

Crystal Reports

Advantages and Disadvantages of Native, ODBC and OLE DB Connections

Overview

This document provides an overview of the advantages and disadvantages of using a native, ODBC or OLE DB connection in Crystal Reports (CR).

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Introduction

There are advantages and disadvantages of using a native, ODBC and OLE DB connection in CR. Definitions of each connection type and factors that affect your connection options are included in this document.

Definitions of a Native, ODBC and OLE DB Connections

Native

Native connections are direct connections. Native connections use Crystal Reports components versus third-party components such as ODBC or OLE DB.

ODBC

ODBC (Open Database Connectivity) connections involve the use of third party software (ODBC) to communicate between CR and a database. ODBC uses SQL (Structured Query Language) statements to communicate between CR and your database.

CR provides the database driver DLL, P2sodbc.dll, which communicates with the ODBC layer.

For a more detailed definition of ODBC, refer to “ODBC data sources” in the Crystal Reports Online Help. In CR, press the F1 key to launch the Crystal Reports Online Help.

OLE DB

OLE DB connections, like ODBC connections, use third-party software (OLE DB) to communicate between Crystal Reports and the database. OLE DB exchanges data by providing an interface layer to communicate between CR and your database. OLE DB uses SQL (Structured Query Language) statements to communicate between CR and your database.

CR provides the database driver DLL, P2soledb.dll, which communicates with the OLE DB layer.

For a more detailed definition of OLE DB, refer to “OLE DB” in the Crystal Reports Online Help. In CR, press the F1 key to launch the Crystal Reports Online Help.

Connection Options

Database type

The type of database that you are using affects the connection options available in CR. Are you using an SQL-type or PC-type database?

Examples of SQL-type databases:

Microsoft SQL Server, Oracle, Sybase, Informix, IBM DB2

Examples of PC-type database:

Microsoft Access, Paradox, FoxPro 2.6, Visual FoxPro, Act!, Goldmine, dBase, Btrieve

Available connections

CR can connect to all database types using an ODBC connection if the database is ODBC-compliant. Also, CR provides native database drivers for specific database types.

For more detailed information about the available connections in CR for your database, refer to the database-specific section in the Crystal Reports Online Help. In CR, press the F1 key to launch the Crystal Reports Online Help.

For example, to find more information regarding an Oracle database, search for "Oracle".

For a list of native database drivers available in CR, consult the technical brief, "Database Driver Dependency DLLs (for Native/ODBC Drivers)", which is available by clicking on the following hyperlink:

[cr_db_driver_dependencies.pdf](#)

Advantages and Disadvantages Native, ODBC and OLE DB

Advantages of a native connection

- The native connection is generally the fastest method of connection. Creating a DSN (Data Source Name) in the ODBC administrator is not required. Login to your database is the only requirement.
- The native connection has the most direct control over tables with the 'Set Location' command in CR.
- This type of connection also allows the option of using the option 'Use Indexes or Server for Speed' in the Report Options dialog box.

NOTE	The option 'Use Indexes or Server for Speed' in the Report Options dialog box is not available for every database type. This option is mainly available for PC-type databases.
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Disadvantages of a native connection

- Using a native connection may limit you to use outdated native libraries. The native libraries may not be able to support the latest data types.
- Using a native connection to a PC-type database, you are required to link to indexed fields.

Advantages of an ODBC connection

- An ODBC connection is compatible between CR and most ODBC - compliant databases. An ODBC connection is not limited to using one company's drivers.

For example, in the case of Oracle databases, there are three ODBC database driver options:

- a) Oracle's ODBC driver
 - b) Merant's Oracle driver
 - c) Microsoft's Oracle driver
- ODBC drivers are generally updated to include the latest data type.
 - An ODBC connection allows more control and options over table joins, such as Left Outer join.
 - ODBC is the only method of allowing CR to report off a Microsoft Access parameterized query.

Disadvantages of an ODBC connection

- A report using an ODBC connection requires a DSN (Data Source Name) to be configured on each computer.
- ODBC connections require data and SQL call statements to pass through the ODBC layer which may slow down the speed of the data transfer and therefore can be slower than using a native connection.
- ODBC connections in CR are subject to third-party driver and software limitations.

Advantages of an OLE DB connection

- An OLE DB connection does not require a DSN to be configured, as is the case with an ODBC connection.

Disadvantages of an OLE DB connection

- Using OLE DB is typically the slowest type of connection between CR and your database.

Finding More Information

The following is a list of documents regarding related issues in the Crystal Reports designer that are available on our support site. Click on the hyperlink file name to go directly to the document.

[cr_dbconn_troubleshooting.pdf](#)

Database Connectivity Troubleshooting FAQ for Crystal Reports

[cr_db_driver_dependencies.pdf](#)

Database Driver Dependency DLLs (for Native/ODBC Drivers) for Crystal Reports

[cr_aliases.pdf](#)

Aliases, Indexes and Performance-Related Issues

[scr_file_dsn.pdf](#)

How to use a File Data Source (DSN)

[sqlcon32_how_to_use.pdf](#)

How to use SQLCON32 to diagnose ODBC driver issues

[cr_odbc_architecture.pdf](#)

Open Database Connectivity (ODBC) Architecture

[storproc.pdf](#)

Stored Procedure Support in Crystal Reports

[scr_pclinking.pdf](#)

Table Linking in Crystal Reports

Contacting Crystal Decisions for Technical Support

We recommend that you refer to the product documentation and that you visit our Technical Support web site for more resources.

Self-serve Support:

<http://support.crystaldecisions.com/>

Email Support:

<http://support.crystaldecisions.com/support/answers.asp>

Telephone Support:

<http://www.crystaldecisions.com/contact/support.asp>