

Report Designer Component

Using the Report Designer Component in Microsoft Visual Studio .NET

Overview

This document describes using the Report Designer Component (RDC) in Microsoft Visual Studio .NET (VS .NET).

This document covers the advantages and disadvantages of using the RDC in VS .NET and includes a tutorial for integrating the RDC in VS .NET.

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Introduction

The RDC is a COM component that many developers are currently using for their Windows and web development.

Some developers have not switched from using COM technology to the pure managed assembly environment of Visual Studio .NET.

Microsoft took this into account when designing the VS .NET environment and has provided support and tools for implementing existing COM components in Visual Studio .NET using COM Interop (Interoperability with COM).

Advantages of using the RDC in VS .NET

The RDC has more functionality than Crystal Reports for Visual Studio .NET (CR for VS .NET). For example:

Exporting

CR for VS .NET only allows exporting to the following formats:

- PDF
- XLS
- RTF
- RPT
- DOC
- HTML

The RDC supports all the export formats that CR for VS .NET supports. In addition, the RDC allows exporting to different versions of Excel and different text formats (such as .TXT, .CSV, .DIF)

Events

The RDC supported several events including Section Format and No Data events. The most common uses of these events are to change images at runtime and to determine if a report or subreport will return data.

These events are not supported in CR for VS .NET.

Report Creation API

The RDC has an object model that includes Report Creation API calls. These Report Creation API calls allows customers to build reports at runtime.

The RDC also provides the CrystalReportWizard tool, which is a runtime interface for adding fields and other objects to a report as well as a new Embedded Runtime Designer.

These features are currently not included with CR for VS .NET.

Object Model

Many objects you can place on a Crystal Report contain properties and methods that you can access at runtime through the RDC Object Model.

The RDC object model has more properties and method than the object model in Crystal Reports for VS .NET.

For example, the RDC Object Model has more properties for the following objects than the CR for VS .NET Object Model:

- Graph Object
- Area Object
- Section Object
- OLEObject
- Picture Object
- BlobFieldObject

NOTE	<p>For a utility that allows you to navigate through the object hierarchy of the RDC using an "Explorer tree" type interface, download rdc9_browser.exe.</p> <p>Search for this file at http://support.businessobjects.com/search</p>
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Disadvantages of using the RDC in VS .NET

The RDC is a tool that was not specifically designed to run in the VS .NET environment so there are some features in the VS .NET environment that the RDC cannot use. For example:

Interoperability with COM (COM Interop)

Using the RDC in a VS .NET application means that you will be making use of unmanaged code and therefore not take advantage of many of the .NET features such as automatic Garbage Collection and Automatic Thread Marshalling.

When designing an application with COM interop many factors need to be considered. For more information on COM interop and what considerations need to be made, refer to the following article:

<http://msdn.microsoft.com/library/en-us/cpguide/html/cpconintroducingclassinterface.asp>

Distributing Applications

The RDC is a COM component that needs to be entered into the Windows Registry before it will be accessible to a computer.

This can make distribution more difficult as the RDC can fail to register if all of its dependencies are not present on the computer.

NOTE	<ul style="list-style-type: none">For a document that describes the methods for creating a deployment package to distribute a Report Designer Component (RDC) 9 application, download rdc9_deployment.pdf. Search for this file at http://support.businessobjects.com/search.For a listing of the runtime file requirements for the Report Designer Component 9, download knowledge base article c2012421. Search for this file at http://support.businessobjects.com/search.
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Web applications

In VS .NET the options for using the RDC in a web application are limited to exporting, server side printing or making use of classic ASP to preview the reports.

This is because no ASPX file corresponds with the RPTSERVER.ASP file traditionally used to run reports over the web. Any web reporting that requires the RPTSERVER.ASP file is not possible in VS .NET.

Viewers

CR for VS .NET has two different viewers; a Windows Forms Viewer and a zero client Web Forms Viewer, neither of which can use an RDC report.

For more information on the Viewers and their object models download **crnet_object_models.pdf**.

Search for this document at <http://support.businessobjects.com/search>.

Web Services

CR for VS .NET allows you to publish a report as a Web Service. However, the Web Service is not compatible with any of our version 8.5 or earlier tools.

For more information on Web Services, download **rtm_webservices.pdf**.

Search for this document at <http://support.businessobjects.com/search>.

Support for the RDC in VS .NET

The RDC is specifically designed around the COM technologies and is intended for use Visual Basic 6 developers; therefore, it is not recommended, nor tested, for use in a .NET application. This limits the support offering for the RDC in a .NET application; however, because COM is a supported technology in .NET the RDC is known to function as expected in a .NET application.

To support any issue encountered with the RDC in a .NET application, these issues need to be reproducible in a supported COM-based development tool (such as VB6).

Instead of using the RDC in a .NET solution, use the Crystal Reports for Visual Studio .NET or Report Application Server (RAS; CE Embedded 10) for your .NET development as these tools are designed and supported in a .NET environment.

Using the RDC in VS .NET Tutorial

Overview

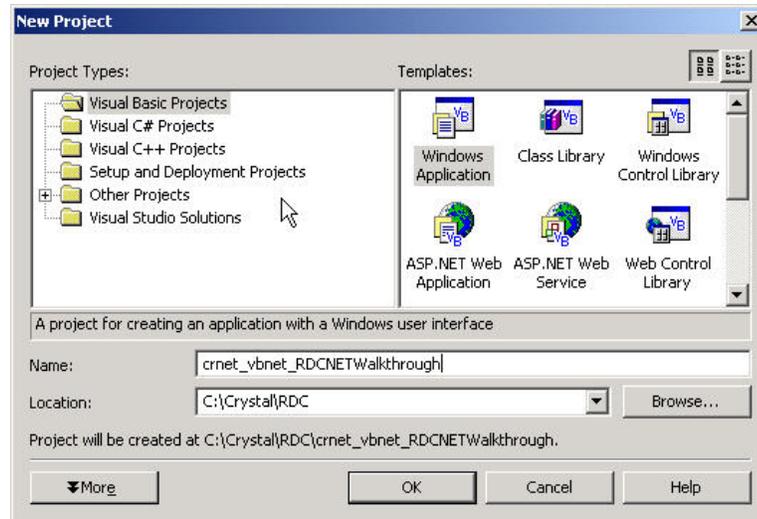
The following tutorial demonstrates using the RDC in VS .NET. To complete this exercise you will need to have Crystal Reports 9 and Visual Studio .NET installed on your computer.

This tutorial uses a Windows application built using Visual Basic .Net that loads and previews a report.

Getting Started

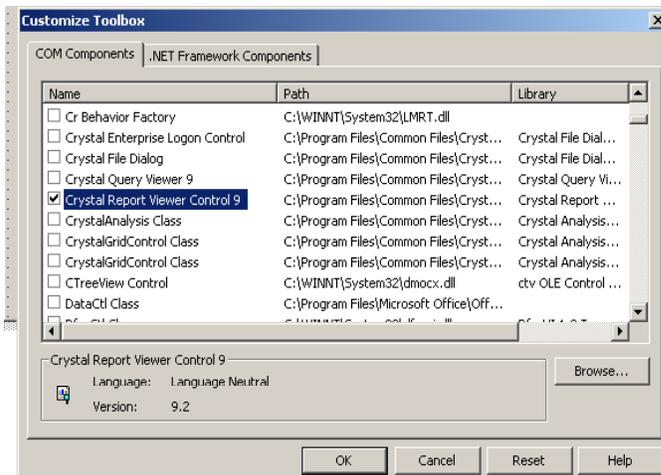
1. Start Visual Studio .NET and select **New Project** from the Visual Studio .NET start page. The **New Project** dialog box appears.
2. Select **Visual Basic Projects** as the Project Type and select **Windows Application** as the Template.

Name the application and save it to the **C:\Crystal\RDC** folder. Select **OK**. You should now see a VB form.

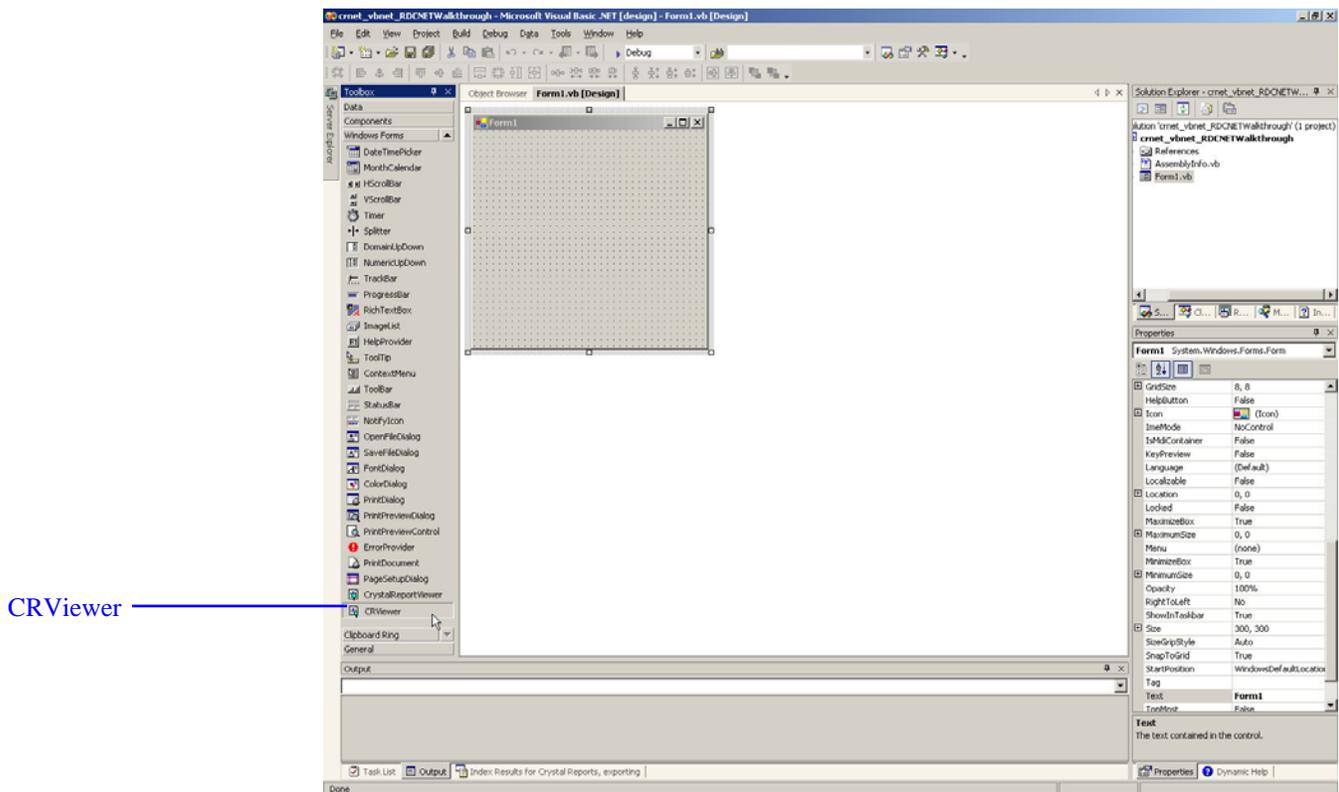


3. Right-click in any area of the **Toolbox** and select **Customize Toolbox** from the pop-up menu.
4. The **Customize Toolbox** dialog box appears. Under the **COM Component** tab, select **Crystal Report Viewer Control 9** and click **OK**.

This adds the ActiveX Crystal Viewer (CRViewer) to your Visual Studio .NET Toolbox.



5. In the **Toolbox**, double-click **CRViewer** under the **Windows Forms** component to add the **CRViewer** to the form.



6. Right click the **CRViewer** and select **Properties**. Set the **Dock** property to **Fill**.

NOTE

In the CRViewer property page, the name property of the CRViewer should be either **AxCRViewer1** or **AxCRViewer91**.

7. Go to the **Project** menu and select **Add Reference**. Go to the **COM** tab and highlight **Crystal Reports 9 ActiveX Designer Run Time Library** (Craxdrt9.dll).

Click **Select** and then click **OK**.

8. Highlight **Form1.vb** and click the **View Code** icon in the **Solution Explorer** to enter the code window.

Add the following lines of code above the line, **#Region**:

```
`Declare CRAXDRT Application and Report objects

    Dim crApp As New CRAXDRT.Application()
    Dim crReport As CRAXDRT.Report

#Region " Windows Form Designer generated code "
```

9. Add the following lines of code after **InitializeComponent()**

```
`Set the reportsource for the viewer and view the report
`using the ViewReport method.
```

```
crReport = crApp.OpenReport("C:\Program Files\Seagate
Software\Crystal Reports\Samples\En\Reports\General
Business\World Sales Report.rpt", 1)
```

```
AxCRViewer1.ReportSource = crReport
AxCRViewer1.ViewReport()
```

10. Go to the **Build** menu and select **Build Solution**. Then go to the **Debug** menu and select **Start Without Debugging**. The report you specified in the code now appears.

Additional Resources

Search for the following resources at <http://support.businessobjects.com/search>

- For a complete RDC object model, refer to the **Developer Help file** (CrystalDevHelp.chm). This file is installed by default to the following folder:

C:\Program Files\Crystal Decisions\Crystal Reports 9\Developer Files\Help\En

- For a document that discusses the options for deploying applications built with the Crystal Reports 9 .NET components, download **crnet_deployment.pdf**.

For a utility that allows you to navigate through the object hierarchy of the RDC using an "Explorer tree" type interface, download **rdc9_browser.exe**.

For a listing of the RDC sample applications on the Crystal Decisions support site, download **apps_vb_rdc.pdf** and **apps_cpp_rdc.pdf**.

- For a document that describes the methods for creating a deployment package to distribute a Report Designer Component (RDC) 9 application,

download **rdc9_deployment.pdf**.

- For a listing of the runtime file requirements for the Report Designer Component 9, download knowledge base article **c2012421**.

Finding More Information

For more information and resources, refer to the product documentation and visit the support area of the web site at: www.businessobjects.com

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