BUSINESS OBJECTS®

Crystal Reports

Print Feature Changes in Crystal Reports 9

Overview

This document explains the differences in printing in Crystal Reports 9 from previous versions and details new features of printing in Version 9. Discussion focuses on how changes to Crystal Reports 9 have made printing different from how printing was handled prior to Version 9. In addition, troubleshooting tips are provided so that developers and other CR users will be better equipped to design new reports and migrate old reports to Version 9 of Crystal Reports.

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Background

Why Unicode?

A new feature in Crystal Reports (CR) version 9 is Unicode compliance. The Unicode Standard defines codes for characters used in all the major languages written today. Scripts include the European alphabetic scripts, Middle Eastern right-to-left scripts, and many scripts of Asia.

Unicode provides a unique encoding for characters, no matter what the platform, program or language. Unicode is required by modern standards for XML, Java, ECMA Script (JavaScript), LDAP, CORBA 3.0, WML and so on. Unicode is supported in many operating systems, all modern browsers, and many other products. Unicode enables a single software product or website to be designed to target multiple platforms, languages and countries without re-engineering. It allows data to be transported through many different systems without corruption.

New Features in Crystal Reports

CR 9 and above use the Microsoft Unicode Script Processor library (USP10.dll), also known as Uniscribe. This DLL enables a text layout client to format complex scripts, such as Arabic, Indian and Thai. Uniscribe also handles scripts written from right to left, such as Arabic or Hebrew, and supports the mixing of scripts. Therefore, Crystal Reports, beginning with Version 9, can display multiple language characters.

Printer Setup

The printer setup dialog box in Version 9 of Crystal Reports has changed to allow both portrait and landscape orientations when the "No Printer" option is selected. In previous versions of Crystal Reports it was not possible to select landscape orientation when the "No Printer" option is selected (see Figure 1).
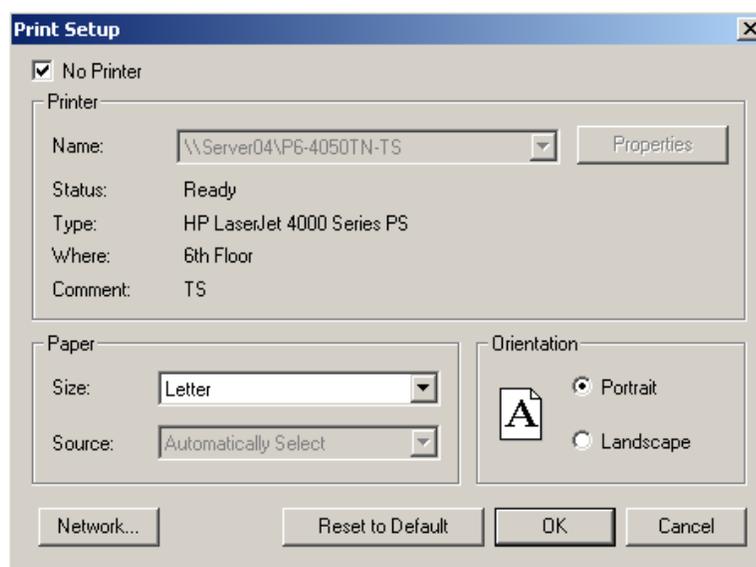

Figure 1

Possible Report Migration Errors

A Crystal Report that contains Unicode characters follows these stepsfor printing.

Steps

1. Characters from the report go into Uniscribe indexes or glyphs.

2. They are converted to numeric values.

3. The printer takes the numeric values and looks up the glyph indexes for the characters.

Reasons It May Not Work

- The printer driver does not support Unicode/glyph indexes

Check the print driver language. There are three main languages in use by the most common printers:

- PCL5e (Hewlett-Packard's Printer Control Language; an older version developed to work with Windows 95)

- PCL6

- Postscript (PS)

The print driver name will commonly be followed by the acronym of the language used in the driver. Many printers offer a choice of drivers in different languages. Sometimes changing from one to another will fix the issue. PCL-based drivers generally print faster than PS printers. However, PCL-based drivers are printer control language specific and may not produce a consistently formatted output.

- A postscript font type glyph is expected but the report is using a true type font

To test this in a report, change the font to postscript font and print to your printer.

Inside the font drop down box, the icon for the font will tell you which type you are choosing:
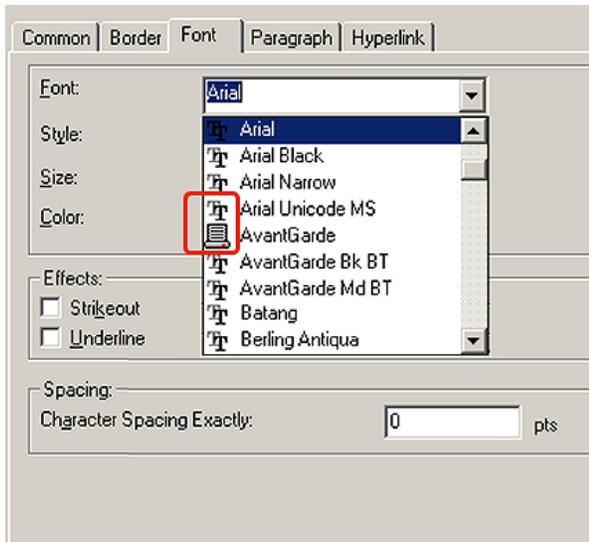
Figure 2

The fonts displayed in Figure 2 are Postscript and True Type. The Postscript fonts have an icon that looks like a printer, and the TrueType fonts have a TT icon, as shown in the red outline in Figure 2. You might also see printer-specific fonts in this drop-down. These fonts are unsigned. Do not use printer specific fonts. Crystal Reports will not translate the Printer specific fonts properly. An example of these unsigned fonts can be seen below in the Font Tab when formatting fields in a report.
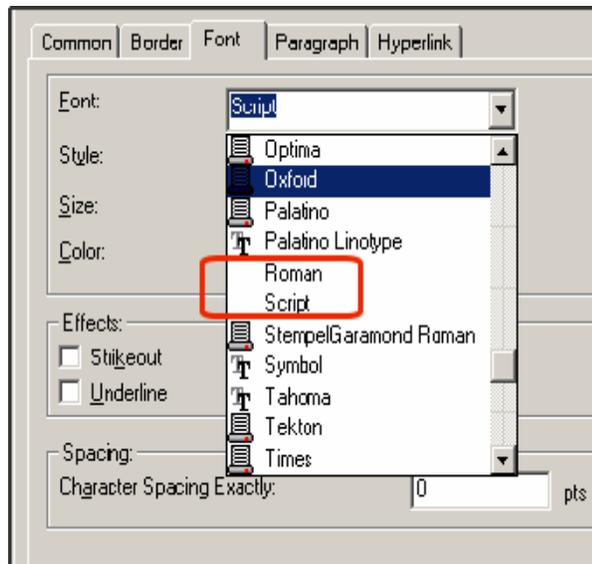

Figure 3

- Database Server or Client is not configured incorrectly for using Unicode encoding.

UTF-8 is popular for HTML and similar protocols. UTF-8 is a way of transforming all Unicode characters into a variable length encoding of bytes. It has the advantages that the Unicode characters corresponding to the familiar ASCII set have the same byte values as ASCII, and that Unicode characters transformed into UTF-8 can be used with much existing software without extensive software rewrites. Similarly UTF-16 and UTF-32 Standards also exist. All three encoding forms need at most 4 bytes (or 32-bits) of data for each character.

As an example, Data in Databases can be transformed to use UTF-8 format and Crystal Reports 9 would be able to report off data stored in this format. However, issues can arise if the Database Server or Client is not configured to use UTF encoding correctly.

Postscript Printer Driver Error Messages

CR generates a virtual page (virtual picture) file when printing. When using a Postscript Printer Driver, errors can occur when a printer can't read the Meta-File's Postscript code or the files Postscript code exceeds one or more of the limits built into the Postscript page description language. If the printer appears to process data but stops, a postscript error may have occurred.

A Postscript error will include a Postscript error type, defining what sort of error it is, and an offending command, which usually indicates the specific part to the Postscript code that the interpreter couldn't read. The offending command usually indicates the command that caused the problem. Some Postscript errors will point you right to the cause of the problem, and some will at least point to the right direction. A postscript error will usually look like this:.

%%[Error: ; OffendingCommand:]%%

Viewing or Printing a Postscript Error Message

If you think a Postscript error has occurred, but no error message is shown on-screen or in the physical printout, you may be able to view or print the error message by doing one or more of the following:

-- In Windows, configure the printer to print the error message:

NOTE	In Windows NT, you cannot configure a printer to print an error message.

Windows XP or 2000:

1. Choose **Start > Settings > Printers**.

2. Right-click the target printer, and then choose **Properties** from the menu.

3. Select **Printing Preferences**, and then click **Advanced**.

4. Select **Postscript Options**, click **Send Postscript Error Handler**, and then choose **Yes** from the next menu as shown in Figure 4.

5. Click **OK** to close **Advanced Options**, click **OK** to close **Printing Preferences**, and then click **OK** to close the printer's **Properties** window.
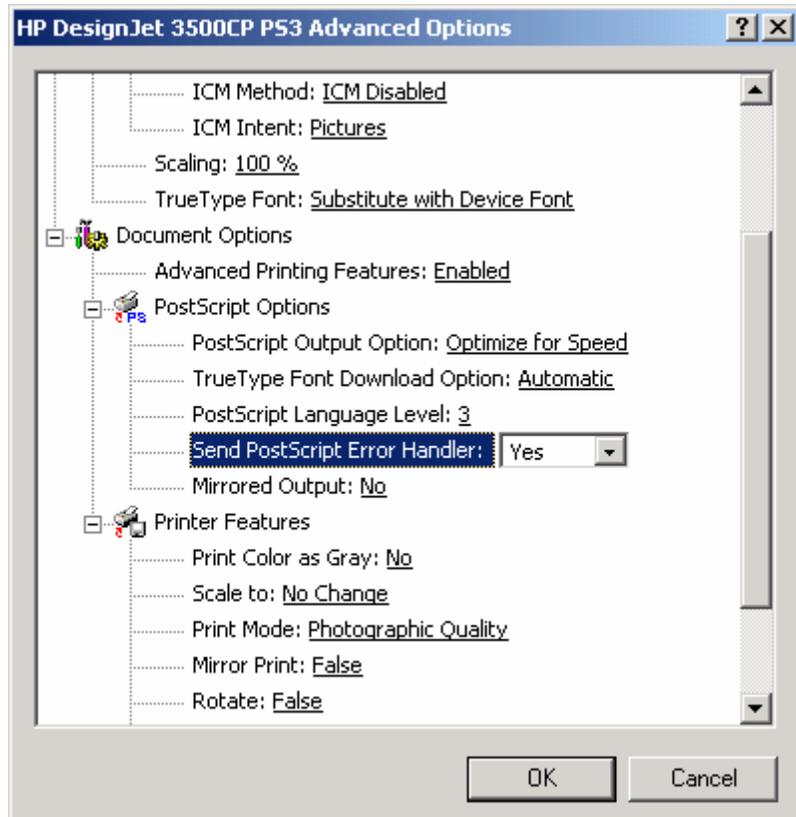
Figure 4

NOTE	Different printer drivers may have different ways of getting to the Postscript options, but the steps above outline the general configuration dialogs. If **Postscript Options** isn't visible you may be using a PCL driver that does not have Postscript functionality.

Windows ME or 98:

1. Choose **Start > Settings > Printers**.

2. Right-click your target printer, and then choose **Properties** from the pop-up menu.

3. In the printer's Properties dialog box, select the Postscript tab.

4. Select the **Print Postscript Error Information** option, and then click **OK**.

NOTE	The steps above may vary in Windows ME or 98, depending on the printer manufacturer and drivers. These steps will lead you in the right direction.

Postscript error messaging will provide insight into what might cause the failed print job. For more information on specific error messages refer to your printer manual or the printer manufacturer's website.

Finding More Information

For more information on designing reports , see the Crystal Reports Users Guide or use your F1 key for online help.

CAUTION	Use a Caution to provide users with information that they must know before carrying out a task. For example: 'Make sure you completely uninstall the software before re-installing'.

For more information on Unicode visit http://unicode.org.

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

DISCLAIMER	The third party products discussed in this white paper were not fully tested in conjunction with Crystal Enterprise prior to its release. Officially supported Crystal Enterprise platforms are listed in the text file Platforms.txt found in the root folder of the Crystal Enterprise CD as well as in the Knowledge Base article c2009003 (search for this article number at http://support.businessobjects.com/search), which is more current.
	The information in this document is provided as a courtesy to assist our customers with the configuration of our product in conjunction with these third party platforms.
	In the event issues arise with an unsupported configuration, there is no escalation support; however, they will be considered during the development of the next generation of our product.

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