Documentation pages on the Peregrine Customer Support Web.

You can view PDF files, including release notes using Adobe Reader™, which is available at www.adobe.com.

Education Services Web site

Peregrine Systems offers classroom training anywhere in the world, as well as “at your desk” training via the Internet. For a complete listing of Peregrine’s training courses, see www.peregrine.com/education. You can also contact Peregrine Systems Education Services at +1 858.794.5009.

1 Installing and Using the ReportCenter Client

CHAPTER

ReportCenter is a flexible reporting application designed to meet a variety of reporting needs. This chapter describes how to use the ReportCenter client to display and print reports interactively using a graphical user interface (GUI) or using a command line.

Read this chapter for information about:

- *ReportCenter installation* on page 12
- *ReportCenter components* on page 13
- *Starting ReportCenter* on page 14
- *Command line parameters* on page 16
- *Modifying the way ReportCenter starts* on page 23
- *About the ReportCenter interface* on page 24
- *Processing reports* on page 28

ReportCenter installation

Because of its flexibility, ReportCenter requires a certain amount of customization at any specific site before it functions properly.

You can install ReportCenter with the basic ServiceCenter installation. If you do not install ReportCenter when you install ServiceCenter, you can install ReportCenter separately using the instructions for a custom installation in the *Installation Guide*. Read the next section, *Special considerations*, before you begin an installation.

Special considerations

Before you install a client, your system administrator must complete a network installation to install the shared components on the file server. Client installations access these shared components.

ReportCenter supports Crystal Reports Professional, Developer, or Advanced Full Product version 9.x. You can use different Crystal Reports versions to create and edit reports that ReportCenter uses. They cannot all reside on the same workstation because of potential .dll conflicts. If you have multiple Crystal Reports versions, you must install them on separate workstations.

In general, you cannot install a newer version of Crystal than the version that ReportCenter uses without causing problems by overwriting .dll files. ReportCenter 4.x and 5.x use Crystal 8.0. However, in many cases it is possible to install a newer version of Crystal Reports Professional because it does not replace the main .dll file (crpe32.dll) on the user's system.

ReportCenter components

The following table describes ReportCenter components.

Component	Description	Installation Location
ReportCenter Client application	Manages the display and printing of reports	Client machine
ReportCenter Administrator application	Allows the system administrator to add, update, or delete reports from the list of available reports and servers	A workstation that is not accessible by the client machines
ServiceCenter ODBC driver	Allows users to report directly from the ServiceCenter P4 database using Crystal Reports	Client machine
ReportCenter Scheduler application	A background process that automatically updates and prints reports at scheduled times or intervals and includes an interface for maintaining the schedule	Client machine
Crystal Reports report engine	Supports the activities of the ReportCenter application	Client machine. For more information, see <i>Special considerations</i> on page 12.
Shared components (.rpt, .ini, .bmp, and .str files)	Includes predefined reports, the report.ini file, image files, and language files	Located on a file server in a network installation or on the client machine in a local installation

As a user, you need to have:

- The client application and Scheduler components installed.
- Access to the shared components.

This chapter contains information about the client installation of the user components. For more information, see *ReportCenter Installation for Administrators* on page 49.

Starting ReportCenter

By default, ReportCenter opens in interactive mode. If you use the command line, however, you can specify parameters to bypass the GUI or you can use the command line to invoke the ReportCenter GUI.

You can start the ReportCenter client using any of the following methods:

- Selecting the Windows Start menu
- Clicking the ServiceCenter icon group
- Clicking a desktop shortcut

Starting ReportCenter from the Windows Start menu

Start ReportCenter from the Windows Start menu if you have not specified command line parameters to modify the way ReportCenter starts. For more information, see *Command line parameters* on page 16.

To start the ReportCenter client from the Windows Start menu

- ▶ From the Windows taskbar, click **Start > Programs > Peregrine ServiceCenter > ReportCenter Client**.

If the ServiceCenter server is running, ReportCenter automatically logs on to the server.

Starting ReportCenter from the ServiceCenter icon group

The ServiceCenter icon group appears on your screen after you install ReportCenter or ServiceCenter.



When you start ReportCenter from the icon group, you can use any command line parameters specified in the shortcut properties for the icon. For more information, see *Command line parameters* on page 16.

To display the icon group and start ReportCenter

- 1 On the taskbar, right click the Start button.
 - 2 Click **Open All Users**.
 - 3 Double-click **Programs > Peregrine ServiceCenter > ReportCenter Client**.
- If the ServiceCenter server is running, ReportCenter automatically logs in to the server.

Starting ReportCenter from a desktop shortcut

You can create a shortcut icon on your desktop, then start ReportCenter from that icon. When you start ReportCenter from the shortcut icon, you can use any command line parameters specified in the shortcut properties for the icon. For more information, see *Command line parameters* on page 16.

To create a shortcut for ReportCenter

- 1 Use Windows Explorer to navigate to the `c:\program files\servicecenter\rptctr` folder.
- 2 Right-click on the `report.exe` file.
- 3 Click **Create Shortcut**.
- 4 Drag the shortcut to your desktop.

To start ReportCenter from the shortcut

- ▶ Double-click the shortcut icon on the desktop.

If the ServiceCenter server is running, ReportCenter automatically logs on to the server.

Command line parameters

Command line parameters affect what happens when ReportCenter starts. You can use command line parameters to specify a particular report to print, indicate an output destination, or access a particular server.

Use ReportCenter command line parameters as follows:

- To save the parameters with the program icon so that you can reuse them, add the command line parameters to the ReportCenter client icon properties.

You can add parameters to either the icon in the ServiceCenter icon group or a shortcut on your desktop. For more information, see *Starting ReportCenter from the ServiceCenter icon group* on page 15 and *Modifying the way ReportCenter starts* on page 23.

- To specify command line parameters for a single use, use the Windows Run command. From the Windows Start menu, click **Run**, then type the ReportCenter command.
- To run a report automatically at a specified time or interval, add the command line to the ReportCenter Scheduler.

You must parse ReportCenter command line parameters from left to right. Parameters are always in the format: `-? {value}`. For example:

`-dest screen`

The exception to this rule is the `-s` parameter, which does not accept a value. If a value includes a space, enclose it in quotation marks so that the parser does not interpret it as multiple tokens. Single word values do not require quotation marks. For more information, see [Sample command](#) on page 22.

The tables in the following sections list the available command line parameters, separated into these categories:

General parameters	Parameters with various functions.
Output destination parameters	Parameters to specify the output destination for reports.
Export file format parameters	Parameters to specify the appropriate file format when exporting reports.

General parameters

This table lists the general command line parameters. For more information, see [Output destination parameters](#) on page 18 and [Export file format parameters](#) on page 19.

Parameter Description	Syntax	Usage
Specify reports to print	<code>-rpt <report name> <parameter1>... <parameterN></code>	Requires the name of the report for each report you want to print. Type the report name, and optionally, type a list of parameters for the report.
Specify the .ini file to use	<code>-i <file name></code>	Specifies the .ini file for ReportCenter to use. Typically, you use the default <code>report.ini</code> file located in your shared reports folder), but special circumstances can require you to use a different name or location for the .ini file.

Parameter Description	Syntax	Usage
Use silent mode	-s	Instructs ReportCenter to bypass the GUI and run in the background.
Specify server login information	-login <dsn> <user id> <password> <database>	<p>Example:</p> <pre>-login "sc_report_odbc" "falcon" "passwd"</pre> <p>Specifies the server login information that ReportCenter uses. Typically, you ignore this command line option and use the default login set up in your ReportCenter .ini file. When using the -login parameter, the <dsn> and <user id> parameter values are required. The <database> parameter value is not applicable if you are using a P4 system.</p>

Output destination parameters

The following table lists parameters you can use to specify the output destination for reports.

Parameter Description	Syntax	Usage
Output to screen	-dest 0	This parameter has no associated values. You cannot use this parameter if you are using the silent mode parameter.
Specify printer name if you do not want to use the default printer	-dest 1 <printer name>	<p>The <printer name> parameter value is the resource name of the printer where you send the output. If this is not specified, ReportCenter uses the default printer.</p> <p>Example: -dest 1 "\\server1\inkjet1"</p>
Export to file	-dest 2 <file name>	<p><file name> is a required parameter value. If you do not specify a file name, or the file name you specify is invalid, ReportCenter does not execute the report.</p> <p>Example: -dest 2 "c:\my reports\today.rpt"</p>

Parameter Description	Syntax	Usage
Export to MAPI mail	<code>-dest 3 <TO list> <CCList> <subject></code>	The <i><TO list></i> parameter value is the only required value. If this value is missing, ReportCenter does not execute the report. The <i><TO list></i> and <i><CC list></i> parameter values consist of valid e-mail addresses separated by semicolons. Example: <code>-dest 3 "jfalcon@peregrine.com; mmanager@peregrine.com" " " "today's report"</code>
Export to VIM mail (Lotus Notes)	<code>-dest 4 <TO list> <CC list> <subject></code>	The <i><TO list></i> parameter value is the only required value. If this value is missing, ReportCenter does not execute the report. The <i><TO list></i> and <i><CC list></i> parameter values consist of valid e-mail addresses separated by semi-colons. Example: <code>-dest 4 "jfalcon@peregrine.com; mmanager@peregrine.com" "hr@peregrine.com" "today's report"</code>
Export to Exchange folder	<code>-dest 5 <profile> <password> <folder path></code>	This saves the report to an Exchange folder. If you want to mail the file using Exchange, use the MAPI mail parameter previously described. All parameter values are required. Example: <code>-dest 5 "default profile" "pwd" "sent items"</code>

Export file format parameters

The following table lists the parameters you can use to specify the file format when exporting.

Parameter Description	Syntax	Usage
Export to a Crystal Reports format	<code>-fmt 0</code>	If no format is specified, this is the default format.
Export to character-separated value format	<code>-fmt 10 <string delimiter> <field delimiter></code>	Example: <code>-fmt 10 " , " ; "</code>
Export to plain text (ASCII) format	<code>-fmt 11</code>	

Parameter Description	Syntax	Usage
Export to tab-separated text format	-fmt 12	
Export to paginated text format	-fmt 13 <lines per page>	Example: -fmt 13 80 The <lines per page> parameter value is required. It specifies the number of lines to print before breaking to a new page.
Export to MS Excel 2.1 format	-fmt 17 <column headings> <constant column width>	Example: -fmt 17 true true Both parameter values are optional and default to True. The <column headings> parameter value determines whether the spreadsheet uses headers for each column of data. The <constant column width> parameter value determines whether the width of each column is uniform or varies based on the type of data. Values other than “true” or “t” are interpreted as False.
Export to MS Excel 3.0 format	-fmt 18 <column headings> <constant column width>	Example: -fmt 18 true true Both parameter values are optional and default to True. The <column headings> parameter value determines whether the spreadsheet uses headers for each column of data. The <constant column width> parameter value determines whether the width of each column is uniform or varies based on the type of data. Values other than “true” or “t” are interpreted as False.
Export to MS Excel 4.0 format	-fmt 19 <column headings> <constant column width>	Example: -fmt 19 true true Both parameter values are optional and default to True. The <column headings> parameter value determines whether the spreadsheet uses headers for each column of data. The <constant column width> parameter value determines whether the width of each column is uniform or varies based on the type of data. Values other than “true” or “t” are interpreted as False.
Export to MS Word for Windows format	-fmt 2	

Parameter Description	Syntax	Usage
Export to MS Excel 5.0 format (non-tabular)	<code>-fmt 20 <column headings> <constant column width></code>	<p>Example: <code>-fmt 20 true true</code></p> <p>Both parameter values are optional and default to True. The <code><column headings></code> parameter value determines whether the spreadsheet uses headers for each column of data. The <code><constant column width></code> parameter value determines whether the width of each column is uniform or varies based on the type of data. Values other than “true” or “t” are interpreted as False.</p>
Export to MS Excel 5.0 (tabular)	<code>-fmt 21 <column headings> <constant column width></code>	<p>Example: <code>-fmt 21 true true</code></p> <p>Both parameter values are optional and default to True. The <code><column headings></code> parameter value determines whether the spreadsheet uses headers for each column of data. The <code><constant column width></code> parameter value determines whether the width of each column is uniform or varies based on the type of data. Values other than “true” or “t” are interpreted as False.</p>
Export to ODBC data source	<code>-fmt 22 <dsn> <user id> <password> <table name></code>	<p>Example: <code>-fmt 22 “sc_report_odbc” “falcon” “passwd” “probsummary1”</code></p> <p>All parameter values are required.</p> <p>The <code><dsn></code> parameter is the data source name defined in your ODBC Administrator.</p> <p>The <code><user id></code> and <code><password></code> parameters are your login information (required, even if blank).</p> <p>The <code><table name></code> parameter is the name of the database table that these records append to. If you specify an invalid table name, the behavior of the export process varies depending on the database platform.</p>
Export to HTML 3.2 (standard)	<code>-fmt 24 <file name></code>	<p>Example: <code>-fmt 24 “c:\inetpub\report.htm”</code></p> <p>The <code><file name></code> parameter value specifies the name of the main HTML document to create. This is a required value.</p>

Parameter Description	Syntax	Usage
Export to HTML 3.2 (extended)	-fmt 25 <file name>	Example: -fmt 25 "c:\inetpub\report.htm" The <file name> parameter value specifies the name of the main HTML document to create. This is a required value.
Export to Acrobat (PDF)	-fmt 30	
Export to HTML 4.0 format	-fmt 31 <file name>	Example: -fmt 31 "c:\inetpub\report.htm" The <file name> parameter value specifies the name of the main HTML document to create. This is a required value.
Export to Report Definition	-fmt 32	
Export to XML	-fmt 33 <file name>	Example: -fmt 33 "c:\inetpub\report.htm" The <file name> parameter value specifies the name of the main XML document to create. This is a required value.
Export to record style format	-fmt 6	
Export to RTF format	-fmt 7	
Export to comma-separated value format	-fmt 8	
Export to tab-separated value format	-fmt 9	

Sample command

The following is a sample command:

```
"c:\program files\servicecenter\rptctr\report.exe" -i
"c:\program files\servicecenter\rptctr\report\report.ini" -s -rpt
"Changes Slated for This Week" -rpt "Tasks Under Change" -dest
"\\server\HP2000"
```

This command executes the following sequence of operations:

- Boots up and loads the report list detailed in
c:\program files\servicecenter\rptctr\report\report.ini.
- Runs in silent mode (without displaying the GUI).

- Prints the reports titled **Changes Slated for This Week** and **Tasks Under Change** to the HP 2000 printer.
- Closes.

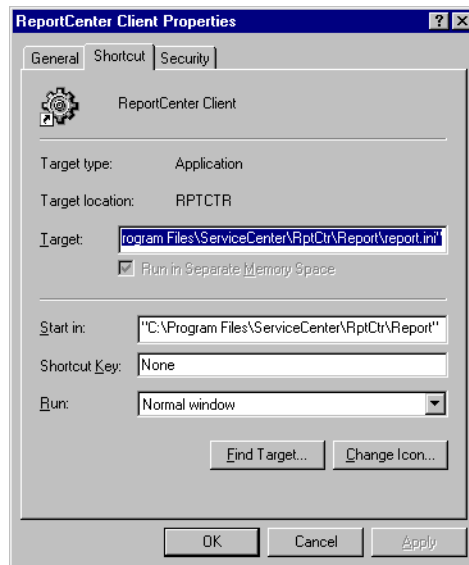
Modifying the way ReportCenter starts

You can add parameters to the ReportCenter icon to modify the way ReportCenter starts. For example, you can specify a particular report to run each time ReportCenter starts.

To specify icon parameters

- 1 Right-click on the ReportCenter Client icon and select Properties from the shortcut menu.

Tip: If you do not have a ReportCenter Client icon, you can create one by placing a shortcut on your desktop. For more information, see [Starting ReportCenter from a desktop shortcut](#) on page 16.
- 2 Select the **Shortcut** tab.
- 3 Add the parameters to the end of the path in the **Target** field. For more information, see [Command line parameters](#) on page 16.

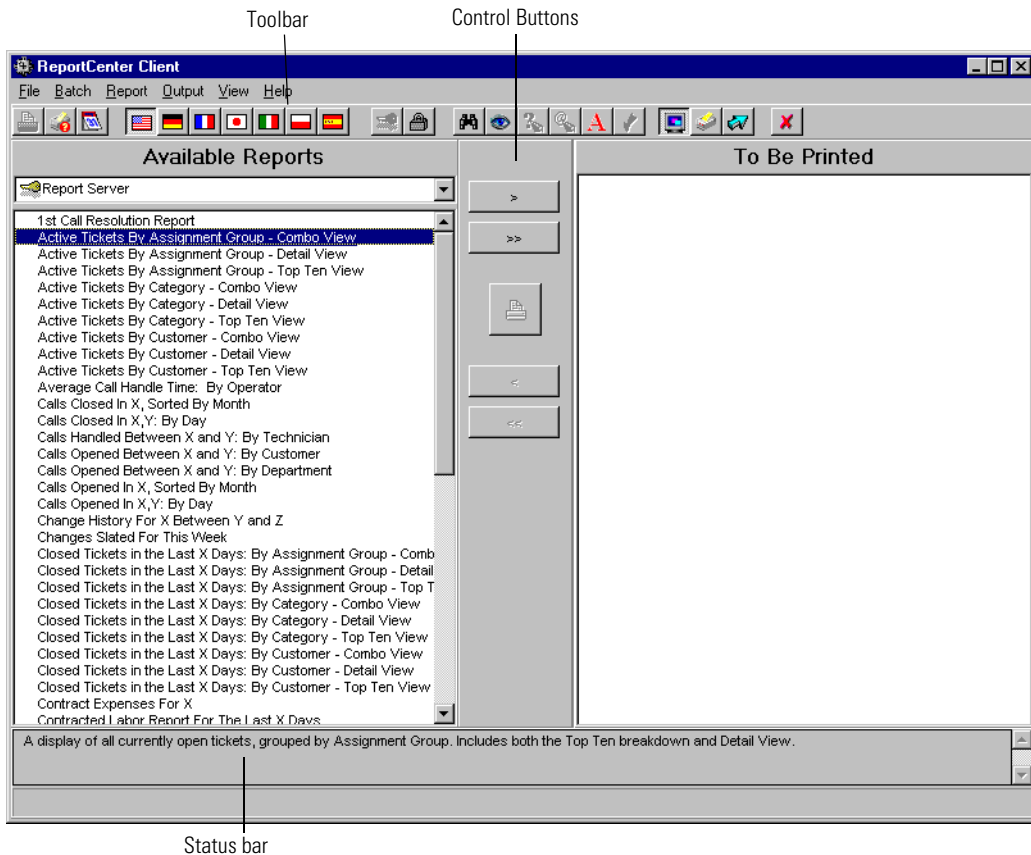


About the ReportCenter interface

The ReportCenter main window contains two lists.

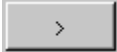



List	Description
Available Reports	Lists all reports included in the current <code>report.ini</code> file you loaded. Reports with a red X before the report name are missing from the database and are unavailable for printing.
To Be Printed	Lists all reports being prepared for printing.

A status bar at the bottom of the window provides information about the currently selected report.



Control buttons

The buttons located between the two lists allow you to print reports and move reports from one list to the other.







Button	Function
	Add
	Add All
	Remove
	Remove All

















The Print button opens a properly formatted report and begins the printing process. The Print button is active only when a report is in the To Be Printed list. For more information, see *Queuing reports to print* on page 29.

Toolbar buttons



The ReportCenter toolbar contains these buttons:

Toolbar Button	Name	Click this button to
	Print	Print all the reports in the To Be Printed list.
	Select Printer	Specify the printer and printer configuration settings you want to use.
	Schedule Print Job	Display the Schedule Editor, which you can use to schedule a print job.
	English	Change the GUI language for the current work session to American English.
	Francais	Change the GUI language for the current work session to standard French.
	Deutsch	Change the GUI language for the current work session to German.

Toolbar

Button	Name	Click this button to
	Italiano	Change the GUI language for the current work session to Italian.
	Japanese	Change the GUI language for the current work session to Japanese.
	Polski	Change the GUI language for the current work session to Polish.
	Espanol	Change the GUI language for the current work session to Spanish.
	Login to Server	Log on to the selected ServiceCenter server. Note: Depending on the login status, the server buttons might not be available.
	Logout of Server	Log off from the selected ServiceCenter server.
	Find Report	Display a dialog box in which you can enter key words to search for a report by report name, file name, or description.
	View Properties	Display information (such as file name and size) for the report currently selected in either the Available Reports list or the To Be Printed list.
	Set Parameters	Display a dialog box in which you can set or edit the parameters of the report selected in either the Available Reports list or the To Be Printed list. If the selected report does not have parameters, this button is unavailable. Note: This button is unavailable if there are no reports in the To Be Printed list.
	Edit Formulas	Display the Formula Editor. Note: This button is unavailable if there are no reports in the To Be Printed list.
	Change Font	Display the Font dialog box so you can change the font for reports printed in the current work session.
	Verify Database	Check for changes made in the database structure since the report was last edited.
	Print To Screen	Specify that any reports in the To Be Printed list are displayed on your screen when the print command is issued.
	Send To Printer	Specify that any reports in the To Be Printed list are sent to the currently selected printer when the print command is issued.

Toolbar

Button	Name	Click this button to
	Export To.	Specify that any reports in the To Be Printed list are exported to the designated location when the print command is issued.
	Exit	Exit ReportCenter.

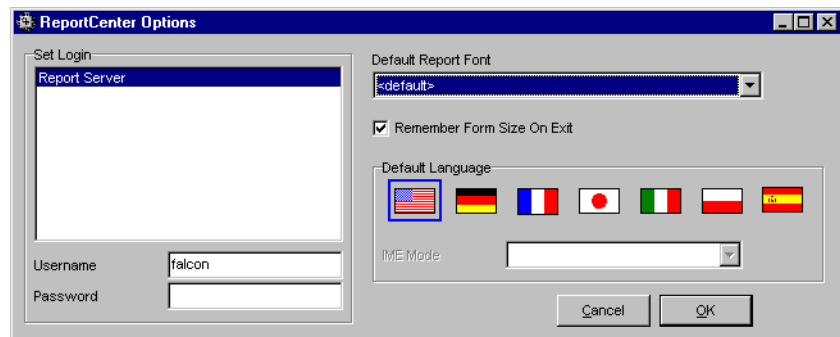
Setting ReportCenter default options

Using the toolbar buttons, you can change certain application options for the current work session. To save your changes for the current and future work sessions, you can specify the following default settings:

- Login parameters (user name and password)
- Report font
- Option to have ReportCenter remember the size of the main ReportCenter window the next time you log in
- The default language

To specify Program Options

- 1 From the **File** menu, select **Program Options** to open the Options dialog box.



2 Specify the program options as follows:

For this field...	Do this...
Set Login	From the list of servers, select the server you want to use. Then, specify your user name and password for that server.
Default Report Font	Select a font from the list. ReportCenter uses this font as the default for all reports. You cannot modify the font size and type (such as bold and italic).
Remember Form Size On Exit	Select this check box if you want ReportCenter to remember the size of your ReportCenter main window. The next time you log into ReportCenter, the window opens at its last size. Clear this check box if you do not want ReportCenter to remember the window size.
Default Language	Click on the flag that represents the language you want to use as the default in ReportCenter. The IME Mode option is available with the Japanese language only.

3 Click OK to save your program options.

Processing reports

The processing report tasks include the following:

- Queuing reports to print
- Updating a report
- Specifying parameter values for a report
- Previewing a report
- Printing a report
- Selecting a printer
- Exporting a report

Queuing reports to print

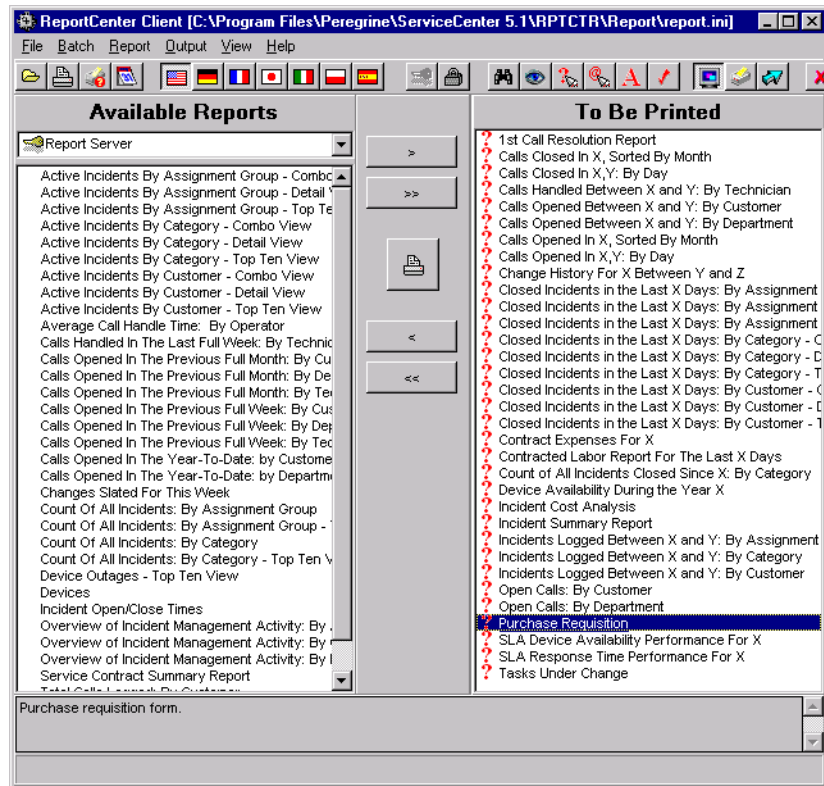
To prepare a report for printing, you must move it from the Available Reports list to the To Be Printed list in the ReportCenter main window using one of these methods:



- Click on the report and drag it to the To Be Printed list.
- Select the report, then click the Add (>) button.
- Double-click the report in the Available Reports list.

Specifying report parameters

ReportCenter has a number of reports that require variable information before they can print successfully. When you select them from the list of available reports to be printed, they contain a red question mark.



A black question mark indicates that the report has one or more parameters but the parameters either have default values set or you already supplied the values for the parameters. If there is no indicator, the report has no parameters and needs no further information prior to printing.

Note: ReportCenter ignores any report with a red question mark when you send a Print command.

To specify parameters for a report

1 Do one of the following:

- Double-click the report name in the **To Be Printed** list.



- Select the report in the **To Be Printed** list and click the **Set Parameters** toolbar button.

Note: This button is unavailable if the report does not require parameters to be set.

The Set Report Parameters dialog box displays a drop-down parameter list and a drop-down value list where you can select a value, or you can type a value in the text box.

Set Report Parameters

Parameter Fields:
OrderNumber

Print a PR form for which order number?

Value: []

OK Cancel

- Follow the prompts in the dialog box to specify the report parameters. Click **Next** after specifying each parameter to advance to the next parameter. Click **Finished** after specifying the last parameter.

Note: If you do not enter a value for a parameter, ReportCenter uses the default value. Enter dates using your Windows default format.

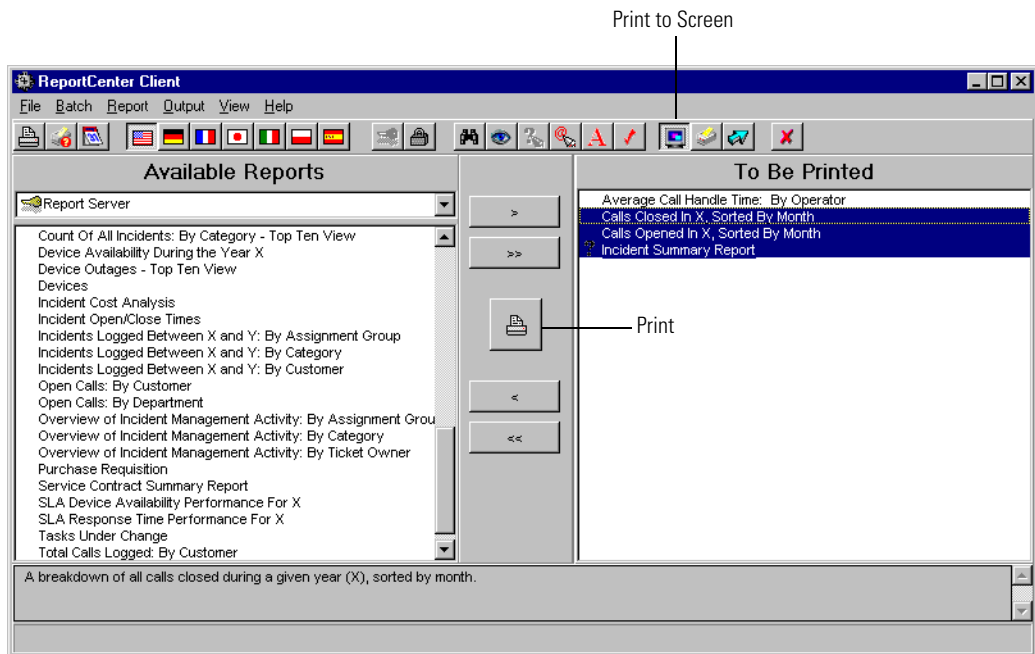
The updated report displays a black question mark, indicating that it is ready to print.

Previewing reports

you can preview a report by printing it to the screen before you send it to a printer.

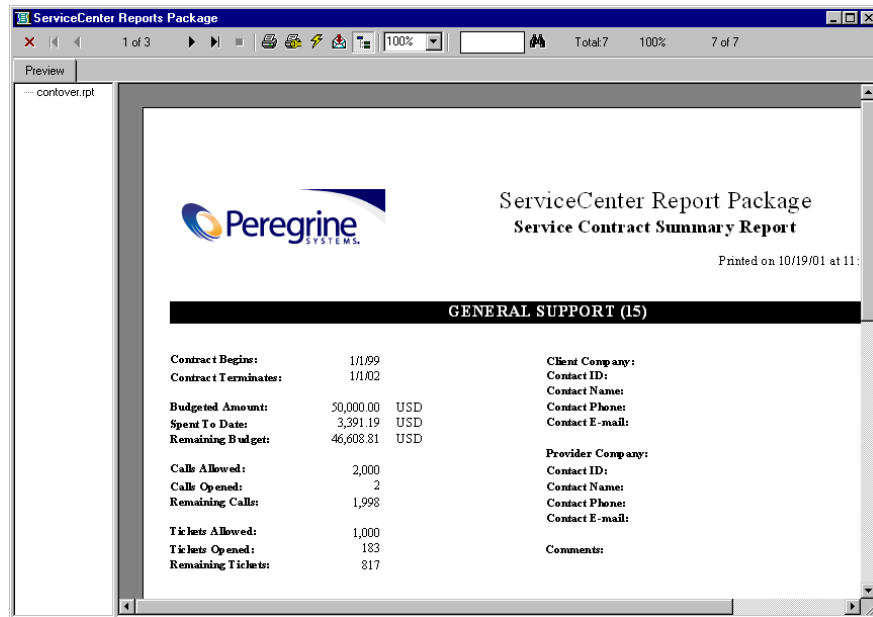
To preview a report prior to printing

- Move the report to the **To Be Printed** list.



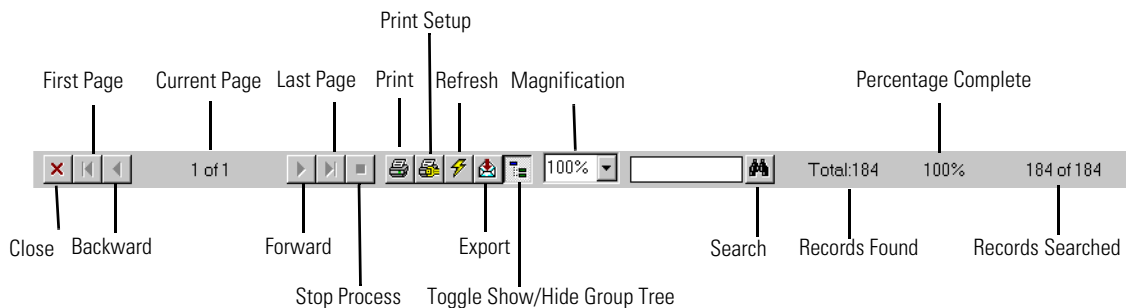
- Click the **Print to Screen** button in the Toolbar.
- Click the **Print** button. The requested report opens in the ServiceCenter Reports Package window.

Note: If there is more than one report in the To Be Printed list, ReportCenter displays a window for each in a cascade on your screen.



About the Report Package window

You can print, export, or mail reports from the Report Package window using the buttons on the toolbar.



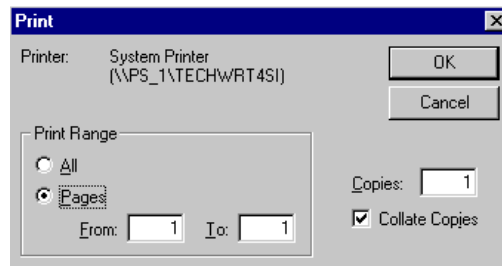
- The Current Page indicator (1 of 1 in the example) tracks the pages in your report.
- To move through the report, use the directional buttons on either side of the page counter.

- Select the magnification value appropriate for your screen from the drop-down menu.
- The counters to the right of the control buttons reflect the progress in opening your report. **Total** displays the number of matching records accessed to construct the report. The percentage value indicates the successful completion of the process. The last number on the bar indicates the number of records searched.
- The group tree for the report opens to the left of the report. Click on an entry in the tree to navigate to that part of the report. You can hide this display by clicking the Group Tree button on the toolbar.
- Use the Refresh button to refresh the data displayed in the report.
- You can drill down into the report data to see more detailed information. Refer to your Crystal Reports documentation for information about drill-down functionality.

Printing a report from the Reports Package window

To print a report from the Reports Package window

- 1 In the Reports Package toolbar, click **Print** to open the Print dialog box.

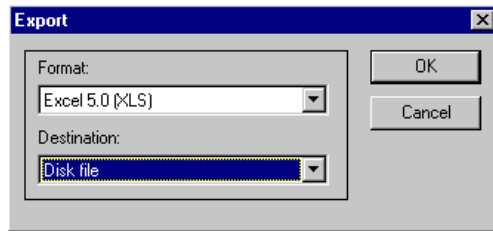


- 2 Select the page range and the number of copies you want to print.
- 3 Click **OK**.

Exporting a report from the Reports Package window

to export a report to another application (including e-mail programs)

- 1 In the Reports Package toolbar, click **Export** to open the Export dialog box.



- 2 Select a format and the destination for the report.
- 3 Click **OK**.
- 4 Follow the dialog boxes that open to complete the export.

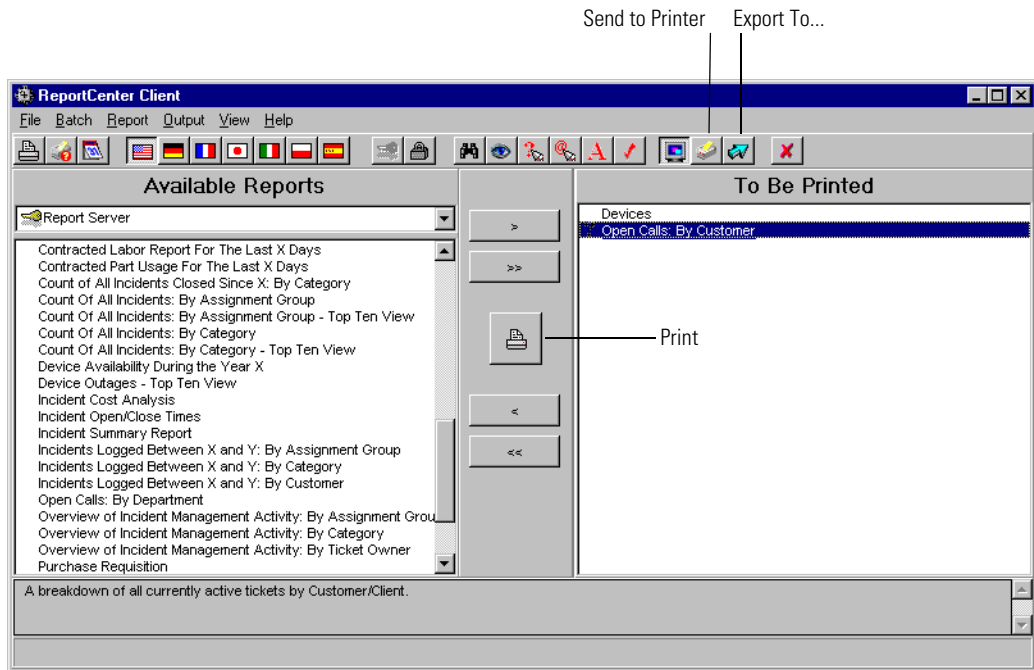
Printing a report from the main window

You can print a report from the main window or from the Reports Package window. This section describes how to print from the main window. For more information, see *Printing a report from the Reports Package window* on page 33.

To print from the main window

- 1 Move the reports you want to print from the **Available Reports** list to the **To Be Printed** list.
- 2 Click the **Send to Printer** button on the toolbar, or select **Send to Printer** from the **Output** menu. This indicates that you want to print the reports rather than export them or display them on the screen.

3 Click Print.



Exporting a report from the main window

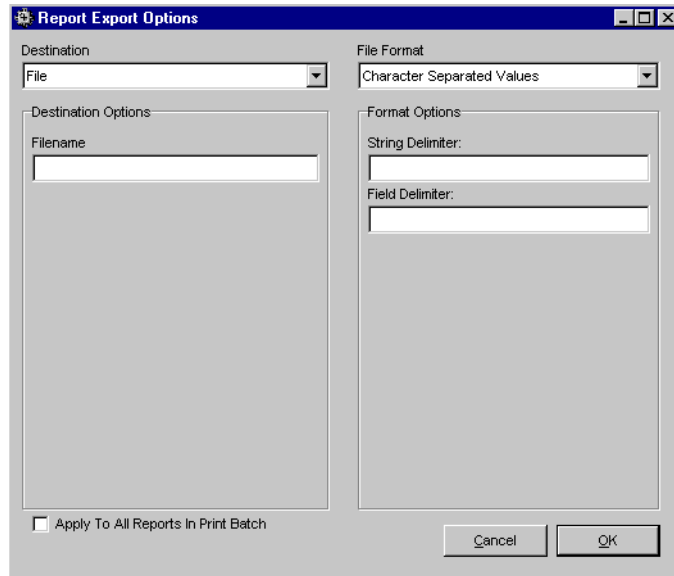
You can export a report to a specific destination and format (for example, Microsoft Excel, an HTML file, or Microsoft Word for Windows). You can export a report from the ReportCenter main window or from the Reports Package window.

This section describes how to export a report from the main window. For more information, see *Exporting a report from the Reports Package window* on page 34.

To export a report to another destination or format from the main window

- 1 Move the report you want to print from the Available Reports list to the To Be Printed list.
- 2 Click Export To on the toolbar.

- 3 Click **Print** to open the Report Export Options dialog box.



- 4 From the **Destination** list, select the destination for the report.
- 5 Under **Destination Options**, specify the appropriate information for each field displayed.

Note: The fields displayed in the **Destination Options** section vary depending on the destination you selected.
- 6 In the **File Format** field, select the format for the report (for example, HTML, Microsoft Excel, or Rich Text File).
- 7 Under **Format Options**, specify the appropriate information for the format you selected.

Note: The fields displayed in the **Format Options** section vary depending on the file format you selected. Many formats do not have format options.
- 8 Select the **Apply To All Reports In Print Batch** check box if you are exporting multiple reports.

This applies to all format options you entered for all reports in the **To Be Printed** list. The file names numerically increment as the reports process.
- 9 Click **OK**. A message indicates that the export is processing.

Changing printers

If you do not specify a particular printer, ReportCenter prints to the default system printer selected for your computer. If you want to change printers, go to the ReportCenter main window and do one of the following:



- Choose **Select Printer** from the **File** menu.
- Click the **Print Set-up** button in the toolbar.

Either action opens the standard Windows print setup dialog box. All subsequent reports print on the newly selected printer until you choose another printer or you exit ReportCenter.

2 The ReportCenter Scheduler

CHAPTER

This chapter describes the ReportCenter Scheduler, a background process that automatically updates and prints reports at scheduled intervals. It is available for Win32 platforms (Microsoft Windows NT, Windows 95, Windows 98, and Windows 2000) only.

Read this chapter for information about:

- *Using ReportCenter Scheduler* on page 40
- *Using the Schedule Editor* on page 42

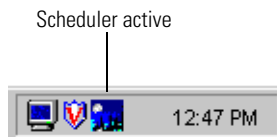
Using ReportCenter Scheduler

To start ReportCenter Scheduler

- ▶ On the Windows taskbar, click **Start >Programs > Peregrine ServiceCenter > ReportCenter Scheduler**.

Tip: If you place ReportCenter Scheduler shortcut in your Microsoft Windows Startup folder, Scheduler activates whenever you start Microsoft Windows.

Scheduler does not trigger reports if it is not active in memory. To verify that Scheduler is active in memory, look for the Scheduler icon in the Microsoft Windows system tray (this system tray opens in the bottom right corner of your screen). If the icon is present, Scheduler is active in memory.



Enabling and disabling Scheduler

ReportCenter Scheduler can run in an *enabled* or *disabled* mode. When first started, Scheduler runs in the enabled mode. In the disabled mode, Scheduler continues to track the current time, but does not execute any scheduled items.

To place ReportCenter Scheduler in the disabled mode

- ▶ From the Scheduler File menu, select **Disable**, indicated by the inactive icon.

To place ReportCenter Scheduler in the enabled mode

- ▶ From the Scheduler File menu, select **Enable**, indicated by the active icon.

Closing ReportCenter Scheduler

To close ReportCenter Scheduler

- 1 Do one of the following:
 - From the Scheduler File menu, choose **Shut Down**.
 - Click the window close button.A Warning message confirms that you want to close the scheduler.
- 2 Click **Yes** to close the scheduler.

Minimizing and maximizing ReportCenterScheduler

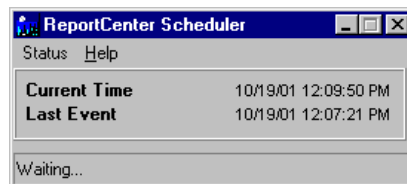
Minimizing ReportCenter Scheduler reduces the program display to an icon in the system tray.

To minimize ReportCenter Scheduler

- ▶ Click the minimize button in the upper right corner of the window. The Scheduler becomes either an *active* or *inactive* icon, depending on its state when minimized. For more information, see [Enabling and disabling Scheduler](#) on page 40.

To maximize ReportCenter Scheduler

- ▶ Double-click the Scheduler icon in the Microsoft Windows system tray. Scheduler returns to a full-size display.



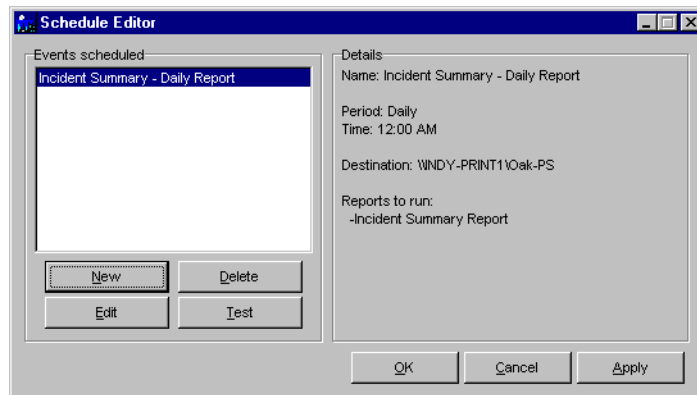
Using the Schedule Editor

Use the Schedule Editor dialog box to perform any of the following tasks:

- Add an entry to the Scheduler
- Modify a scheduled entry
- Test a scheduled entry
- Delete a scheduled entry

Opening the Schedule Editor

You can open the Schedule Editor dialog box from the Scheduler main window by choosing **Edit Items** from the Scheduler File menu.

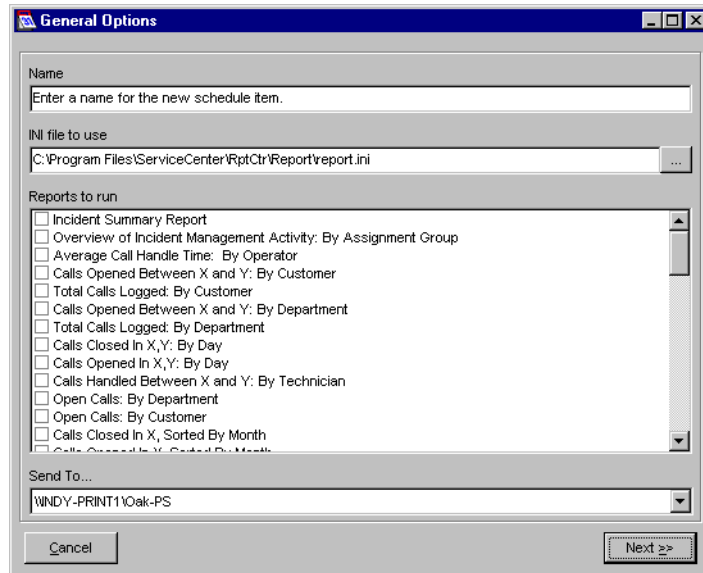


Adding an entry to the Scheduler

You can add one or more reports to a Scheduler entry. The reports can have different parameters, but they run at the same time and send to the same output destination.

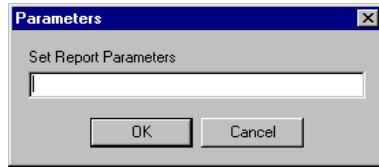
To add an entry to the Scheduler

- 1 In the Schedule Editor dialog box, click New to open the General Options dialog box.



- 2 Complete the following:
 - a In the **Name** text box, specify a descriptive name for the Scheduler entry.
 - b In the **INI file to use** text box, specify the path of the .ini file to use if different than the path displayed.
 - c Under **Reports to run**, select the check box next to the name of each report you want to add to the Scheduler entry.
 - d From the **Send To** list, select the output destination for the reports).

- 3 Click **Next** to open the Parameters dialog box.



- 4 Do one of the following:

- Type any parameters for the report in the Parameters dialog box, then click **OK**.

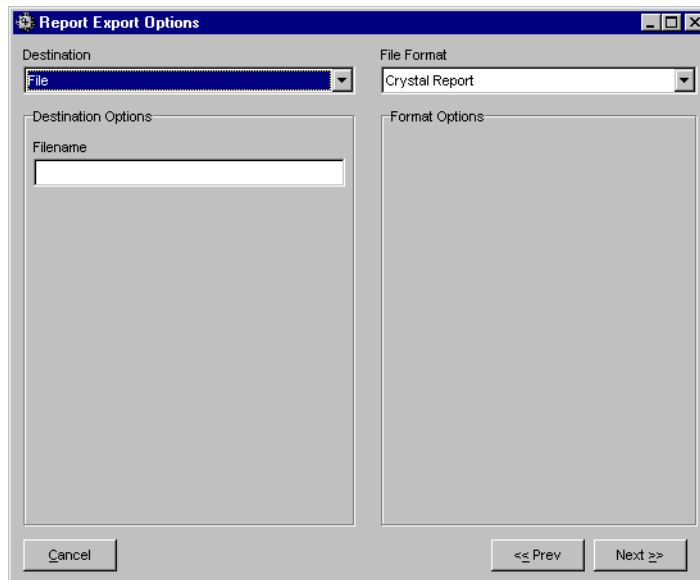
For more information, see *Command line parameters* on page 16.

Note: Separate parameters with spaces and place quotes around values that contain spaces.

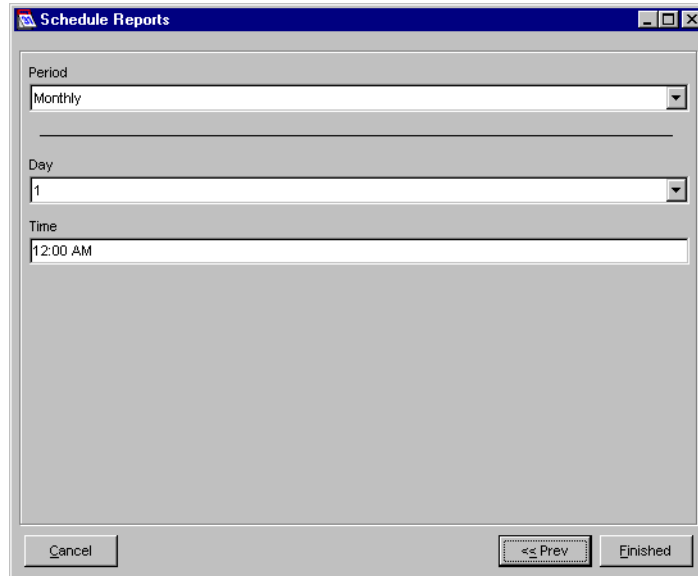
- If there are no parameters for the report, click **Cancel**.

Note: If you select multiple reports, the prompt requests parameters for each report.

- 5 If you specify **Export** in the **Send To** field of the General Options dialog box, continue with this step to open the Report Options dialog box. Otherwise, go to step 7.



- 6 Specify the export information, then click **Next** to open the Schedule Reports dialog box.



The screenshot shows a dialog box titled "Schedule Reports". It has a title bar with a small icon and standard window controls (minimize, maximize, close). The dialog contains three dropdown menus: "Period" with "Monthly" selected, "Day" with "1" selected, and "Time" with "12:00 AM" selected. At the bottom, there are three buttons: "Cancel", "<< Prev", and "Finished".

The fields in this dialog box vary depending on the destination option you select.

- 7 In the Schedule Reports dialog box, specify the time, date, and interval information for the report, then click **Finished**.

The fields vary depending on the period you select.

The new Scheduler entry is listed in the Schedule Editor dialog box, but is not saved until you click **Apply** or **OK**.

- 8 Test the new Scheduler entry to verify that it works. See the steps for testing a scheduler entry on page 46.
- 9 Do one of the following:
 - Click **Apply** to save your new entry and keep the Schedule Editor dialog box open.
 - Click **OK** to save your new entry and close the Schedule Editor dialog box.

A message confirms that your changes are saved.

- 10 Choose **OK**.

Testing a Scheduler entry

When you test a Scheduler entry, ReportCenter immediately processes the reports and sends them to the designated printer or other output destination.

Important: Test all new and changed entries before you save them. If you make changes to the settings without saving the changes, Scheduler attempts to run the program with the new settings.

To test a Scheduler entry

- 1 In the Schedule Editor dialog box, select the name of the entry to test.
- 2 Click **Test**.

A dialog box opens to indicate the command line being used. This is helpful if you need to troubleshoot the Scheduler entry.

- 3 Click **OK**.

Changing a scheduled event

To change a scheduled event

- 1 Open the Schedule Editor.
- 2 In the **Events scheduled** list, select the event that you want to change.
The current settings for the event are displayed under **Details**.
- 3 Click **Edit**.
- 4 In the General Options dialog box, make any changes to the event name, .ini file, reports, and output destination.
- 5 Click **Next**.
- 6 In the Parameters dialog box, modify the parameters for the report, then click **OK**.
Note: If the event contains multiple reports, the Parameters dialog box opens once for each report.
- 7 In the Schedule Reports dialog box, change the schedule options as needed.
- 8 Click **Finished** to save the changes and return to the Schedule Editor.
- 9 Click the **Test** button to test the changes to the event.

Important: Test all new and changed items before saving changes. If you make changes to the settings without saving the changes, Scheduler attempts to run the program with the new settings.

10 Choose one of the following to save your changes:

Note: Saved changes take effect immediately. Any programs scheduled to take place prior to the current time are launched immediately upon saving changes. Disable the Scheduler prior to saving changes. For more information, see *Enabling and disabling Scheduler* on page 40.

- Click **Apply** to save the updated scheduled event and keep the Schedule Editor open.
- Click **OK** to save the updated scheduled event and close the Schedule Editor.

11 Click **OK** when the Save confirmation prompt opens.

Deleting a Scheduled Event

To delete an event from Scheduler

- 1 In the Scheduler Editor dialog box, select the event to delete from the **Events scheduled** list.
- 2 Click **Delete**. A message confirms that you want to delete the event.
- 3 Click **Yes** to delete the event.

Warning: There is no *undo* function when deleting items.

3 ReportCenter Installation for Administrators

CHAPTER

This chapter describes the local or network-based installation of the ReportCenter Application for an administrator.

Read this chapter for information about:

- *ReportCenter components* on page 50
- *System requirements* on page 51
- *Deployment architectures* on page 51
- *Upgrading from earlier versions of ReportCenter* on page 52
- *About the ODBC driver* on page 54

ReportCenter components

ReportCenter has the following elements.

Component	Description	Installation Location
ReportCenter Client application	Manages the display and printing of reports	Client machine
Crystal Reports report engine	Supports the activities of the ReportCenter application	Client machine
ReportCenter Administrator application	Allows you to add, update, or delete reports from the list of available reports and servers	A workstation that is not accessible by the client machines
ServiceCenter ODBC driver	Allows users to report directly from the ServiceCenter P4 database using Crystal Reports	Client machine
ReportCenter Scheduler application	A background process that automatically updates and prints reports at scheduled times or intervals and includes an interface for maintaining the schedule	Client machine
Shared components (.rpt, .ini, .bmp, and .str files)	Includes predefined reports, the report.ini file, image files, and language files	Located on a file server in a network installation or on the client machine in a local installation

This chapter describes these types of installations.

Installation Type	Description
Local installation	All components are installed on the client machine.
Network installation	Shared components are installed on a file server. Later, the utility applications can be installed on the client machine using the Client installation type.

System requirements

- A Win32 client system (Windows NT, Windows 95, Windows 98, or Windows 2000).
- A connection to a ServiceCenter server (2.0 or higher) via TCP/IP or APPC.
- In order to install, configure, and test ReportCenter, an appropriate ODBC driver must be installed on each system that using the client application. Typically, this is the ServiceCenter (P4) ODBC driver, although in cases of shadowed data, an ODBC driver native to the shadowed platform is also acceptable.

If you are using the ServiceCenter P4 database, the ODBC driver automatically installs when you install ReportCenter. If you are using any other database, refer to that vendor's documentation for instructions for installing the appropriate ODBC driver.

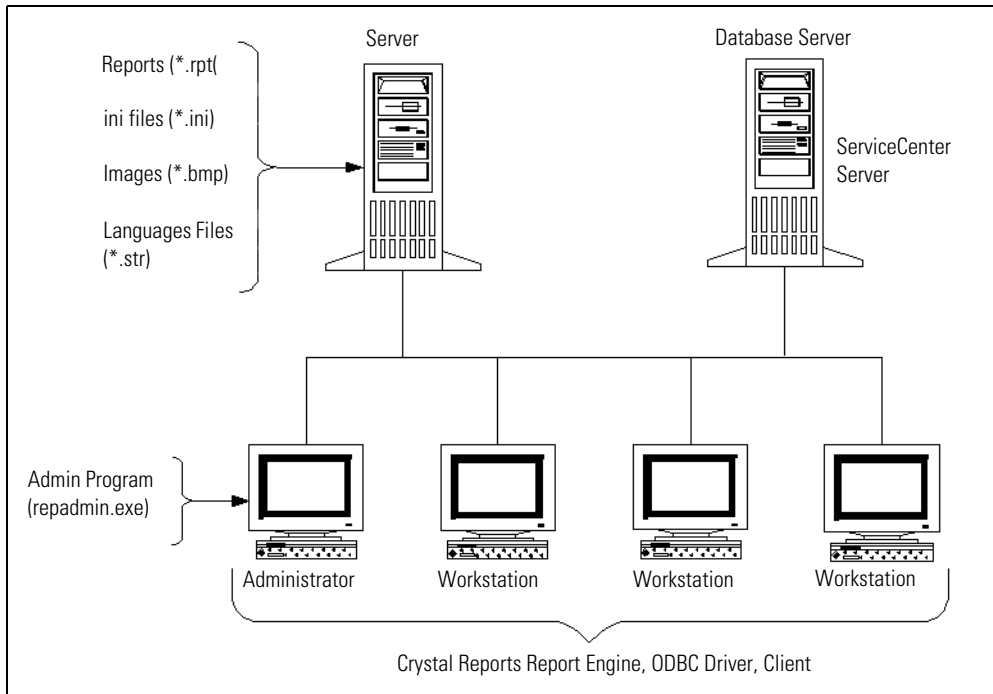
- If you plan to edit the ReportCenter reports or create new ones, you must have Crystal Reports Professional (recommended), Developer, or Advanced Full Product version 9.x on your system.
- You must configure an ODBC data source to point to your ServiceCenter server (use the same TCP/IP system/port that your client uses). The default data source is `sc_report_odbc`.

Deployment architectures

You can deploy ReportCenter in either a network or local installation. In a network installation, the .ini files and all report files are stored on a file server. Only the client, Scheduler, and the report engine are deployed on a client's desktop. In a local installation, each client has a stand-alone copy of the ReportCenter executable, the .ini file, and the report engine.

Each deployment system has its advantages. In a network installation, you can add new reports directly to the file server and update the .ini file once; this is not practical if your system uses a low bandwidth connection. In a local installation, your users manipulate their own collection of reports without impacting other users. This is also a beneficial setup if you have reports that are not relevant to all users or display sensitive information.

In most cases, a network installation is desirable. Report collections grow with use, and updating individual desktops becomes increasingly more involved. To maximize workstation performance, place the reports and .ini files on a network file server.



Upgrading from earlier versions of ReportCenter

If you are upgrading your system from an earlier version of ReportCenter, you must take certain steps to prepare for the process.

To prepare for a ReportCenter upgrade

- 1 Preserve the original dictionary files (unless you intend to discard all the old reports in favor of the new set).
- 2 Rename or back up any reports you modified or personalized.
- 3 Rename or back up the existing report.ini file and any other .ini files you used.

Dictionary files

ReportCenter version 1.0 reports are not ODBC compliant. Instead, they use a dictionary file system. The version 1.0 reports run in later ReportCenter versions, however, you need to retain the original dictionary files.

Note: The type of data source (ODBC or dictionary) for a report is in the report (.rpt) file itself and is distinct from the ReportCenter software.

A report using dictionary files automatically searches for these files along the path that was established when the report was created. If you plan to use dictionary-driven reports, make sure the original path to the files (*.dc5) remains the same.

Modified reports

If you modified any ReportCenter reports, you must rename them or back them up prior to installation so that the new reports do not overwrite them. The new reports contain bug fixes and increased query efficiency, but any modifications you made to your current reports are lost.

If you are upgrading from version 1.0, you must decide whether to use the old, dictionary versions of your reports or take the time to edit the new ODBC versions to suit your needs.

Important: Back up all report (.rpt) files prior to installing the new version of ReportCenter. If you forget some of the updates you made to the installed reports, you lose your modifications when the installation overwrites the old reports.

The report.ini file

The installation procedure overwrites your .ini (report.ini) file with a new one. If you altered this file from the default settings, rename the old .ini file prior to installing ReportCenter. After installation, you can use the ReportCenter Administrator to merge new and old .ini files. For more information, see *Merging two .ini files* on page 64.

About the ODBC driver

ServiceCenter provides an ODBC driver that allows users to generate reports directly from data in the P4 database. The driver, which is installed automatically with the ServiceCenter installation, can also be installed separately.

The ODBC driver, essential to the operation of ReportCenter, requires two components:

- Microsoft Windows ODBC Administrator, installed with your operating system.
- ServiceCenter ODBC driver, installed with ServiceCenter or ReportCenter.

For more information about the ServiceCenter ODBC driver, creating a data source, changing the location of a data source, and troubleshooting, refer to the *Database* online help topics within the *Concepts*, *Tasks*, and *Reference* sections of *Administering ServiceCenter*.

4 The ReportCenter Administrator

CHAPTER

This chapter describes the ReportCenter Administrator, an application that simplifies the process of updating the ReportCenter initialization (`report.ini`) file.

Read this chapter for information about:

- *Using the ReportCenter .ini file* on page 56
- *Starting ReportCenter Administrator* on page 57
- *Opening the .ini file* on page 58
- *The Administrator main window* on page 59
- *Merging two .ini files* on page 64
- *Editing report parameters* on page 65
- *Modifying the lists* on page 68

Using the ReportCenter .ini file

The ReportCenter .ini file specifies the lists of reports and servers that are available when that .ini file is loaded.

From the ReportCenter Administrator main window, you can perform the following tasks:

- Open an .ini file to view or update
- Merge another .ini file with one that is already open
- Add or delete reports from the .ini file
- Add a server
- Change the parameters for a selected report
- Display a list of reports that match the report name, file name, and description criteria you specify

When configuring ReportCenter, use Administrator to change servers and verify the file names of reports in your system. Install ReportCenter Administrator in a location where it is *not* accessible to the end user.

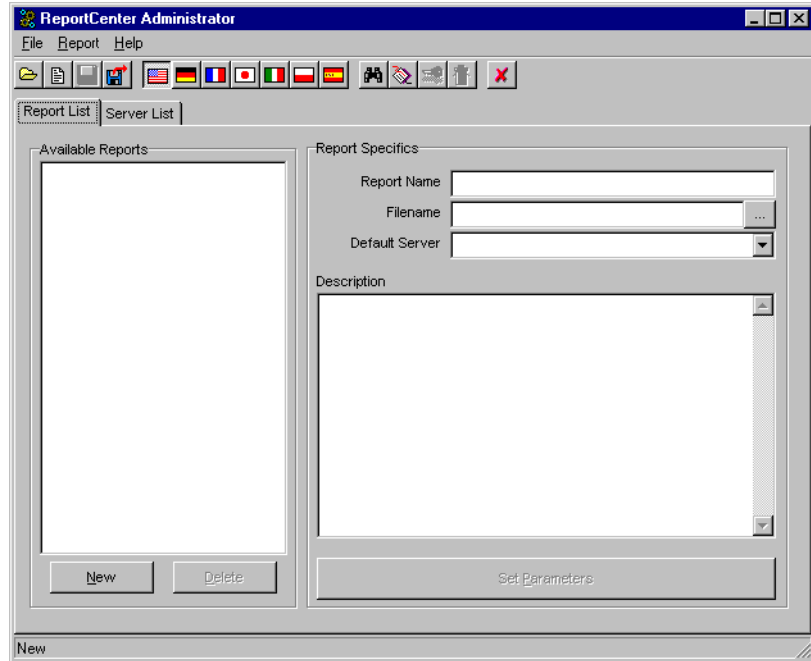
Important: To avoid formatting errors, use ReportCenter Administrator rather than a text editor to modify the .ini file. If you make a formatting error when manually modifying the file, ReportCenter ignores that block of the file.

Note: To work properly, the report.ini file must be in the same location as the ReportCenter shared components. In a network installation, this is the location you choose on your file server.

Starting ReportCenter Administrator

To start the ReportCenter Administrator

- 1 On the taskbar, click **Start > Programs > Peregrine ServiceCenter > ReportCenter Administrator** to open the ReportCenter Administrator.

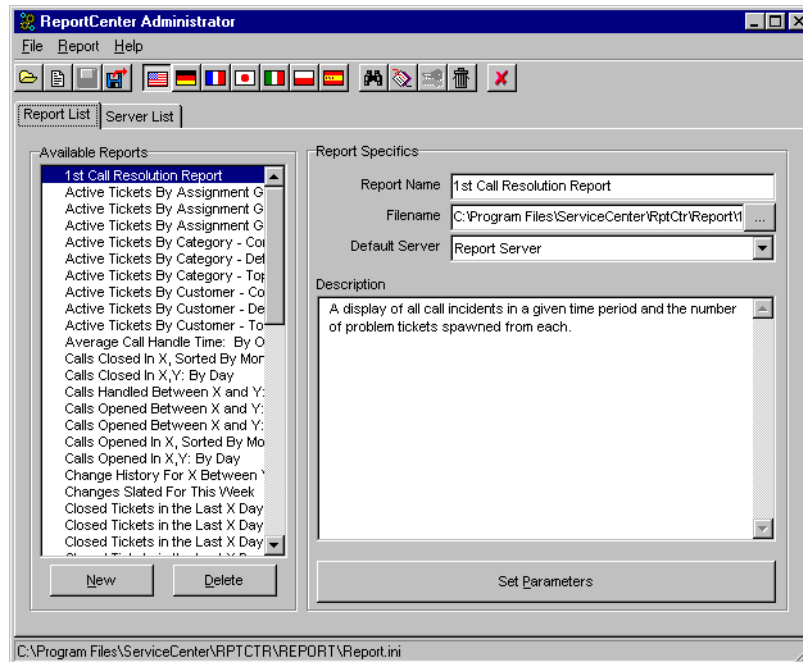


- 2 Enter data manually or open an existing a .ini file.

Opening the .ini file

To open the .ini file

- 1 From the Administrator main window, click **File > Open**.
- 2 Select the .ini file to open.
Note: Do not select *rcsch.ini*. This is the Scheduler configuration file, rather than the ReportCenter .ini file.
- 3 Click **Open** to view the list of available reports under the **Report List** tab.

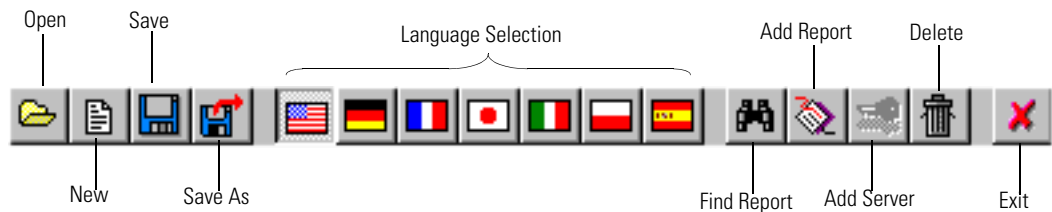


The Administrator main window

Once the .ini file is opened, the main ReportCenter Administrator window contains a list of all reports available for processing. It also displays data specific to the selected report, and information about the servers available to you.

The Administrator toolbar

The Administrator toolbar contains these buttons.



The Report List tab

The Report List tab has two structures:

- **Available Reports**—A list of reports in the .ini file with which you are working.
- **Report Specifics**—Detailed information about the currently selected report.

Report List buttons

The following table describes the buttons on the Report List tab.

Button	Action
New	Clears the form and allows you to choose a new .ini file.
Delete	Allows you to delete a report from the Available Reports list.
Set Parameters	Displays parameter information for the currently selected report and allows you to edit parameters.

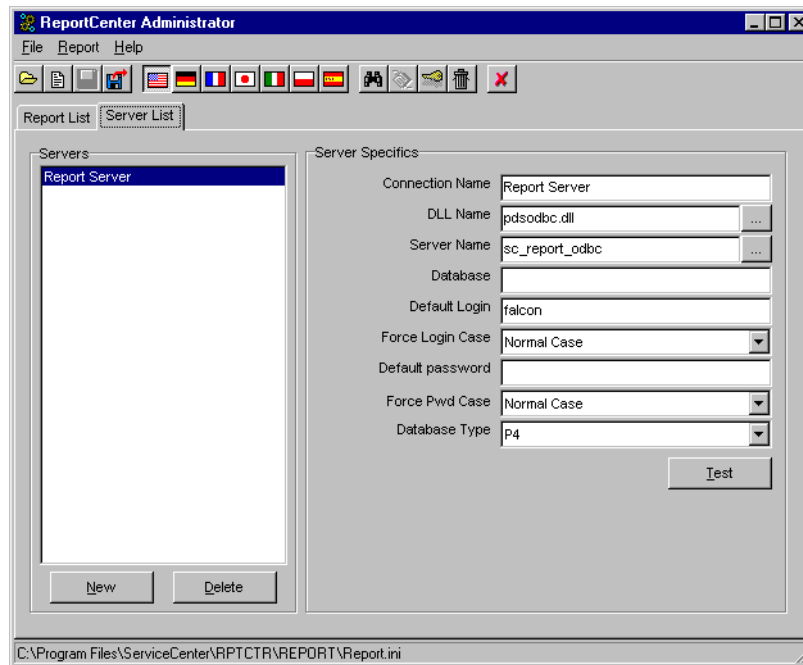
Report Specifics fields

The following table describes the fields on the Report List tab.

Field	Description
Report Name	The name of this report in the ReportCenter application. This name must be unique.
File Name	The complete path to the selected report file.
Default Server	The default server against which the report runs (configured on the Server List tab).
Description	A long description of the function of the report. This is the same description in the status bar in the main ReportCenter window.

The Server List tab

Select the Server List tab to display a list of all the servers against which users can run their reports. Use this tab to add new server definitions to your .ini file.



The Server List tab has two structures:

- **Servers**—a list of servers to which you can connect.
- **Server Specifics**—information about the server to which you are connected.

Servers List buttons

The following table describes the buttons on the ReportCenter Administrator Server List tab.

Button	Action
New	Opens the ODBC DSN selection box and creates a new server from the selected DSN.
Delete	Allows you to delete a server from the list.
Test	Using the current settings, attempts to log in to the server.

Server Specifics fields

The following table describes the fields that are under Server Specifics on the ReportCenter Administrator Server List tab.

Field	Description
Connection Name	The name used to identify this server to the users. Choose a name that is easily recognizable and unique.
DLL Name	The name of the connection DLL used to manage connection with the selected server. This is a Crystal Reports connection DLL and <i>not</i> the connection manager from your DB-Library toolkit. This is usually pdsodbc.dll.
Server Name	The name of the server, as identified by your database connection software. If you are using ODBC, this name must match the data source name of this server connection. Note: If you are using the standard ReportCenter reports, the server name by default is <code>sc_report_odbc</code> . If you are using reports you created, the server name can be anything.
Database	The name of the database on the server against which the currently selected report is to be run. Remember that a single database server can manage multiple logical databases. (Not used if you are on a P4 database.)

Field	Description
Default Login	The login name used to connect to the database server. If left blank, the system prompts users for this information at run time.
Force Login Case	Sets the login entry font style for the login. Choose from Normal Case (upper- and lowercase), All Uppercase, or All Lowercase.
Default Password	The password used when connecting to the database server. If left blank, users need to enter a password at run time.
Force Pwd Case	Sets the password font style for the login. Choose from Normal Case (upper- and lowercase), All Uppercase, or All Lowercase.
Database Type	Type of platform your DSN is pointing to (P4, Oracle, SQL). Currently, this does not affect the server. The field is included for future expansion.

Selecting a new DLL or server

Use the Ellipsis buttons in the Server List tab to browse for additional .dll files or to change servers.

Note: Typically, you do not need to change the default.

To browse for .dll files



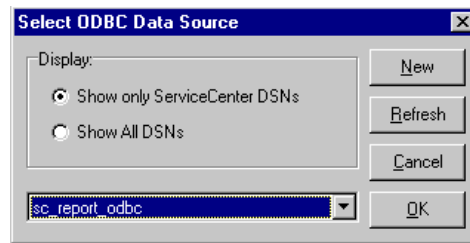
- 1 Click the Ellipsis button in the **DLL Name** field.

A standard Windows dialog box for the ReportCenter installation directory opens. Navigate to the directory where the .dll files are located (such as `\winnt\system32`).

- 2 Select a new DLL. The selected file name is in the **DLL Name** field in the Administrator main window.

To browse for DSNs

- 1 Click the Ellipsis button in the **Server Name** field. A dialog box for selecting DSNs opens.



- 2 Under **Display**, do one of the following to populate the list of data sources at the bottom of the dialog box:
 - Select the **Show only ServiceCenter DSNs** to display only the data sources based on the ServiceCenter ODBC driver.
 - Select **Show All DSNs** to display all data source names.
- 3 Select an existing ODBC data source from the drop-down list.
- 4 Click **OK**.

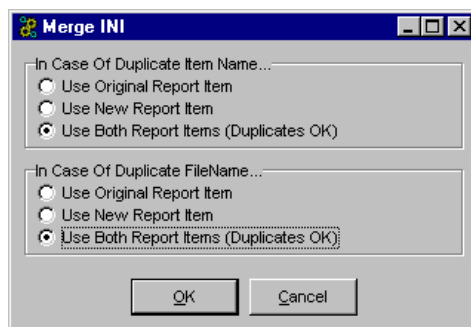
Merging two .ini files

You can merge one .ini file with another .ini file that is already loaded into ReportCenter Administrator. The reports in the second file merge with the existing file, and ReportCenter stores the result in the first .ini file.

Note: To open an .ini file with Administrator, see *Opening the .ini file* on page 58.

To merge two .ini files

- 1 From the **File** menu in the ReportCenter main window, select **Merge INI**. The Merge INI dialog box opens.



This dialog box allows you to specify what you want Administrator to do if duplicate file or item names are found.

- **In Case Of Duplicate Item Name**—If the current .ini file contains a server or report item with the same name as the one you are attempting to add, you have the following options:
 - **Use Original Report Item** does not add the new record.
 - **Use New Report Item** overwrites the settings of the old record with the new one.
 - **Use Both Report Items (Duplicates OK)** renames the new record to `<name>(1)` and adds it. If there is more than one duplicate, subsequent duplicate names increment by 1 (`<name>(2)`, `<name>(3)`, and so forth).
- **In Case of Duplicate File Name** means that if the current .ini file contains file names that are the same as file names in the .ini file you want to merge, you have the same options as in the Duplicate Item Name option.

- 2 When you have made your selections, click **OK**. A standard Windows dialog box opens.
- 3 Select the .ini file you want to merge, then click **Open**. The reports in the merged file are added to the existing Report List.

Editing report parameters

Some reports contain parameters. Parameters allow users to specify information such as date ranges and incident number ranges for a report. For example, in the Open Calls by Customer report, users must specify the starting date and ending date for the report. In the Incident Summary Report, users must specify the incident for which they want a summary.

Some reports have parameters; others do not. For a report with parameters, you can specify default values and a phrase to use for prompting the user to specify the parameter values.

To edit report parameters

- 1 From the **Available Reports** list, select the report you want to edit.
- 2 Click **Set Parameters** at the bottom of the Administrator main window.

Note: If a report has parameters set, the Set Parameters button is accessible; otherwise, this button is unavailable.

The Set Report Parameters dialog box opens with the current parameters.

3 Edit the data in the fields as described in the following table.

In this field...	Do this...
Parameters	From the drop-down list in this field, select the report parameter you want to set.
Data Type	Displays the data type for the selected parameter. You cannot change the data type.
Prompt	Specify a prompt to be displayed to the user when it is time to specify a value for the parameter. For example, <i>Display records for which year?</i>
Default Value	Specify an initial value for the parameter. This is optional. If you do not specify an initial value, the system defaults to *Ask User*. The parameter does not have a value and the report cannot be printed until the user provides a value.
Live	Select this check box to allow the user to change the parameter at run time.
Details	<ul style="list-style-type: none"> ■ Is Limited?—Select this check box if you want to specify an upper and lower limit for the parameter value. The limit can specify a range of numbers or the length of a string of characters. For example, if you set the maximum number to 4, the user can type only four characters in the Default Value field. ■ Mask—Specify characters in this box to further limit entries in the Default Value field. You can limit entries to numbers only, character strings only, and so forth. The limits set by a mask override limits set in the Is Limited? field. Refer to the following table for a list of values you can use to set a mask.

The following table describes the characters you can use to set a mask for a parameter value.

Value	Definition
A	Allows an alphanumeric character and requires the entry of a character in the parameter value
a	Allows an alphanumeric character and does not require the entry of a character in the parameter value
0	Allows a digit [0 to 9] and requires the entry of a character in the parameter value.
9	Allows a digit or a space, and does not require the entry of a character in the parameter value.

Value	Definition
#	Allows a digit, space, or plus/minus sign, and does not require the entry of a character in the parameter value.
L	Allows a letter [A to Z], and requires the entry of a character in the parameter value.
?	Allows a letter. Does not require a character in the value
&	Allows any character or space, and requires the entry of a character in the parameter value.
C	Allows any character or space, and does not require the entry of a character in the parameter value.
. , ; - /	Separator characters. Inserting separator characters into an edit mask is something like hard coding the formatting for the parameter field. When the field is placed on the report, the separator character is in the field object frame, like this: LLLL/0000. This example depicts an edit mask that requires four letters followed by four numbers.
<	Causes subsequent characters to be converted to lowercase.
>	Causes subsequent characters to be converted to uppercase.
\	Causes the subsequent character to be displayed as a literal. For example, the Edit Mask “\A” displays a parameter value of “A.” If the Edit Mask is “00\A00,” then a valid parameter value consists of two digits, the letter “A,” and then two additional digits.

For example, to force a phone number in the format (Area code) Number xExtension, type:

(###) ###-#### x####

- 4 Click **OK** to save your changes and return to the ReportCenter Administrator main window, or select another parameter from the **Parameters** drop-down list.

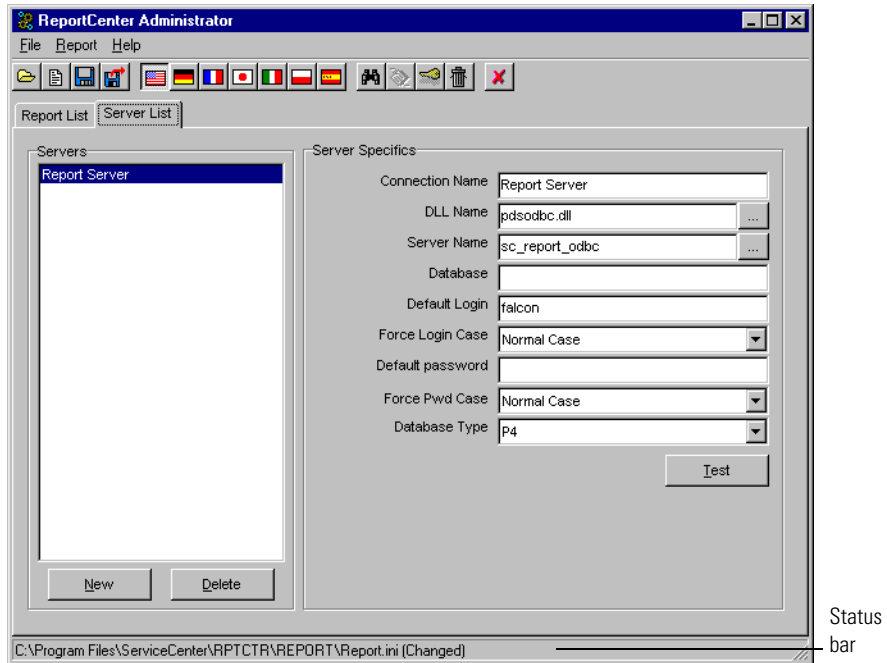
If you select another parameter, a message prompts you to save your previous change. Click **Yes**.

Tip: When setting parameters, click **Reset** to clear any changes you made to the parameter that currently are in the dialog box, or click **Reset All** to clear all changes you made to the parameters for the selected report.

Modifying the lists

You can use the ReportCenter Administrator to change the contents of the Report List and the Server List to meet your users' needs.

When you make changes to any of the fields on either the Report List tab or the Server List tab, the status bar indicates that changes are made.



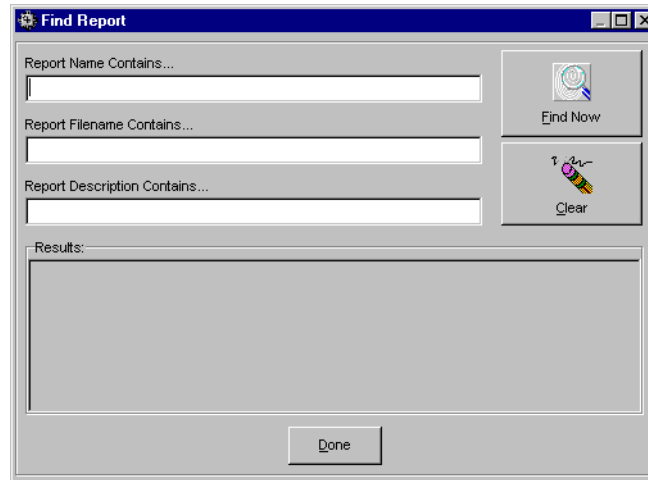
Status
bar

Finding reports

If you are not sure of the name of a report, or want to locate all reports related to a specific subject, you can use the Find Report feature.

To locate specific reports

- 1 Click **Report > Find Report** to open the Find Report dialog box.

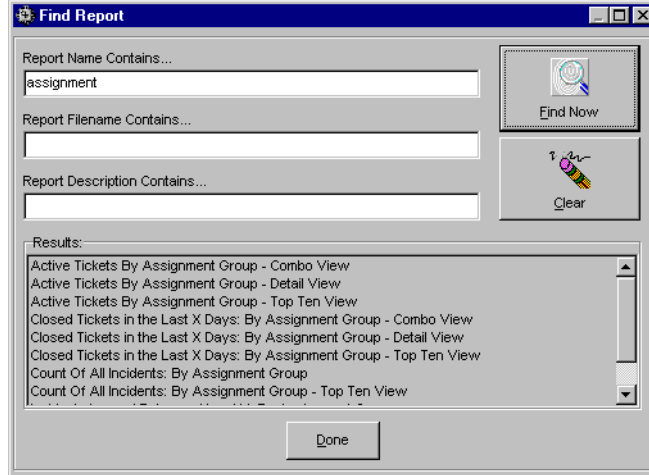


You can also click the toolbar Search icon to open the dialog box.

- 2 Type the search parameters in the fields provided.

You can specify part of a report name, part of a report path, or part of a report description.

- 3 Click **Find Now** to populate the **Results** area with the report names that match your search parameters.



- 4 When you have the information you need, click **Clear** to erase the information and perform another search, or click **Done** to return to the ReportCenter Administrator main window.

Changing the Report List

You can add or delete reports from the list.

To delete a report from the Report List

- 1 Select the report you want to make unavailable to your users.
- 2 Click **Delete**.
A message confirms that you want to delete the report from the list.
- 3 Choose **Yes** to delete the report.
The report is removed from the **Reports on File** list.
- 4 Click **File > Save**, or click **Save** in the toolbar.

To add reports to the Report List

- 1 Click **New** to open a dialog box with the report files.
- 2 Select the reports you want to add, then click **Open**.
The reports are added to the Report List with the **.rpt** file name extension to avoid possible problems with duplicate report names.

- 3 To change the name of the added file, select the file name in the **Report Name** field and type a new name for the report.

Note: If you added multiple reports, you first need to select the report from the Available Reports list.

When you select another report or select another field, the new name is saved. You can also click Save on the toolbar.

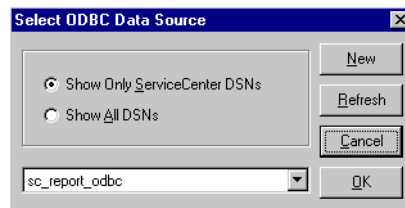
- 4 Edit the report parameters as needed. For more information, see *Editing report parameters* on page 65.
- 5 Click **File > Save**, or click **Save** in the toolbar.

Changing the Server List

You can add to or delete from the list of servers on the **Server List** tab. You can also test a server connection or modify certain options related to a server.

To add servers to the Server List

- 1 From the **Server List** tab, click **Browse** beside the **Server Name** text box.
- 2 Do one of the following to display a list of data sources in the drop-down list at the bottom of the **Select ODBC Data Source** dialog box, then continue to step 6:
 - Select **Show Only ServiceCenter DSNs** to display only the data sources that use the ServiceCenter ODBC driver.
 - Select **Show All DSNs** to display and select from the list of all data sources.
- 3 If the data source you want to use is not in the drop-down list, click **New** to add it. For instructions, refer to the *Database Management and Administration Guide*.
- 4 Select an ODBC data source from the list.



- 5 Click **OK**.
- 6 Click **File > Save**, or click **Save** on the toolbar.

To modify the properties for a server

- 1 From the **Server List** tab, select the server to modify from the **Servers** list.
- 2 Under **Server Specifics**, modify any of the server properties. For more information, see *Server Specifics fields* on page 61.
- 3 Click **File > Save**, or click **Save** on the toolbar.

To delete servers from the Server List

- 1 From the **Server List** tab, select the server you want to delete from the **Servers** list.
- 2 Click **Delete**.
A message confirms that you want to delete the server.
- 3 Click **Yes** to confirm the deletion.
- 4 Click **File > Save**, or click **Save** on the toolbar.

To test a server connection

- 1 From the **Server List** tab, select the server to test from the **Servers** list.
- 2 Under **Server Specifics**, click **Test**.
ReportCenter Administrator displays the results of the test.
- 3 Choose **OK**.

5 Structure of the report.ini File

CHAPTER

You can modify the set of reports available in ReportCenter by:

- Using ReportCenter Administrator, which updates the `report.ini` file. For more information, see *The ReportCenter Administrator* on page 55.
- Updating the `report.ini` file manually.

Note: To avoid formatting errors in the `report.ini` file, use ReportCenter Administrator to make your modifications rather than manual updates. In the case of a formatting error in the file, the entire block that contains the error, along with the report that is described in that block, is ignored.

If you need to make manual changes to the file, for example, the `report.ini` file becomes corrupt or you reach the limitations of ReportCenter Administrator, proceed cautiously.

This chapter analyzes the `report.ini` file structure and guides you through the modification process. Even if you do not plan to make manual changes, this information is helpful in understanding the file structure organization.

Note: You can rename the `report.ini` file as long as you keep the `.ini` file extension and you make sure the users who need to access that file update their shortcut icons to the new file.

Basic structure

The `report.ini` file is an ASCII text file that contains at least one login definition block and multiple report definition blocks, each describing one report. The file is parsed one line at a time, and each unique element of data is on its own line. Lines that start with a number sign (#) are comments and are ignored.

The login definition block

A `report.ini` file must have at least one *login definition block*. The login definition block describes the connection parameters that the report engine uses when connecting to a database server. A user can alter all of these parameters at run time, but it is preferable to provide the information directly to the engine. A login definition block has the following format.

```
[Login]
NAME=descriptive name
UID=user.id
UIDCASE=#
PASSWORD=password
PWDCASE=#
DBTYPE=#
DRIVER=driver.dll
SERVERPORT=server.port
DATABASE=database name
SERVER=server name
DLL=connection.dll name
[End]
```

The following table describes the elements in the login definition block.

Block Element	Description
NAME	An easily recognizable name for the server. This name is in the Server List in ReportCenter Administrator and above the list of available reports in ReportCenter. The default server name is <code>sc_report_odbc</code> . You can manually add the name in a <code>report.ini</code> file or through ReportCenter Administrator.
UID	The user ID that the report engine uses to connect to the server.
UIDCASE	The case of the font for login (0=Normal, 1=Upper, 2=Lower).
PASSWORD	The password that the print engine provides to the server.

Block Element	Description
PWDCASE	The case of the password (0=Normal, 1=Upper, 2=Lower).
DBTYPE	The type of database platform: <ul style="list-style-type: none"> ■ 0=P4 ■ 1=Oracle ■ 2=DB2 ■ 3=SQL ■ 4=Sybase
DRIVER	The SCODBC32.DLL.
SERVERPORT	The server and port number of the ServiceCenter server (not used at this time).
DATABASE	The name of the database to which to connect (not used by P4 ODBC driver).
SERVER	The name of the ODBC data source to which to connect.
DLL	The name of the connection library (DLL) used by the engine.

Note: To prompt users to enter their user ID and password each time, leave UID and PASSWORD blank.

Login definition block example

```
[Login]
NAME=sc_shadow_server
UID=report_runner
UIDCASE=2
PASSWORD=pdq43
PWDCASE=2
DBTYPE=5
DRIVER=SQLSRV32.DLL
SERVERPORT=
DATABASE=sc_shadow
SERVER=sc_report_odbc
DLL=PDSODBC.DLL
[End]
```

Using the log definition block

- The NAME element identifies this set of login information for a connection hint. For more information, see *Connection hints* on page 81.
- You do not need to provide values for all the elements in a login definition block. The system automatically replaces missing entries with the empty string (“”).
- If you do not provide a full set of login elements, users must provide the information before the engine can connect to their server.
- If you are security conscious, do not put a user ID and password in the `report.ini` file. However, there is no reason not to provide the other parameters.

Report definition blocks

The `report.ini` file contains multiple report definition blocks. Each block has the following format.

```
[Start Report]
  [Header]
    NAME=Report Title
    FILENAME=Report Filename
    DESCRIPTION=Long Description of report
  [End]
    0..n parameter blocks
    0 or 1 connection indicator
[End Report]
```

The report definition block can contain one or more parameter definition blocks and a connection hint.

Report definition block example

```
[Start Report]
  [Header]
    NAME=Active Tickets By Category - Combo View
    FILENAME=.\report\type1b2.rpt
    DESCRIPTION=A display of all currently open tickets, grouped by
    Category, includes both the Top Ten breakdown and Detail View.
  [End]
[End Report]
```

Using the report definition block

- The report engine does not require each report to have a unique name, but it is a good practice to use unique names to avoid confusion.
- The number of reports the print engine can handle is limited only by the available memory on your computer. However, performance of the interface might start to suffer when more than 500 reports are defined. If you have more than 500 reports, consider breaking your reports into logical groups and defining each group in a different `report.ini` file.
- Be sure to include `[End]` at the end of each report block and `[End Report]` following the report's parameter blocks.

Important: The report definition block is case-sensitive. Your blocks must match the case shown in the example.

Parameter definition blocks

A *parameter definition block* follows the report definition in a report definition block and defines the parameters that are associated with the report. Parameters, in this case, are variables for which users can supply values when running the report.

For example, in the report *Calls Closed In X, Sorted By Month*, *X* is a value the user supplies at run time to indicate the year for the report. A parameter definition block for the report in the `report.ini` file defines the type of parameter, the prompt to display to the user when requesting the value, and the default value.

A report can have multiple parameter blocks. For example, in a report that prompts for a starting date and ending date, there is one parameter block for the start date and one for the end date. If a report does not have parameters, no parameter block is in the `report.ini` file.

There are five types of parameter definition blocks:

- Date parameters
- Real parameters
- String parameters
- Boolean parameters
- Selection criteria

The first four parameter types are very similar and are collectively referred to as *ordinary parameters*. Selection criteria are handled somewhat differently.

Ordinary parameters

Use ordinary parameters to pass values into functions on a report. An ordinary parameter definition block takes the form:

Parameter Block Element	Description
[type header]:	Date, String, or Real
PROMPT= <i>Prompt</i>	The text string with which to prompt the user when requesting a value for the parameter.
FORMULA= <i>Parameter Name</i>	The name of the function or parameter on the report into which the value must be inserted.
LIVE= <i>True</i> or <i>False</i>	A true or false value indicating whether the user can alter the parameter at run time.
VALUE= <i>Parameter Value</i>	The default value to use.

Note: Use the value Ask User to force the application to prompt the user for a value.

Using ordinary parameters

- Ordinary parameters can only be passed into functions on reports. All Crystal Reports functions are referred to internally with an @ symbol preceding them. A typical function might be called @date_opened. All parameters are likewise preceded by a question mark, such as ?startdate. Outside Crystal Reports, use the function's true name, without the @ or ? symbol.
- You must define the associated function on the report before it can accept a parameter. For example, you cannot pass a parameter into a function called my_function unless your report has a function called my_function. For more information about defining functions, refer to your Crystal Reports documentation.

- If you put in a date or real type parameter and provide your own value, make sure it is type-castable as a date or a real number. For example, the parser cannot interpret the function value of a real parameter that is set to a text expression. Boolean parameters treat anything other than T, True, Y, or Yes as False.
- You can string as many parameter declarations together as the amount of memory on your computer permits.

Example 1

This example sets a **FORMULA** called **title** to the **VALUE** **My New Report** on the report. Since this parameter is **LIVE**, the user can override its value and is prompted with **Report Title**.

```
[String]
  PROMPT=Report Title
  FORMULA=title
  LIVE=True
  VALUE=My New Report
[End]
```

Example 2

This example prompts the user to enter a date in a function called **start_date** on the report. The user cannot print the report without providing a date.

```
[Date]
  PROMPT=Retrieve all incidents opened after what date?
  FORMULA=start_date
  LIVE=True
  VALUE=*Ask User*
[End]
```

Example 3

This example includes two parameters that prompt the user to enter dates in **start_date** and **stop_date** functions on the report.

```
[Date]
  PROMPT=Retrieve all incidents opened after what date?
  FORMULA=start_date
  LIVE=True
  VALUE=*Ask User*
[End]
```

Selection parameters

Use *selection parameters* to pass data into the selection formula of a report. A selection parameter definition takes the form:

```
[Select]
  PROMPT=
  FORMULA=
  LIVE=False
  VALUE={sc_report_probsummary.flag} = "t"
[End]
```

This parameter causes ReportCenter to select all records with the value *t* in the field *sc_report_probsummary.flag* field.

Using selection parameters

- You can omit the prompt and formula lines for selection criteria. The parser defaults those values to the empty string.
- Selection criteria must be supplied in a Crystal Reports macro language format, for example:

```
sc_report_probsummary.flag} = "t"
SQL select statements do not work.
```

- Most users are not familiar with the Crystal Reports macro language. If this is the case and you intend to prompt your users for selection parameters at run time, set the selection formula to the following values when designing the report:

```
={table_name.field} = @some_function
```

Prompt the user to provide the value of *some_function* with an ordinary parameter.

Example 1

This example selects all records with a category = "hardware"

```
[Select]
  {sc_report_probsummary.category} = "hardware"
```


Connection hints

Every report must have one *connection hint*. A connection hint is included at the end of a report definition block and defines the default server for the report. The default server must be one of the servers defined in a login definition block at the top of the `report.ini` file. The standard ReportCenter reports are set up with this connection hint, which uses the default Server called Report Server.

```
[Connect]
Report Server
```

If you want a report to be run against a different server, add a connection hint to the report definition block of the report in question.

Connection hints have the following format:

```
[Connect]
{Name}
```

Example

```
[Connect]
sc_shadow_server
```

Using connection hints

- The name you enter for a connection hint must match the **NAME** parameter from one of your login definition blocks.
- If you do not provide a connection hint, the system attempts to run the report from the server referenced in your first login block.
- The user can override a connection hint at run time.

Sample report definition block

This sample block initializes a report called *Closed Categories Between X and Y*, located at `C:\reports\cloxy.rpt` and described as *Incident tickets closed between two user supplied dates*.

This report accepts two parameters to be placed in functions called `start_date` and `stop_date` on the report. When prompted with *Retrieve all incidents closed after what date?*, enter your response in the `start_date` field. When prompted with *Retrieve all incidents closed before what date?*, enter your response in the `stop_date` field.

By default, the report runs with the connection that the login block identified as `sc_shadow_server`.

```
[Start Report]
[Header]
  NAME=Closed Categories Between X and Y
  FILENAME=c:\reports\cloxy.rpt
  DESCRIPTION= Incident tickets closed between two user supplied dates
[End]
[Date]
  PROMPT=Retrieve all incident tickets closed after what date?
  FORMULA=start_date
  LIVE=True
  VALUE=*Ask User*
[End]
[Date]
  PROMPT=Retrieve all incident tickets closed before what date?
  FORMULA=stop_date
  LIVE=True
  VALUE=*Ask User*
[End]
[Connect]
  sc_shadow_server
[End Report]]
```

6 Creating and Editing Your Own Reports

CHAPTER

You can meet most user needs with the standard ReportCenter reports. However, individual ServiceCenter customizations might make it necessary to redesign existing reports or create new reports suited to your specific needs. This chapter describes how to use Crystal Reports to report on your ServiceCenter database.

The information in this chapter summarizes ServiceCenter and Crystal Reports documentation, but it is not a substitute for these guides. Use this chapter to get started, but have your other documentation available as a more detailed reference.

Read this chapter for information about:

- *Requirements* on page 84
- *Editing reports created in earlier versions of Crystal Reports* on page 85
- *Important Crystal Report notes* on page 85

Requirements

Before you can start editing and creating Crystal Reports from ServiceCenter, you need the following:

- **Crystal Reports Professional, Developer, or Advanced Full Product version 9:** All reports shipped with ReportCenter are designed with Crystal Reports version 9 and may not be compatible with earlier versions. For more information, see *Special considerations* on page 12.
- **ServiceCenter (or equivalent) ODBC Driver:** If ReportCenter is installed on the workstation where you edit reports, the ServiceCenter ODBC driver is available as part of the ReportCenter installation. If you do not have ReportCenter installed, you must install the ODBC driver. You must also configure one or more data source names (DSNs) pointing to your ServiceCenter server. For more information, refer to the *Database Management and Administration Guide*.
- **DSN:** If you are editing ReportCenter standard reports, you must create a DSN with the name `sc_report_odbc`, as described in the installation instructions. The reports expect this name. However, for any reports that you create yourself, you can create a data source with any name. For information about multiple DSN assignments, see *Connections to multiple servers* on page 106.

When creating your own reports, ensure that:

- You do not change the name after you have created the reports. DSNs are embedded in a report and cannot be changed.
- The workstations where you run the new reports are also configured with a matching DSN. DSNs are specific to each workstation. It is possible to have multiple DSNs pointing to the same database and port if the names are unique; however, you must follow the directions in *Connections to multiple servers* on page 106.

For more information, refer to the *Database Management and Administration Guide*.

Editing reports created in earlier versions of Crystal Reports

If you attempt to edit an out-of-box report created with a version of Crystal Reports that is older than the version you are using, the system notifies you and requests that you save the report in the newer Crystal Reports format. This can change the way the report functions and requires additional modifications to the Report to conform to the newer version of Crystal Reports.

Important Crystal Report notes

This section contains notes about using Crystal Reports to create and edit ReportCenter reports.

Special considerations for date and time fields

Crystal Reports classifies the ServiceCenter dates as a DateTimeString (DTS). Crystal Reports recognizes that the displayed data is a date, but processes it as a character field. You can reformat using various date styles (for example, mm/dd/yy or yyyy/mm/dd), but you cannot perform date calculations with a DTS. You can enter them in a formula as if they are true dates, but the query returns inaccurate records. For instance, to return a report showing all incidents closed before today, the formula that follows produces inaccurate results:

```
{probsummary1.close.time} < date
```

To modify the date string to perform a date calculation, do one of the following:

- Convert the DTS to a real date using a formula. There are functions in Crystal Reports called DTStoDate, DTStoTime, and DTStoDateTime that convert to a date field, a time field, or a date/time field respectively. You can then use them in calculations as true dates. Using the previous example, the formula is:

```
DTStoDate({probsummary1.close.time}) < date
```

- In the Crystal Reports report options, the recommended conversion method is to change the **Convert Date-Time Field** option to read **To Date-Time**.

Correct date format in Crystal Reports

Although ReportCenter lets you enter a date in several common formats, Crystal Reports does not. You must reformat the dates before passing them to the Crystal Reports engine. If you want to enter a hard-coded date in Crystal Reports, it must be in the format `Date(yyyy,mm,dd)`.

Relative dates

ServiceCenter has relative date formats; elapsed time is stored as a partial date. For instance, an elapsed time of 30 hours is stored as “1 06:00:00” (one day plus 6 hours). Crystal Reports reads this as “0000/00/01 06:00:00”. Converting this to a real date using the DTS functions may cause unpredictable results. To avoid this problem, parse the item as a string and reduce the item to a number of minutes or hours.

How to parse a relative date into seconds:

```
// Declare your variables
numbervar Dy;
numbervar Mn;
numbervar Yr;
// Relative dates are in the format yyyy/mm/dd hh:mm:ss. Parse out the respective
numbers based
// on position. (NOTE: you must have the report option Translate Date Time As set to
To String.
// Also note that ServiceCenter uses the format d hh:mm:ss, where it is possible for d
to be any
// number (such as 128). However, Crystal breaks that up into yyyy/mm/dd, where
30 days = 1 month
// and 12 months = 1 year, so 128 days becomes 0000/04/08.
Dy := ToNumber(mid({fieldname}, 9, 2)) * 86400;
Mn := ToNumber(mid({fieldname}, 6, 2)) * 86400 * 30;
Yr := ToNumber(mid({fieldname}, 1, 4)) * 86 400 * 365;
// NOTE: DTStoSeconds successfully translates the time portion to secs, but not the
date portion.
// Still, you can save some text parsing time by letting DTStoSeconds handle the
hh:mm:ss translation.
DTStoSeconds ({fieldname}) + Dy + Mn + Yr
```

Displaying in “d hh:mm:ss” format:

```
// Declare variables
NumberVar Mins := 0;
NumberVar Hours := 0;
NumberVar Days := 0;
NumberVar NumSecs := {@NumberOfSeconds};

// Parse out seconds/minutes/hours/days
if NumSecs > 86400 then Days := Truncate(NumSecs / 86400);
NumSecs := NumSecs - (86400 * Days);

if NumSecs > 3600 then Hours := Truncate(NumSecs / 3600);
NumSecs := NumSecs - (3600 * Hours);

if NumSecs > 60 then Mins := Truncate(NumSecs / 60);
NumSecs := NumSecs - (60 * Mins);

// Check to see if we include days. Format accordingly
if days > 0 then
    ToText(Days, "0") + " " + ToText(Hours, "00") + ":" + ToText(Mins, "00") + ":" +
    ToText(NumSecs, "00")
else
    ToText(Hours, "00") + ":" + ToText(Mins, "00") + ":" + ToText(NumSecs, "00")
```

Time zone offsets

ServiceCenter natively stores date and time fields in Greenwich Mean Time (GMT), then translates them to the local time zone when viewed through the ServiceCenter client. The ServiceCenter ODBC driver does the same translation. However, if you map data to an external SQL database, the translation is not done (unless the native ODBC driver has such a provision; consult the database documentation on the subject).

Choose one of the following processes to solve the time zone offset problem:

- Change the time zone in the mapping process.

The `sqltz` parameter must be in the ServiceCenter `run/sc.ini` file for the server. This parameter can set the database time/zone to something other than GMT.

If everyone using your reports is in the same time zone, add the following line to the ServiceCenter server `run/sc.ini` file. This example sets all dates to EST.

```
sqltz:US/Eastern
```

The text after the colon must match exactly one of the entries in the ServiceCenter `tzfile`. Copy and paste this text from the company record after configuring the default local time zone to avoid errors.

- Use a Crystal Reports formula to modify the field. In place of the date/time field (for example, `probsummarym1.open.time`), create a formula using this syntax:

```
{probsummarym1.open.time} + (# / 24)
```

Replace the `#` with the number of hours offset, and change the `+` to a `-` where necessary. Crystal Reports sees date/times as an integer representing the number of days since a particular date. To add 5 hours, you must add 5/24ths of a day. You can make the number a parameter field and use it in multiple time zones.

Joining multiple tables

You can combine the data from multiple tables into a single report. For example, you want to write a report that displays the details of all open incident tickets, and also the contact information of the contacts who reported the incidents. The `probsummarym1` table contains all the incident details, but contains only the name and phone number of the contact. Additional information about the contact is in the `contactsm1` table. A join between the two tables allows you to create a report containing information about the tickets from `probsummarym1` and the detailed contact information from `contactsm1` in a single report.

Creating the join in ServiceCenter

Before you create a join, you perform a database search to make sure that the join does not already exist.

To perform the database search

- 1 Start your ServiceCenter client and open the Database Manager utility.

- 2 Type **joindef** in the **Form** field and click **Search**.

The screenshot shows a window titled "Database" with a toolbar containing "Back", "Add", and "Search" buttons. Below the toolbar is a "Join Table Name" field containing the text "probsummary-contacts". Underneath this field is a grid of input fields for table names, arranged in two columns. The first column contains "probsummary" and "contactd", followed by five empty fields. The second column contains five empty fields. At the bottom of the window, the status bar displays "Ready" and "insert joindefs.g [5]".

- 3 Search for the join you want to create by typing the name you want to give the join. Join Definition files are typically named for the tables being joined. In this example, you are looking for a join called **probsummary-contacts** or **contacts-probsummary**.

To create a join if one does not exist

- 1 Enter the name you want to use for the join in the **Join Table Name** field (keeping with the common naming convention).
- 2 Add the names of the tables to be joined in the fields, starting with the upper-left field and working down in columns.
- 3 Click **Add**.
- 4 Return to the main Database Manager selection window.
- 5 Type **erdddef** in the **Form** field, then click **Search**.

- 6 Search for the ERD (Entity Relationship Diagram) Definition you are about to make. In this case, you want to search based on the First Filename, Second Filename, and Relationship Type.

Field	Description
First Filename	Name of the table you want as the parent table in this join; this table shows all of its records. In the example, this is probsummary because the primary goal is to show all open incidents.
Second Filename	Name of the dependent table; this table only shows records related to each record of the parent table. In the example, the name is contacts because the contact name determines the contact information for each individual incident record.
Relationship Type	One-To-Many, Many-To-One, or One-To-One. This refers to the number of times the record of one table can be connected to records from another table. Use the Many-To-One relationship because a single contact can occur in multiple incident records, but an incident summary can contain only one contact name.

The following is an example of the `erdddef` search form.

- 7 If no match occurs, create an ERD definition.
- a Fill in the First Filename, Second Filename, and Relationship Type described in step 6 on page 90.

- In the **Field Names from First Filename** box, enter the fields where you want to create the join (that is, the field in the first table that is equivalent to the field in the second table).
- Do the same for the **Field Names from Second Filename** box. In the example, the `contact.name` field in the `probsummary` table contains the same data as the `contact.name` field in the `contacts` table.

b Click **Add**.

8 Cycle your ServiceCenter server.

Note: The join does not take effect until you shut down and restart your ServiceCenter server.

The join has the following results:

- Your report prints every record in the `probsummary` table that meets your selection criteria.
- For each record, the system looks in the `contacts` table for a record containing the same name in the `contacts.contact.name` field as contained in the `probsummary.contact.name` field.
- All requested contact information for that record is printed.

A SQL Views

APPENDIX

This appendix is a general overview of SQL views. The SQL examples are represented as ANSI standard SQL tested against a Microsoft SQL Server. To create a view on your particular RDBMS, refer to your database administrator's guide. The examples explain the mechanics of views and are not examples of how to organize and manage your RDBMS.

Read this appendix for information about:

- *What is a view?* on page 94
- *Creating a view* on page 95
- *Other uses for views* on page 95

What is a view?

A *view* is a defined select statement that you treat like a table. Consider the following table.

people

name
rank
serial_number
password
salary

In this example, the first three fields are in the public domain where anyone in the company can see them. Only authorized personnel can view the last two fields. For example, only IS (Information Systems) personnel see *password*, and only accounting personnel see *salary*.

The data for this example is published as follows.

regular_people	IS_people	Accounting_people
name	name	name
rank	rank	rank
serial_number	serial_number	serial_number
	password	salary

In this configuration, the table has three new Views: **regular_people**, **IS_people**, and **Accounting_people**.

Creating a view

You create a view using the Create View SQL statement. The Create View statement syntax is:

```
create View {view name} as select {fields} from {table(s)} where {criteria}
```

Example 1

Use this statement to create the **regular_people** View:

```
create view regular_people as select name, rank, serial_number from people
```

Example 2

Use this statement to create the **IS_people** View:

```
create view IS_people as select name, rank, serial_number, password from people
```

Other uses for views

Create composite or calculated fields

Consider the following table.

people

first name

last_name

hourly_wage

hours_worked

For example, John | Smith | \$5.00 | 20

You can express the data differently.

Smith, John | \$100

The table contains **amount_due** in place of **hourly_wage** and **hours_worked**.

full_name_view

full_name

amount_due

Create this View with the following statement.

```
create view full_name_view as select full_name = (last_name + " " + first_name),  
amount_due = hourly_wage * hours_worked
```

Renaming fields

Consider the following table.

joblog

jobid

field1

field2

field3

In this example, **field1** is the job start time, **field2** is the time the job ended, and **field3** is the result code. The table is:

job_history

jobid

time_started

time_completed

result_code

Create this View with the following statement.

```
create view job_history as select job_id, time_started=field1,  
time_completed=field2, result_code=field3
```


B Troubleshooting

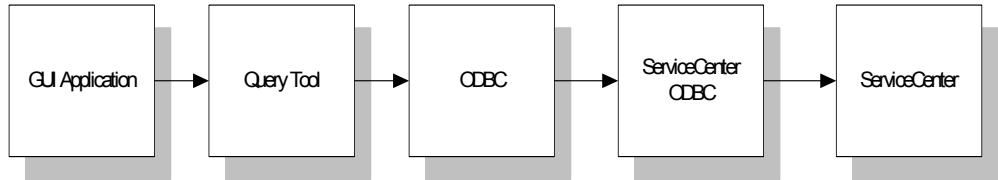
APPENDIX

Read this appendix for information about:

- *Determining the trouble source* on page 98
- *Common error messages* on page 98
- *Common problems* on page 106
- *General troubleshooting tips* on page 107
- *Contacting Peregrine Systems Customer Support* on page 110

Determining the trouble source

To begin troubleshooting ReportCenter, you need to determine which component on the data path is the source of your trouble. Several layers are involved, each with its own unique troubleshooting methodology. The overall path of data between ServiceCenter and your reporting tools is shown below.



You work with some type of query application. These components translate your commands into calls to run-time environment (RTE), a set of .dll files and support files on your workstation that do the actual handling of application files. When activated, the application run-time environment makes SQL calls to the Microsoft ODBC environment, which in turn calls the ODBC driver of the database you are using (typically the ServiceCenter ODBC driver). Finally, the ODBC driver calls the database.

Common error messages

Graphical User Interface (GUI) errors come in the form of configuration errors and program bugs. Connection errors and SQL errors happen at the ODBC level. Bad data returned or long lag times sometimes originate from the database.

The following sections discuss possible causes and solutions to the most common errors encountered, and some generic troubleshooting steps to correct the errors.

Bad printer configuration *or* error starting print job

This issue occurs when the Crystal Reports Developer Edition is installed on the same system as ReportCenter. While you can use Developer Edition to create reports that ReportCenter uses, you cannot install them on the same system because of DLL conflicts. You can install Crystal Reports Developer Edition on another machine, or you can install Crystal Reports Professional Edition instead.

In general, you cannot install a newer version of Crystal than the version that ReportCenter uses without causing problems by overwriting .dll files. ReportCenter 4.x and 5.x use Crystal 8.0. However, in many cases it is possible to install a newer version of Crystal Reports Professional because it does not replace the main .dll file (`crpe32.dll`) on the user's system. If you detect a conflict, uninstall the Crystal Reports version.

Crystal Reports ships in multiple versions. Crystal Reports Professional Edition version 9.x supports ODBC connections to databases and has all the tools necessary for creating and editing new reports. There are other versions, such as a Developer version and an Advanced version. When you install ReportCenter, the installation includes Crystal Reports .dll files that can conflict with other versions or editions of Crystal Reports.

To correct incompatible version errors

- 1 Uninstall the Crystal Reports version or edition.
- 2 Copy the `crpe32.dll` file from the `\win\crystal\shared` directory of your ServiceCenter CD to your `<winnt>\system32` directory. This overwrites the conflicting version of the same file and restores the current version from the installation.

Cannot find SQL server or error connecting to <servername>

These are generic connection failure messages. The RTE attempted to log in to ServiceCenter and received either a failure or no reply.

Possible causes of this error include:

- The ServiceCenter server is not running or is not listening on the specified port.

Contact your ServiceCenter administrator and make sure the server is running and using the same system name/port you specified on your ODBC connection. If your workstation has a ServiceCenter Client installed, attempt to connect using the ServiceCenter Client.

- Your login information is incorrect.

On a failure, ServiceCenter prompts you to reissue your login information. Check the information in the fields for accuracy. If the login information specified is incorrect, go into your program options and set it to the correct login for future use. Also check capitalization. ServiceCenter logins are case-sensitive.

- ServiceCenter has reached the limit of allotted licenses.

ServiceCenter only accepts a set number of concurrent users, depending on your license. If all available slots are in use, your login is rejected. Contact your ServiceCenter administrator to check this.

- ODBC driver error.

Check the version of your ODBC driver versus the recommended version for your ServiceCenter binaries. If the version is incorrect, it causes a General Protection Fault (GPF) error after login. Verify that you have the most current version that contains problem corrections.

Driver not capable

The report you are trying to run is attempting to execute a SQL query that the ODBC driver does not support (bad syntax, complex or inappropriate join, use of an unsupported SQL keyword).

To look at the SQL commands that the report uses

- 1 Activate SQL tracing in the ODBC Administrator.
- 2 Run the query in your application.
- 3 Look for SQL in the ODBC log. If the report uses a ServiceCenter join, compare the join syntax to those that ServiceCenter accepts. Otherwise, search the SQL for the following unsupported keywords (usually capitalized).

Unsupported Keywords

ABSOLUTE	ACTION	ADA
ADD	ALL	ALLOCATE
ALTER	ANY	ARE
AS	ASSERTION	AT
AUTHORIZATION	AVG	BEGIN
BIT	BIT_LENGTH	BOTH
CASCADE	CASCADED	CASE
CAST	CATALOG	CHAR
CHAR_LENGTH	CHARACTER	CHARACTER_LENGTH
CHECK	CLOSE	COALESCE
COBOL	COLLATE	COLLATION
COLUMN	COMMIT	CONNECT
CONNECTION	CONSTRAINT	CONSTRAINTS
CONTINUE	CONVERT	CORRESPONDING
COUNT	CREATE	CROSS
CURRENT	CURRENT_DATE	CURRENT_TIME
CURRENT_TIMESTAMP	CURRENT_USER	CURSOR
DATE	DAY	DEALLOCATE

Unsupported Keywords

DEC	DECIMAL	DECLARE
DEFAULT	DEFERRABLE	DEFERRED
DELETE	DESCRIBE	DESCRIPTOR
DIAGNOSTICS	DISCONNECT	DISTINCT
DOMAIN	DOUBLE	DROP
ELSE	END	END-EXEC
ESCAPE	EXCEPT	EXCEPTION
EXEC	EXECUTE	EXISTS
EXTERNAL	EXTRACT	FALSE
FETCH	FIRST	FLOAT
FOR	FOREIGN	FORTRAN
FOUND	FULL	GET
GLOBAL	GO	GOTO
GRANT	GROUP	HAVING
HOUR	IDENTITY	IMMEDIATE
INCLUDE	INDEX	INDICATOR
INITIALLY	INNER	INPUT
INSENSITIVE	INSERT	INTEGER
INTERSECT	INTERVAL	INTO
IS	ISOLATION	JOIN
KEY	LANGUAGE	LAST
LEADING	LEFT	LEVEL
LOCAL	LOWER	
MAX	MIN	MINUTE
MODULE	MONTH	MUMPS
NAMES	NATIONAL	NATURAL
NCHAR	NEXT	NO
NONE	NULL	NULLIF

Unsupported Keywords

NUMERIC	OCTET_LENGTH	OF
ON	ONLY	OPEN
OPTION	OUTER	OUTPUT
OVERLAPS	PAD	PARTIAL
PASCAL	PLI	POSITION
PRECISION	PREPARE	PRESERVE
PRIMARY	PRIOR	PRIVILEGES
PROCEDURE	PUBLIC	REFERENCES
RELATIVE	RESTRICT	REVOKE
RIGHT	ROLLBACK	ROWS
SCHEMA	SCROLL	SECOND
SECTION	SEQUENCE	SESSION
SESSION_USER	SET	SIZE
SMALLINT	SOME	SPACE
SQL	SQLCA	SQLCODE
SQLERROR	SQLSTATE	SQLWARNING
SUBSTRING	SUM	SYSTEM_USER
TABLE	TEMPORARY	THEN
TIME	TIMESTAMP	TIMEZONE_HOUR
TIMEZONE_MINUTE	TO	TRAILING
TRANSACTION	TRANSLATE	TRANSLATION
TRIM	TRUE	UNION
UNIQUE	UNKNOWN	UPDATE
UPPER	USAGE	USER
USING	VALUE	VALUES
VARCHAR	VARYING	VIEW
WHEN	WHENEVER	WITH
WORK	YEAR	

If you experience the same problem after removing any unsupported keywords, save your SQL or ODBC log and provide it to Peregrine technical support.

Where to find more information

See *SQL logs* on page 108 and *Joining multiple tables* on page 88. For a list of supported keywords, see the *Database Management and Administration Guide*.

Corresponding join not defined

This indicates the report is attempting to join multiple tables that have not been properly joined in the ServiceCenter database. When you design reports, linking two tables using the application is not sufficient to create a join. ServiceCenter must have an equivalent configuration.

Look at the fields that are joined in your application. Ensure that only the fields you want to join are connected by arrows, and that the arrows point from the main table to the secondary table.

Next, start ServiceCenter (or contact your ServiceCenter administrator) and compare the settings in the JOINDEF and ERDDEF tables to this linking scheme. Ensure that:

- The joins match exactly.
- The join in ServiceCenter is unique (in other words, no other join connects these same tables in a different manner).
- After you created the join, the administrator stopped and restarted the ServiceCenter server.

Modify the JOINDEF and ERDDEF tables in ServiceCenter with caution and only with the help of a ServiceCenter administrator. To be safe, make an unload of both tables before making modifications so that you can return to the original configuration, if needed. For more information, see *Joining multiple tables* on page 88.

Excessive runtime

Many factors, including hardware and network limitations, can affect execution speed. Much of the speed issue is related to report design.

The following hints assume that you are using Crystal Reports Designer Pro 9.x, and that you have permission to edit the reports.

These tips can speed up the execution of your reports:

- In your reports options (File > Report Options), select **Use Indexes or Server for Speed**.
 - Compare your SQL (Database > Show SQL Query) to the Record Selection Formula (Report > Edit Selection Formula > Record). If you see filtration criteria in the selection formula that are not translated into actual SQL commands, then you might be downloading more records than you need. Usually, functions such as ToText(), Uppercase(), and DTStoDate(), are not translated into a query. Instead, Crystal performs a simpler query, returns the entire table, and then makes a second pass on the data internally. This is the primary cause of slow reporting.
 - Limit your sorting layers. If your SQL command has more than two ORDER BY statements, you are greatly slowing the processing time. Each ORDER BY statement exponentially increases execution time.
 - Use joins instead of subreports. Subreports are more universal, making for greater portability over different servers, but a subreport executes its SQL query against the database *once for every record*. Therefore, a report with 100 records with a subreport in the Details section runs 101 SQL statements. A joined report of equivalent size executes only one.
 - Use indexes in ServiceCenter where possible. Typically, the unique key of any table is already indexed. However, in a join, placing a key on the field joining the two tables helps dramatically.
- Note:** Adding too many indexes to a ServiceCenter table can reduce overall ServiceCenter performance. Add indexes only with the help of your ServiceCenter administrator.
- Keep your ODBC driver up to date. New releases often include speed enhancements.

Common problems

Read the following sections for descriptions of other problems that you can troubleshoot.

Connections to multiple servers

Although ReportCenter supports multiple ODBC connections in the `report.ini` file, when you run a report using a ServiceCenter DSN, Crystal Reports connects only to the first ServiceCenter DSN in `report.ini`. To change connections, create a separate `report.ini` file for each target ServiceCenter server. When you want to connect to a new server, log out of ReportCenter, replace the existing `report.ini` file with a new one for the correct server, and restart ReportCenter.

Unavailable reports

The ReportCenter client starts, but all reports are unavailable. The attempt to autologin to the server fails. Select the server you want from the drop-down list and click **Login**. If the login dials again, see *Cannot find SQL server or error connecting to <servername>* on page 100.

Application error

If you get an Application Error when you log in, your ServiceCenter ODBC Driver is out of sync with your ServiceCenter binaries. See the ODBC Driver FAQ section in the compatibility matrix on Peregrine's Customer Support Web site.

Missing fields or structures

If some fields or structures are missing when you list the fields of a database, there are two possible reasons:

- If you altered the tables from the out-of-box settings (added or deleted fields or tables), you must refresh the snapshot of your Database Dictionary. From the **Database** menu option, select **Verify Database**. A confirmation message indicates that you are current.

- The fields in question are in an array. An ODBC-compliant application does not recognize array structures in a table, so the ServiceCenter ODBC driver maps arrays to another table with the same name as the parent table plus the extension “a1” if it is the first array structure, “a2” for the second, and so forth. For example, the contacts table is called “contactsm1,” the first array in that table maps to “contactsa1.” You can then join the array to the main table by means of a subreport.

All arrays map to tables. Some remain as fields in the original table. The criteria when an array maps externally are as follows:

- The ServiceCenter ODBC driver recognizes only the following data types: character, number, logical, date/time.
- An array with only one element whose data type is not one of the previously recognized data types is not another table. Similarly, an array of structures where the first element of the structure is one of the previous data types is not another table.
- An array of characters is an unlimited string field (memo-type) and not another table.
- An array of numeric/datetime or logical elements is another table.

General troubleshooting tips

This section describes where to find the various log files that ReportCenter creates. It also describes some special notes about contacting Peregrine Systems Customer Support about ReportCenter issues.

Logs

Every program in the ReportCenter suite has its own log file, located in the rptctr directory. These log files often contain important error messages; consult them when odd behavior arises. This is especially important in the case of Scheduler, because it is a background process.

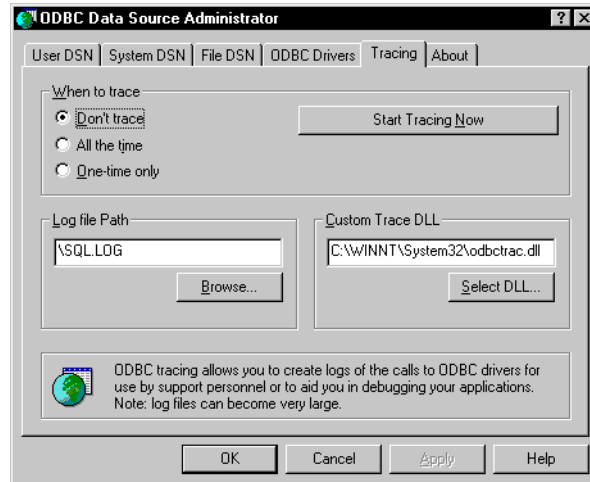
ReportCenter program	Log file name
ReportCenter Client	report.log
ReportCenter Administrator	readmin.log
ReportCenter Scheduler	rscsch.log
ServiceCenter ODBC Driver	sc.log

SQL logs

This section describes how to enable SQL logging, then how to read the SQL log.

To enable SQL logging

- 1 Go to the ODBC Administrator.
- 2 Select the Tracing tab.



- 3 Either change the name of the output file or rename the existing `c:\sql.log`. This keeps the new logging information separate from existing logging data.
- 4 Click **Start Tracing Now**.
- 5 Click **Apply**.
Note: Clicking **OK** without first clicking **Apply** does not activate the tracing feature.
- 6 When done, click **Stop Tracing Now**.

Reading the SQL log

The sample file that follows is an example of a SQL log. All items are arranged in ENTER / EXIT pairs. ENTER contains information about what the program passed into the ODBC driver. EXIT contains the return code (whether it was successful or not) and the text of the ODBC error message. Since SQL logs can be very long, do a search for SQL_ERROR to locate the error messages.

Program Name	ENTER or EXIT	ODBC Function Call	Parameters Passed
Report	10a:104 ENTER	SQLConnectW	
		HDBC	0x00a038a0
		WCHAR *	0x00a03d10 [-3] "sc_report_odbc\0"
		SWORD	-3
		WCHAR *	0x6a9a7284 [-3] "*****\0"
		SWORD	-3
		WCHAR *	0x6a9a7284 [-3] "*****\0"
		SWORD	-3
Report	10a:104 EXIT	SQLConnectW with return code -1 (SQL_ERROR)	
		HDBC	0x00a038a0
		WCHAR *	0x00a03d10 [-3] "sc_report_odbc\0"
		SWORD	-3
		WCHAR *	0x6a9a7284 [-3] "*****\0"
		SWORD	-3
		WCHAR *	0x6a9a7284 [-3] "*****\0"
		SWORD	-3
		DIAG [28000] Invalid User name or Password. (1)	
		Error Message	Return Code

Contacting Peregrine Systems Customer Support

Before contacting Customer Support (see page 9 for contact information) about an ODBC Driver issue, collect the following information:

- The version of ServiceCenter binaries you are using (from the About dialog box on the ServiceCenter Client).
- The type and version of the ODBC driver you are using (from the Drivers tab of the ODBC Administrator).
- The version and build numbers of your application (from the About dialog box in your application's main Window).

If this is a design issue, include:

- The SQL statement and selection criteria of the report.

If you are sending Customer Support information by e-mail, attach:

- The report in question (if not a canned report).
- Any SQL tracing logs that you generated.
- An unload of your JOINDEF and ERDDEF tables (if this issue involves a join report).

C Reports Packaged with ReportCenter

APPENDIX

This appendix contains a list of all reports packaged with ReportCenter, the file names, and short descriptions. While the list is sorted by category report, reports are listed under all applicable categories. Therefore, a report can occur more than once.

The categories include:

- *Change Management Reports* on page 112
- *Incident Management Reports* on page 113
- *Inventory Management Reports* on page 113
- *Service Management Reports* on page 114

Change Management Reports

Report Name	File Name	Description
Change Log for {Asset}	cm003.rpt	This report shows a list of all SCRs affecting a specified device. The report separates SCRs into Past, Current/Incomplete, and Planned activities.
Changes By Planned Start And Priority	cm005.rpt	This report provides a listing of all SCRs in the system, ordered by priority and start date.
Open SCRs: {StartDate} through {EndDate}	cm001.rpt	This report displays a Gantt chart of all open SCRs between the specified dates. A detailed section follows the chart, listing relevant data and highlighting overdue projects.
Open Tasks {StartDate} through {EndDate}	cm002.rpt	This report displays a Gantt chart of all open SCRs between the specified dates. A detailed section follows the chart, listing relevant data and highlighting overdue projects.
SCR Analysis by {GroupField}	cm004.rpt	This report shows a list and pie chart of all SCRs in the system, grouped by a user-specified field {Operator, Co-ordinator, Initiator, Category, Company, or Location}
Task Overview	cm006.rpt	This report shows a listing of all tasks in the system, ordered by priority and start date.

Incident Management Reports

Report Name	File Name	Description
Incident Analysis: By {GroupField}	im002.rpt	This report shows a breakdown of the percentage of all existing incidents by a user-specified grouping. This be be Category, Company, Dept, Contact Name, Location, or Assignment Group.
Incident Closed Per Month: By Operator	im003.rpt	This report shows trends in the number of incidents closed by each operator each month.
Incident Open/Close Time	im004.rpt	This report shows open, close, and update times for all incidents.
Incident Resolutions	im005.rpt	This report shows a pie chart analysis of the resolution codes for all closed incidents.
Incidents Closed Since {StartDate}: By Assignment Group	im001.rpt	This report shows a listing of all incidents marked closed sine the specified date, sorted by Assignment Group.
Unavailable Assets	iv001.rpt	This report shows a list of all assets in the system currently marked as being down (for repair, upgrade, or move).

Inventory Management Reports

Report Name	File Name	Description
Asset Categorization	iv002.rpt	This report shows a list of all assets in the system, grouped by type.
Unavailable Assets	iv001.rpt	This report shows a list of all assets in the system currently marked as being down (for repair, upgrade, or move).

Service Management Reports

Report Name	File Name	Description
Average Call Handle Time: By Operator	sm002.rpt	This report calculates the average amount of time spent on a single call by each operator.
Calls Handled: By Operator - {StartDate} through {EndDate}	sm004.rpt	This report shows the number of calls opened and closed by each operator each month between the specified dates. It also shows the average handle time.
Calls Opened: By {GroupField} - {StartDate} through {EndDate}	sm003.rpt	This report shows the number of calls opened between the specified dates. This data is grouped and summarized by the specified field (Company, Department, Contact Name, Location, or Category).
Currently Open Calls: By {GroupField}	sm007.rpt	This report displays counts and averages of all open tickets in the system, grouped by a user-specified field {Location, Operator, Category, Assignment Group, or Company}.
Daily Call Traffic Patterns: By Customer {StartDate} Through {EndDate}	sm005.rpt	This report shows the total number of calls opened each hour of the work week, color-coded by customer.
First Call Resolution Rates By Operator - {StartDate} through {EndDate}	sm001.rpt	This report displays statistics regarding all calls between the specified dates. Each is rated for First Call Resolution status based on the number of related incidents.
Weekly Call Traffic Patterns: By Customer {StartDate} Through {EndDate}	sm006.rpt	This report shows the total number of calls opened each day of the week, color-coded by customer.

Glossary

The following table contains terms used in the ReportCenter application.

Term	Definition
alerts	A series of checkpoints taken against a Quote or Order to ensure that required work activities occur within specified time frames.
approvals	A list of groups that must acknowledge or accept the risk, cost, and so on, associated with a specific Quote/Order and their associated Line Items. Approvals give controlling authorities the ability to stop work and to control when certain work activities can proceed.
area	A code that designates a level of processing or a record type. The codes are: <ul style="list-style-type: none">■ Quotes—q■ Orders—o■ Line Items—l
catalog (<i>model file</i>)	File that contains the definitions that support the various parts and services which customers can order.
categories	The major logical classification of Quote/Order/Line Items.
dependency type	The catalog creates dependency types by defining an item's components and their grouped order. When a quote is created and items are grouped, then those items are ordered according to their dependency type within the group.
event	The occurrence of a specific detectable action or condition.

Term	Definition
group	One or more operators assigned to a common area of responsibility. Typically, each group reflects a business or technical area (or department). Certain operators are designated as having approval authority for these groups.
grouped	Similar items are grouped in the catalog under a common name. The primary grouping for catalog items.
line items	A detailed record that defines part information such as cost, vendor, vendor part number, billing and shipping information, tax codes, and descriptions. Line Items are subordinate to Quotes and Orders.
modelvendor	A file that defines the vendor for each item in the catalog.
order	A high level record that defines the basic ordering information such as assignee, vendor, required dates, coordinator and description. An Order does not contain detailed part information.
part	A specific item that can be ordered by customers. It can have parent-child relationships with other parts.
phase	An administrative step in the cycle of a Quote or Order. Each category must have at least one phase defined in the category specification, and can have any number of phases defined (except Line Item categories, which have only one defined Phase).
profile	The security record that defines which options are available for each Request Management operator or group.
quote	A high level record that defines the basic request information such as requestor, required dates, coordinator and description. A Quote does not contain detailed part information.
receiving log	A file that tracks the date/time, operator, serial number and quantity for the receipt of physical items.
vendor	The entity who delivers the physical purchase items or performs the actual work/service items. Vendors can be internal or external to the organization.

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