

# Crystal Reports 9.0

## Extracting Data from Lotus Notes and Domino

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### Overview

The objective of this document is to provide information and technical reference for using Crystal Reports® to report on a Lotus Notes® or Domino™ database. It includes information on connectivity, development, and common issues. Examples are based on the latest build of the Crystal Decisions® native driver for Lotus Notes and Domino, the Lotus NotesSQL™ ODBC driver, and Crystal Reports version 9.0.

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## Introduction

Crystal Reports is a reporting tool that Lotus Domino users can use to create presentation-quality reports from data stored in either Forms or Views, as well as other data sources. Displaying data using graphs, charts, conditional formatting, and more, Crystal Reports enables easy analysis and helps business users to make better decisions.

## Lotus Notes and Domino Connectivity

There are two ways of connecting to a Lotus Notes or Domino database from Crystal Reports:

- Native driver provided by Crystal Decisions
- ODBC driver provided by Lotus

With either method the Lotus Notes client software must be installed on your computer in order for Crystal Reports to access the data in your database. The actual NSF database may be local or on a server.

**NOTE**

When creating reports, experiment with performance by trying both the native driver and the NotesSQL ODBC driver. You may find that one works faster than the other in certain situations, depending on linking, number of Forms/Views, and record selection filtering.

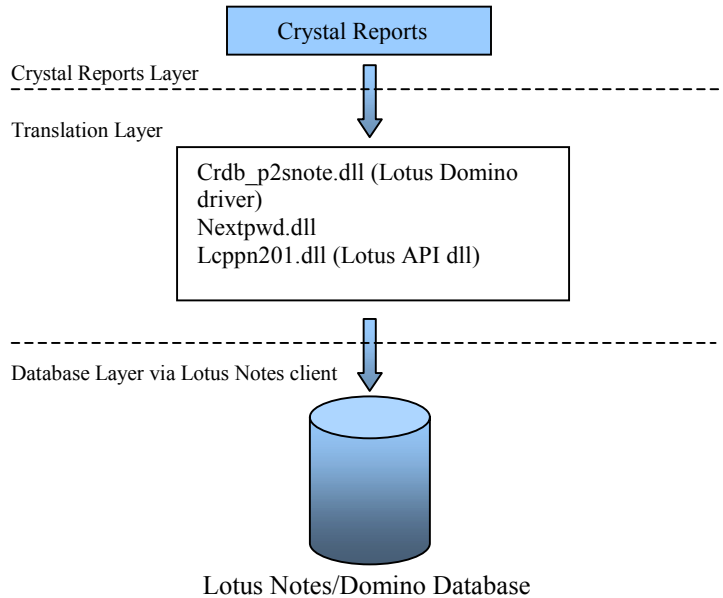
### Native Driver (crdb\_p2snote.dll)

The crdb\_p2snote.dll native driver for Lotus Notes or Domino was first released with the Maintenance Release of Crystal Reports version 7.0 in June 1999. In comparison to ODBC, no pre-configuration is required for the native driver.

## Native driver architecture

The following diagram shows how the native driver connects to the database:

Crystal Reports → crdb\_p2snote.dll, Lcppn201.dll → Lotus Notes Database



## Configuring the Native Driver for Lotus Notes and Domino

1. crdb\_p2snote.dll is placed in the program files\common files\crystal decisions\2.0\bin.
2. Nextpwd.dll is placed in the Lotus Notes executable directory (e.g.: c:\lotus\notes – the same directory as Notes.exe)
3. Lcppn201.DLL, the Lotus API DLL is placed in the Lotus Notes executable directory.
4. The following line is added to the Notes.ini file:  
EXTMGR\_ADDINS=extpwd
5. The Lotus Notes executable and data directories are entered in the PATH (e.g.: c:\lotus\notes and c:\lotus\notes\data).
6. For the native driver for Lotus Domino to work, only one version of the Lotus Notes client can exist on the computer.
7. Make sure that you do not have a ... \Seagate Software\Notes directory. This directory is created if Crystal Reports cannot find a Notes install on your computer and can sometimes conflict with Notes, if it is installed on your computer.

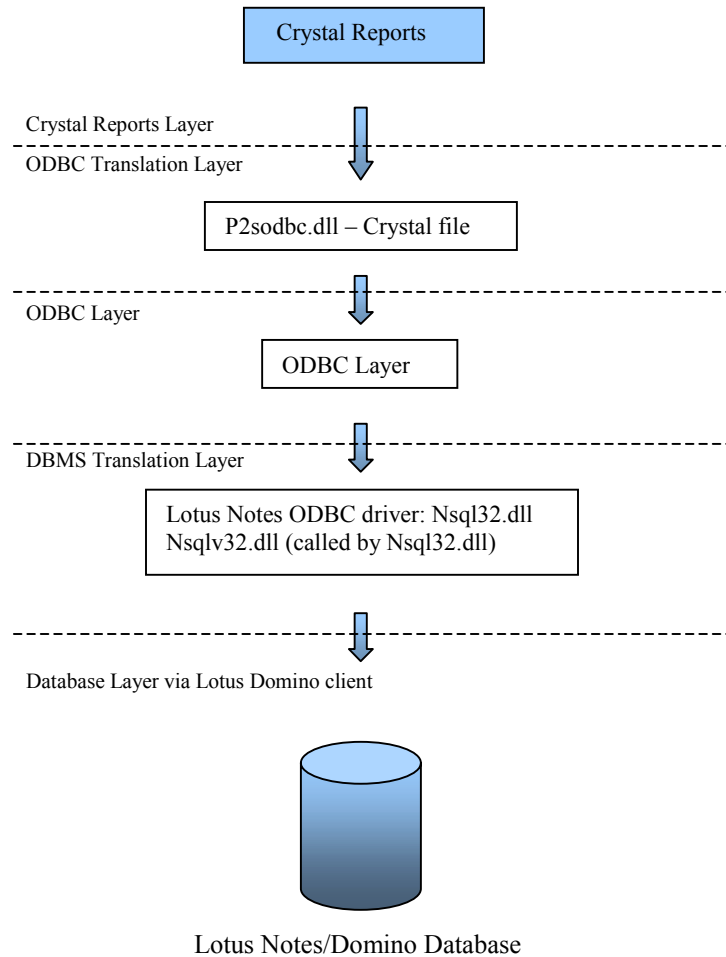
## NotesSQL ODBC Driver (Nsql32.dll)

The Lotus NotesSQL (ODBC driver) 3.01a driver is packaged with Crystal Reports 9.

Note that the NotesSQL 3.x driver supports Domino 4.6.4 and above.

### ODBC driver architecture

The following diagram shows how the ODBC driver connects to the database:



## Configuring the ODBC driver

Before you can use the ODBC driver in Crystal Reports, it needs to be configured:

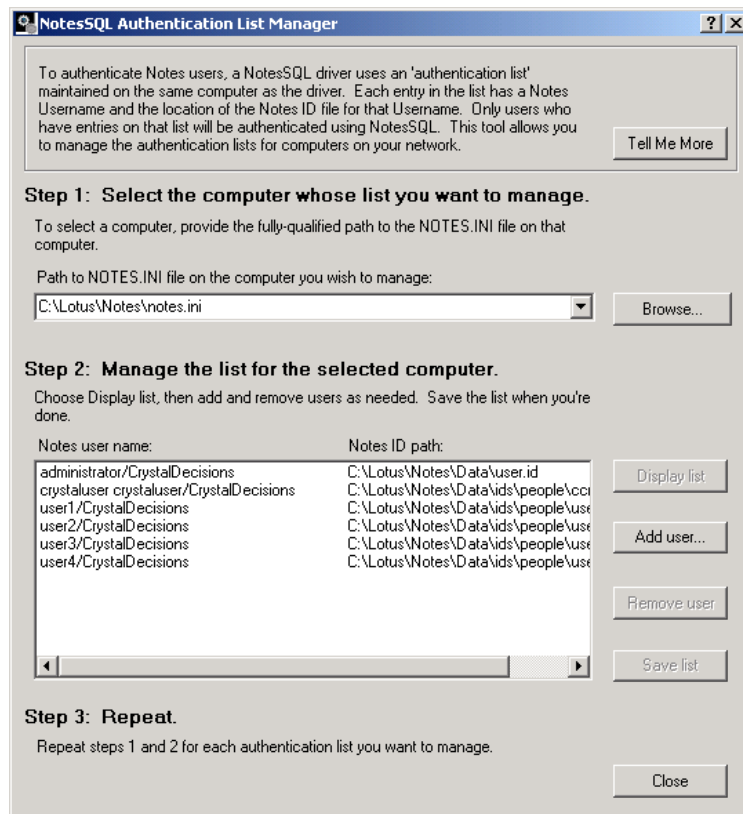
### NotesSQL 3.01.2002.125

1. Support for passing a runtime Username and Password has been added to NotesSQL 3.0x. NotesSQL Authentication lists provide the configuration support for this feature.

#### NOTE

If you do not use the authentication list produced from the NotesSQL Administrative Tool, and you do provide a username and password in the DSN, then you may receive an error message when reopening a report created with the DSN. Please see the ODBC section titled "Troubleshooting Connectivity" for more details.

2. The Authentication List Manager (aka NotesSQL Administrative Tool), shipped with NotesSQL 3.0, helps you manage authentication lists for multiple users and computers. If you are using Crystal Enterprise or Seagate Info, you will need to use the Authentication List Manager. Please use the following steps to use the Authentication List Manager:
  - a. Open Windows Explorer. Go to Program Files\NotesSQL\Nsql\_ALM.exe. Run the application by double clicking or right clicking on the file, and select Run. (You may want to create a shortcut for this file as there is no program group menu item created for it.)
  - b. Follow the steps listed in the tool by pointing to your Notes.ini, adding users to the list, and saving the list.



3. If you choose not to create an authentication list, then the driver will prompt for the username and password contained in the Notes ID file specified in Notes.ini. In addition, you can use the old method of authentication, by adding some system registry settings. Please see the “Index.htm” located in the NotesSQL root directory for more information.
4. For more details on configuring your NotesSQL data source connection, please see the “Index.htm” located in the NotesSQL root directory. Specifically, read Chapter 3, Using NotesSQL.

## Troubleshooting Connectivity

This section covers common issues experienced when reporting off a Lotus Notes or Domino database.

### Native Driver

1. **The Lotus Domino driver does not appear under “Create New Connection”.**
  - ❑ Make sure that the Lotus Notes client is installed and configured properly.
  - ❑ The client must be in the search path of the computer, e.g., C:\Lotus\Notes; C:\Lotus\Notes\Data
  - ❑ If you are running Windows 95 or 98, make sure that the path does not have an extra semicolon (;) and make sure that the path is set correctly. For example, you cannot use C:\Lotus\Notes R5; it has to be C:\Lotus\Notes~1
  - ❑ Check for the following drivers and their location:
    - Crdb\_p2snote.dll in the program files\common files\crystal decisions\2.0\bin.directory
    - Lcppn201.dll in the \Notes directory
    - Nextpwd.dll in the \Notes directory
  - ❑ If you find Lcppn20.dll, rename it. This dll will not work with the more recent versions of the Crystal Decisions native driver for Lotus Notes and Domino.
  - ❑ Installing the native driver will assume that you installed the Lotus Notes client before Crystal Reports; if not, then Crystal Reports will create a folder (e.g., \Program Files\Seagate Software\Notes) for these DLLs. As this folder is not in the search path of the computer, you will be unable to see the native driver. If this happens, move all of the DLLs to the appropriate folder (see above).
  - ❑ Sometimes the Notes.ini file is not on the local computer, but could be on another computer. In this case, make sure the path to the Notes.ini file is also referenced in the path.

- ❑ If the configuration looks good but you still cannot see the native driver, there could be a logon script that overwrites the Autoexec.bat file. Talk to your System Administrator to correct this problem.
2. **After install you can no longer refresh the report without receiving the error: “Entry not found in Index”**
    - a. Open the report in Crystal Reports.
    - b. On the menu, click Database > Set Datasource Location.
    - c. Select the first table, and then click “Set Datasource Location”.
    - d. Once in the Datasource Location Dialog, select the old location. In the bottom screen, select the new location. Then select “update”.
    - e. If the report uses multiple tables, you will receive a dialog box, “Propagate change...”, click “YES”, and the program will automatically set the location of the existing tables to the new connection.
    - f. Once this is completed, click “Close”.
    - g. On the menu, click Database > Verify Database.
    - h. If it says “Database has changed, proceed to fix up the report”, click “YES”.
    - i. Click Database > Verify Database again, and then refresh the report.

## NotesSQL (ODBC)

1. **A report created on one computer will not run on a different computer.**

ComputerA – Report runs fine  
ComputerB – Report will not run

Please make sure that you have the NotesSQL driver installed on ComputerB. Make sure that you have created a DSN on ComputerB that has the same name as the DSN on ComputerA, which is used by the report. If you want to check what DSN a report is using, open the report in Crystal Reports on ComputerA, and click Database > Set Datasource Location on the menu.

2. **Using the NotesSQL 3.x driver, an error message appears every time the report is reopened in the Crystal Report Designer.**

If you do not use the NotesSQL Administrative Tool to create an authentication list, and you create a DSN in the ODBC Administrator that uses a specific username and password, then you may have problems when you reopen a report created with this DSN.

When you attempt to reopen the report, you will receive an error message that reads: “Unable to validate userid username/domain”. Click OK. You will receive “Invalid authorization specification”. Click “OK” again and you will receive a password dialog followed by the DSN dialog. After you fill in both of these correctly, the report will run. To prevent this from occurring, use the Administrative Tool to create an authentication list.

## Frequently Asked Questions

### 1. Why are string fields returned as both string and memo fields when using the native driver?

Crystal designed the driver this way to provide more flexibility when dealing with a text field that is over 254 characters in length. By returning the field as a string field, it can be used in a Crystal group. By returning the field as a memo, all data will be returned, including data from fields that contain more than 254 characters. If the NotesSQL ODBC driver's maximum length for a text field is changed to over 254 characters in the ODBC configuration, then it will be returned as a memo type in Crystal Reports. To ensure that the field is returned as a string field, make sure this value is set to under 254 characters. Please note that in Crystal Reports version 9, you can use memo fields in formulas.

### 2. extmgr\_addins=extpwd is added to the notes.ini when the native driver for Lotus Notes and Domino is installed. What is the purpose of including this line? Can it be deleted?

This line is important for scheduling and web reporting using the native driver only. When scheduling a report, the native driver uses the Notes client's extension manager to pass the password. This passes by a prompt on the Info Server, which is invisible to users, and ensures the report does not fail.

When reporting over the Web, the report uses the Notes client on the Crystal Job Server/Crystal Page Server in Crystal Enterprise. As the Lotus client components are running on those computers, a prompt for a username and password will appear on the web server. As no one will be at the web server to enter the information, the report will fail. The native driver passes this information back through the web components to the browser or viewer.

### 3. Crystal products will use the ext mgr logon dialog box while the Lotus Notes application will use its own logon box.

Depending on which executable is calling nextpwd, the appropriate logon dialog is presented. Crystal will then check it against the system registry string value, NoPrompt, which is stored in the registry at:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Crystal Decisions\9.0\Lotus Notes Apps
```

If the executable is in the list of values stored in "NoPrompt", then the main dialog box will be returned. By default, the only value in this list is NLNOTES.

### 4. Using a native connection, certain fields from a View do not show up in the Report Designer.

The field(s) do not show up because the field is grouped/categorized in the View. The workaround is to either ungroup the field in the View and do the grouping in the report design, or use an ODBC connection.

This is a known issue and is being tracked as Track IDs: 18981 and ADAPT00003712.



## 5. The native driver performance is slow.

The performance of the native driver will vary depending on the object that you are reporting on (Form or View); if you are joining several Forms or Views; and if there is a record selection (filter) in the report. The following are some tips on how these variables can affect report performance.

When joining multiple Views, ensure that the "link to" View is sorted. If joining Forms, try creating a View on the "link to" Form that has the "link to" field sorted.

The following is a description of how joins and selection formulas work within Crystal Reports.

<b>NOTE</b>	When creating reports, experiment with performance by trying both the native driver and the NotesSQL ODBC driver. You may find that one works faster than the other does in certain situations, depending on linking, number of Forms/Views, and record selection filtering.
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### VIEWS

Supported operators: "=", "and"

For example, assuming the following:

- View A has 4 columns: col1, col2, col3, col4
- Sorted columns: col2, col4

The Crystal Reports selection formulas indicated will result in

Selection Formula:	Result:
select col1="a"	Will not be executed on server
select col2="b"	Will be executed on server
select col1="a" and col2 = "b"	Will execute col2 = b on the server, and col1 = "a" on the client

### FORMS

- If there is an existing View that can be used as an index, then:  
Supported operators: "="
- If there is no existing View that can be used as an index, Crystal creates a View as the index, then:  
Supported operators: "=", ">", "<", and all "and" combinations (The "or" combination is not executed on the server.)

#### More Details

- In order for a View to be used as an index, the View must be based on a single Form.
- The columns intended to involve the server-side execution must be among the sorted columns and start from the left side.

- If selecting on multiple columns, the columns must be sorted in the View in the same order.

For example:

- ViewA has 3 columns: colA, colB, colC
- Sorted Columns: All

The Crystal Reports selection formulas indicated will result in:

Selection Formula:	Result:
select colA=x and colB=y	Will execute both equations on the server
select colA=x and colC=y	Will execute colA on the server, and colC on the client
select colB=x and colC=y	Will execute both equations on the client

<b>NOTE</b>	The number of unsorted columns inserted in front of colA or in between colA, colB, and colC will not change the behavior.
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### **MULTIPLE FORMS**

- ❑ When Form1 is linked to Form2, Crystal only executes the server-side selection formula on Form1.
- ❑ Please refer to the [FORMS](#) section above for information on Form server-side execution.

#### **6. The NotesSQL driver performance is slow.**

Please use “The Query Optimization Sample Application” to discover how to better optimize your query. “The Query Optimization Sample Application” is included in the NotesSQL Samples Kit, which can be obtained from the Lotus web site at: <http://www.lotus.com/notessql>

#### **7. Private Views cannot be seen when using the native driver.**

This is the result of the C API not being able to see private Views. Crystal was required to use this API call because of a dramatic increase in performance. The ability to use private Views is controlled by the registry string value, UseNotesPrivateView. The value should be set to "Yes" if you want to report off private Views and to "No" if you do not. The default value is "No".

To change this registry value, click Start > Run, typing “Regedit”, and then click “OK”.

Expand the registry subkey,

HKEY\_CURRENT\_USER\Software\Seagate Software\Crystal Reports\DatabaseOptions

Locate the string value, UseNotesPrivateView, and modify the value.

<b>NOTE</b>	By setting the value to “Yes”, you will be using the old API, and performance will be affected.
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## 8. How do you get multi-value fields to appear on separate lines instead of as a string separated by semicolons or commas?

There are a couple of ways do this:

- a. In the Domino Designer, click on the design mode of the View. Go to the Properties of the column in which the multi-value field resides; click the Sorting tab, sort in either ascending or descending order. Also, select "Show multiple values as separate entries".
- b. If you do not want to report off Views, then use the "strtok" function to separate these values to separate lines. If you do not have the "strtok" function installed, download the Crystal Reports User Function Library (UFL), U2LSTRING.DLL. Search for "Uflstr.exe" at:

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

For more information regarding formulas that can be used, please visit <http://support.crystaldecisions.com/kbase> and search for Knowledge Base articles, C2000494 and c2001724.

## 9. Reporting off a View with the native driver returns all data types as string type.

In order for the data types to retain their original type, the View must be based off a single Form and the View must be based on the condition "Form used".

## 10. Getting the report to point to another id file with the native driver.

This is possible with the recent version of the native driver. If the Lotus Notes client is closed, then it is possible to use a different id to run a report as long as the id file used is referenced in the KeyFileName of the Notes.ini file or if the id resides in the Notes\Data directory. If Lotus Notes is open, then you must use the username/password used to open the client for the current session.

## 11. How do you report off of response documents?

To report off of response documents, the Form needs to link to the parent Form via a common field. Once the link is established, the field(s) from the parent Form and response Form can be placed in the Details section of the report. A group can then be created on the field that is coming from the parent Form to show a hierarchical view; much the same way the View would look in the Lotus Notes database.

## 12. Does Crystal Reports support RTF fields?

Crystal Reports is not able to report off of RTF fields with special formatting or images. However, it will display the text without the formatting. In the current release of Crystal Reports, RTF fields will not retain their RTF formatting because the field is not in "true" RTF format. Crystal Decisions will be looking at enhancing this functionality for a future release.

**13. Can you create a report against multiple .nsf files?**

Both the native driver and the NotesSQL driver support multiple .nsf files in a single report. When you are developing your report you can add the second connection while in the “Report Expert”, or by clicking Database > Add Database to Report from the menu.

**14. Can you create reports that link Notes or Domino .nsf data to other data sources like IBM DB2™?**

Joining multiple data sources in a single report is supported using ODBC drivers (including NotesSQL), but not native drivers. Add both data sources to the report via the “Report Expert” or by clicking Database > Database Expert and select more Datasources. Then link the sources on a key field. You can link native drivers into the main report via a subreport.

**15. NotesSQL Samples Kit**

Download the NotesSQL Samples Kit to receive the following:

- Query Optimization Application
- Crystal Reports Samples
- Automatic DSN creation Application

The Samples Kit can be downloaded from:

<http://www.lotus.com/notessql>

**16. Is a password required when using the native driver to create a report on a local NSF?**

Yes, a password is required when creating reports on local NSF files. Crystal requires a value in the password field to continue.

**17. When creating a report, a Form name or View name that does exist does not appear. Why would this happen?**

Make sure that you do not have a Form and a View with the same name.

**18. When reporting on a View, all fields are returned as string fields. Why does this happen? How can it be changed?**

When creating a View, if you want the fields to be returned as their proper data type, make sure you are using the “Run Formula” for a View rather than “Run Easy”. (This is a configuration setting in the Domino Designer when you create the View.) The formula may be the same for both types; however, they do not function in the same manner. A quick fix is to copy your formula out of “Run Easy” and paste it into “Run Formula”.

**19. When using Crystal Enterprise, the Lotus Notes database authentication fails when reports are run (scheduled or viewed on-demand).**

If using the native driver, please make sure that you confirm/complete the following:

- ❑ Make sure the report can run in the Crystal Report Designer on the Crystal Page Server and Crystal Job Server.
- ❑ For every user running the report, the id file being used must be stored in the \Notes\Data directory of Crystal Page Server and Crystal Job Server.
- ❑ Use the hierarchical name format for a username (i.e. Trevor Smith/CrystalDecisions).
- ❑ Make sure you have installed the Lotus Notes Client on the Crystal Page Server and Crystal Job Server.
- ❑ In the Path statement on each Crystal Page Server and Crystal Job Server, remove any references to “\Seagate Software\Notes\”.

If using the NotesSQL driver, please make sure that you confirm/complete the following:

- ❑ Make sure the report can run in the Crystal Report Designer on the Crystal Page Server and Crystal Job Server.
- ❑ Use version 3.x and above of the NotesSQL driver.
- ❑ Use the Administrative Tool to map Notes ids to their physical location.
- ❑ Use the hierarchical name format for a username (i.e. Trevor Smith/CrystalDecisions).
- ❑ Run the Crystal Page Server and Crystal Job Server services under a username account rather than the default LocalSystem account. (The account is configured in the Windows Control Panel or Crystal Configuration Manager.)
- ❑ Do not hard-code a username/password in the DSN used by the report.
- ❑ If the report was created on a different computer than the Crystal Page Server and Crystal Job Server, make sure that the DSN used by the report exists as a System DSN on the Crystal Page Server and Crystal Job Server. The DSN must be identical (case-sensitive) and the Administrative Tool must be used as well.
- ❑ In the Path statement on each Crystal Page Server and Crystal Job Server, remove any references to “\Seagate Software\Notes\”.

## 20. Troubles upgrading reports from previous version of Crystal Reports

In Crystal Reports 8.5, the native driver was re-architected. The new version of p2snote.dll (p3slnxx.dll in localized versions), version 8.0.100.21 and above, results in several new behaviors. Due to the changes mentioned below, please verify all reports when first running them in Crystal Reports 9 (To verify a report, click Verify Database on the Database menu). Users may be required to re-map database fields. For information on this procedure, please see the section “Remapping altered databases” in the Crystal Reports online help.

If your report still fails to run, open the report and click “Set Datasource Location” on the Database menu. Set the location of each form or view in your report.

The changed behaviors are as follows:

- ❑ When reporting off a form in Lotus Notes, you may notice that the order of the report data is different from the original sequence. This is because Crystal Reports takes advantage of “View as index” to speed up form lookups. This may switch the sequence of the form to that of the view.
- ❑ If you report off a form in Lotus Notes, and if the form is not used by any views, then the report data will appear in its original order. If you report off a form that is used by a view, and if the form is the only form used by the view, then the report data will appear in the same order as in the view - that is, the report data will be sorted according to the field that is sorted in the view. If the view is not sorted, then there is no field for Crystal Reports to use as an index; in such cases, the report data appears in alphabetical order.
- ❑ When reporting off a view, Crystal Reports now uses the field name instead of the column name.
- ❑ Crystal Reports now has the ability to read Numeric and DateTime data types if the view is based on a single form. Consequently, if users open old reports and refresh the data with crdb\_p2snote.dll, then they will need to re-map the database fields. For information on this procedure, open the Crystal Reports Online Help, type “mapping” in the Index search field, and double-click “Remapping altered databases.”

## **21. Using the NotesSQL driver, some fields are truncated.**

A report is created that contains text fields and rtf fields from an nsf. The text fields are brought into the report as string fields and are truncated. The rtf fields are brought in as memo fields and display fine. The setting for field length is in the DSN of the datasource. The DSN values for the field's length are set correctly. This is an open issue within Crystal Reports. The workaround is to only have text fields on the report. If you remove the rtf fields, save/close the report, reopen the report, and select Database > Verify Database. The field will no longer be truncated.

## Driver Comparison

The following table outlines some of the differences in the native driver and NotesSQL driver.

<b>NotesSQL 3.01 Driver</b>	<b>Native Driver</b>
Text fields and rtf fields have a setting in the DSN that determines their size and data type in Crystal Reports. Note that having text and rtf fields on the same report can cause issues on how those fields are represented.	Text fields are given a data type of both string and memo fields. Therefore you get 2 fields for every text field. This gives you more flexibility around how you want to handle grouping of fields.
Supports multiple concurrent connections. Important if using Crystal Enterprise	Does not support multiple concurrent connections. Do not use with Crystal Enterprise
Support for subforms	Does not support subforms
Support for implicit fields	Does not support implicit fields

## Lotus Notes Data Types

Below is a list of how Lotus Notes data types appear in Crystal Reports when using the Crystal Decisions native driver and the ODBC driver. Note that the examples are based on using Lotus Notes R5 with the native driver, versions 8.0.100.38 or 7.0.200.0, and the ODBC driver, version 2.06.10.13. Table 1 lists the data types when reporting off a Form, while Table 2 lists the data types when reporting off a View.

**Table 1: Reporting off a Form and the data types as seen in Crystal Reports**

Lotus Notes Datatype-R5	Native Driver		ODBC Driver	
	Single value	Multi-value	Single value	Multi-value
Text	String&memo	String&memo& <sup>†</sup>	String	String
Number	Number	Number	Number	Number
Rich Text	String&memo	NA	Memo	NA
Datetime	DT/D/T	DT/D/T	DT/D/T	DT/D/T
Dialog List	String&memo	String&memo& <sup>†</sup>	String	String
Checkbox	String&memo	String&memo& <sup>†</sup>	String	String
Radio Button	String&memo	NA	String	NA
List Box	String&memo	String&memo	String	String
Combo box	String&memo	NA	String	NA
Authors	String&memo	String&memo	String	String
Names	String&memo	String&memo	String	String
Readers	String&memo	String&memo	String	String

<sup>†</sup> Only the first value is shown.



**Table 2: Reporting off a View and the data types as seen in Crystal Reports**

Lotus Notes Datatype-R5	Native Driver		ODBC Driver	
	Single value	Multi-value	Single value	Multi-value
Text	String&memo	String&memo	String	String
Number	Number	Number	Number	Number
Rich Text	String&memo	NA	String	NA
Datetime	DT/D/T	DT/D/T	DT/D/T	DT/D/T
Dialog List	String&memo	String&memo	String	String
Checkbox	String&memo	String&memo	String	String
Radio Button	String&memo	NA	String	NA
List Box	String&memo	String&memo	String	String
Combo box	String&memo	NA	String	NA
Authors	String&memo	String&memo	String	String
Names	String&memo	String&memo	String	String
Readers	String&memo	String&memo	String	String

## Other Lotus Domino Components

This section includes information on other Lotus Notes components that are sometimes reported on or used with Crystal Reports.

### Subforms

**Native Driver:** Fields on subforms cannot be reported on when they are only on the subform. If you need to report on a subform, then the fields should be available within the main Form.

Fields on computed subforms are not available to report on through ODBC or native connectivity. The workaround is to report off a View that contains these fields.

Subform fields will not show up in a main Form if using a native connection against an R5 database. This is a known issue and is being tracked as Track IDs: 30443 and ADAPT00005752.

**NotesSQL Driver:** Alternatively, if the database is created in R5, subform fields are available via the NotesSQL ODBC driver. Please use driver 3.01 and above for subform support.

### Views with columns based on formulas

If there is a column within a View that is based on a formula, Crystal Reports will show this field using its programmatic name instead of the column name.

## Domino Enterprise Connection Services (DECS)

DECS is a technology developed by Lotus that was first shipped with NotesPump 2.5. It supplies an easy-to-use Forms-based interface to advanced, integrated connectivity to supported external data sources from a Domino application. DECS provides a way of incorporating external data using a non-programmatic template application within a Domino application. This technology is part of Domino Server 4.63 and higher releases.

For more information on how using DECS may help with your reporting issues, please review the technical brief, [CD\\_Lotus\\_Domino\\_Components.pdf](#). Search for it at:

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

## Integrating a Report into a Domino Application

Reports can be integrated into Domino applications via a variety of methods. Some methods are designed for a Notes (thick client) application while others are designed for both thin and thick clients.

### Domino Integration (Web Applications or Notes Client)

If you need to integrate your reports into a Domino web application or have the need to integrate reporting to more than 10 users, please download the technical brief, "Configuring Crystal Enterprise to Run with Lotus Domino". The file name is: [CE8\\_ConfigLotuswc.pdf](#)

If you are using Crystal Reports 8.0 or earlier, download the technical brief, "Configuring Lotus Domino to Run the Crystal Web Report Server". The file name is: [SCR7\\_LotusDominoWeb.pdf](#)

Both files are available by searching for the file name at:

<http://www.crystaldecisions.com/lotus>

When using this integration, it is recommended that you use the NotesSQL driver for report creation.

### Notes Client Integration

Sometimes there is a need to invoke reports from the Lotus Notes application. Crystal Reports provides several ways of doing this. The RDC is the preferred method because it provides more features compared to the other two methods and is newer technology. The RDC is excellent for integrating reports into your applications when you have fewer than 10 users to which to deploy.

- RDC (Notes version 5.0.5 and greater)

Samples and text files demonstrating how to use the RDC can be found at:

[http://support.crystaldecisions.com/samples/lotus\\_lst.asp](http://support.crystaldecisions.com/samples/lotus_lst.asp)

Download the “Notes RDC Integration Example”.

## Finding More Information

To download the latest Lotus NotesSQL ODBC, go to:

<http://www.lotus.com/notessql>

To find more information on how Crystal Decisions and Lotus are working together, including drivers, screencams, technical briefs, and so on, please visit:

<http://www.crystaldecisions.com/lotus>

## 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>