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Crystal Reports

Migrating from the OCX Control to the Crystal Reports 9 Report Designer Component (RDC)

Overview

This document helps illustrate the benefits of using the Crystal Reports 9 Report Designer Component (RDC) for integrating reporting functionality into Visual Basic applications. It also explains how Visual Basic developers can migrate from the OCX (a component provided in previous versions of Crystal Reports) to the RDC as their primary integration method. This document includes an overview of the RDC, descriptions of its major components and object model, and an outline of its advanced features not available within the OCX.

Contents

Introduction

Since it was first included in Microsoft® Visual Basic®, Crystal Reports™ has been a market-leading reporting tool with millions of licenses shipped. It has kept pace with technological advancements by giving Visual Basic developers new ways to integrate reporting into database applications. The Crystal ActiveX® Control (OCX)—the tool many Visual Basic developers are familiar with—was first introduced in 1995 with Crystal Reports 4.5. In June 1998, we launched the Report Designer Component (RDC), a much more robust tool designed specifically for Visual Basic developers to create, view and modify reports within the Visual Basic Integrated Design Environment (IDE).

The purpose of this technical brief is to illustrate the benefits of using the newest version of the RDC technology—Version 9—for integrating reporting functionality into Visual Basic applications, and to help you migrate applications from the OCX to the RDC. It includes an overview of the RDC, descriptions of the major components and the object model, and an outline of the advanced features not available within the OCX.

Note: Crystal Reports 9 does not include the OCX component. Crystal Decisions will continue to focus its research and development efforts on the RDC and, for web applications, the new Report Application Server. Developers who have created applications using the OCX and plan to create new applications with the RDC will find this paper an ideal resource for reference.

The Report Designer Component

The Report Designer Component (RDC) is a powerful, integrated solution for Visual Basic developers to quickly and easily integrate reporting into their database applications. It is an ActiveX designer object that packs the reporting power of Crystal Reports into a lightweight add-in for Visual Basic 5.0 or 6.0, so that developers can open, design and customize reports within the Visual Basic IDE. Intuitive Report Experts make it flexible and efficient for connecting to data and integrating powerful reports into applications. With hundreds of report properties, methods and events, developers have complete control over their report designs, using familiar Visual Basic code. Report distribution is simplified through a small component count and free runtime for desktop applications. Reports can thus be packaged within the application's executable, or stored outside the application in the traditional (.rpt) format.

RDC Architecture

The RDC consists of three components, which together, enable developers to create and program, as well as preview, print, and export their reports:

- The **Automation Server** (craxdrt9.dll)—also known as the RDC runtime engine—is an extensive object model with hundreds of properties and methods that developers can use to program a report.
- The **Report Viewer** (crviewer9.dll) lets you preview reports on-screen for greater control and flexibility over the viewed report.

- The **Report Designer** was created specifically for Visual Basic developers. It is integrated tightly within Visual Basic 5.0 and 6.0, providing developers with a more intuitive way to create, view, and modify reports in the Visual Basic IDE. Using the Report Designer, developers can create reports within their Visual Basic project and take advantage of Visual Basic features such as Microsoft Visual Source Safe, which makes creating a report almost as easy as inserting a form.

Understanding the RDC Object Model

The RDC is a dual-interface object model based on Component Object Model (COM) technology, a standard that allows applications and component objects to communicate with one another. Because it doesn't specify how components are structured, but defines how they communicate with each other, the RDC can be used in any development environment that supports COM, such as Visual Basic, Visual C/C++®, Visual InterDev®, etc.

You should also be familiar with Object Model Hierarchy in order to access the correct object or collection. See Appendix A for more information of the RDC Object Model and **Appendix B** for a diagram.

The OCX

The OCX is the development interface with which many Visual Basic developers are familiar because it had been a part of Crystal Reports since 1995. However, it is based on older technology and therefore presents limitations for application integration. All of its properties and methods are accessed through a single control, limiting control of a report by exposing only a subset of the Crystal Report Print Engine's functionality. In addition, because it acts as a wrapper around the Crystal Report Print Engine (also referred to as the Report Engine or Print Engine), the OCX is less efficient when loading a report because it can't directly access the Report Engine.

Code Comparison between the OCX and RDC

The RDC is based on the current generation of Microsoft ActiveX technology. It is the method Visual Basic developers must use to take full advantage of the features in the Crystal Report Print Engine. Applications that are created using the OCX will not be able to use the latest powerful Crystal Reports technology. If you are planning future releases or new applications, and you want the most powerful and flexible tool, consider the RDC. Note: The RDC is intended for use in desktop applications, for web application the recommended component to use is the Report Application Server.

Visual Basic developers can benefit from using the RDC with increased control over reports: flexible formatting such as passing text to a TextObject; the latest Report Engine features such as mapping, multiple parameters, report creation at runtime, and support for unbound fields; and the ability to create, view and modify reports inside the Visual Basic IDE.

To view the code for each property or method of the OCX and its RDC equivalent, please view **Appendix C**.

OCX and RDC Sample Application Comparison

The following sample applications provide similar functionality—the first is created using the OCX, and the second using the RDC. The RDC example shows how to create a new application or convert an existing OCX application. The RDC, with few exceptions, can duplicate any properties and methods set by the OCX. Its properties and methods are very similar to the OCX, greatly reducing the learning curve for developers.

The major differences between the two applications include:

- Setting the Crystal-related Project References and Components
- Setting or accessing objects to get to the properties or methods needed for the report
- The addition of the Report Viewer for viewing reports.

Sample Application General Description:

A report with a subreport is created off the xtreme.mdb database. The main report contains the Customer table and a parameter field. The subreport contains the Orders table and a formula field.

The OCX application consists of a Form with three Command Buttons and the OCX control.

Form Load:
- The Report is opened
- The location of the database in the main report is changed
- The parameter in the main report is set
- The subreport is opened
- The location of the database in the subreport is changed
- A string is passed to the formula field in the subreport

Command1
- The report is previewed to screen

Command2
- The printer is selected
- The report is printed

Command3
- The export options are set to export the report to a Rich Text Format
- The report is exported

A second form will be added when the application is created using the RDC. The Report Viewer is added to the second form for viewing the report.

OCX Version

Project | References:
No Crystal References required

Project | Components:
Crystal Report Control

Form1

```
Private Sub Form_Load()

'Open the report
CrystalReport1.ReportFileName = App.Path &
"\OCX_to_RDC.rpt"

'Change the location of the database
CrystalReport1.DataFiles(0) = App.Path & "\xtreme.mdb"

'Pass the parameter value to the main report
CrystalReport1.ParameterFields(0) = "Param1;Main Report
Param;True"

'Pass the selection formula to the main report
CrystalReport1.ReplaceSelectionFormula _
"{Customer.Last Year's Sales} < 50000.00"

'Open the subreport
CrystalReport1.SubreportToChange = "Sub1"

'Change the location of the database in the subreport
CrystalReport1.DataFiles(0) = App.Path & "\xtreme.mdb"

'Pass the formula to the subreport
CrystalReport1.Formulas(0) = "Formula1= " & "'Subreport
Formula'"

'Set CrystalReport1 back to using the main report
CrystalReport1.SubreportToChange = ""

End Sub

Private Sub Command1_Click()

'Set the destination to window
CrystalReport1.Destination = crptToWindow
```

```
‘Preview the Report
CrystalReport1.Action = 1

End Sub

Private Sub Command2_Click()

‘Set the printer driver
CrystalReport1.PrinterDriver = “HPPCL5MS.DRV”

‘set the printer port
CrystalReport1.PrinterName = “HP LaserJet 4m Plus”

‘set the printer name
CrystalReport1.PrinterPort = “\\Vanprt\v1-1mpls-ts”

‘Set the destination to printer
CrystalReport1.Destination = crptToPrinter

‘Print the report
CrystalReport1.Action = 1

End Sub

Private Sub Command3_Click()

‘Set the Report to be exported to Rich Text Format
CrystalReport1.PrintFileType = crptRTF

‘Set the Destination to Disk
CrystalReport1.Destination = crptToFile

‘Set the path and name of the exported document.
CrystalReport1.PrintFileName = App.Path & "\OCXExport.rtf"

‘Export the report
CrystalReport1.Action = 1

End Sub
```

RDC Version

To migrate this application to the RDC, remove the OCX component from Form1, and remove the Crystal Report Control from the Project | Components menu, in addition to the steps below:

Project | References
Reference the Crystal Report 9 ActiveX Designer Runtime Library

Project | Components
Crystal Report Viewer Control 9

Add a second form
Add the Report Viewer to Form2

The properties and methods are accessed from individual objects. Following this code sample is a detailed description of the RDC Automation Server Object Model.

The RDC will open a standard Crystal Report (.RPT) that has either been imported into, or recreated in the RDC ActiveX Designer (.DSR). Refer to Appendix D for details on opening a .DSR file using the RDC object model, the .ReportFileName property for OCX.

Form1:

```
'Declare the application object used to open the rpt file.
Dim crxApplication As New CRAXDRT.Application

'Declare the report object
Public Report As CRAXDRT.Report

Private Sub Form_Load()
'Declare a DatabaseTable Object
Dim crxDatabaseTable as craxdrt.DatabaseTable
'Declare a Report object to set to the subeport
Dim crxSubreport As CRAXDRT.Report

'Open the report
Set Report = crxApplication.OpenReport _
(App.Path & "\OCX_to_RDC.rpt", 1)

'Use a For Each loop to change the location of each
'DatabaseTable in the Reports DatabaseTable Collection
For Each crxDatabaseTable In Report.Database.Tables
```

```
    crxDatabaseTable.ConnectionProperties(“Database Name”)
= App.Path & “\xtreme.mdb"

Next crxDatabaseTable


‘Pass the Parameter value to the first parameter field in
the

‘ParameterFields collection of the Report.
Report.ParameterFields.Item(1).AddCurrentValue "Main Report
Parameter"


‘Set crxSubreport to the subreport ‘Sub1’ of the main
report. The subreport name needs to be known to use this
‘method.

Set crxSubreport = Report.OpenSubreport("Sub1")


‘Use a For Each loop to change the location of each

‘DatabaseTable in the Subreport Database Table Collection

For Each crxDatabaseTable In crxSubreport.Database.Tables

    crxDatabaseTable.ConnectionProperties(“Database Name”)
= App.Path & “\xtreme.mdb"

Next crxDatabaseTable


‘Pass the formula’s text to the first formula field

‘in the FormulaFields collection of the subreport.

CrxSubreport.FormulaFields.Item(1).Text = "‘Subreport
Formula’"


End Sub


Private Sub Command1_Click()


‘Call Form2 to preview the Report

Form2.Show


End Sub


Private Sub Command2_Click()


‘Select the printer for the report passing the

‘Printer Driver, Printer Name and Printer Port.

Report.SelectPrinter “HPPCL5MS.DRV”, “HP LaserJet 4m Plus”,
“\\Vanprt\v1-1mpls-ts”
```

```
'Print the Report without prompting user
Report.PrintOut False

End Sub

Private Sub Command3_Click()

'Set the report to be exported to Rich Text Format
Report.ExportOptions.FormatType = crEFTRichText

'Set the destination type to disk
Report.ExportOptions.DestinationType = crEDTDiskFile

'Set the path and name of the exported document
Report.ExportOptions.DiskFileName = App.Path &
"\RDCExport.rtf"

'export the report without prompting the user
Report.Export False

End Sub

Form2:

Private Sub Form_Load()

'Set the Report source for the Report Viewer to the Report
CRViewer1.ReportSource = Form1.Report

'View the Report
CRViewer1.ViewReport

End Sub

Private Sub Form_Resize()

'This code resizes the Report Viewer control to Form2's
dimensions
CRViewer1.Top = 0
CRViewer1.Left = 0
CRViewer1.Height = ScaleHeight
```

```
CRViewer1.Width = ScaleWidth
End Sub
```

Features Exclusive to the RDC

The RDC offers many advanced features that are not available in the OCX including the following:

- **Printer options** - set paper orientation and paper size, set duplex printing options and paper source, display a Window standard Printer Setup dialog box.
- **Enhanced parameters** - set multiple values for a parameter, set a value range for a parameter
- **Report Viewer** - view multiple reports, customize the Export button.
- **Format at runtime** - pass text to a text object, format a field at runtime, format a field in a section event, load a picture in a section event.
- **Report creation at runtime** – design and format a report at runtime through a Report Expert or code (runtime license applies)
- **Unbound fields** – bind fields at runtime.
- **Change the runtime location of an OLE object**[1] – change the location of any OLE object through the Section Format event.
- **Conditional formulas –** set conditional formatting formulas for most objects

Printer options

The RDC is able to set printer options such as paper orientation and paper size at runtime allowing for greater control and flexibility in the printing of reports.

Set Paper Orientation and Paper Size

```
'Set the paperorientation
Report.PaperOrientation = crLandscape
'Set the papersize
Report.PaperSize = crPaper11x17
```

The RDC is able to set the paper source and duplex printing options at runtime. A Windows standard printer setup dialog box is also available to allow the user to change the printer properties directly at runtime. These additional features offer even greater control and flexibility in the printing of reports.

Set PaperSource and PrinterDuplex

```
'Set the Report object to the DSR
Dim Report As New CrystalReport1
```

```
Private Sub Form_Load()
'Set the paper source to the lower bin
Report.PaperSource = crPRBinLower
'Set duplex printing to horizontal
Report.PrinterDuplex = crPRDPHorizontal

‘Set the Report to the Report Viewer
CRViewer1.ReportSource = Report
‘View the report
CRViewer1.ViewReport
End Sub
```

Display a Windows Standard Printer Setup Dialog Box

```
‘Set the Report object to the DSR
Dim Report As New CrystalReport1

Private Sub Form_Load()
'Call the Printer Setup dialog box
Report.PrinterSetup Me.hWnd

‘Set the Report to the Report Viewer
CRViewer1.ReportSource = Report
‘View the report
CRViewer1.ViewReport
End Sub
```

Enhanced parameters

Set multiple values for a parameter

Use this method to set multiple default values for the parameter field. When the user is prompted at runtime, a list of the default values set will be available for the parameter.

```
‘Set the default values to be displayed from the Parameter
dialog
‘For the first parameter of the ParameterFields collection
‘SetNthDefaultValue will replace and add to the list of
‘default parameters.
```

```
Report.ParameterFields.Item(1).SetNthDefaultValue 1, 5000
Report.ParameterFields.Item(1).SetNthDefaultValue 2, 8000
Report.ParameterFields.Item(1).SetNthDefaultValue 3, 12000
Report.ParameterFields.Item(1).SetNthDefaultValue 4, 20000
```

Set a value range for a parameter

Use this method to set a range value for the parameter field. Consider for example, the ranged currency parameter is created ({?Sales Range}). In the report's selection formula, the 'Last Year's Sales' Field is set equal to the parameter range ({Customer.Last Year's Sales} = {?Sales Range}). At runtime using the RDC, the range for the parameter field is set using the AddCurrentRange method of the ParameterFieldDefinition object.

```
'Set the start and end values of the parameter's range.
'for the first parameter in the ParameterFields collection
'The third parameter indicates whether the upper and/or
lower 'bound of the range should be included
Report.ParameterFields.Item(1).AddCurrentRange 1000, 10000,
_ crRangeIncludeLowerBound + crRangeIncludeUpperBound

'A second range can be passed to the report.
'The report will now select all Last Year's Sales
'In the ranges of 1000 – 10000 and 20000 - 25000
Report.ParameterFields.Item(1).AddCurrentRange 20000,
25000, _ crRangeIncludeLowerBound +
crRangeIncludeUpperBound
```

Report Viewer

The Report Viewer is an ActiveX control invoked by the application to present one or more reports to the end user. Users of the viewer can navigate and analyze a report, print it, export it to a variety of formats, and much more. The Report Viewer exposes events for every object in the control plus most elements in the report itself, allowing developers to customize the behavior of the viewer.

Customize the Export Button

In the following example, the Export Button click event is handled to either show a custom form or export to a set format.

To access the events:

1. Open the Code window
2. Select CRViewer1 from the Object list
3. Select the desired event. (ExportButtonClicked)

```
Private Sub CRViewer1_ExportButtonClicked(UseDefault As
Boolean)
'Set UseDefault to false to disable default Export dialog
UseDefault = False

'Display your own custom export form
frmExport.Show

'-or-

'Export to set format

'Set destination to disk
Report.ExportOptions.DestinationType = crEDTDiskFile
'Set format to rich text
Report.ExportOptions.FormatType = crEFTRichText
'Set file name and path
Report.ExportOptions.DiskFileName = "C:\ExportReport.rtf"

'Export without prompting user
Report.Export False
End Sub
```

Format reports at runtime

One of the most powerful features of the RDC is the ability to format objects at runtime. This includes such features as passing text to a TextObject, moving and suppressing individual fields, setting font characteristics for fields, loading images at runtime, and setting properties based on a field's value. The RDC uses reports created in the Crystal Report .RPT format and the RDC ActiveX Designer .DSR format. The format used and how the DSR is initiated will determine formatting capabilities and how the code is written.

DSR

The DSR can load images at runtime and perform code in the Format Section events of the report. An example is reading the value of a Currency field at runtime—any value under a specified amount would cause the field's background color to be set to red.

If the code for formatting an object is written outside of the DSR form, the method used to initiate the DSR will determine how the object is accessed. Declaring a variable as a New DSR will allow direct access to all the objects on a report. Setting a Report Object to a DSR means it can only be accessed from the section in which it resides, the same as if the object was in an RPT.

When an application is compiled, the DSR becomes part of the executable. If the DSR changes, the application will need to be recompiled and redistributed.

RPT

The RPT code is the same as a Report object set to a DSR. To access the Format Sections events, Section objects will need to be declared 'WithEvents' and set to the appropriate section.

Declaring a variable as a New DSR:

```
'General Declarations
'CrystalReport1 is the name of the DSR in the Designer
folder of 'the Project menu (CrystalReport1.dsr)
Dim Report as New CrystalReport1
```

Setting a Report Object to a DSR:

```
'General Declarations
Dim Report as craxdrt.Report


Private Sub Form_Load()


'Set the generic Report object to the DSR
Set Report = New CrystalReport1


End Sub
```

Pass text to a TextObject

In this example, the Report Title is passed to a TextObject in the Report Header. This following code applies to an RPT or a Report object set to a DSR.

```
'Declare a TextObject to pass text to
Dim crxTextObject As CRAXDRT.TextObject
'Declare a generic object for searching
'through all the objects in the section
Dim crxObject As Object
'Search through each Report object in the Report Header
Section
For Each crxObject In
Report.Sections.Item("RH").ReportObjects


'Check if the object is a TextObject
```

```
If crxObject.Kind = crTextObject Then

'Set crTextObject to the Object if true
Set crxTextObject = crxObject
'Pass the text to the TextObject using the
'SetText method of the TextObject
crxTextObject.SetText "Report Title"

End If

Next crxObject
```

This code applies to passing text to a variable declared as a New DSR.

```
Report.Text1.SetText "Report Title"
```

Format a field at runtime

In this example, the first field in the Detail Section is resized and moved, and the font is set to bold. This code applies to passing text to an RPT or a Report object set to a DSR.

```
'Declare a FieldObject to format
Dim crxFieldObject As CRAXDRT.FieldObject

'Set crxFieldObject to the first report object in the
detail
'section
Set crxFieldObject =
Report.Sections.Item("D").ReportObjects.Item(1)

'Set the width of the field
crxFieldObject.Width = 1000
'Move the field to the left
crxFieldObject.Left = 200
'Make the field bold
crxFieldObject.Font.Bold = True
```

This code applies to passing text to a variable declared as a New DSR.

```
'Set the width of the field
Report.Field1.Width = 1000
```

```
'Move the field to the left
Report.Field1.Left = 200
'Make the field bold
Report.Field1.Font.Bold = True
```

Format a field in a section event

The report has two fields from the Employee table in the Detail section. Field1 is the 'Employee Name' field, and Field2 is the 'Last Years Sale's' field.

This code applies to Section Format Events in a DSR. Since the code is in the code section of the DSR, it does not matter how the DSR is initiated.

```
'Section 3 is the detail section
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)

'Set the background color of the field depending on the
amount of 'sales
If Field2.Value < 20000 Then
    Field2.BackColor = vbRed
Else
    Field2.BackColor = vbGreen
End If

End Sub
```

This code applies to Section Format Events in an RPT. The code is more intensive in the RPT example because the objects on the report are not directly accessible, and must be declared and set in order to access the properties.

```
'General Declarations

'Declare a Report object
Dim crxReport As CRAXDRT.Report
'Declare an Application object
Dim crxApplication As New CRAXDRT.Application
'Declare a Section object with events
Dim WithEvents Section3 As CRAXDRT.Section

Private Sub Form_Load()
'Open the Report
Set crxReport = crxApplication.OpenReport("c:\Test.rpt")
```

```
'Set Section3 to the Detail section of the report
Set Section3 = Report.Sections(3)

'Set the Report to the Viewer
CRViewer1.ReportSource = crxReport
'Preview the Report
CRViewer1.ViewReport

End Sub

Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Declare a Field object
Dim crxField As CRAXDRT.FieldObject

'Set crxField to the second reportobject in the
'Detail Section. This is Field2 on the Report
Set crxField =
crxReport.Sections("D").ReportObjects.Item(2)
'Set the background color of the field depending on the
amount of 'sales
If crxField.Value < 20000 Then
    crxField.BackColor = vbRed
Else
    crxField.BackColor = vbGreen
End If

End Sub
```

Load an image in a section event

The report has three fields from the Employee table and an OLE Object—Object Type set to Bitmap—in the Detail section. Field1 is the 'Employee Name' field, Field2 is the 'Last Years Sale's' field, and Field3 is the path to the bitmap of the employee's picture. Field3 is suppressed because only the field value is needed to load the picture.

This code applies to Section Format Events in a DSR. Since the code is in the code section of the DSR, it does not matter how the DSR is initiated.

```
'Section 3 is the detail section
```

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)


 'Pass the path from field3 to the Visual Basic LoadPicture
function.
'The picture is then loaded into the Ole Object
Set Picture1.FormattedPicture = LoadPicture(Field3.Value)


End Sub
```

This code applies to Section Format Events in an RPT. The code is more intensive in the .RPT example because the objects on the Report are not directly accessible, and must be declared and set in order to access the properties.

```
'General Declarations


'Declare a Report object
Dim crxReport As CRAXDRT.Report
'Declare an Application object
Dim crxApplication As New CRAXDRT.Application
'Declare a Section object with events
Dim WithEvents Section3 As CRAXDRT.Section


Private Sub Form_Load()
'Open the Report
Set crxReport = crxApplication.OpenReport("c:\Test.rpt")


'Set Section3 to the Detail section of the report
Set Section3 = Report.Sections(3)


'Set the Report to the Viewer
CRViewer1.ReportSource = crxReport
'Preview the Report
CRViewer1.ViewReport


End Sub


Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Declare a Field object
Dim crxField As CRAXDRT.FieldObject
'Declare an OLE object for the picture
```

```
Dim crxPicture As CRAXDRT.OLEObject


'Set crxPicture to the Fourth reportobject in the
'Detail Section. This is Picture1 on the Report
Set crxPicture =
crxReport.Sections("D").ReportObjects.Item(4)


'Pass the value from field3 (path to the bitmap) to the
'Visual Basic LoadPicture function.
'The picture is then loaded into the Ole Object
Set crxPicture.FormattedPicture =
LoadPicture(crxField.Value)


End Sub
```

Active Data

One of the cornerstones of the RDC is the ability to report off runtime data, i.e. set the data source for the report at runtime. The data source can consist of any valid recordset created using ADO, RDO, DAO, or CDO. While this is not an exclusive feature of the RDC, it is an important feature designed to give the programmer greater flexibility and control over the SQL used to create the report. The processing, filtering and sorting of the data can be moved from the report to the server, greatly increasing the speed and efficiency of the report.

```
'Set the Report object to the DSR
Dim Report As New CrystalReport1
'Declare an ADO recordset object
Dim ADOrs As New ADODB.Recordset


Private Sub Form_Load()


'Create a Filtered Recordset to pass to the report
'The Select portion of the SQL must be the same as the
'structure of the data definition used in the report
ADOrs.Open "Select * From Customer Where Customer.`Customer
Name` Like 'C%'", "database=;uid=;pwd=;dsn=xtreme sample
data"


'Set the data source to the ADO recordset.
Report.Database.SetDataSource ADOrs
```

```
‘Set the Report to the Report Viewer
CRViewer1.ReportSource = Report
‘View the report
CRViewer1.ViewReport

End Sub
```

Report Creation at Runtime

Developers can choose between a Report Expert or code to integrate runtime report creation capabilities into their applications.

Using the Report Expert

Now users can create their own reports at runtime by using an intuitive Report Expert to add fields, add groups, create summaries, filter and format.

In the following example the Customer table from xtreme.mdb is added to a new report. The Report Expert is displayed. Step through the intuitive interface to create, save and display the report.

```
‘Declare a new instance of the application object
Dim crxApplication As New CRAXDRT.Application
'Declare a Report object. The report is generated at
runtime
Dim crxReport As CRAXDRT.Report

Private Sub Form_Load()
'Declare a Report Wizard object
Dim crxWizard As New CrystalReportWizard.CRStandardWizard

‘Create a new blank report
Set crxReport = crxApplication.NewReport

‘Add the Customer table from xtreme.mdb
crxReport.Database.Tables.Add App.Path & "\xtreme.mdb",
"Customer"

‘Set crxReport to the Crystal Report Wizard
Set crxWizard.CrystalReport = crxReport

‘Display the Crystal Report Wizard
crxWizard.DisplayReportWizard
```

```
End Sub
```

Using the Report Creation API

Crystal Reports Version 8 and higher exposes a Report Creation API interface from the RDC. This allows requests to be created and modified entirely within the application code. The new report creation API functions allow runtime creation of report objects including text, database fields, unbound fields, charts, specials, boxes, cross-tabs, blob fields, lines, pictures, summaries and subreport objects. These can either be added at runtime to an existing report created in the Visual Basic designer, or to a blank report. All properties that are normally available for each object at runtime are also available for these objects.

The following is a limited example of the full capabilities of the Report Creation API. In this example:

- Create the report
- Add the Customer Table from xtreme.mdb
- Add the “Customer Name” and “Last Year’s Sales” fields
- Create a group from the “Country“ field
- Add the “Country” field to the group header
- Display the report

```
‘Add a Report Viewer control to the form.
'Declare a new instance of the Application object
Dim crxApplication As New CRAXDRT.Application
'Declare a Report object. The report is generated at
runtime
Dim crxReport As CRAXDRT.Report

Private Sub Form_Load()
'Declare a DatabaseFieldDefinition object
Dim crxField As CRAXDRT.DatabaseFieldDefinition

'Create a new blank report
Set crxReport = crxApplication.NewReport

'Add the Customer table from xtreme.mdb to the report
crxReport.Database.Tables.Add "C:\Program Files\Seagate
Software\Crystal Reports\Samples\Databases\xtreme.mdb",
"Customer"
'Add the "Customer Name" field to the report and set the
Top, Left position
crxReport.Sections("D").AddFieldObject "{Customer.Customer
Name}", 0, 0
'Add the "Last Year's Sale's" field to the report and set
the Top, Left position
```

```
crxReport.Sections("D").AddFieldObject "{Customer.Last
Year's Sales}", 2000, 0


'Set crxField to the "Country" field

Set crxField = crxReport.Database.Tables(1).Fields(13)

'Add a group based off the "Country" field

crxReport.AddGroup 0, crxField, crGCAnyValue,
crAscendingOrder

'Add the Country field to the newly created Group Header

crxReport.Sections("GH").AddFieldObject
"{Customer.Country}", 0, 0


'Set the Report to the Report Viewer

CRViewer1.ReportSource = Report

'View the report

CRViewer1.ViewReport


End Sub
```

NOTE	All Runtime Report Creation functionality requires licensing. For more information, please visit the Crystal Decisions web site at http://www.crystaldecisions.com

Unbound Fields

Unbound fields are fields of a specific data type that are placed on the report and set to a data source at runtime. There are two methods for setting the data source. The first method names the unbound field and then searches through the report's data source for a matching field. The second method sets the "{Table.FieldName}" of the unbound field.

In both examples, two unbound fields are placed on the report. The first is a number field, and the second is a string field.

Set the Name of the Unbound Field:

```
'Set the Report object to the DSR

Dim Report As New CrystalReport1


Private Sub Form_Load()

'Add the Database and table to the report at runtime

'The Database and table can also be set at design time

Report.Database.Tables.Add "c:\Databases\xtreme.mdb",
"Customer"


'Set the names for the number and string fields. The name
is
```

```
'not case sensitive but can not contain any spaces, or
seperators.
Report.UnboundNumber1.Name = "customerid"
Report.UnboundString1.Name = "customername"

'Search through the report's tables and fields
'for a matching field. The name of the field may
'contain spaces or separators
Report.AutoSetUnboundFieldSource crBMTName

'Set the Report to the Report Viewer
CRViewer1.ReportSource = Report
'View the report
CRViewer1.ViewReport
End Sub
```

Set the "{Table.FieldName}" of the unbound field:

```
'Set the Report object to the DSR
Dim Report As New CrystalReport1

Private Sub Form_Load()
'Add the Database and table to the report at runtime
'The Database and table can also be set at design time
Report.Database.Tables.Add "c:\Databases\xtreme.mdb",
"Customer"

'Set the table and field names for the number and string
fields.
'The Table.FieldName is not case sensitive but must follow
the same
'syntax, i.e. spaces, separators.
Report.UnboundNumber1.SetUnboundFieldSource
"{Customer.Customer Id}"
Report.UnboundString1.SetUnboundFieldSource
"{Customer.Customer Name}"

'Set the Report to the Report Viewer
CRViewer1.ReportSource = Report
'View the report
CRViewer1.ViewReport
End Sub
```

Change the Runtime Location of an OLE Object

One of the top features of the RDC is the ability to load an image into an OLE object at runtime through the section format event. Also a recent addition to the RDC feature set, allows the changing of the location of an embedded OLE object such as a Microsoft Word document or Microsoft Excel spreadsheet.

In this example, two OLE objects have been placed in the detail section of the report. One is named “crxOLEObjXls” and will be passed a Microsoft Excel spreadsheet, the other is named “crxOLEObjDoc” and will be passed a Microsoft Word document. All code is done through the section format event of the DSR.

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)

'Set the location of crxOLEObjXls to a Microsoft Excel
spreadsheet

crxOLEObjXls.SetOleLocation App.Path & "\Excel1.xls"

'Set the Height and width of crxOLEObjXls

crxOLEObjXls.Height = 1800

crxOLEObjXLS.Width = 5791


'Set the location of crxOLEObjDoc to a Microsoft Word
document

crxOLEObjDoc.SetOleLocation App.Path & "\Word1.doc"

'Set the Height and width of crxOLEObjDoc

crxOLEObjDoc.Height = 322

crxOLEObjDoc.Width = 8641

End Sub
```

Summary

The Report Designer Component represents the latest in ActiveX technology and provides the following advantages over the OCX:

- It integrates directly into the Visual Basic IDE.
- It allows you to create, view, and modify reports using Reports Experts and familiar Visual Basic code.
- It exposes all Print Engine features and provides the greatest number of events and objects to which to write code.
- It gives better performance from its dual-interface component, with no wrapper around the Print Engine.
- It allows you to take advantage of code completion features that are easy to use in the Visual Basic editor.
- It is fully compatible with Microsoft Visual Basic 5.0 and 6.0.

For more information on the Report Designer Component and Crystal Reports 9, please visit http://www.crystaldecisions.com/products/crystalreports

Appendix A: Understanding the RDC Object Model

The RDC is a dual-interface object model based on Component Object Model (COM) technology. COM is a Microsoft technology that was introduced with OLE 2, the second version of Object Linking and Embedding. It has since evolved to be the foundation for much more, including ActiveX controls and Automation Servers.

COM objects work by exposing their functions through an interface. Most COM objects support more than one interface.

Automation refers to the process by which Automation Servers and Automation Controllers communicate. An Automation Server is an application or component that exposes its functionality to other applications. An Automation Controller is another application or development tool—such Visual Basic, Visual C++, or Delphi—that uses the functionality exposed by the Automation Server to perform a task.

A COM object is programmed by invoking methods through the interfaces exposed by the Automation Server. The OCX is a COM object that exposes a single interface with a limited number of properties and methods. The Automation Server for the RDC exposes many interfaces providing much greater control at runtime.

A good understanding of COM and Automation is needed to properly program the RDC Automation Server. The RDC Automation Server's Object Model is a hierarchy of objects and collections. A collection contains a number of like objects. For example, the DatabaseTables Collection contains all the DatabaseTable objects used in a report. Each collection has the same three properties: Count, Item, and Parent. Count returns the number of objects in a collection. Item is a one-based array that returns the specified object contained in the Collection. Parent is a reference to the Parent object. Each object has its own set of properties and methods.

Accessing Objects

Each object or collection can be declared as a variable of that type and set to the desired object or collection in the report. The object or collection can also be accessed by stepping through the object model using the dot '.' Operator. Once the desired object or collection is reached or set, its corresponding properties or methods can be implemented.

Coding access to a particular property or method can take from one to several lines of code depending on how the object is accessed. For example, the Name property of the DatabaseTable object provides the name of the table.

The following code will demonstrate three methods to get to this property.

Example1 will set a variable for each individual object from the Report object to the DatabaseTable object to get the Name property.

Example 2 will only set the variable for the DatabaseTable object before getting the Name property.

Example3 will get the Name property directly. Each method will reduce the amount of code used. Solid knowledge of Object Hierarchy will allow for cleaner code.

Example 1:

```
'Declare and set each corresponding object.
'The Report Object is set when the report is opened or
'instantiated.

'Declare the Database Object
Dim crxDatabase as craxdrt.Database
'Declare the DatabaseTables Collection
Dim crxDatabaseTables as craxdrt.DatabaseTables
'Declare the DatabaseTable Object
Dim crxDatabaseTable as craxdrt.DatabaseTable

'The Database property of Report returns the Database
object to 'crxDatabase
Set crxDatabase = Report.Database

'The Tables property of crxDatabase returns the
DatabaseTables 'collection to crxDatabaseTables
Set crxDatabaseTables = crxDatabase.Tables

'The Item property of crxDatabaseTables returns the first
'DatabaseTable in the collection to crxDatabaseTable
Set crxDatabaseTable = crxDatabaseTables.Item(1)

'Print out the table name
MsgBox crxDatabaseTable.Name
```

Example 2:

```
'Declare and set only the DatabaseTable Object

'Declare the DatabaseTable Object
Dim crxDatabaseTable as craxdrt.DatabaseTable

'Starting with the Report Object step through the Object
Model to 'return the first DatabaseTable in the
DatabaseTables Collection 'to crxDatabaseTable.
Set crxDatabaseTable = Report.Database.Tables.Item(1)
'Print out the table name
```

```
MsgBox crxDatabaseTable.Name
```

Example 3:

```
'Starting with the Report Object step through the Object
Model to access the Name property of the first
DatabaseTable in 'the DatabaseTables Collection.

MsgBox Report.Database.Tables.Item(1).Name
```

Setting a Property or Method for All Objects in a Collection

A collection may contain many objects, and the properties or methods for each of these objects may need to be set at runtime. Continuing with the DatabaseTable object, the following examples will get the Name property for all objects in the DatabaseTables collection.

Example1 will get each DatabaseTable object individually.

Example2 will use the Count property of the DatabaseTables collection to create a For Loop and cycle through all DatabaseTable objects collected.

Example3 will use the Visual Basic 'For Each' command to access each DatabaseTable object in the DatabaseTables collection.

Example1:

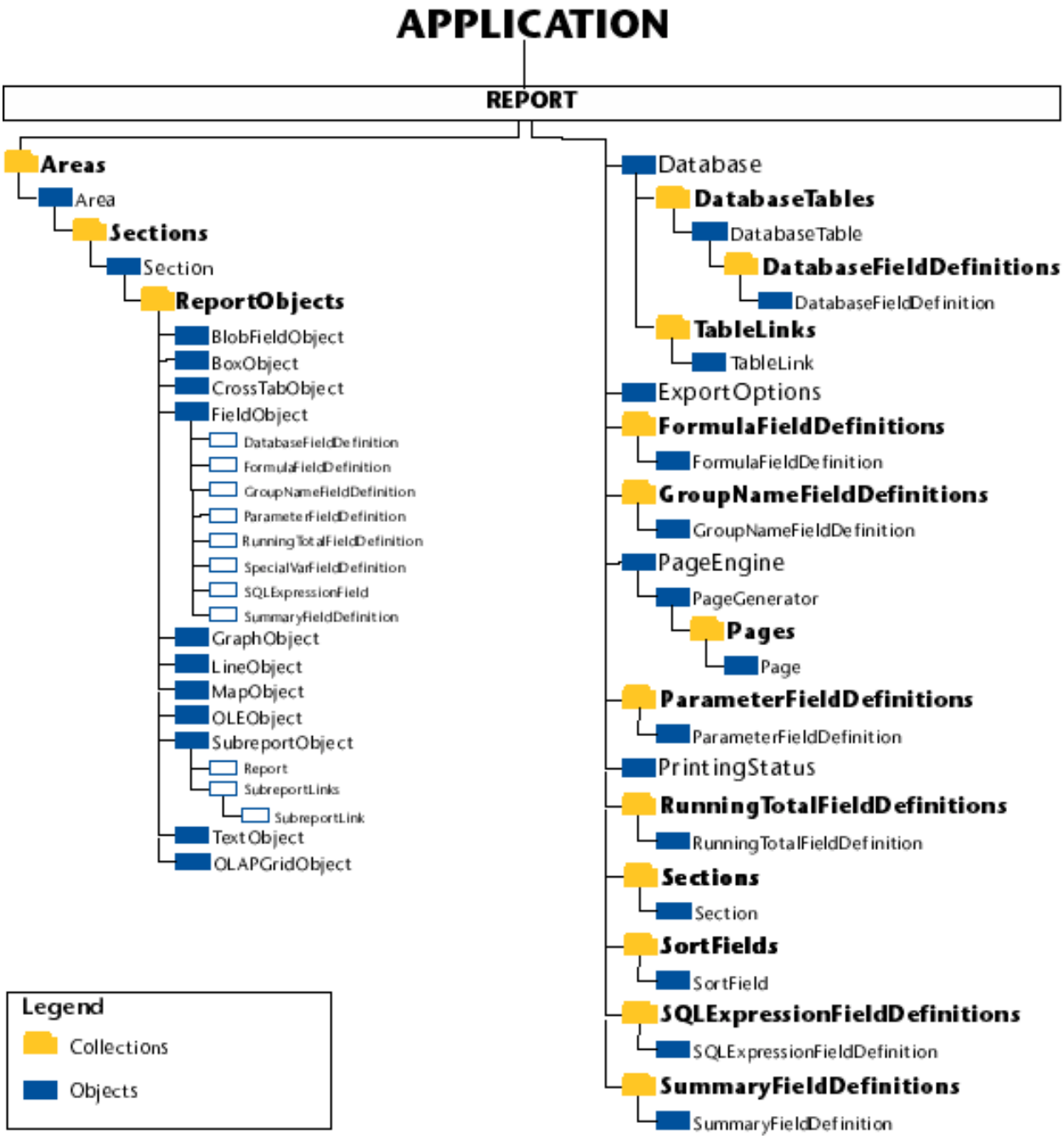
```
Dim crxDatabaseTable as craxdrt.DatabaseTable

'Set crxDatabaseTable to the first DatabaseTable in the
'DatabaseTables collection.

Set crxDatabaseTable = Report.Database.Tables.Item(1)

'Print out the table name

MsgBox crxDatabaseTable.Name

'Set crxDatabaseTable to the second DatabaseTable in the
'DatabaseTables collection.

Set crxDatabaseTable = Report.Database.Tables.Item(2)

'Print out the table name

MsgBox crxDatabaseTable.Name

'Repeat for all DatabaseTables.
```

Example2:

```
Dim crxDatabaseTable as craxdrt.DatabaseTable
```

```
Dim nTable as Integer


For nTable = 1 to Report.Database.Tables.Count
'Set crxDatabaseTable to the nth DatabaseTable in the
'DatabaseTables collection.


      Set crxDatabaseTable =
Report.Database.Tables.Item(nTable)


'Print out the table name
MsgBox crxDatabaseTable.Name
Next nTable


Example3:


'Set crxDatabaseTable to each DatabaseTable in the
'DatabaseTables collection.
For Each crxDatabaseTable in Report.Database.Tables
'Print out the table name
MsgBox crxDatabaseTable.Name
Next crxDatabaseTable
```

Appendix B: Graphical Overview of the RDC Object Model



Appendix C: Code Comparison: OCX to RDC

The following illustrates code for each property or method of the OCX, followed by the RDC equivalent.

Some OCX properties will contain many parameters. The RDC equivalent will be an object with many properties and may result in several lines of code for the RDC versus one line of code for the OCX. Although you may have to write a few more lines of code, by using the RDC and its separate objects you benefit from:

- The flexibility to set individual or multiple properties
- The ability to access separate objects in the report, and
- Greater control over the format of the entire report.

Some OCX properties or methods are either not implemented in the RDC or do not have a corresponding property or method. Where this is the case, alternate code or an alternate method is suggested, or the OCX property is obsolete and no alternative is provided within the RDC.

All properties are listed in alphabetical order.

Properties

Action:

OCX:
Triggers the printing of the report to screen, printer or export.

```
CR1.Action = 1
```

RDC:
The RDC prints to screen, printer, and export through three different methods. All are methods of the Report object.

View in Report Viewer:
Viewing of the report is done through the Report Viewer Control:

```
CRViewer1.ReportSource = Report

CRViewer1.ViewReport
```

Printer:
Print the report without prompting the user.

```
Report.Printout False
```

Export:
Export the report without prompting the user.

```
Report.Export False
```

BoundReportFooter:

OCX:
Indicates whether or not a footer is printed at the bottom of each page with a page number when printing a bound report.

```
CrystalReport1.BoundReportFooter = True
```

RDC:

Note on Bound Reports:
The RDC does not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible.

In Crystal Reports 9, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply). For more information, please see the section on Report Creation in this document.
The Report Footer section of a report template can be suppressed through code.

```
Report.Sections.Item("RF").Suppress = True
```

BoundReportHeading:

OCX:
Specifies a report title to be displayed at the top of the first page of a bound report

```
CrystalReport1.BoundReportHeading = "Box Office Report"
```

RDC:
Note on Bound Reports:
The RDC does not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible.

In Crystal Reports 9, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply). For more information, please go to page 17.

The ReportTitle field can be set through code.

```
Report.ReportTitle = "Box Office Report"
```

Connect:

OCX:
Logs on to an SQL server or an ODBC data source.

```
CrystalReport1.Connect =
"DSN=Accounting;UID=734;PWD=bigboard;DSQ=Administration"
```

RDC:
ConnectionProperties:
This is a method of the DatabaseTable Object.

```
'Connect the first table of the tables collection to the
data source

Dim dbProperties As CRAXDRT.ConnectionProperties

Set dbProperties =
Report.Database.Tables.Item(1).ConnectionProperties

dbProperties("DSN") = "Accounting"

dbProperties("Database") = Administration

dbProperties("User ID") = "734"

dbProperties("Password") = "bigboard"
```

CopiesToPrinter

OCX:
Specifies the number of copies to be printed if you are printing to a printer, if the value you assign to Destination is a value of 1-Printer.

```
CrystalReport1.CopiesToPrinter = 3
```

RDC:
Optional second parameter of the Printout method.
This is a method of the Report Object.

object.PrintOut PromptUser, NumberOfCopies, Collated,
StartPageNumber, StopPageNumber

```
'Print to printer, without prompting the user, prints 3
copies.

'collate the copies, start printing on page 1,

'stop printing on page 5

Report.PrintOut False, 3, True, 1, 5
```

DataFiles

OCX:
Specifies the location of the database files or tables used in the report.

```
CrystalReport1.DataFiles(0) = "c:\new\xtreme.mdb"
```

RDC:
ConnectionProperties:
This is a method of the DatabaseTable Object.

```
'Set the database location for the first table of the
tables collection

Report.Database.Tables.Item(1).ConnectionProperties("Databa
se Location") = "c:\new\xtreme.mdb"
```

DataSource

OCX:
Specifies the DataControl for a bound Report.
Set at design time only.

RDC:
Note on Bound Reports:
The RDC version 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16.

In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply). For more information, please go to page 17.

Destination
OCX:
Specifies the destination to which your report is to be printed (Window, Printer, File or Mail).

```
'Send the report to a window

CrystalReport1.Destination = 0
```

RDC:
The RDC prints to screen, printer and export through three different methods. All are methods of the Report object.

Print to screen:
Viewing of the report is done through the Report Viewer Control:

```
CRViewer1.ReportSource = Report

CRViewer1.ViewReport
```

Printer:
Print the report without prompting the user.

```
Report.Printout False
```

Export:
Export the report without prompting the user.

```
Report.Export False
```

DetailCopies

OCX:
Specifies the number of copies of each record in the Details section that the program is to print.

```
CrystalReport1.DetailCopies = 3
```

RDC:
CopiesToPrint
This is a property of the Area Object.

```
'Print 3 copies of each detail line

Report.Areas.Item("D").CopiesToPrint = 3
```

DialogParentHandle

OCX:
Specifies the handle of the parent window. The program uses this handle to determine the window within which it centers any dialog boxes it displays (progress dialog boxes, parameter field prompt dialog boxes, etc.).

```
CrystalReport1.DialogParentHandle = Form1.Hwnd
```

RDC:
SetDialogParentWindow
This is a Method of the Report Object.

```
'Set the Dialog Parent window to Form1

Report.SetDialogParentWindow Form1.hWnd
```

DiscardSavedData

OCX:
If data is saved with the specified report, setting this property to 1 (True) discards the data.

```
CrystalReport1.DiscardSavedData = True
```

RDC:
DiscardSavedData
This is a property of the Report Object.

```
Report.DiscardSavedData
```

EMailCCList

OCX:
Specifies the "CC" list to which you want your e-mail message sent.

```
CrystalReport1.EMailCCList = "John Brown; Jane Doe"
```

RDC:
MailCcList
This is a property of the ExportOptions Object.

```
'Set names for 'CC' list

Report.ExportOptions.MailCcList = "John Brown; Jane Doe"
```

EMailMessage

OCX:
Specifies the string you want to appear as the body of your e-mail message.

```
CrystalReport1.EMailMessage = "The meeting is at 4:00"
```

RDC:
MailMessage
This is a property of the ExportOptions Object.

```
'Set Email message

Report.ExportOptions.MailMessage = "The meeting is at 4:00"
```

EmailSubject

OCX:
Specifies the subject line in your e-mail message.

```
CrystalReport1.EMailSubject = "Staff meeting"
```

RDC:
MailSubject
This is a property of the ExportOptions Object.

```
'Set Email subject

Report.ExportOptions.MailSubject = Staff meeting"
```

EMailToList

OCX:
Specifies the "To" list to which you want your e-mail message directed.

```
CrystalReport1.EMailToList = "Jane Doe"
```

RDC:
MailToList
This is a property of the ExportOptions Object.

```
'Set names for 'To' list

Report.ExportOptions.MailToList = "Jane Doe"
```

EMailVIMBCCList

OCX:
Specifies the "Blind CC" list to which you want your e-mail message copied.

```
CrystalReport1.EMailVIMBCCList = "John Jacobs; Jane Doe"
```

RDC:
MailBccList
This is a property of the ExportOptions Object.

```
'Set names for 'BCC' list

Report.ExportOptions.MailBccList = "John Jacobs; Jane Doe"
```

ExchangeFolder

OCX:
Specifies the Exchange path to export a file, when you want to export to Microsoft Exchange.

```
CrystalReport1.ExchangeFolder =
"c:\Microsoft\Exchange\NewRpt.rpt"
```

RDC:
ExchangeFolderPath
This is a property of the ExportOptions Object.

```
'Set the path for the exchange folder

Report.ExportOptions.ExchangeFolderPath =
"c:\Microsoft\Exchange\NewRpt.rpt"
```

ExchangeProfile

OCX:
Specifies the Exchange Profile when you want to export to Microsoft Exchange.

```
CrystalReport1.ExchangeProfile = "James Andrews"
```

RDC:
ExchangeProfile
This is a property of the ExportOptions Object.

```
'Set the exchange profile

Report.ExportOptions.ExchangeProfile = "James Andrews"
```

ExchangePassword

OCX:
Specifies the Exchange password when you want to export to Microsoft Exchange.

```
CrystalReport1.ExchangePassword = "pickle"
```

RDC:
ExchangePassword
This is a property of the ExportOptions Object.

```
'Set the exchange password

Report.ExportOptions.ExchangePassword = "Pickle"
```

Formulas

OCX:
Specifies a new string for an existing formula.

```
CrystalReport1.Formulas(0) = "COMMISSION= {file.SALES} *.1"

CrystalReport1.Formulas(1) = "TOTAL= {file.SALES} +
{file.COMMISSION}"
```

RDC:
Text
This is a property of the FormulaFieldDefinition Object.

```
'Pass the formula to the first formula in the
```

```
'FormulaFields collection
Report.FormulaFields.Item(1).Text = "file.SALES} *.1"

'Pass the formula to the second formula in the
'FormulaFields collection
Report.FormulaFields.Item(2).Text = "{file.SALES} +
{file.COMMISSION}"
```

GraphData

OCX:
Sets the data used for a specified graph.

```
CrystalReport1.GraphData(0) = "GROUPHDR.0.0; 3; Group1;
Group2; 0; COLANDROW"
```

RDC:
The GraphData property was not included in the OCX as of version 7 and is not included in the RDC.

GraphOptions

OCX:
Sets a number of options for the specified graph.

[form.]Report.GraphOptions(ArrayIndex%) [= sectionCode; graphNum; fontFace; barDirection; labelRisers; gridLines; legend; max; min$]

```
CrystalReport1.GraphOptions(0) = "GROUPHDR.0.0; 1; Arial;
(H; T; F; T; 500; 100"
```

RDC:
With the noted exceptions the parameters of the GraphOptions property are individual properties of the GraphObject. See below for the applicable GraphOptions parameter to GraphObject property match.

OCX GraphOption Parameter	RDC Property
sectionCode	Specify the item in the Sections collection that holds the graph: `Report.Sections.Item("GH")`
graphNum	Specify the Item in the ReportObjects collection of the Section the graph is in. `Report.Sections.Item("GH").ReportObjects.Item(1)`
fontFace	Not implemented
barDirection	GraphDirection
labelRisers	DataPoint
gridLines	DataAxisGridline, GroupAxisGridline, SeriesAxisGridline
legend	EnableShowLegend
max	MaxDataAxisValue
min	MinDataAxisValue

```
'The Graph is the first Object in the
'Group Header 1 section
```

```
'Set the graph direction to Horizontal
Report.Sections.Item("GH1").ReportObjects.Item(1).GraphDire
ction = crHorizontalGraph

'Show no values on the label risers
Report.Sections.Item("GH1").ReportObjects.Item(1).DataPoint
= crNone

'Show no gridlines for the Data Axis Grid Line
Report.Sections.Item("GH1").ReportObjects.Item(1).DataAxisG
ridline = crNoGridlines

'Show Minor gridlines for the Group Axis Grid Line
Report.Sections.Item("GH1").ReportObjects.Item(1).GroupAxis
Gridline = crMinorGridlines

'Show Major gridlines for the Series Axis Grid Line
Report.Sections.Item("GH1").ReportObjects.Item(1).SeriesAxi
sGridline = crMajorGridlines

'Show the graph legend
Report.Sections.Item("GH1").ReportObjects.Item(1).EnableSho
wLegend = True

'Set the maximum value to 5000
Report.Sections.Item("GH1").ReportObjects.Item(1).MaxDataAx
isValue = 5000

'Set the minimum value to 100
Report.Sections.Item("GH1").ReportObjects.Item(1).MinDataAx
isValue = 100
```

GraphText

OCX:
Sets the various text components for the specified graph.

[form.]Report.GraphText(ArrayIndex%)[= sectionCode; graphNum;title; subTitle; footnote;series;group;x;y;z$]

```
CrystalReport1.GraphText(0) = "TITLE; 1; title string;
subtitle
string; footnote string; series string; group string; x
string;
      y string; z string"
```

RDC
With the noted exceptions the parameters of the GraphText property are individual properties of the GraphObject. See below for the applicable GraphText parameter to GraphObject property match.

OCX GraphText Parameter	RDC Property
SectionCode	Specify the item in the Sections collection that holds the graph: `Report.Sections.Item("GH")`
GraphNum	Specify the item in the ReportObjects collection of the Section the graph is in. `Report.Sections.Item("GH").ReportObjects.Item(1)`
Title	Title
SubTitle	SubTitle
Footnote	FootNote
Series	SeriesTitle
Group	GroupsTitle
X	XAxisTitle
Y	YaxisTitle
Z	ZaxisTitle

```
'The Graph is the first Object in the
'Group Header 1 section


'Set the Graph Title
Report.Sections.Item("GH1").ReportObjects.Item(1).Title =
"Title String"


'Set the Graph SubTitle
Report.Sections.Item("GH1").ReportObjects.Item(1).SubTitle
= "Subtitle String"


'Set the Graph Footnote
Report.Sections.Item("GH1").ReportObjects.Item(1).FootNote
= "Footnote String"


'Set the Graph Series Title
Report.Sections.Item("GH1").ReportObjects.Item(1).SeriesTit
le = "Series Title String"


'Set the Graph Groups Title
Report.Sections.Item("GH1").ReportObjects.Item(1).GroupsTit
le = "Groups Title String"


'Set the Graph XAxis Title
Report.Sections.Item("GH1").ReportObjects.Item(1).XAxisTitl
e = "XAxis Title String"


'Set the Graph YAxis Title
```

```
Report.Sections.Item("GH1").ReportObjects.Item(1).YAxisTitl
e = "YAxis Title String"


'Set the Graph ZAxis Title
Report.Sections.Item("GH1").ReportObjects.Item(1).ZAxisTitl
e = "ZAxis Title String"
```

GraphType

OCX:
Sets the kind of graph used in the selected section in the specified report.

[form.]Report.GraphType(ArrayIndex%)[=sectionCode;graphNum;graphType$]

```
CrystalReport1.GraphType(0) = "GROUPHDR.0.0; 0; PIE"
```

RDC
With the noted exceptions the parameters of the GraphType property are individual properties of the GraphObject. See below for the applicable GraphType parameter to GraphObject property match.

OCX GraphText Parameter	RDC Property
sectionCode	Specify the item in the Sections collection that holds the graph: `Report.Sections.Item("GH")`
graphNum	Specify the item in the ReportObjects collection of the Section the graph is in. `Report.Sections.Item("GH").ReportObjects.Item(1)`
graphType	GraphType

```
'The Graph is the first Object in the
'Group Header 1 section


'Set the GraphType to Multiple Pie
Report.Sections.Item("GH1").GraphType = crMultiplePieGraph
```

GroupCondition

OCX:
Specifies what kind of change in the Group Condition Field will trigger the creation of a group.

[form.]Report.GroupCondition(SequentialIndex%)[= group; field; condition; sortDirection$]

```
CrystalReport1.GroupCondition(0) = "GROUP1;{order
details.ORDER ID};ANYCHANGE;A"
```

RDC
With the noted exceptions the parameters of the GroupCondition property are individual properties of the Area Object. See below for the applicable GroupCondition parameter to Area Object property match.

OCX GroupCondition Parameter	RDC Property
group	Specify the item in the Areas collection that holds the

	group: `Report.Areas.Item("GH1")`
field	GoupConditionField
condition	GroupCondition
sortDirection	SortDirection

```
'Declare a DatabaseFieldDefinition object
'The GroupConditionField property must be passed
'the field to group on and not a string
Dim crxDBField As CRAXDRT.DatabaseFieldDefinition

'Set crxDBField to the 12th field in the first table
(OrderDate 'Field).
Set crxDBField =
Report.Database.Tables.Item(1).Fields.Item(12)

'Change the field grouped on to the OrderDate Field in
Group Header 1
Report.Areas.Item("GH1").GroupConditionField = crxDBField

'Change the condition the report groups on to biweekly in
Group Header 1
Report.Areas.Item("GH1").GroupCondition = crGCBiweekly

'Change the Sort Direction to Ascending in Group Header 1
Report.Areas.Item("GH1").SortDirection = crAscendingOrder
```

GroupSelectionFormula

OCX:
Specifies the groups to be used when printing the report.

```
CrystalReport1.GroupSelectionFormula = "Sum ({order
details.ORDER AMOUNT}, {customer.CUSTOMER ID}) < $10000"
```

RDC
GroupSelectionFormula
This is a property of the Report Object.

```
Report.GroupSelectionFormula = "Sum ({order details.ORDER
AMOUNT}, {customer.CUSTOMER ID}) < $10000"
```

GroupSortFields

OCX:
Specifies the group field(s) that are to be used to sort your data when the report is printed.

```
CrystalReport1.GroupSortFields(0) = "-Count
({customer.CUSTOMER ID},{customer.REGION})"
```

RDC
Add

This is a property of the Report Object GroupSortFields collection.

This scenario requires a report that already contains a group, which also must contain a summary field. A Group Sort Field can only exist if the group contains a summary field, because that summary field is what the Sort is based on. In this example, the report is grouped on {Customer.Region} and the summary field is the "SUM of Customer.Last Year's Sales (Currency)".

```
'Declare a SummaryFieldDefinition Object
Dim crxSummaryField As CRAXDRT.SummaryFieldDefinition

'Getting the first Summary Field which is the '"SUM of
'Customer.Last Year's Sales"
Set crxSummaryField = Report.SummaryFields.Item(1)

'Add the Group Sort Field
Report.GroupSortFields.Add crxSummaryField,
crDescendingOrder
```

LastErrorNumber

OCX:
Returns the error code for the last runtime error.

```
'If error occurs, go to Error Handler
On Error GoTo ErrorHandler

'OCX Code

ErrorHandler:
       MsgBox CrystalReport1.LastErrorNumber
```

RDC
Use Visual Basic error handling.

```
'If error occurs, go to Error Handler
On Error GoTo ErrorHandler

'RDC Code

ErrorHandler:
       MsgBox Err.Number
```

LastErrorString

OCX:
Returns the error string for the last runtime error.

```
'If error occurs, go to Error Handler
On Error GoTo ErrorHandler
'OCX Code
ErrorHandler:
```

```
MsgBox CrystalReport1. LastErrorString
```

RDC
Use Visual Basic error handling.

```
‘If error occurs, go to Error Handler
On Error GoTo ErrorHandler

‘RDC Code

ErrorHandler:
      MsgBox Err.Description
```

LogOnInfo

OCX:

```
CrystalReport1.LogOnInfo[0] = "DSN = Accounting;UID =
734;PWD = bigboard;DSQ = Administration"
```

RDC
ConnectionProperties
This is a method of the DatabaseTable Object.

```
‘Connect the first table of the tables collection to the
data source
Dim dbProperties As CRAXDRT.ConnectionProperties
Set dbProperties =
Report.Database.Tables.Item(1).ConnectionProperties
dbProperties("DSN") = “Accounting”
dbProperties(“Database”) = Administration
dbProperties(“User ID”) = “734”
dbProperties(“Password”) = “bigboard”
```

MarginBottom

OCX:
Sets the bottom margin for the specified report.

```
CrystalReport1.MarginBottom = 720
```

RDC
BottomMargin
This is a property of the Report Object.

```
Report.BottomMargin = 720
```

MarginLeft

OCX:
Sets the left margin for the specified report.

```
CrystalReport1.MarginLeft = 1440
```

RDC
LeftMargin

This is a property of the Report Object.

```
Report.LeftMargin = 1440
```

MarginRight

OCX:
Sets the right margin for the specified report.

```
CrystalReport1.MarginRight = 1440
```

RDC
RightMargin
This is a property of the Report Object.

```
Report.RightMargin = 1440
```

MarginTop

OCX:
Sets the top margin for the specified report.

```
CrystalReport1.MarginTop = 720
```

RDC
TopMargin
This is a property of the Report Object.

```
Report.TopMargin = 720
```

ParameterFields

OCX:
Changes the default value of the specified parameter field. When the prompting dialog box appears for the parameter field, the value you specify with this property is the value you are prompted with.

```
CrystalReport1.ParameterFields(0) = "parameter1;red;TRUE"
```

RDC
AddCurrentValue
These are methods of the ParameterFieldDefinition Object. Access the individual parameter through the ParameterFieldDefinitions collection. The RDC takes advantage of the enhanced parameter fields of Seagate Crystal Reports 7 and is able to pass multiple, single and ranged values.

```
'Note the RDC has the ability to add multiple values to a
single 'parameter.

'Add the value to the first parameter in the

'ParameterFields collection

Report.ParameterFields.Item(1).AddCurrentValue 1000

Report.ParameterFields.Item(1).AddCurrentValue 5000

Report.ParameterFields.Item(1).AddCurrentValue 10000
```

Password

OCX:
Enters the password needed to use database tables on a restricted Access .MDB file.

```
CrystalReport1.Password = "dogsncats"
```

RDC:
ConnectionProperties

This is the second parameter in the SetSessionInfo method of the DatabaseTable object.

```
'Set the session info for the first table in the
'DatabaseTables collection
Report.Database.Tables.Item(1).ConnectionProperties("Passwo
rd") = "bigboard"
```

PrintDay

OCX:
Sets the day component of the print date (if different from the actual date the report is printed).

```
CrystalReport1.PrintDay = 23
```

RDC:
PrintDate
This is a property of the Report Object. PrintDate sets the entire Print Date.

```
Report.PrintDate = 8 / 27 / 99
```

PrinterCollation

OCX:
If you specify more than one copy to be printed (using the PrinterCopies property), PrinterCollation specifies whether or not the copies will be collated.

```
CrystalReport1.PrinterCollation = 1
```

RDC:
Optional Third parameter of the Printout method.
This is a method of the Report Object.

object.PrintOut PromptUser, NumberOfCopies, Collated,
StartPageNumber, StopPageNumber

```
'Print to printer, without prompting the user, prints 3
copies.
'collate the copies, start printing on page 1,
'stop printing on page 5
Report.PrintOut False, 3, True, 1, 5
```

PrinterCopies

OCX:
Sets the number of report copies to be printed.

```
CrystalReport1.PrinterCopies = 3
```

RDC:
Optional parameter of the Printout method.
This is a method of the Report Object.

object.PrintOut PromptUser, NumberOfCopies, Collated,
StartPageNumber, StopPageNumber

```
'Print to printer, without prompting the user, prints 3
copies.
'collate the copies, start printing on page 1,
```

```
'stop printing on page 5
Report.PrintOut False, 3, True, 1, 5
```

PrinterDriver

OCX:
Sets the name of the printer driver that is to print the report.

```
CrystalReport1.PrinterDriver = "Epson24.drv"
```

RDC:
First parameter of the Select Printer method.
This is a method of the Report Object.

object.SelectPrinter DriverName, PrinterName, PortName

```
Report.SelectPrinter ""Epson24.drv"", " Epson LQ-850", "
LPT1"
```

PrinterName

OCX:
Sets the name of the printer that is to print the report.

```
CrystalReport1.PrinterName = "Epson LQ-850"
```

RDC:
Second parameter of the Select Printer method.
This is a method of the Report Object.

object.SelectPrinter DriverName, PrinterName, PortName

```
Report.SelectPrinter ""Epson24.drv"", " Epson LQ-850", "
LPT1"
```

PrinterPort

OCX:
Sets the name of the printer port for the specified printer.

```
CrystalReport1.PrinterPort= "LPT1"
```

RDC:
Third parameter of the Select Printer method.
This is a method of the Report Object.

object.SelectPrinter DriverName, PrinterName, PortName

```
Report.SelectPrinter ""Epson24.drv"", " Epson LQ-850", "
LPT1"
```

PrinterStartPage

OCX:
Sets the first page to be printed.

```
CrystalReport1.PrinterStartPage = 7
```

RDC:

Optional Fourth parameter of the Printout method.
This is a method of the Report Object.

object.PrintOut PromptUser, NumberOfCopies, Collated,
StartPageNumber, StopPageNumber

```
'Print to printer, without prompting the user, prints 3
copies.
'collate the copies, start printing on page 1,
'stop printing on page 5
Report.PrintOut False, 3, True, 1, 5
```

PrinterStopPage

OCX:
Sets the last page to be printed.

```
CrystalReport1.PrinterStopPage = 12
```

RDC:
Optional Fifth parameter of the Printout method.
This is a method of the Report Object.

object.PrintOut PromptUser, NumberOfCopies, Collated,
StartPageNumber, StopPageNumber

```
'Print to printer, without prompting the user, prints 3
copies.
'collate the copies, start printing on page 1,
'stop printing on page 5
Report.PrintOut False, 3, True, 1, 5
```

PrintFileCharSepQuote

OCX:
Sets the quote character used to enclose alphanumeric field data when printing to a file using character-separated format.

```
CrystalReport1.PrintFileCharSepQuote = "'"
```

RDC:
CharStringDelimiter
This is a property of the ExportOptions Object.

```
 'Set the character to separate strings
Report.ExportOptions.CharStringDelimiter = ","
```

PrintFileCharSepSeparator

OCX:
Sets the character(s) you want to use to separate the fields when printing to a file using the Character Separated Value format.

```
CrystalReport1.PrintFileCharSepSeparator= "@"
```

RDC:
CharFieldDelimiter
This is a property of the ExportOptions Object.

```
'Set the character to separate fields
Report.ExportOptions.CharFieldDelimiter = "@"
```

PrintFileLinesPerPage

OCX:
Indicates the number of lines to be printed before the page break. The default is 60 lines.

```
CrystalReport1.PrintFileCharSepSeparator= "@"
```

RDC:
NumberOfLinesPerPage
This is a property of the ExportOptions Object.

```
'Set the number of lines per page
Report.ExportOptions.NumberOfLinesPerPage = 50
```

PrintFileName

OCX:
Specifies the name of the file to which the report is to be printed.

```
CrystalReport1.PrintFileName = "c:\crw\cust_rpt.txt"
```

RDC:
DiskFileName
This is a property of the ExportOptions Object.

```
'Set the path and name of the exported file
Report.ExportOptions.DiskFileName = "c:\crw\cust_rpt.txt"
```

PrintFileODBCPassword

OCX:
Used to export in ODBC format, this specifies the password that you need to connect to the data source.

```
CrystalReport1.PrintFileODBCPassword = "merry%%5"
```

RDC:
ODBCDataSourcePassword
This is a property of the ExportOptions Object.

```
'Set password to the ODBC data source
Report.ExportOptions.ODBCDataSourcePassword = "merry%%5"
```

PrintFileODBCSource

OCX:
Used whenever you export in ODBC format. Specifies the name of the data source to which you want to export.

```
CrystalReport1.PrintFileODBCSource = "pickle"
```

RDC:
ODBCDataSourceName
This is a property of the ExportOptions Object.

```
'Set the ODBC data source name
Report.ExportOptions.ODBCDataSourceName = "pickle"
```

PrintFileODBCTable

OCX:
Used to export in ODBC format, this specifies the name of the table to which you want to export in the data source.

```
CrystalReport1.PrintFileODBCTable = "Employees"
```

RDC:
ODBCExportTableName
This is a property of the ExportOptions Object.

```
'Set the ODBC data source table name

Report.ExportOptions.ODBCExportTableName = "Employees"
```

PrintFileODBCUser

OCX:
Used to export in ODBC format, this specifies the User ID that you need to connect to the data source.

```
CrystalReport1.PrintFileODBCUser = "LisaB"
```

RDC:
ODBCDataSourceUserID
This is a property of the ExportOptions Object.

```
'Set the User ID for the ODBC data source

Report.ExportOptions.ODBCDataSourceUserID = "LisaB"
```

PrintFileType

OCX:
Specifies the type of print file used when printing a report to a file.

```
'Prints the report to a file in a tab separated format.

CrystalReport1.PrintFileType = 1
```

RDC:
FormatType
This is a property of the ExportOptions Object.

```
'Set the format type to tab separated values

Report.ExportOptions.FormatType = crEFTTabSeparatedValues
```

PrintFileUseRptDateFmt

OCX:
When you are printing to a file, this indicates whether or not the program should save dates in the same date format (MMDDYY,DDMMYY etc.) that is used in the report, or optimize the dates for the file format you have selected.

```
'Specifies that the program should print dates in the same
format 'as used in the report.

CrystalReport1.PrintFileUseRptDateFmt = 1
```

RDC:
UseReportDateFormat
This is a property of the ExportOptions Object.

```
'Set the date format to be the same as report

Report.ExportOptions.UseReportDateFormat = True
```

PrintFileUseRptNumberFmt

OCX:
When you are printing to a file, this indicates whether or not the program should print numbers in the same format (decimal places, negatives, etc.) that you used in the report, optimize the numbers for the file format you have selected.

```
'Specifies that the program should print numbers in the
same 'formats as used in the report.

CrystalReport1.PrintFileUseRptNumberFmt = 1
```

RDC:
UseReportNumberFormat
This is a property of the ExportOptions Object.

```
'Set the number format to be the same as report

Report.ExportOptions.UseReportNumberFormat = True
```

PrintMonth

OCX:
Sets the month component of the print date (if different from the actual date the report is printed).

```
CrystalReport1.PrintMonth= 7
```

RDC:
PrintDate
This is a property of the Report Object. PrintDate sets the entire Print Date.

```
Report.PrintDate = 8 / 27 / 99
```

PrintYear

OCX:
Sets the year component of the print date (if different from the actual date the report is printed).

```
CrystalReport1.PrintYear = 1994
```

RDC:
PrintDate
This is a property of the Report Object. PrintDate sets the entire Print Date.

```
Report.PrintDate = 8 / 27 / 99
```

ProgressDialog

OCX:
Enables/disables the display of the Progress dialog box. The Progress dialog box displays the progress of the report when it is running (records read, records selected, and so forth).

```
CrystalReport1.ProgressDialog = False
```

RDC:
DisplayProgressDialog
This is a property of the Report Object.

```
Report.DisplayProgressDialog = False
```

RecordsPrinted

OCX:
Determines the number of records actually printed.

```
Printed& = CrystalReport1.RecordsPrinted
```

RDC:
NumberOfRecordPrinted
This is a property of the PrintingStatus Object.

```
'Preview the Report

CRViewer1.ReportSource = Report

CRViewer1.ViewReport


'Pass the number of records printed to the Printed variable

Printed& = Report.PrintingStatus.NumberOfRecordPrinted
```

RecordsRead

OCX:
Determines the number of records actually processed.

```
Read% = CrystalReport1.RecordsRead
```

RDC:
NumberOfRecordRead
This is a property of the PrintingStatus Object.

```
'Read the records into the report

Report.ReadRecords


'Pass the number of records read to the Read variable

Read& = Report.PrintingStatus.NumberOfRecordRead
```

RecordsSelected

OCX:
Determines the number of records selected for inclusion in the report out of the total number of records read.

```
Selected& = CrystalReport1.RecordsSelected
```

RDC:
NumberofRecordSelected
This is a property of the PrintingStatus Object.

```
'Read the records into the report

Report.ReadRecords


'Pass the number of records selected to the Selected
variable

Selected& = Report.PrintingStatus.NumberOfRecordSelected
```

ReportDisplayPage

OCX:
Indicates which page of a multi-page report is currently being displayed in the preview window.

```
Result% = CrystalReport1.ReportDisplayPage
```

RDC:
GetCurrentPageNumber
This is a property of the Report Viewer control.

```
Result% = CRViewer1.GetCurrentPageNumber
```

ReportFileName

OCX:
Specifies the report to be printed.

```
CrystalReport1.ReportFileName = "c:\crw\company.rpt"
```

RDC:
OpenReport
This is a Method of the Application Object and is used for opening reports saved in the Crystal Report format (RPT). The RDC can also open reports saved as ActiveX Designers (.DSR) within Visual Basic.

Opening an RPT.

```
'General Declarations

'Declare an application object

Dim crxApplication as New craxdrt.Application

'Declare a Report object

Dim Report as craxdrt.Report


'In a function or Sub procedure

Set Report =
crxApplication.OpenReport("c:\crw\company.rpt", 1)
```

Declaring a Variable as a New DSR:

```
'General Declarations

'CrystalReport1 is the name of the DSR in the Designer
folder of 'the Project menu (CrystalReport1.dsr)

Dim Report as New CrystalReport1
```

Setting a Report Object to a DSR:

```
'General Declarations

Dim Report as craxdrt.Report


Private Sub Form_Load()

'Set the generic Report object to the DSR

Set Report = New CrystalReport1

End Sub
```

ReportLatestPage

OCX:
Determines the last page printed in the specified report.

```
Latest% = CrystalReport1.ReportLatestPage
```

RDC:

This feature is not implemented in the RDC. An alternative is to create a custom Printer Dialog and store the User's selection for Start and Last page in variables. For an example of a custom Printer Dialog see the form 'frmPrintOut' in the Object Model application at:

- Version 6 of the RDC:
  C:\Program Files\Seagate Crystal Reports\sample\Designer\Object Model App
- Version 7 of the RDC:
  C:\Program Files\SEAGATE SOFTWARE\Crystal Reports\sample\RDC\ObjModel

ReportSource

OCX:
Specifies the source of the report as a report file, a Visual Basic data control, or a True Grid data control.

```
'Specifies the report source as the TrueDBGrid control

CrystalReport1.ReportSource = 1
```

RDC:
Note on Bound Reports:
RDC versions 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16.

In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply).

ReportStartPage

OCX:
Determines the first page printed in the specified report.

```
StartPage% = CrystalReport1.ReportStartPage
```

RDC:
This feature is not implemented in the RDC. An alternative is to create a custom Printer Dialog and store the User's selection for Start and Last page in variables. For an example of a custom Printer Dialog see the form 'frmPrintOut' in the Object Model application at:

- Version 6 of the RDC:
  C:\Program Files\Seagate Crystal Reports\sample\Designer\Object Model App
- Version 7 of the RDC:
  C:\Program Files\SEAGATE SOFTWARE\Crystal Reports\sample\RDC\ObjModel

ReportTitle

OCX:
Specifies a title for the report.

```
CrystalReport1.ReportTitle = "My Report"
```

RDC:
ReportTitle
This is a property of the Report Object.

```
Report.ReportTitle = "My Report"
```

SectionFont

OCX:
Sets the font for one or more sections in the specified report.

[form.]Report.SectionFont(SequentialIndex%)[= sectionCode; fontName; size; italic; bold;underline;strikethru$]


```
CrystalReport1.SectionFont(0)="Footer;Arial;12;N;N;N;Y"
```

RDC:
The font information for each text or field object can be set through the individual object's Font object.

OCX SectionFont Parameter	RDC Property
sectionCode	Specify the item in the Sections collection of the section to format. `Report.Sections.Item("GH")`
fontName	Name
size	Size
italic	Italic
bold	Bold
underline	Underline
strikethrough	Strikethrough

If the report was saved in a Crystal Report format (RPT) then searching through the section accesses the objects. If the report was saved in an ActiveX Designer format (DSR) the fields can also be formatted in the Format Section event of the DSR.

RPT

```
'Declare a Section object
Dim crxSection As CRAXDRT.Section
'Declare a generic object
Dim crxObject As Object
'Declare a Field object
Dim crxFieldObject As CRAXDRT.FieldObject


'Set the Font properties of the first field in the
'Report Objects collection of the Detail Section


'Set font name
Report.Sections.Item("D").ReportObjects.Item(1).Font.Name =
"Arial"
'Set font size
Report.Sections.Item("D").ReportObjects.Item(1).Font.Size =
10
'Set font italic
Report.Sections.Item("D").ReportObjects.Item(1).Font.Italic
= True
'Set font bold
Report.Sections.Item("D").ReportObjects.Item(1).Font.Bold =
True
'Set font underline
Report.Sections.Item("D").ReportObjects.Item(1).Font.Underl
ine = True
'Set font strikethrough
```

```
Report.Sections.Item("D").ReportObjects.Item(1).Font.Strike
through = False
```

DSR
Enter the code in the format section event of the desired section. This example sets the fonts of the fields in the Details section.

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Set font name of Field1 through the
'Font object of crxFieldObject
Field1.Font.Name = "Arial"
'Set font size
Field1.Font.Size = 16
'Set font italic
Field1.Font.Italic = True
'Set font bold
Field1.Font.Bold = True
'Set font underline
Field1.Font.Underline = True
'set font strikethrough
Field1.Font.Strikethrough = False

'Set font name of Field2 through the
'Font object of crxFieldObject
Field2.Font.Name = "Arial"
'Set font size
Field2.Font.Size = 16
'Set font italic
Field2.Font.Italic = True
'Set font bold
Field2.Font.Bold = True
'Set font underline
Field2.Font.Underline = True
'set font strikethrough
Field2.Font.Strikethrough = False

'Repeat for each field
End Sub
```

SectionFormat

OCX:
Sets the format for one or more sections in the specified report.

[form.]Report.SectionFormat(SectionArrayIndex%)[= sectionCode; visible; newPageBefore; newPageAfter; keepTogether; SuppressBlankSection; resetPageNAfter; printAtBottomOfPage; underlaySection; backgroundColor]

```
CrystalReport1.SectionFormat(0)=
"GH2;F;X;X;X;X;X;X;X;255.0.0"
```

RDC:
The parameters in the OCX SectionFormat property are individual properties of the Section object.

OCX SectionFormat Parameter	RDC Property
sectionCode	Specify the item in the Sections collection of the section to format. `Report.Sections.Item("GH")`
Visible	Suppress
newPageBefore	NewPageBefore
newPageAfter	NewPageAfter
keepTogether	KeepTogether
suppressBlank	SuppressIfBlank
resetPageNAfter	ResetPageNumberAfter
printAtPageBottom	PrintAtBottomOfPage
underlaySection	UnderlaySection
backgroundColor	BackColor

If the report was saved in a Crystal Report format (RPT) then the properties set through the Section Object. If the report was saved in an ActiveX Designer format (DSR) the properties can be set through the Section's property window, in the Section Format Event, or through the Section object.

RPT

```
'Set the Detail section's Suppress property
Report.Sections.Item("D").Suppress = False
'Set the section's NewPageBefore property
Report.Sections.Item("D").NewPageBefore = False
'Set the section's NewPageAfter property
Report.Sections.Item("D").NewPageAfter = False
'Set the section's KeepTogether property
Report.Sections.Item("D").KeepTogether = True
'Set the section's SuppressIfBlank property
Report.Sections.Item("D").SuppressIfBlank = True
'Set the section's ResetPageNumberAfter property
Report.Sections.Item("D").ResetPageNumberAfter = False
'Set the section's PrintAtBottomOfPage property
Report.Sections.Item("D").PrintAtBottomOfPage = False
'Set the section's UnderlaySection property
Report.Sections.Item("D").UnderlaySection = True
'Set the section's BackColor property
Report.Sections.Item("D").BackColor = vbRed
```

DSR
Enter the code in the format section event of the desired section. This example sets the section properties of the Detail section.

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Set the section's Suppress property
Section3.Suppress = False
'Set the section's NewPageBefore property
Section3.NewPageBefore = False
'Set the section's NewPageAfter property
Section3.NewPageAfter = False
'Set the section's KeepTogether property
Section3.KeepTogether = True
'Set the section's SuppressIfBlank property
Section3.SuppressIfBlank = True
'Set the section's ResetPageNumberAfter property
Section3.ResetPageNumberAfter = False
'Set the section's PrintAtBottomOfPage property
Section3.PrintAtBottomOfPage = False
'Set the section's UnderlaySection property
Section3.UnderlaySection = True
'Set the section's BackColor property
Section3.BackColor = vbRed
End Sub
```

SectionLineHeight

OCX:
Specifies the line height in "twips". A twip is 1/1440 inch; there are 20 twips in a point.

[form.]Report.SectionLineHeight(SequentialIndex%)[=sectionCode; line; height; ascent$]

```
CrystalReport1.SectionLineHeight(0) = "GH0; 1; 500; 300"
```

RDC:
Height
This is a property of the Section Object.
If the report was saved in a Crystal Report format (RPT) then the properties can be set through the Section Object. If the report was saved in an ActiveX Designer format (DSR) the properties can be set through the Section's property window, in the Section Format Event, or through the Section object.

RPT

```
'Set the Detail section's Height property
Report.Sections.Item("D").Height = 500
```

DSR

Enter the code in the format section event of the desired section. This example sets the section Height of the Detail section.

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Set the section's Height property
Section3.Height = 500
End Sub
```

SectionMinHeight

OCX:
Sets the minimum section height for the specified report section.

```
CrystalReport1.SectionMinHeight(0) = "DETAIL;500"
```

RDC:
MinumumHeight
This is a property of the Section object. It is a read-only property. Use the Height Property to set the section's height. If the report was saved in a Crystal Report format (RPT) then the properties can be set through the Section Object. If the report was saved in an ActiveX Designer format (DSR) the properties can be set through the Section's property window, in the Section Format Event, or through the Section object.

RPT

```
'Set the Detail section's Height property
Report.Sections.Item("D").Height = 500
```

DSR
Enter the code in the format section event of the desired section. This example sets the section Height of the Detail section.

```
Private Sub Section3_Format(ByVal pFormattingInfo As
Object)
'Set the section's Height property
Section3.Height = 500
End Sub
```

SelectionFormula

OCX:
Specifies the records to be used when printing the report.

```
CrystalReport1.SelectionFormula = "{file.QTY} > 5"
```

RDC:
RecordSelectionFormula
This is a property of the Report object.

```
Report.RecordSelectionFormula = "{file.QTY} > 5"
```

SessionHandle

OCX:
Sets the session handle for a user once the UserName and Password properties have opened an Access.mdb file for use by the report.

```
CrystalReport1.SessionHandle = CurrentSessionHandle
```

RDC:
This is not implemented in the RDC. Use SetSessionInfo method of the DatabaseTable object.

```
'Set the Session info of the first DatabaseTable

'In the DatabaseTables collection

Report.Database.Tables.Item(1).SetSessionInfo "User ID",
"Password"
```

SortFields

OCX:
Specifies the field(s) that are to be used to sort your data when the report is printed.

```
CrystalReport1.SortFields(0) = "+{orders.CUSTOMER}"
```

RDC:
Field, SortDirection
These are properties of the SortField Object. Field sets the field to sort on, SortDirection sets the sort direction.

```
'Dim a DatabaseFieldDefinition object

Dim crxDatabaseField As craxdrt.DatabaseFieldDefinition


'Currently the sort is based on the Customer Name field and
the 'application

'is to change it to the 'Last Year's Sale's' field. This
field 'must be present

'on the report. Accessing the first table to get the 8th
field

Set crxDatabaseField =
Report.Database.Tables.Item(1).Fields.Item(8)


'Set the field to crxDatabaseField

Report.RecordSortFields.Item(1).Field = crxDatabaseField


'Set the SortField direction

Report.RecordSortFields.Item(1).SortDirection =
crAscendingOrder
```

SQLQuery

OCX:
Sets the SQL query string used by the specified report.

```
CrystalReport1.SQLQuery = "SELECT authors.au_id,
authors.au_lname, authors.au_fname FROM pubs2.dbo.authors
authors WHERE authors.au_lname > 'Madison'"
```

RDC:
SQLQueryString
This is a property of the Report object. It is only available in version 7 of the RDC.

```
Report.SQLQueryString = "SELECT authors.au_id,
authors.au_lname, authors.au_fname FROM pubs2.dbo.authors
authors WHERE authors.au_lname > 'Madison'"
```

Status

OCX:
Determines the print status for the specified report.

```
Status% = CrystalReport1.Status
```

RDC:
Progress
This is a property of the PrintingStatus object.

```
'Print the Report

Report.Printout


'Pass the Progress of the Print job to the Status variable

Status & = Report.PrintingStatus.Progress
```

StoredProcParam

OCX:
Sets the stored procedure parameters when using a report based on SQL stored procedures.

```
CrystalReport1.StoredProcParam(0)="06/14/1989"
```

RDC:
AddCurrentValue
This is a property of the ParameterFieldDefinition object. All parameters including Stored Procedures and Crystal Parameters are set through the ParameterFieldDefinition object.

```
'Set the value of the Stored procedure which is the

'first parameter in the ParameterFields collection

Report.ParameterFields.Item(1).AddCurrentValue =
"06/14/1989"
```

There is no method for setting a stored procedure in RDC Version 6. Refer to Knowledge Base article C2001179 for how to use active data to create a report using the Active Data Driver. By using the Active Data Driver, a developer can set a stored procedure parameter value using the methods of the Data Object, ADO or RDO or DAO or CDO.

SubreportToChange

OCX:
Specifies whether changes to any of several properties (see list in Remarks below) affect the main report (if you pass an empty string [""]) or a subreport (if you pass the name of the subreport).

```
'Changes to any of the properties apply to the main report

CrystalReport1.SubreportToChange = ""


'Changes to any of the properties apply to the Subrpt2
subreport

CrystalReport1.SubreportToChange = "Subrpt2"
```

RDC:
OpenSubreport
This is a method of the SubreportObject object and the Report Object.

Report.OpenSubreport

Pass the name of the subreport to the OpenSubreport Method of the Report object. This method is valid for reports saved in the Crystal Report format (RPT) or as an ActiveX Designer (DSR) within Visual Basic.

```
'Declare Report object to set to the Subreport
Dim crxSubreport As CRAXDRT.Report

'Set crxSubreport to the subreport "sub1"
Set crxSubreport = Report.OpenSubreport("sub1")
```

SubreportObject.OpenSubreport

Open the subreport by setting a subreport to a valid SubreportObject in the report. Searching through the sections, and report objects in the section accesses the subreport. Valid for RPT and DSR.

```
'Declare Report object to set to the Subreport
Dim crxSubreport As CRAXDRT.Report
'Declare a Section object
Dim crxSection As CRAXDRT.Section
'Declare a Generic object
Dim crxObject As Object
'Declare a SubreportObject Object
Dim crxSubreportObject As CRAXDRT.SubreportObject

'Search through each section of the report
For Each crxSection In Report.Sections
    'Search through each report object in each section
    For Each crxObject In crxSection.ReportObjects
        'If the report object is a subreport set it to
        'crxSubreportObject
        If crxObject.Kind = crSubreportObject Then
            Set crxSubreportObject = crxObject
            'Set crxSubreport to the subreport
            Set crxSubreport =
crxSubreportObject.OpenSubreport
            'Enter code for subreport
        End If
    Next crxObject
Next crxSection
```

'If the location of the subreport is known, the amount of code can be reduced. For example, the subreport is the first report object in the first section (Report Header) of the report. Valid for RPT and DSR.

```
'Declare Report object to set to the Subreport
Dim crxSubreport As CRAXDRT.Report
```

```
'Set crxSubreport to the first object in the Report Header
'section.

Set crxSubreport =
Report.Sections.Item("RH").ReportObjects.Item(1).OpenSubrep
ort
```

If a report is instantiated by declaring a variable as a new DSR the subreport object can be accessed directly without having to search through the sections.

```
'General Declarations

'Declare a SubreportObject Object


'Sub or function


'Declare Report object to set to the Subreport

Dim crxSubreport As CRAXDRT.Report


'Set crxSubreport to the subreport

Set crxSubreport = Report.Subreport1.OpenSubreport
```

UserName

OCX:
Enters the name given to a user for logging on to a protected Access.mdb file to obtain data files needed by the report.

```
CrystalReport1.UserName = "MIS"
```

RDC:
SetSessionInfo
This is the first parameter in the SetSessionInfo method of the DatabaseTable object.

```
'Set the session info for the first table in the

'DatabaseTables collection

Report.Database.Tables.Item(1). SetSessionInfo "User ID",
"Password"
```

WindowAllowDrillDown

OCX:
Indicates whether or not drill-down on summary values is allowed in the preview window.

```
CrystalReport1.WindowAllowDrillDown = FALSE
```

RDC:
EnableDrillDown
This is a property of the Report Viewer control.

```
CRViewer1.EnableDrillDown = True
```

WindowBorderStyle

OCX:
Specifies the type of border for the preview window.

```
CrystalReport1.WindowBorderStyle = 2
```

RDC:
The Report Viewer control is embedded on a form. Set the Border Style of the Report Viewer control parent form.

```
Form1.BorderStyle = 2
```

WindowControlBox

OCX:
Specifies whether or not the preview window is to have a control (system menu) box in the upper left-hand corner when the report is printed to a window.

```
CrystalReport1.WindowControlBox = True
```

RDC:
The Report Viewer control is embedded on a form. Set the Border Style of the Report Viewer control parent form's Property window.

WindowControls

OCX:
Specifies whether or not the print controls are to appear in the preview window when printing a report to a window.

```
CrystalReport1.WindowControls = True
```

RDC:
EnableToolbar
This is a property of the Report Viewer control.

```
CRViewer1.EnableToolbar = True
```

WindowHeight

OCX:
Sets the height of the preview window when the report is printed to a window.

```
CrystalReport1.WindowHeight = 300
```

RDC:
Height
This is a property of the l Report Viewer control and sets the height of the control within the parent form.

```
'To set the height to match the parent form

'Place within the Form Resize event.

CRViewer1.Height = ScaleHeight
```

WindowLeft

OCX:
Sets the distance, in pixels, that the preview window is to appear from the left edge of the parent window. If the preview window is a top-level window, then the distance is measured from the left edge of the screen. (A standard VGA monitor is 640 x 480 pixels).

```
CrystalReport1.WindowLeft = 100
```

RDC:
Left
This is a property of the Report Viewer control and sets the left side of the control within the parent form.

```
'To set the control to the left edge of the parent form

'Place within the Form Resize event.

CRViewer1.Left = 0
```

WindowMaxButton

OCX:
Specifies whether or not the preview window is to have an active, hidden or grayed-out maximize button when the report is printed to a window.

```
CrystalReport1.WindowMaxButton = False
```

RDC:
The Report Viewer control is embedded on a form. Set the MaxButton of the Report Viewer control parent form's property window.

WindowMinButton

OCX:
Specifies whether or not the preview window is to have an active, hidden or grayed-out minimize button when the report is printed to a window.

```
CrystalReport1.WindowMinButton = True
```

RDC:
The Report Viewer control is embedded on a form. Set the MinButton of the Report Viewer control parent form's property window.

WindowParentHandle

OCX:
Specifies the handle of the parent window if the preview window is to be the child of another window.

```
CrystalReport1.WindowParentHandle = Form1.hWnd
```

RDC:
The Report Viewer control is embedded on a form. The form can be made a child of an MDI form.

WindowShowCancelBtn

OCX:
Indicates whether or not a Cancel button is available in the preview window.

```
CrystalReport1.WindowShowCancelBtn = False
```

RDC:
EnableStopButton
This is a property of the Report Viewer control.

```
CRViewer1.EnableStopButton = True
```

WindowShowCloseBtn

OCX:
Indicates whether or not a Close button is available in the preview window.

```
CrystalReport1.WindowShowCloseBtn = True
```

RDC:
EnableCloseButton
This is a property of the Report Viewer control. The Close Button on the Report Viewer control only closes the report views within report.

```
CRViewer1.EnableCloseButton = True
```

WindowShowExportBtn

OCX:
Indicates whether or not an Export button is available in the preview window.

```
CrystalReport1.WindowShowExportBtn = True
```

RDC:
EnableExportButton
This is a property of the Report Viewer control.

```
CRViewer1.EnableExportButton = True
```

WindowShowGroupTree

OCX:
Indicates whether or not a Group Tree is displayed in the preview window.

```
CrystalReport1.WindowShowGroupTree = False
```

RDC:
EnableGroupTree
This is a property of the Report Viewer control.

```
CRViewer1.EnableGroupTree = True
```

WindowShowNavigationCtls

OCX:
Indicates whether or not the Navigation Controls are available in the preview window.

```
CrystalReport1.WindowShowNavigationCtls = True
```

RDC:
EnableNavigationControls
This is a property of the Report Viewer control.

```
CRViewer1.EnableNavigationControls = True
```

WindowShowPrintBtn

OCX:
Indicates whether or not a Print button is available in the preview window.

```
CrystalReport1.WindowShowPrintBtn = False
```

RDC:
EnablePrintButton
This is a property of the Report Viewer control.

```
CRViewer1.EnablePrintButton = True
```

WindowShowPrintSetupBtn

OCX:
Indicates whether or not a Print Setup button is available in the preview window.

```
CrystalReport1.WindowShowPrintSetupBtn = False
```

RDC:
This feature is not implemented in the Report Viewer control for RDC versions 6 and 7. You can call the Microsoft Common Dialog from the PrintButtonClicked event or use your own Custom Dialog. For an example of a custom Printer Dialog see the form 'frmPrintOut' in the Object Model application at:

- RDC version 6
  - C:\Program Files\Seagate Crystal Reports\sample\Designer\Object Model App

- RDC version 7
  - C:\Program Files\SEAGATE SOFTWARE\Crystal Reports\sample\RDC\ObjModel

Using the Microsoft CommonDialog

```
'Add a CommonDialog control to the form containing the
Crystal
'Report Report Viewer control.


Private Sub CRViewer1_PrintButtonClicked(UseDefault As
Boolean)
'Set default to false so report
'does not print twice
UseDefault = False

'display the printer dialog
CommonDialog1.ShowPrinter


'Print the report without prompting user
'All changes made in the printer dialog
'will be reflected in the report
Report.PrintOut False
End Sub
```

- Version 8 of the RDC

```
'PrinterSetup provides a Windows standard printer setup
window to allow the user 'to change the printer properties
directly at runtime.
'Call the Printer Setup dialog box
Report.PrinterSetup Me.hWnd
```

WindowShowProgressCtls

OCX:
Determines whether or not controls indicating the progress of a report being generated are displayed in the preview window.

```
CrystalReport1.WindowShowProgressCtls = False
```

RDC:
EnableProgressControl
This is a property of the Report Viewer control.

```
CRViewer1.EnableProgressControl = True
```

WindowShowRefreshBtn

OCX:
Indicates whether or not a Refresh button is available in the preview window.

```
CrystalReport1.WindowShowRefreshBtn = False
```

RDC:
EnableRefreshButton
This is a property of the Report Viewer control.

```
CRViewer1.EnableRefreshButton = True
```

WindowShowSearchBtn

OCX:
Indicates whether or not a Search button is available in the preview window.

```
CrystalReport1.WindowShowSearchBtn = True
```

RDC:
EnableSearchControl
This is a property of the Report Viewer control.

```
CRViewer1.EnableSearchControl = True
```

WindowShowZoomCtl

OCX:
Indicates whether or not Zoom controls are available in the preview window.

```
CrystalReport1.WindowShowZoomCtl = True
```

RDC:
EnableZoomControl
This is a property of the Report Viewer control.

```
CRViewer1.EnableZoomControl = True
```

WindowState

OCX:
Sets the state of the preview window as normal, minimized or maximized when the report is printed.

```
CrystalReport1.WindowState = 2
```

RDC:
The Report Viewer control is embedded on a form. Sets the State of the Report Viewer control parent form.

```
Form1.WindowState = 2
```

WindowTitle

OCX:
Specifies the title to appear in the preview window title bar when the report is printed to a window.

```
CrystalReport1.WindowTitle = "Quarterly Earnings"
```

RDC:
The Report Viewer control is embedded on a form. Sets the Caption of the Report Viewer control parent form.

```
Form1.Caption = "Quarterly Earnings"
```

WindowTop

OCX:
Sets the distance, in pixels, that the preview window is to appear from the top edge of the parent window. If the preview window is a top-level window, then the distance is measured from the top edge of the screen.

```
CrystalReport1.WindowLeft = 100
```

RDC:
Top
This is a property of the Report Viewer control and sets the topside of the control within the parent form.

```
'To set the control to the left edge of the parent form

'Place within the Form Resize event.

CRViewer1.Top = 0
```

WindowWidth

OCX:
Specifies the width of the preview window in pixels.

```
CrystalReport1.WindowWidth = 480
```

RDC:
Width
This is a property of the Report Viewer control and sets the width of the control within the parent form.

```
'To set the width to match the parent form

'Place within the Form Resize event.

CRViewer1.Width = ScaleHeight
```

Methods

FetchSelectionFormula

OCX:
FetchSelectionFormula returns the selection formula from the current report.

```
SelectionFormula$ = CrystalReport1.FetchSelectionFormula
```

RDC:
RecordSelectionFormula
This is a read and write property of the Report object.

```
SelectionFormula$ = Report.RecordSelectionFormula
```

GetNSubreports

OCX:
Looks at the report specified in ReportFileName, and returns the number of subreports in that report.

```
Number = CrystalReport1.GetNSubreports
```

RDC:
To get the number of subreports, search for each subreport object in each section of the Report. See the OCX property SubreportToChange for the RDC methods of opening a subreport.

```
'Declare a Section object

Dim crxSection As CRAXDRT.Section

'Declare a Generic object

Dim crxObject As Object

'Declare a variable to hold the number of subreports

Dim nSubreports as Integer
```

```
'Search through each section of the report
For Each crxSection In Report.Sections
    'Search through each report object in each section
    For Each crxObject In crxSection.ReportObjects
        'If the report object is a subreport
    'Add 1 to nSubreports
        If crxObject.Kind = crSubreportObject Then
            nSubreports = nSubreports + 1
End If
    Next crxObject
Next crxSection
```

GetNthSubreportName

OCX:
Looks at the report specified in the ReportFileName property and returns a string which is the name of the nth subreport in that report.

```
SubreportName=CrystalReport1.GetNthSubreportName (2)
```

RDC:
SubreportName
This is a property of the SubreportObject.

```
 'Declare a variable to hold the name of the subreport
Dim strSubreport as String


'The subreport is the first Report object in the Report
Footer
'section
strSubreport =
Report.Sections.Item("RF").ReportObjects.Item(1).SubreportN
ame
```

LogonServer

OCX:
Logs on to the specified server and returns a unique connection ID which can be used to log off of this server using the LogoffServer.

```
connectionId% = CrystalReport1.LogonServer ("pdsodbc.dll",
"Accounting", "Administration", "bobg", "bigboard")
```

RDC:
LogonServer
This is a method of the Application and Database Objects.

Application object

```
CrxApplication.LogonServer "pdsodbc.dll", "Accounting",
"Administration", "bobg", "bigboard"
```

Database object

```
'Log onto the data source
```

```
Report.DataBase.LogonServer "pdsodbc.dll", "Accounting",
"Administration", "bobg", "bigboard"
```

PageCount

OCX:
Returns the number of pages in the report.

```
NumberofPages = CrystalReport1.PageCount
```

RDC:
NumberOfPages
This is a property of the PrintingStatus Object.

```
'Read the records into the report

Report.ReadRecords


'Pass the number of records read to the Read variable

Pages& = Report.PrintingStatus.NumberOfPages
```

PageFirst

OCX:
Displays the first page of the report in the preview window.

```
CrystalReport1.PageFirst
```

RDC:
ShowFirstPage
This is a method of the Report Viewer control.

```
CRViewer1.ShowFirstPage
```

PageLast

OCX:
Displays the last page of the report in the preview window.

```
CrystalReport1.PageLast
```

RDC:
ShowLastPage
This is a method of the Report Viewer control.

```
CRViewer1.ShowLastPage
```

PageNext

OCX:
Displays the next page of the report in the preview window.

```
CrystalReport1.PageNext
```

RDC:
ShowNextPage
This is a method of the Report Viewer control.

```
CRViewer1.ShowNextPage
```

PagePrevious

OCX:
Displays the previous page of the report in the preview window.

```
CrystalReport1.PagePrevious
```

RDC:
ShowPreviousPage
This is a method of the Report Viewer control.

```
CRViewer1.ShowPreviousPage
```

PageShow

OCX:
Displays a specific page of the report in the preview window.

```
CrystalReport1.PageShow (3)
```

RDC:
ShowNthPage
This is a method of the Report Viewer control.

```
CRViewer1.ShowNthPage 3
```

If the report is to go to a specific page when first previewed, the control must be allowed to complete the downloading of data before setting the page.

```
'Set the Report to the Report Viewer
CRViewer1.ReportSource = Report


'View the Report
CRViewer1.ViewReport


'Continue loop while the Report Viewer is busy downloading
data
While CRViewer1.IsBusy
    DoEvents
Wend


'Set the report to preview on the third page
CRViewer1.ShowNthPage 3
```

PageZoom

OCX:
Sets the magnification factor for the report in the preview window to a value between 25% and 400% of the actual size.

```
CrystalReport1.PageZoom (150)
```

RDC:
Zoom
This is a method of the Report Viewer control.

```
CRViewer1.Zoom 150
```

If the report is set to a specific zoom level when it is first previewed, the downloading of data must be completed before setting the page.

```
'Set the Report to the Report Viewer
CRViewer1.ReportSource = Report


'View the Report
CRViewer1.ViewReport


'Continue loop while the Report Viewer is busy downloading
data
While CRViewer1.IsBusy
    DoEvents
Wend


'Set the report's zoom level to 150%
CRViewer1.Zoom 150
```

PageZoomNext

OCX:
Sets the magnification level of the report in a preview window to the next default zoom level.

```
CrystalReport1.PageZoomNext
```

RDC:
This method is not available in the Report Viewer control, however the functionality can be duplicated in code.

A button is placed on a form containing the Report Viewer. The Report opens at the Whole Page zoom level. Clicking the button will cycle through the zoom levels.

```
Private Sub Command1_Click()
'ZoomLvl is initialzed to 0 in the Form_Load


'ZoomArray is a ten element array initialzed in the
Form_Load
'and containing all the zoom levels available from the
'Zoom Level Drop Down List on the Report Viewer form.
''Whole Page' = 1, 'Page Width' = 2


'When ZoomLvl reaches the top Level
'reset to the bottom level
If ZoomLvl < 9 Then
    ZoomLvl = ZoomLvl + 1
Else
    ZoomLvl = 0
End If
```

```
'Set Zoom to the Next Level
CRViewer1.Zoom (ZoomArray(ZoomLvl))

End Sub
```

PrinterSelect

OCX:
Displays the Printer Selection common dialog box, which enables the user to specify a different printer.

```
CrystalReport1.PrinterSelect
```

RDC:
To display a Printer Selection common dialog box:

```
'Add a Microsoft Common Dialog Control to the form
containing the Report Viewer

'Add the following code to the  PrintButton Clicked event
of the Report Viewer

Private Sub CRViewer1_PrintButtonClicked(UseDefault As
Boolean)

CommonDialog1.ShowPrinter

End Sub
```

PrintReport

OCX:
PrintReport triggers the printing of the report.

```
Result% = CrystalReport1.PrintReport
```

RDC:
The RDC prints to screen, printer and export through three different methods, all of which are methods of the Report object.

Print to screen:
Viewing the report is done through the Report Viewer control:

```
CRViewer1.ReportSource = Report

CRViewer1.ViewReport
```

Printer:
Print the report without prompting the user.

```
Report.Printout False
```

Export:
Export the report without prompting the user.

```
Report.Export False
```

ReplaceSelectionFormula

OCX:
ReplaceSelectionFormula overrides the selection formula from the current report with the string that is passed.

```
CrystalReport1.ReplaceSelectionFormula
("{Company.State}='CA'")
```

RDC:

RecordSelectionFormula
This is a property of the Report object.

```
Report.RecordSelectionFormula = ("{Company.State}='CA'"
```

Reset

OCX:
Resets the value of all properties (except DataSource Property) to their default values.

```
CrystalReport1.Reset
```

RDC:
To Reset the report, set the Report object to "Nothing", then open the report again and set the new properties. See the OCX property ReportFileName for the RDC methods for opening reports.

```
'Set the Report object to Nothing

Report = Nothing
```

RetrieveDataFiles

OCX:
RetrieveDatafiles retrieves all "table" locations from the current report, populates Datafiles and returns the number of "tables" in the report.

```
NumberofDatafiles% = CrystalReport1.RetrieveDatafiles
```

RDC:
Location
This is a method of the DatabaseTable object.

```
'Get the number of tables in the report

'from the count property of the DatabaseTables collection

nTables% = Report.Database.Tables.Count


'Set the location the first DatabaseTable in the
DatabaseTables collection

Report.Database.Tables.Item(1)DatabaseTable.Location =
"c:\new\xtreme.mdb"
```

RetrieveLogonInfo

OCX:
RetrieveLogonInfo retrieves logon information (except for the password) for all "tables" in the current report, populates LogOnInfo Property and returns the number of "tables" in the report.

```
NumberofTables% = CrystalReport1.RetrieveLogonInfo
```

RDC:
Use the SetLogonInfo to connect to the server. To read the connection information, use the following properties from the DatabaseTable object.

```
'Get the number of tables in the report

'from the count property of the DatabaseTables collection

nTables% = Report.Database.Tables.Count


'Set the location the first DatabaseTable in the
DatabaseTables collection
```

```
Report.Database.Tables.Item(1).SetLogOnInfo "DSN",
"Database", "User ID",   "Password"
```

RetrieveSQLQuery

OCX:
RetrieveSQLQuery retrieves the SQL Query from the current report and populates SQLQuery Property.

```
CrystalReport1.RetrieveSQLQuery
```

RDC:
SQLQueryString
This is a property of the Report Object.

```
'Declare a string variable to hold the SQL Query
Dim strSQL As String

'To retrieve the SQL Query
strSQL = Report.SQLQueryString

'To pass a SQL Query
Report.SQLQueryString = strSQL
```

RetrieveStoredProcParams

OCX:
RetrieveStoredProcParams retrieves all stored procedure parameters from the current report, populates StoredProcParam Property and returns the number of parameters.

```
NumberofParams% = CrystalReport1.RetrieveStoredProcParams
```

RDC:
All Stored Procedure parameters are part of the ParameterFieldDefinition collection. Use the following properties of the ParameterFieldDefinition object and ParameterFieldDefinitions collection.

```
'Retrieve the first default value in the parameter
'RDC has the ability to add multiple values
nParameterValue =
Report.Parameters.Item(1).GetNthDefaultValue(1)

'Set the first parameter in the ParameterFields collection
Report.Parameters.Item(1).AddCurrentValue nParameterValue

'Get the number of parameters in the report
'from the count property of the ParameterFields collection
nParameters% = Report.ParameterFields.Count
```

SetTablePrivateData

OCX:
SetTablePrivateData sets the report data to the recordset in memory. Use with Crystal Data Object, ActiveX Data Object 1.5 and higher, Remote Data Object 2.0, etc.

```
CrystalReport1.SetTablePrivateData 0, 3, ADOrs
```

RDC:
SetPrivateData
SetPrivateData is a property of the DatabaseTable object.

```
'Pass the recordset to the first table in the
'DatabseTables collection
'3 is the Data Tag and is currently the
'only valid value. rs is any valid recordset
Report.Database.Tables.Item(1).SetPrivateData 3, rs
```

SpecifyDataSourceField

OCX:
Enables you to specify the columns that appear, their order and their width for reports that are automatically generated from a Data control. If you call this function one or more times, only the columns indicated by the calls will appear in the report. You must call this function one time for each column you are setting.

```
CrystalReport1.SpecifyDataSourceField 0,"Year Born",10
```

RDC:
Note on Bound Reports:
RDC versions 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16.

In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply).

Appendix D: Features Comparison of OCX to RDC

OCX Methods and Properties	RDC Method	RDC Object	Notes
Properties:			
Action	N/A	N/A	To Print use the PrintOut method of the Report object. To Preview use the ViewReport method of the CRViewer. To Export use the Export method of the Report object.
BoundReportFooter	Suppress	Section	**Note on Bound Reports:** RDC versions 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16. In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply). For more information, please go to page 17.
BoundReportHeading	ReportTitle	Report	**See above note on Bound Reports**
Connect	SetLogonInfo	DatabaseTable	
CopiesToPrinter	Printout	Report	An optional second parameter of the Printout method.
DataFiles	Location	DatabaseTable	
DataSource	N/A	N/A	**See above note on Bound Reports**
Destination	N/A	N/A	There are separate commands to Print Preview or Export.
DetailCopies	CopiesToPrint	Application	
DialogParentHandle	SetDialogParentWindow	Report	
DiscardSavedData	DiscardSavedData	Report	
EmailCCList	MailCcList	ExportOptions	
EmailMessage	MailMessage	ExportOptions	
EmailSubject	MailSubject	ExportOptions	
EmailToList	MailToList	ExportOptions	
EmailVIMBCCList	MailBccList	ExportOptions	
ExchangeFolder	ExchangeFolderPath	ExportOptions	
ExchangeProfile	ExchangeProfile	ExportOptions	
ExchangePassword	ExchangePassword	ExportOptions	
Formulas	Text	FormulaFieldDefinition	Access the individual Formula from the FormulaFieldDefinitions collection.
GraphData	N/A	N/A	The GraphData property is not included in the OCX as of version 7, and is not included in the RDC.
GraphOptions	See notes	GraphObject	The parameters of the GraphOptions property are individual properties of the GraphObject. See below for the applicable GraphOptions parameter to GraphObject property match. FontFace - N/A BarDirection - GraphDirection LabelRisers – DataPoint

			GridLines – GroupAxisGridline Legend – EnableShowLegend Max – MaxDataAxisValue Min – MinDataAxisValue
GraphText	See notes	GraphObject	The parameters of the GraphText property are individual properties of the GraphObject. See below for the applicable GraphText parameter to GraphObject property match. Title - Title SubTitle – SubTitle FootNote – FootNote Series – SeriesTitle Group – GroupsTitle X – XaxisTitle Y – YaxisTitle Z – ZaxisTitle
GraphType	GraphType	Graphobject	
GroupCondition	See notes	Area	The parameters of the GroupCondition property are individual properties of the Area object. See below for the applicable GroupCondition parameter to Area property match. Field - GoupConditionField Condition - GroupCondition SortDirection - SortDirection
GroupSelectionFormula	GroupSelectionFormula	Report	
GroupSortFields	Add	GroupSortFields	Adds the Sunmmaryfield to the GroupSortFields collection.
LastErrorNumber	N/A	N/A	Use Visual Basic Err object. Err.Number
LastErrorString	N/A	N/A	Use Visual Basic Err object. Err.Description
LogOnInfo	SetLogoInfo	DatabaseTable	
MarginBottom	BottomMargin	Report	
MarginLeft	LeftMargin	Report	
MarginRight	RightMargin	Report	
MarginTop	TopMargin	Report	
ParameterFields	AddCurrentValue	ParamterFieldDefinition	Access the individual parameter through the ParameterFieldDefinitions collection. The RDC takes advantage of the enhanced parameter fields of Seagate Crystal Reports 7 and is able to pass multiple values as well.
Password	SetSessionInfo	DatabaseTable	Second parameter of the SetSessionInfo method.
PrintDay	PrintDate	Report	Sets the entire print date.
PrinterCollation	PrintOut	Report	Optional third parameter of the PrintOut method.
PrinterCopies	PrintOut	Report	Optional second parameter of PrintOut method
PrinterDriver	SelectPrinter	Report	First parameter of SelectPrinter method.
PrinterName	SelectPrinter	Report	Second parameter of SelectPrinter method.
PrinterPort	SelectPrinter	Report	Third parameter of SelectPrinter method.
PrinterStartPage	PrintOut	Report	Optional fourth parameter of the PrintOut method.
PrinterStopPage	PrintOut	Report	Optional fifth parameter of the PrintOut method.
PrintFileCharSepQuote	CharStringDelimiter	ExportOptions	
PrintFileCharSepSeparator	CharFieldDelimiter	ExportOptions	

PrintFileLinesPerPage	NumberOfLinesPerPage	ExportOptions	
PrintFileName	DiskFileName	ExportOptions	
PrintFileODBCPassword	ODBCDataSourcePassword	ExportOptions	
PrintFileODBCSource	ODBCDataSourceName	ExportOptions	
PrintFileODBCTable	ODBCExportTableName	ExportOptions	
PrintFileODBCUser	ODBCDataSourceUserID	ExportOptions	
PrintFileType	FormatType	ExportOptions	
PrintFileUseRptDateFmt	UseReportDateFormat	ExportOptions	
PrintFileUseRptNumberFmt	UseReportNumberFormat	ExportOptions	
PrintMonth	PrintDate	Report	Sets the entire print date.
PrintYear	PrintDate	Report	Sets the entire print date.
ProgressDialog	DisplayProgressDialog	Report	
RecordsPrinted	NumberOfRecordPrinted	PrintingStatus	
RecordsRead	NumberOfRecord	PrintingStatus	
RecordsSelected	NumberofRecordSelected	PrintingStatus	
ReportDisplayPage	GetPageNumber	CRViewer	
ReportFileName	OpenReport	Application	
ReportLatestPage	N/A	N/A	This feature is not implemented in the RDC. An alternative is to create a custom Printer Dialog and store the User's selection for Start and Last page in variables. For an example of a custom Printer Dialog see the form 'frmPrintOut' in the Object Model application at: • Version 6 of the RDC: C:\Program Files\Seagate Crystal Reports\sample\Designer\Object Model App • Version 7 and 8 of the RDC: C:\Program Files\SEAGATE SOFTWARE\Crystal Reports\sample\RDC\ObjModel
ReportSource	N/A	N/A	**Note on Bound Reports:** RDC versions 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16. In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply) For more information, please go to page 17.
ReportStartPage	N/A	N/A	This feature is not implemented in the RDC. An alternative is to create a custom Printer Dialog and store the User's selection for Start and Last page in variables. For an example of a custom Printer Dialog see the form 'frmPrintOut' in the Object Model application at: • Version 6 of the RDC: C:\Program Files\Seagate Crystal

			Reports\sample\Designer\Object Model App • Version 7 and 8 of the RDC: C:\Program Files\SEAGATE SOFTWARE\Crystal Reports\sample\RDC\ObjModel
ReportTitle	ReportTitle	Report	
SectionFont	See notes	See Notes	The font information for each text or field object can be set through the individual object's Font object.
SectionFormat	See notes	Section	The parameters in the OCX SectionFormat property are individual properties of the Section object.
SectionLineHeight	See Section Format notes	Section	
SectionMinHeight	See Section Format notes	Section	
SelectionFormula	RecordSelectionFormula	Report	
SessionHandle	N/A	N/A	This is not implemented in the RDC. Use SetSessionInfo method of the DatabaseTable object.
SortFields	Field and Name properties	SortField	
SQLQuery	SQLQueryString	Report	
Status	Progress	PrintingStatus	
StoredProcParam	AddCurrentValue	ParameterFieldDefinition	All stored procedures and Crystal parameters are accessed through the ParameterFieldDefinition object.
SubreportToChange	OpenSubreport	Report and SubreportObject	
UserName	SetSessionInfo	DatabaseTable	First parameter of the SetSessionInfo method.
WindowAllowDrillDown	EnableDrillDown	CRVIewer	All applicable windows properties can be set at runtime or through the properties window of the CRViewer.
WindowBorderStyle	N/A	N/A	Set the Border Style of the CRViewer parent form.
WindowControlBox	N/A	N/A	Set the Control Box of the CRViewer parent form.
WindowControls	EnableToolbar	CRVIewer	
WindowHeight	Height	CRVIewer	
WindowLeft	Left	CRVIewer	
WindowMaxButton	N/A	N/A	Set the MaxButton of the CRViewer parent form.
WindowMinButton	N/A	N/A	Set the MinButton of the CRViewer parent form.
WindowParentHandle	N/A	N/A	The CRViewer is an OCX control on an existing form.
WindowShowCancelBtn	EnableStopButton	CRVIewer	
WindowShowCloseBtn	EnableCloseButton	CRVIewer	Close Button on the CRViewer only closes the Report Views, it does not close the CRViewer.
WindowShowExportBtn	EnableExportButton	CRVIewer	
WindowShowGroupTree	EnableGroupTree	CRVIewer	
WindowShowNavigationCtls	EnableNavigationControls	CRVIewer	
WindowShowPrintBtn	EnablePrintButton	CRVIewer	
WindowShowPrintSetupBtn	PrinterSetup (RDC version 8 only).	Report	This feature is not implemented in the CRViewer for RDC versions 6 and 7. You can call the Microsoft Common Dialog from the PrintButtonClicked event or use your

			own Custom Dialog.
WindowShowProgressCtls	EnableProgressControl		
WindowShowRefreshBtn	EnableRefreshButton		
WindowShowSearchBtn	EnableSearchControl		
WindowShowZoomCtl	EnableZoomControl		
WindowState	N/A	N/A	Set the State property of the CRViewer Parent Form.
WindowTitle	N/A	N/A	Set the Caption property of the CRViewer parent form.
WindowTop	N/A	N/A	Set the Top property of the CRViewer parent form.
WindowWidth	N/A	N/A	Set the width of the CRViewer parent form.
Methods:			
FetchSelectionFormula	RecordSelectionFormula	Report	RecordSelectionFormula is a Read and Write property.
GetNSubreports	N/A	N/A	Search through the sections of the report for subreport objects to determine the number.
GetNthSubreportName	Name	SubreportObject	
LogonServer	LogonServer	Application and Database	
PageCount	NumberOfPages	PrintingStatus	
PageFirst	ShowFirstPage	CRViewer	
PageLast	ShowLastPage	CRViewer	
PageNext	ShowNextPage	CRViewer	
PagePrevious	ShowPreviousPage	CRViewer	
PageShow	ShowNthPage	CRViewer	
PageZoom	Zoom	CRViewer	
PageZoomNext	N/A	N/A	This method is not implemented in the Report Viewer control. However the functionality can be duplicated in code. See PageZoomNext in Appendix C.
PrinterSelect	N/A	N/A	Use the Microsoft Common Dialog Control. Set the Printer Default to True and call it from the PrintButton_Clicked Event.
PrintReport	N/A	N/A	To Print use the PrintOut method of the Report object. To Preview use the Viewreport method of the CRViewer. To Export use the Export method of the Report object
ReplaceSelectionFormula	RecordSelectionFormula	Report	
Reset	N/A	N/A	Set the Report object to "Nothing". Open the report again and set the new properties.
RetrieveDataFiles	Location	DatabaseTable	Location is a Read and Write Property.
RetrieveLogonInfo	SetLogonInfo	DatabaseTable	SetLogonInfo is a Read and Write property. To get the number of tables in the report check the DatabaseTables collection Count property.
RetrieveSQLQuery	SQLQueryString	Report	SQLQueryString is a Read and Write property, and is only available in RDC version 7.

RetrieveStoredProcParams	Count GetnthCurrentValue AddCurrentValue	ParameterFieldDefinitions and ParameterFieldDefinition	4
SetTablePrivateData	SetPrivateData and SetDataSource	DatabaseTable and Database	SetPrivateData is a property of the DatabaseTable object and can be used for each table. SetDataSource is a property of the Database object and is used to pass a single Recordset.
SpecifyDataSourceField	N/A	N/A	**Note on Bound Reports:** RDC versions 6 and 7 do not support the binding of a report to a Data Control or True DB Grid control to create an ad hoc report. This is an exclusive feature of the OCX control. The RDC uses Active Data for binding recordsets to existing report templates, which is much more flexible. See Active Data on page 16. In Seagate Crystal Reports 8, the RDC lets developers create reports at runtime through code or an intuitive Report Expert (runtime licensing fees apply).