crystal decisions ™

Seagate Info/Crystal Reports/Enterprise

How printer settings affect the preview or printing of a report in the non-HTML viewers

Overview

This paper describes the different printer settings used for a Crystal Report and how they can affect the preview or printing of a report from the Info or Crystal Reports viewers. For a detailed description of how a Crystal Report is dependant on a printer driver please refer to the Printer Driver Dependency document, also available on our support website.

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Printer Modes Explained

A Crystal Report is dependant on a printer driver for both screen display and printed output. When a report is designed in the Crystal Reports or Info Reports Designer the report can be created with three possible "modes" of using a printer driver. The three modes are "Default Printer", "Specified Printer" and "No Printer". The mode that the report uses can affect the screen and printed view when using a distributed reporting environment such as Seagate Info or the Crystal Reports Web Report Server. First lets examine each printer mode.

"Default Printer" mode

A Crystal Report file contains its printer driver information in the file format so the component (Designer or Print Engine) knows what should be used when generating the report for viewing or printing. "Default Printer" is the most common mode for a report to be designed in. In default printer mode, the component that generates the report for preview or printing uses the machine's default printer driver to format the report's pages. This means that if the report is distributed to many different machines it will be generated using that machine's default printer's driver.

"Specified Printer" mode

In this mode the report contains the name of the printer that was used to create the report. A report is set to specific printer mode if the user selects a printer from the File | Printer Setup menu item. Once a printer has been selected in this dialog, that printer is now flagged in the report. When this report is distributed to different machines, the component that generates the report will try to use the printer specified (by device name) in the report file.

"No Printer" mode

This is essentially when no printer driver is available to the component that is generating the report. "No Printer" mode can be set in a variety of ways. The most common is when a default or specific printer is unavailable to the component that is generating the report. In this case "No Printer" mode is a fail-safe that allows the component to generate the report for screen viewing. "No Printer" is also set if the report is designed on a machine that does not have a printer driver installed or defined. When "No Printer" is the mode being used the print icon in the Report Designers, and Info Analyzer will not be selectable (grayed out). "No Printer" mode uses the Crpe32.dll (Crystal Reports Printer Engine) or Cipe32.dll (Crystal Info Print Engine) as the printer driver for the report. The print engines are not good at acting as printer drivers. When "No Printer" mode is used the report can only be created in 8.5" X 11" paper size. Other design characteristics such as font sizes, margins and paper orientation are not retained, as they would be when using an actual printer driver.

The Effect of "No Printer"

So why does the printer mode matter? The printer mode is the most common cause of differences in the report's appearance when viewed using Seagate Info or Crystal Reports Web Report Server Viewers compared to the Info Report or Crystal Report Designers. This happens because the report is, most often, designed (created in a designer component) on a different machine than it is generated on. When you do notice differences in the report's appearance

between the designer and viewer component it is most often caused by the report being designed using default printer or specified printer but generated using "no printer". There are some circumstances where two different printer drivers used to generate the report can cause different preview characteristics. For a more detailed explanation of this behavior please refer to the Printer Driver Dependency Document available from the Crystal Decisions website.

Since "No Printer" mode uses the print engine components (Cipe32.dll or Crpe32.dll) as the printer drivers, the formatting functionality is not the same as with a true printer driver. Some common changes/effects of previewing a report generated by the print engine include overlapping text, enlarged fonts, and loss of margins, page orientation and paper size set to 8.5" by 11".

"No Printer" effects are most noticeable when viewing the report in the page-on-demand viewers of Crystal Reports and Seagate Info. These viewers include the Info Viewer, Info Viewer for ActiveX and Info Viewer for Java.

Viewer Mechanism Explained

The page-on-demand viewers are special because they do not use a printer driver to render the report page like the designer or Seagate Info Analyzer. The page-on-demand viewers use what is known as encapsulated page format (EPF) to render a report page to screen or printer. EPF is a proprietary file format that is used to describe a report page in a printer driver independent way. The best way to think of an EPF file is taking a fully formatted report page in the Info Report or Crystal Report Designer and then saving that screen view as a file. The viewers receive fully formatted report pages described in EPF files that they render to the screen or printer. This provides less formatting control than the designers, which use direct interaction with the printer driver. The Info Viewer for ActiveX does have the ability to access a printer driver for extended formatting capability such as text clipping (truncation).

No Printer, How and Why

So it becomes apparent that we don't want the EPF pages created in no printer mode, but why does it happen and how can we prevent it? Well the first thing to determine is whether or not the "dreaded no printer" is what is causing your report to look different in the viewers than it does in the designer. There are two ways that we can determine if the EPF or the report file is using no printer to run the reports.

If you are using Seagate Info to schedule the reports you can look at the report instance in the designer. To do this, open the Info Report Designer and choose File | Open. You will see the directory structure of your APS. Select the instance in question. When the report is previewed in the designer you should notice that the printer button is disabled. If you go into File | Printer Setup you will also notice that the "No Printer" check box is checked. The other way to check is to open the EPF file in a text editor (such as Notepad). To find the EPF in question right click on the instance in the desktop and choose "properties". Take note of the output file (should be in the form:
\\Machinename\Si\Output\~CI####.rpt). The file "1.EPF" will be saved in a

directory with the same name as the output file (without the file extension) in your cache directory (refer to the Info Administrator module if you are unfamiliar with the location of your cache directory). When you open the EPF file in a text editor you will see mostly ASCII characters, but at the very top of the file you see "DISPLAY". If either of these cases is true the Info Server that generated this report did so with no printer.

If you are using Crystal Reports Web Reports Server to view your reports you must look at the EPF file in a text editor. Locating the actual EPF file that is previewed is slightly more difficult than with Seagate Info. EPF files are saved with a filename like "@##.tmp" in the Crystal Web Reports Server cache directory. You can find the location of the cache directory in the Crystal Web Report Server Web Configuration Utility "webconf.exe". To find the actual EPF file that you were previewing will have to be done by sorting the files in this directory by creation time and looking at the most recent one. Once you determine the file you want to look at, open it up in the text editor and you should see the word "DISPLAY" at the top of the file. This means that the Print Engine on the web server generated the report with no printer.

Once we have determined that no printer is the problem, how do we fix it? There are two main reasons that the report will be run with no printer: the printer mode defined in the report and the printer installed to the server machine where the report is generated. The bottom line is that the printer mode defined by the report must work for the machine that generates the report.

Typical scenarios that will cause no printer

No printer installed on server

The server machine that is used to generate the report (Web or Info Server) must have a printer installed. You do not necessarily need to have a physical device connected to the machine, but you do need a printer configured. If you have access to a network printer device you can install the printer on the server machine. If you do not network connectivity to a networked printer you can install a "File" printer (which basically outputs printer requests to files). The important point is that you need to have some type of printer installed/configured on the machine so that the components that generate the report pages can use that printer's driver when creating the pages.

Specified Printer Mode

If the report is designed using specified printer mode, the file references the specific printer by name. When the report is generated by the Info Server or Web Report Server components, those components must have access to this printer. That means that the printer specified in the report must be installed on the Web Server or Info Server machine with the exact same name as the client. If the printer is not available to the Info Server components the report will be run with "No Printer".

The way to determine if the report is designed with a "Specified Printer" is to open the report in the Crystal Report (or Info Report) Designer. The first clue to a specified printer issue is the message dialog "An Invalid Printer is specified, using Default Printer Instead." This message tells us that the report references a

printer that is not installed on this machine. If this message does not appear go into File menu and select Printer Setup. This dialog will show what printer is being used. If the printer reference is not the default printer on the machine then this report is using specified printer mode. *****To check your machine's default printer go into Control Panel and double click the Printers applet. If you only have one printer defined, it is your default printer. If you have multiple printers listed right click on the printer. There will be a check next to the context menu item "Set as Default" if this printer is defined as the default printer.

Once you have determined that the report is referencing a specified printer there are two ways to go about fixing the issue so that the Web or Info Servers do not compromise the view/print quality. You can convert the report to use default printer or install/configure the specified printer on the server machine. The decision would be based on whether or not the specified printer was used for a reason. Sometimes specific printers are used for specific display or print properties such as customer paper size, fonts, resolution, etc… So it would be a good idea to consult the report's designer to determine if this printer was used for a reason. If so then this printer should be installed/configured on the Web or Info Server where the report is being generated. If you decide to install/configure the specified printer to the server machine it is essential that the printer be named identically as it is on the client. The report references the printer by name.

However, if the report is using the specified printer for no particular reason, or you do not want to install/configure the specified printer you can convert the report to use default printer mode. You must perform the following steps to convert the report from Specified Printer to Default Printer.

1. Open the report in the Crystal (or Info Report Designer)

2. Go into the File menu and choose "Printer Setup"

3. Check the "No Printer" checkbox

4. Click OK

5. Save the report (printer information should now be stripped from the file)

6. Go into the File menu and choose "Printer Setup"

7. Uncheck the "No Printer" checkbox (machine's default printer should now be listed)

8. Save the report

9. If you are using Seagate Info you must now refresh the report object.

10. Close the report in the designer.

11. Right click on the report in the desktop and choose properties.

12. Click the Refresh button.

13. Schedule the report.

14. If you are using the Web Report Server

15. Stop and Restart the Crystal Web Page Server Service (will close any open jobs)

16. Call the report from the Web Server.

User Rights

The final common cause of printer issues relates to NT User rights to the printer that is defined by the report. An Access Control List (ACL) governs printers, like all other resources, in an NT environment. Therefore, the account that is being used to generate the report pages must have access to the printer installed/configured on the server machine. If you are using the Crystal Web Report Server the service that generates the report pages is the "Crystal Web Page Server", if you are using Seagate Info the services are the "Info Sentinel" and "Info Agent" services. You must make sure that the account used for these services has access to the printer.

So if you have verified that the server machine has a printer installed/configured and that the report should be using that printer, you may need to check the ACL on the printer to determine if the service account has access. If you are logged onto the server machine as an account with Administrative privileges you can right click the printer (within Control Panel) and choose Properties. You can check the printer's ACL by clicking the Permissions button in the Security tab. The service account must have "Print" access.

*An important note is that if the printer installed on the server machine is a network device the services must be running under domain accounts.   Local accounts on member servers (even local Administrators) do not have network access.

Conclusion

The most effective way to make your report viewing consistent, between the designers and the viewers, is to make sure that the reports are designed in "Default Printer" mode. That way when the report is generated on a different machine, it will be generated using that machine's printer driver. So why is there a "Specified Printer" mode? Some reports are designed using custom printer drivers for features such as custom paper sizes, fonts, resolutions and so on. Since these printers are seldom used as default printers this option exists. Ultimately you need to make sure that a printer is available on the server machine and that the report will reference that printer when it is generated.

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