

Crystal Enterprise 8/Seagate Info 7.5

How printer settings affect report formatting in 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 non-HTML Web Viewers.

For a detailed description of how a Crystal Report is dependent on a printer driver please refer to the Printer Driver Dependency document, [scrprinterdependency.pdf](http://support.crystaldecisions.com/docs), also available on our support website (<http://support.crystaldecisions.com/docs>).

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Printer Modes Explained

A Crystal Report is dependent on a printer driver for both screen display and printed output. When a report is designed in the Crystal 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 printer mode that the report uses can affect the screen and printed view when distributed through a web based reporting environment such as Crystal Enterprise or Seagate Info. First let’s examine each printer mode.

“Default Printer” mode

A Crystal Report file contains its printer driver information in the file format so that the previewing 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. It is also possible to specifically designate that a report is designed with “No Printer”. This flag can be set in the Crystal Reports **File > Print Setup** by enabling the “No Printer” check box.

When “No Printer” is the mode being used the print icon in the Report Designers will not be selectable (grayed out). “No Printer” mode uses the runtime engine (Crpe32.dll, or Craxdrt.dll) 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 between the Crystal Enterprise or Seagate Info web viewers compared to the Crystal Report Designer. 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 (scrprinterdependency.pdf) available from the Crystal Decisions website at:

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

Since “No Printer” mode uses a print engine component (Crpe32.dll or Craxdrt.dll) as the printer drivers, the formatting functionality is as robust as with a true printer driver. Some common changes/effects of previewing a report generated by the print engine include overlapping text, enlarged fonts, 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 Enterprise and Seagate Info. These viewers include the ActiveX and Java viewers.

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. 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 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 viewers do have 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 “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 Crystal Enterprise to schedule and view the reports you can look at a report instance in the designer. Unfortunately opening an instance created by Crystal Enterprise requires exporting the report to Crystal Reports format. To do so, view the report in any of the web viewers. Once the report is displayed export the report to Crystal Report format from the viewer. Save the report to the local file system and then open that report in the designer. 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.

(This method is also valid when using ASP pages and the Crystal Reports Developer edition Report Design Component (RDC). A report can be viewed and subsequently exported to Crystal Reports format from one of the viewers. The export result can then be brought up in the Crystal Report Designer application and the Printer Setup can be checked to see if the “No Printer” check box is checked.)

Another way to check is to open the EPF file in a text editor (such as Notepad). This method is effective if you are scheduling the report with Crystal Enterprise or viewing the report on demand (managed or unmanaged). To find the EPF in question you must determine the name of the report (as known to the Cache Server).

In CE, EPF files for a report are stored on the cache server machine in a directory with the format **reportname.guid**. By default this directory is created in the following location:

```
C:\Program Files\Seagate Software\WCS\Data\SERVERNAME.cacheserver
```

In Seagate Info 7.5, EPF files for a report are stored on the APS server machine in a directory with the format **~Cixxxxxx**, for example, **\~CI733tj0s**. These directories are created in:

```
C:\Program Files\Seagate Software\SI\Cache for Seagate Info.
```

If you are browsing an unmanaged report (browsing to the .rpt file directly, as in “<http://server/directory/report.rpt>”) the directory for the EPF files will be the same name as the report file itself, plus the guid. For example, **\report.1172212e9f6261**, where “report” is the name of the unmanaged report.

Once you determine the directory that contains the EPF files for the report you preview, you will want to find “1.epf”. It will be located in a (randomly named) subdirectory below the main directory named for the report. 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 may see “DISPLAY”. If you see “Display” then the report was generated with “No Printer”, otherwise instead of “Display” it will actually contain the name of the printer.

If either of the above mentioned cases is true (the EPF file contains “Display” or the report on exporting to Crystal Report format shows “No Printer” selected) then the Job Server and/or Page Server that generated this report did so 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 (the 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 have 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. On the **File** menu click **Printer Setup**.
3. Select the **No Printer** box and click **OK**. Save the report.
4. On the **File** menu click **Printer Setup**.
5. Clear the **No Printer** box. The computer's default printer should now be listed.
6. Save the report
7. If you are using Seagate Info, refresh the report object
8. Close the report in the Crystal or Info Report Designer
9. Right-click the report on the desktop and from the submenu click **Properties**.
10. Refresh the report and then schedule it.
11. If you are using the Web Report Server, stop and restart the Crystal Web Page Server Service. This will close any open jobs.
12. 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 services that generate the reports/report pages are the "Crystal Page Server" and the "Crystal Report Job Server". If you are using Seagate Info the services are the "Info Sentinel" and "Info Agent" services. You must make sure that the account that these services are running under (by default the system account) has access to the printer.

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.

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| NOTE | 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. |
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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. This will ensure that 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. This option exists because these printers are seldom used as default printers. 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>