



Flex2Crystal

**Integrating DataFlex Applications with Current
Versions of Crystal Reports**

Introduction

Crystal Reports has long been Visual DataFlex developers' reporting tool of choice, for both in-house corporate use and embedding reports inside commercial application packages.

Developers embed reports created with Crystal Report Designer into Visual DataFlex applications by means of the Crystal Report Design Component (RDC) interface. The RDC is a COM component, which uses ActiveX controls to allow developers to run a report and dynamically control report settings.

In 2006, Business Objects (acquired by SAP in 2007) announced they would not continue supporting the RDC interface. New versions of Crystal Reports would include a .NET interface instead. Since DataFlex doesn't support .NET-based components, this decision signaled the end of Crystal Reports and Visual DataFlex integration. SAP still creates new versions of Crystal Reports, but Visual DataFlex users cannot use them.

This change presented DataFlex developers with two challenges: preserving their legacy reports, and locating a replacement reporting tool with the same features as Crystal Reports.

Mertech's Solution

To help Visual DataFlex developers overcome these challenges, Mertech created Flex2Crystal.

Flex2Crystal seamlessly integrates new versions of Crystal Reports with Visual DataFlex, allowing developers to continue using existing reports while also taking advantage of new Crystal Reports features. Flex2Crystal establishes .NET support within Visual DataFlex and provides a compatibility layer that bridges the gap between Visual DataFlex and new Crystal Report versions.

In short, with Flex2Crystal, Crystal Reports is no longer a dead end for DataFlex users.

Flex2Crystal Product Fact Sheet

- Seamlessly integrates Crystal Reports with Visual DataFlex (VDF) Studio and applications
- Allows you to adopt new Crystal Reports versions without changing your source code
- Cost-effectively protects your investment in Crystal Reports
- Supports new Crystal Reports features as they're released
- Doesn't compromise report or data retrieval performance
- Supports VDF 12 and above
- Is easy to install and distribute

Minimum Requirements

To use Flex2Crystal, you need:

- VDF 12 or higher
- A SQL database and a Merteck's [Flex2SQL](#) driver (Flex2SQL for MS SQL Server, Flex2SQL for Oracle, Flex2SQL for MySQL or Flex2SQL for PostgreSQL). Flex2Crystal does not work with embedded databases.
- Crystal Reports 2011 (version 14) or above.
 - One Crystal Reports 2011 or above named user license is required for each developer license.

Crystal Reports and Visual DataFlex Integration

Here, we'll briefly describe how Crystal Reports integrates with Visual DataFlex, and how Flex2Crystal extends this integration to new Crystal Report versions.

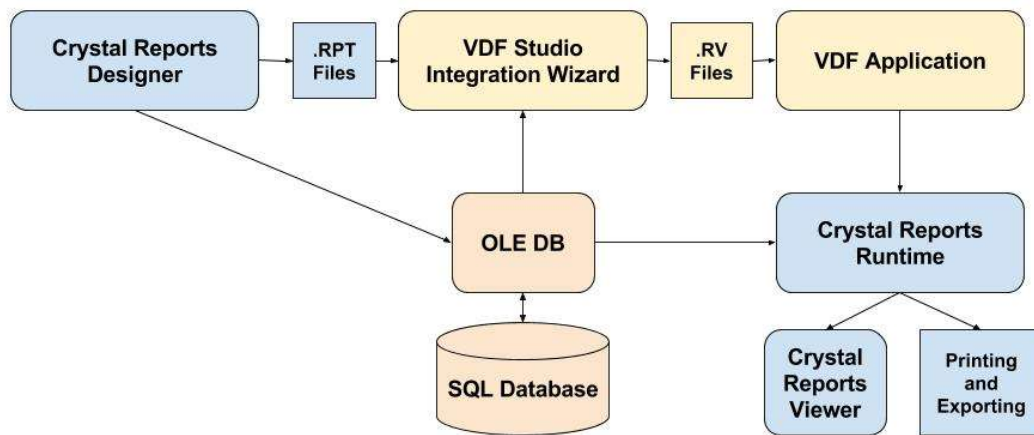
As you likely know, to add a Crystal Report to a VDF application, you must:

1. Create a report (.RPT file) using the Crystal Reports Designer Component (RDC).
2. Wrap the report in a report view (.RV file) using the VDF Studio RDC Integration Wizard.

3. Include the report view in your application source code, where it is run and outputted to the selected device.

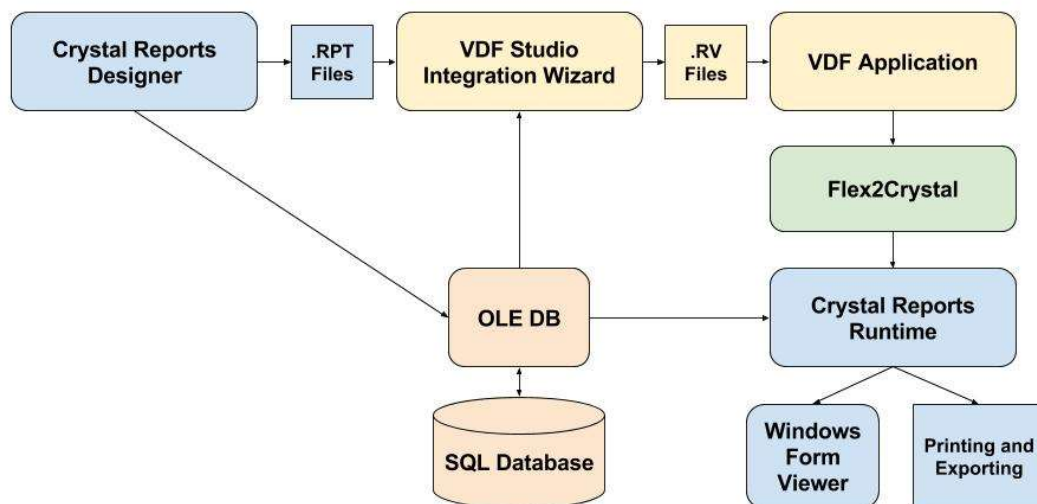
RDC (.COM) Environment

In VDF, the entire RDC interface is imported as a Class library. The Integration Wizard associates the report file with a report object (based on the cCrystal class). The report object is placed inside a view object (based on the ReportView class). Methods inside the cCrystal class are used to define output options, set files and formulas, define the location of the database tables, and run the report.



.NET Environment

The Flex2Crystal interface simulates the RDC interface by overriding the lowest level VDF Crystal classes and tying these into the COM Interop bridge. By replacing the low level classes, Flex2Crystal maintains all the abstraction VDF provides in the classes above, without requiring you to rewrite any code.



Flex2Crystal supports all previous DataFlex-Crystal Reports features, as well as the new functionality introduced in Crystal Reports 2011. We also periodically update Flex2Crystal to support new Crystal Reports features as they become available.

Flex2Crystal works by replacing the exposed cCrystal .COM classes with .NET-aware cFlex2Crystal classes. All properties, events, methods, and helper functions accessible in cCrystal classes are accessible in the new cFlex2Crystal classes.

Minimal Code Changes

Transitioning your reports to use Flex2Crystal requires minimal changes to your existing code. All you have to do is perform a few search and replace operations in your report view (.RV) files. The following tables outline the changes you must make to run your existing reports using Flex2Crystal.

Replace	With
Use cCrystal.pkg	Use cFlex2Crystal.pkg
Use Crystal\CheckForCrystal.dg	Use CheckForFlex2Crystal.dg

To use the new Flex2Crystal class definitions, replace all occurrences of cCrystal with cFlex2Crystal.

Replace	With
cCrystal	cFlex2Crystal
cCrystalAreas	cFlex2CrystalAreas

A Sample Migration

Below, you can see the changes necessary to make an existing sample report, OrdersByCustomer, work with Crystal Reports version 2011 (changes are highlighted).

```

Use CheckForFlex2Crystal.dg
Use dfrptvw.pkg
Use dfRadio.pkg
Use Windows.pkg
Use cFlex2Crystal.pkg

Deferred_view Activate_oOrdersByCustomerCR for ;
;
Object oOrdersByCustomerCR is a ReportView
  Set Label to "Orders by Customer"
  Set Location to 2 23
  Set Size to 72 185
  Set piMinSize to 72 185
  .
  .
  .
Object oRunButton is a Button
  Set Label to "Run Report"
  Set Size to 14 53
  Set Location to 20 122
  Set Default_State to True

Procedure OnClick
  Boolean bCrystalOK

  Get CheckCrystalEnvironment of oCheckForFlex2Crystal to bCrystalOK
  If (bCrystalOK) Begin
    Send RunReport of oCrystalReport1
  End
  Else Begin
    Send DisplayDialog of oCheckForFlex2Crystal
  End

End_Procedure

End_Object // oRunButton
.
.
.
Object oCrystalReport1 is a cFlex2Crystal

Procedure MakeSectionsInvisible integer eSectionType Integer iGroup
  Handle hoReport
  Handle hoAreas hoArea
  Variant vAreas vArea
  Integer iAreas iArea iKind

  Get ReportObject to hoReport

  Get Create of hoReport U_cFlex2CrystalAreas to hoAreas // areas collection
  Get Create of hoReport U_cFlex2CrystalArea to hoArea // area object

```

Evaluate Our Product

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