

Crystal Reports 8.0

Verifying Installation of the Crystal Reports WCS and Web Connectors

Overview

This document is designed to help you verify the installation and configuration of the Crystal Reports Web Component Server components. If you are unable to preview reports from your browser you can use this paper to help you determine if Crystal Reports is installed on your web server and correct configuration if required. You will require administrative access to the web server machine to implement the suggestions in this paper.

Contents

INTRODUCTION	1
INSTALLATION OF CRYSTAL REPORTS WEB COMPONENTS.....	2
DIRECTORIES AND FILES INSTALLED FOR WEB ACCESS	2
VIRTUAL (ADDITIONAL DOCUMENT) DIRECTORY CONFIGURATION	3
ISAPI REGISTRATION IN MICROSOFT IIS	3
NSAPI REGISTRATION FOR NETSCAPE ENTERPRISE OR FAST TRACK	4
Mime.Types	5
Obj.Conf.....	5
WINDOWS NT FILE SYSTEM RIGHTS	6
CONTACTING CRYSTAL DECISIONS FOR TECHNICAL SUPPORT	7

Introduction

The Wcsinsapi.dll is an extension to the web server that is designed as a web server “interface” to the Crystal Reports product. The Wcsinsapi.dll must be configured on the web server in order for the web server to initialize and pass requests to it. The installation of Crystal Reports should configure the web server to use Wcsinsapi.dll, but if you have had to reinstall, suffered a server crash, or have had other user configuring the server these settings may have been changed or lost. This document discusses the installation of the Crystal Reports Web Components, as well as tips on how to verify that the installation was successful.

Installation of Crystal Reports Web Components

If you have not already installed Crystal Reports to the web server machine, you should decide what components you are planning to install to the web server machine. All Crystal Reports components can be installed on one server. It is recommended that the Crystal Reports Designer be installed directly on the web server for troubleshooting. However you must ensure that you are not violating your license agreement by installing the software on too many machines. If you want to install only the Crystal Reports Web Components Server to the web server machine you must choose the Custom installation option from the setup routine. You must be logged on to the web server machine as an administrator, and have the web server (Microsoft IIS or Netscape Enterprise Server) installed and running.

To install the ISAPI/NSAPI server components the custom installation screen should look like the following:

This installation screen will be displayed when selecting a “Stand Alone”, “Server”, or “Custom” installation from Crystal Reports 8. From here you can select to install Web Access components.

Once the installation has completed you should reboot the machine. Once the machine has been rebooted you can open a browser and browse to a Crystal Report that has been saved on your Web Server or the samples at: <http://servername/scrsamples> (where “servername” is the name of the machine that you have installed the Crystal Reports Web components). If you are browsing to the sample directory you should be presented with the default page allowing you to access the Report Server or the Developer Active Server Pages samples. To verify that the ISAPI/NSAPI Web Server connector has been successfully configured, click the “View the Samples” hyperlink for the Report Server samples section.

NOTE	For Version 8 of Crystal Reports, the Developer Active Server Pages samples are available in the Developer edition ONLY.
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On the subsequent page you will want to accept the default choice of “WCS via ISAPI\NSAPI Extension” for the “Select a Server Type” selection. You can then choose the viewer that you would like to use, and finally click the “View Sample” link beside the report that you would like to preview.

Directories and Files installed for Web Access

The first way to verify if the Web Component Server has been installed on your server is to look for two new services (Seagate Web Component Server and Seagate Page Server) created. You can view these by launching the “Services” applet (Start | Settings | Control Panel). You should also find a “WCS” directory in the C:\Program Files\Seagate Software directory. If the \WCS subdirectory has not been created on your server, the Web Component Server has not been correctly installed. At this point you should attempt to reinstall the WCS components. If the \WCS directory exists but you do not see the new services, you can install the services by executing the service application (from the run dialog or command line) with the “- install” flag. An example of this would be:

```
c:\Program Files\Seagate Software\WCS\PageServer.exe -install
```

Virtual (Additional Document) Directory Configuration

The installation of the Crystal Reports WCS will also create a few virtual directories in IIS (additional document directories for Netscape Enterprise). These virtual directories are required for the page-on-demand web viewers. If these virtual directories have not been created on your web server you can create the directories manually. Here is a list of the directories created and their (default) locations:

/viewer	C:\Program Files\Seagate Software\Viewers
/scrsamples	C:\Program Files\Seagate Software\Crystal Reports\Samples\Code\Web\
/scrreports	C:\Program Files\Seagate Software\Crystal Reports\Samples\Reports

NOTE	/scrsamples and /scrreports need "Execute" permissions set on the virtual directory in IIS.
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ISAPI Registration in Microsoft IIS

The Crystal Reports Web Component Server (Wcsinsapi.dll) is an Internet Service Application Programming Interface (ISAPI) compliant DLL. ISAPI is the programming interface that allows DLLs (like WCSinsapi.dll) to extend ISAPI compliant web servers' functionality for processing HTTP requests. ISAPI DLLs are generally registered to handle HTTP requests for certain file types. This type of configuration is done by registering a file extension to the ISAPI DLL within IIS. For Crystal Reports the ".rpt" and ".cri" file extensions are registered to the Wcsinsapi.dll. Where this registration setting is made depends on the version of IIS you are using. Common behavior when the ISAPI registration is incorrect includes receiving an HTTP 500/501 error or being prompted to "save to disk" when trying to browse to a Crystal Report (".rpt" file).

IIS 4.0 uses the "metabase", which is essentially a database of the configuration settings used to run IIS. To edit the metabase settings you need to launch the Internet Service Manager snap-in in the Microsoft Management Console. To check the ISAPI extension settings you will need to do the following:

1. Right-click on Default Website (or which ever Website you are using) and choose Properties.
2. In the Web Site Properties dialog, select the Home Directory tab.
3. Locate the Configuration button in the bottom right of the Home Directory tab.
4. In the App Mappings tab you will see a list of file extensions. Look for the extension ".rpt"
5. If you find the extension ".rpt" highlight it and click Edit, if you do not see ".rpt" click Add.

6. The application file referenced should be Wcsinsapi.dll. Verify that the path is correct using the browse button or by checking in NT Explorer. If you are adding (or have added) the extension manually you will have to enter the path to Wcsinsapi.dll using the DOS 8.3 (short) file name convention. If you have installed to the default directory this path will be c:\Progra~1\Seagat~1\Wcs\Wcsinsapi.dll
7. Ensure that the “Script Engine” checkbox is enabled.
8. Click the OK button to finalize your entries.
9. Repeat steps 4 through 8 for the extension “.cri”.
10. Click Apply to save the settings and exit the Microsoft Management Console. IIS 2.0 and 3.0 use the Windows Registry for configuration of ISAPI extensions. To check the ISAPI registration IIS 2.0 or 3.0:
 - a. Open the registry by clicking Start | Run, type “regedit” (no quotes) and hit enter.
 - b. Navigate the key path:
HKEY_Local_Machine\System\CurrentControlSet\Services\W3SVC\Parameters\Script Map
 - c. With the Script Map key highlighted, in the right panel you should see a string value entry for “.rpt” (no quotes) with the path to WCSinsapi.dll as the data.
 - d. If you do not see the .rpt key value you can create it by right clicking in the right panel and choosing New | String Value. Name the string value “.rpt” (no quotes), then right click the string value and choose “modify”. The data for the string value should be the full path (long filename) to the Wcsinsapi.dll. You will need to repeat this step for the “.cri” file extension.

If you have made any changes to align your settings with those listed above, it is a good idea to restart your World Wide Web Publishing service (from Control Panel | Services) to ensure that the new settings have been affected.

NSAPI Registration for Netscape Enterprise or Fast Track

The Crystal Reports Web Access Extension (Wcsinsapi.dll) is also a Netscape Service Application Programming Interface (NSAPI) compliant DLL. NSAPI is the programming interface that allows DLLs (like Wcsinsapi.dll) to extend the web server’s functionality for processing HTTP requests. NSAPI DLLs are generally registered to handle HTTP requests for certain MIME types. This configuration is done by registering a MIME type (file format/extension) to the NSAPI DLL. For Crystal Reports the “magnus-internal/rpt” and “magnus-internal/cri” MIME types are registered to the WCSinsapi.dll. Common behavior when the ISAPI registration is incorrect includes receiving an HTTP 500/501 error or being prompted to “save to disk” when trying to browse to a Crystal Report (“.rpt” file).

Netscape Enterprise Server uses text files for configuration. The text files make up a database, of sorts, that defines how the Netscape Server operates. The Crystal Reports Web Access components are configured as an NSAPI extension by a combination of entries to the Mime.types and Obj.conf files. Here are the entries made to each file:

Mime.Types

At the top of the file there will be two comment lines (preceded by a '#' character)

```
#--Netscape Communications Corporation MIME Information
# Do not delete the above line. It is used to identify the
file type.
```

Immediately below the comment lines should be the following three lines:

```
type=magnus-internal/rpt exts=rpt
type=magnus-internal/cri exts=cri
```

These lines define the ".rpt" and ".cri" file extensions as NSAPI extension types that are to be processed by the server.

Obj.Conf

The first two lines you should see are:

```
Init fn=flex-init access="C:/Netscape/SuiteSpot/https-
myserver/logs/access" format.access="%Ses->client.ip% -
%Req->vars.auth-user% [%SYSDATE%] \"%Req->reqpb.clf-
request%\" %Req->srvhdrs.clf-status% %Req->srvhdrs.content-
length%"
```

```
Init fn=load-types mime-types=mime.types
```

Immediately after these two lines should be the line:

```
Init fn="load-modules" funcs="req_handler"
shlib="C:/Program Files/Seagate Software/WCS/WCSinsapi.dll"
```

The next section of the file will be the "Default" section. You should have the following lines immediately below the open tag (<Object Name=Default>).

```
NameTrans fn="pfx2dir" from="/viewer" dir="C:/Program
Files/Seagate Software/Viewers"
```

```
NameTrans fn="pfx2dir" from="/scrsamples" dir=" C:/ Program
Files/Seagate Software/Crystal Reports/Samples/Code/Web"
```

```
NameTrans fn="pfx2dir" from="/scrreports" dir=" C:/Program
Files/Seagate Software/Crystal Reports/Samples/Reports"
```

After the "NameTrans" entries you should see "PathCheck" and "ObjectType" statements. Immediately below the last "ObjectType" statement (which should be 'ObjectType fn=force-type type=text/plain') you should have the following lines:

```
Service fn="req_handler" method="(GET|POST)" type="magnus-
internal/rpt"
```

```
Service fn="req_handler" method="(GET|POST)" type="magnus-
internal/rpt"
```

Finally, the following "object tags" should be placed near the bottom of the file. These tags should be entered after the end object tag (</Object>) for the <Object Name=default> section.

```
<Object ppath="C:/Program Files/Seagate
Software/Viewers/*.exe">
```

```

ObjectType fn="force-type" type="application/octet-stream"
Service fn="send-file"
</Object>

```

Windows NT File System Rights

If you have verified the configuration of your web server, rebooted, and are still having difficulties with using the Crystal Reports Web Access desktops then you should verify that the user account for Web Access has the proper rights to function on an NTFS drive. The first step is to determine what account the web server will be using for the process. If your Web Server is Netscape Enterprise Server, then the answer is quite easy. The Netscape Enterprise Server runs as a service on NT. When a browser makes a request to Netscape Enterprise Server the account that it uses to carry out that request is the account that the service runs under. So to find out what account the WCSinsapi.dll will be using, go into Control Panel and double click the "Services" applet. Then double click the Netscape Enterprise Server service to see what account it is set to use.

If your web server is Microsoft IIS, however, authentication is somewhat of a different story. IIS also runs as a service on NT, but the username is not configurable. Microsoft IIS provides three types of authentication:

- Allow Anonymous
- Basic/Clear Text
- NT Challenge and Response (also known as NTLM).

Most times you will want to provide Anonymous Access (where every user is logged on as a single NT User Account, by default "IUSR_Machinename", where Machinename is the name of the server). Without going into detail of how, the other two methods will obtain an NT user account, which must then have rights on the Web Server. When IIS is installed, the default authentication schemes enabled are "Allow Anonymous" and "NT Challenge and Response". IIS will always attempt to authenticate the anonymous user before trying another method. So once you have determined the user that will be used ensure the following rights have been applied:

<u>Directory</u>	<u>Account</u>	<u>Permissions</u>
C:\	Administrators	Full Control
C:\Seagate Software\WCS (and subdirectories)	Administrators	Full Control
	WEB SERVER USER	RWX, RX
C:\Winnt\System32	Administrators	Full Control
	WEB SERVER USER	RX, RX
C:\Temp	Administrators	Full Control
	WEB SERVER USER	RWX, RX

R, W, and X stand for Read, Write, and Execute respectively. The pairing you see above indicates permission for the Directory level and then permission for the File level. These rights will ensure that the web server account has sufficient rights to load the WCSinsapi.dll and its support components.

NOTE	For full information on NTFS File permissions, go to the Crystal Decisions Technical Support site, and find the document called
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	SCR8_NTFSRights.pdf . This document contains the complete set of minimum required file permissions that are necessary when using Crystal Reports Web Components.
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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>