

# Runtime File Requirements

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## **Overview: What are runtime files?**

Seagate Crystal Reports expands report writing functionality and allows you to:

- Distribute reports in a compiled, executable format.
- Add report writing functionality from the Crystal Report Engine to application development projects written in C/C++, Visual Basic, Delphi, Visual dBASE, and other development environments.

Depending on the features of your report and the report writing functionality you provide to users, you must include certain files when distributing compiled reports or applications using the Crystal Report Engine. The information in this Help file will show you which files need to be distributed.

By purchasing Seagate Crystal Reports, you have received a free runtime license for all of the files listed in this Help file.



## How to use this Help file

All runtime projects must include the files listed under either [32-bit Required Runtime Files](#) or [16-bit Required Runtime Files](#). If you are distributing a compiled report, see the list of files under either [32-bit Compiled Reports](#) or [16-bit Compiled Reports](#).

All other runtime files are dependent on the features of the report files you will be distributing. For example, if your reports read data from a direct access database, see the list of choices under [Direct Access Databases](#) and select the database format appropriate to your report. If, on the other hand, your reports read data from an ODBC data source, click [ODBC Data Sources](#).

Other report dependent categories include the option to allow users to export reports to particular [destinations](#) and in certain [formats](#) and special files required for distribution in a [foreign language](#). Be sure to look at the list of [Miscellaneous](#) runtime categories and see if your report includes any of the listed options.

Runtime files are listed in tables that provide the file name, the location where the file should be placed on the user's system, and a description of what the file is. The location indicated is very important in some instances. Make sure you take note of where files should be located.



***Unless otherwise indicated, the directory \WINDOWS\SYSTEM refers to the SYSTEM subdirectory of the WINDOWS directory. The actual names of these directories may be different on your system, depending on the operating system you are using and the location you chose to install Windows. For instance, by default Windows NT 3.51 creates the \WINNT35\SYSTEM32 directory. In this case, \WINDOWS\SYSTEM, as used in this Help file, corresponds to \WINNT35\SYSTEM32. Also, the \WINDOWS\CRYSTAL directory, in the case of a default Windows NT 3.51 installation, would be \WINNT35\CRYSTAL.***

## **6.0: Runtime File Requirements for Active Data and Crystal Data Object**

Use the following guideline when selecting files to distribute:

### **16-bit Crystal Data Object**

- n CDO.DLL
- n PDSMON.DLL

### **32-bit Crystal Data Object**

- n CDO32.DLL
- n P2SMON.DLL

### **Other 16-bit Active Data Sources**

- n PDSMON.DLL

### **Other 32-bit Active Data Sources**

- n P2SMON.DLL

This is only a listing for the required files to report off of Active Data Sources using Crystal Reports. For other required Crystal Reports runtime files, please refer to the Runtime File Requirements help file.

## 32-bit Required Runtime Files

The following files are required for **ALL** 32-bit runtime configurations:

FILE	LOCATION	DESCRIPTION
CRPE32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Interface to the Crystal Report Engine
MSVCRT20.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Foundation Class Runtime Library
CRPAIG32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Reports text object support
CTL3D32.DLL*	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Version 2 of the 3 D control implementation
IMPLUDE.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Compression Library



***There is a different version of the 3D control DLL for Windows 95 and Windows NT. Ensure you are using the correct version when distributing the runtime files.***

## 16-bit Required Runtime Files

The following files are required for all 16-bit runtime configurations:

FILE	LOCATION	DESCRIPTION
CRPE.DLL	WINDOWS\SYSTEM	Interface to the Crystal Report Engine
COMMDDL.DLL	WINDOWS\SYSTEM	Windows common dialog boxes
CRPAIGE.DLL	WINDOWS\SYSTEM	Crystal Reports text object support
MFCOLEUI.DLL	WINDOWS\SYSTEM	Microsoft Windows(TM) OLE 2.0 User Interface Support
CTL3DV2.DLL	WINDOWS\SYSTEM	Version 2 of the 3D control implementation
COMPOBJ.DLL*	WINDOWS\SYSTEM	OLE 2.0 Library
OLE2.DLL*	WINDOWS\SYSTEM	OLE 2.0 Library
OLE2CONV.DLL*	WINDOWS\SYSTEM	QuickDraw Graphic Import Filter
OLE2DISP.DLL*	WINDOWS\SYSTEM	OLE Automation Library
OLE2NLS.DLL*	WINDOWS\SYSTEM	OLE NLS Library
OLE2PROX.DLL*	WINDOWS\SYSTEM	OLE 2.0 Library
STDOLE.TLB*	WINDOWS\SYSTEM	OLE Automation Type Library
STORAGE.DLL*	WINDOWS\SYSTEM	OLE 2.0 Library
TYPELIB.DLL*	WINDOWS\SYSTEM	OLE Automation Type Information Interfaces
PCTREE16.DLL	WINDOWS\SYSTEM	Group Tree Smart Navigation



***These files are only required on machines that do not have OLE 2.0 installed. These files are operating system specific. Be sure that Windows 3.x files are installed on Windows 3.x systems and not Windows 95 files.***

## 32-bit Compiled Reports

If you are including a Compiled Report on the distribution diskette, include the following files:

FILE	LOCATION	DESCRIPTION
CRRUN32.EXE	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	compiled reports program
MSVCRT20.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft VC++ Run Time library
XXXXXXXX.RPT	The directory you specify for your	your report file

XXXXXXXXX.CRF	compiled report. The directory you specify for your compiled report.	(Crystal Reports) control file
XXXXXXXXX.EXE	The directory you specify for your compiled report.	compiled reports executable

**«Where XXXXXXXX is your report name.»**

When you compile a report, XXXXXXXX.CRF and XXXXXXXX.EXE are created in the same directory. These files must remain in the same directory as your compiled report.



**Please make sure that the .RPT, .CRF, and .EXE files are stored in the same directory.**

## 16-bit Compiled Reports

If you are including a Compiled Report on the distribution diskette, include the following files:

FILE	LOCATION	DESCRIPTION
CRRUN.EXE	WINDOWS\SYSTEM	compiled reports program
XXXXXXXXX.RPT	The directory you specify for your compiled report.	your report file
XXXXXXXXX.CRF	The directory you specify for your compiled report.	(Crystal Reports) control file
XXXXXXXXX.EXE	The directory you specify for your compiled report.	compiled reports executable

**«Where XXXXXXXX is your report name.»**

When you compile a report, XXXXXXXX.CRF and XXXXXXXX.EXE are created in the same directory. These files must remain in the same directory as your compiled report.



**Please make sure that the .RPT, .CRF, AND .EXE files are stored in the same directory.**

## Direct Access Databases



Select the direct access database format for your runtime reports:

[Access 1.x and 2.0](#)

[Access 7.0](#)

[Access 8.0](#)

[ACT!](#)

[Btrieve](#)

[Clipper](#)

[dBASE III+, IV, dBASE for Windows, and Visual dBASE](#)

[Exchange](#)

[FoxPro 2.5 and earlier](#)

[Microsoft SQL Server 6.x](#)

[NT Event Log](#)

[Oracle 7](#)

[Paradox](#)

[Sybase System 10/11](#)

## Direct Access - Access 1.x and 2.0

### 16-bit

#### Access 1.x and 2.0 through the Jet Engine

Include the following files if you are using Access 1.x or 2.0 through the Jet engine:

FILE	LOCATION	DESCRIPTION
PDIRJET.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Directory DLL for Access
PDBJET.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Database DLL for Access
PDCTJET.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Dictionary DLL for Access
MSAJT200.DLL	\WINDOWS\SYSTEM	Microsoft Access Jet Engine Library
MSABC110.DLL	\WINDOWS\SYSTEM	Microsoft Access Basic Component
MSABC200.DLL	\WINDOWS\SYSTEM	Microsoft Access Basic Component
MSAJT112.DLL	\WINDOWS\SYSTEM	Microsoft® V 1.x to 2.x map

The following files are required if you are using reports that were created in the 2.0 version of Crystal Reports that came with Visual Basic Pro 3.0. Also, these files are required if you are using one of the following external databases as an Access attached table (Installable ISAM):

FILE	LOCATION	DESCRIPTION
PDX200.DLL	\WINDOWS\SYSTEM	Paradox DLL
XBS200.DLL	\WINDOWS\SYSTEM	dBASE (and FoxPro) DLL
BTRV200.DLL	\WINDOWS\SYSTEM	Btrieve DLL
VB.INI	\WINDOWS	Initialization file required for any of the attached tables above.

### 16-bit

#### Access 1.x and 2.0 via DAO



**Although the 16-bit DAO engine (specifically the file DAO2516) ships with Crystal Reports, you must obtain authorization from Microsoft in order to redistribute their DLL's. If you have the 16-bit DAO engine on your system, Crystal Reports can open Access 1.x and 2.0 databases using the files listed here.**

Include the following files if you are using Access 1.x or 2.0 through the DAO engine:

FILE	LOCATION	DESCRIPTION
PDIRDAO.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Directory DLL for DAO
PBDDAO.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Database DLL for DAO
PDCTDAO.DLL	\WINDOWS\SYSTEM	Crystal Reports Physical Dictionary DLL for DAO
MSAJT200.DLL	\WINDOWS\SYSTEM	Microsoft Jet Engine Library
MSJETERR.DLL	\WINDOWS\SYSTEM	Microsoft Jet Database Engine Error DLL
MSJETINT.DLL	\WINDOWS\SYSTEM	Microsoft Jet Database Engine International DLL
DAO2516.DLL	\WINDOWS\SYSTEM	16-bit DAO engine
OLE2DISP.DLL	\WINDOWS\SYSTEM	OLE Automation Library
OLE2NLS.DLL	\WINDOWS\SYSTEM	OLE NLS library
TYPELIB.DLL	\WINDOWS\SYSTEM	OLE Automation Type Information Interfaces
VAEN21.OLB	\WINDOWS\SYSTEM	Visual Basic for Applications Object Library
VBA2.DLL	\WINDOWS\SYSTEM	Visual Basic for Applications Runtime - Expression Service
VBAJET.DLL	\WINDOWS\SYSTEM	Visual Basic for Applications Development Environment - Expression Service Loader

If you are using an external database in conjunction with the DAO engine, you must also use the Installable ISAM files described above under **16-bit Access 1.x and 2.0 through the Jet engine**.

### 32-bit

#### Access via DAO

<b>FILENAME</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>
P2BDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Database DLL
P2CTDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Dictionary DLL
P2IRDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Directory DLL
DAO2532.TLB	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	DAO Type Library
DAO3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet DAO Library
VBAJET32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment - Expression Service Loader
VEN2232.OLB	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Object Library
MSJINT32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSJT3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Engine Library
MSJTER32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
VBA232.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
MSRD2X32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft © Red ISAM

### **Secured Access Databases**

If you will be using secured Access databases, the SystemDB parameter in the Windows Registry database must be set to point at the path where the SYSTEM.MDA file is located. On Windows 95 and Windows NT systems, the SystemDB parameter is located in the following Registry key:

```
\\HKEY_LOCAL_MACHINE\Software\Crystal Software\Jet\3.0\Engines\Jet
```

Crystal Reports includes two utilities to take care of setting this parameter for you: SYSDB16.EXE (16-bit systems) and SYSDB32.EXE (32-bit systems). These utilities are installed in the \CRW directory when you install Crystal Reports. Simply run the appropriate utility and point it at the location of the SYSTEM.MDA file.

## Direct Access - Access 7.0



**Access 7.0 data sources are only supported in the 32-bit version of Seagate Crystal Reports.**



**Although the 32-bit DAO engine (specifically the file DAO3032) ships with Seagate Crystal Reports, you must obtain authorization from Microsoft in order to redistribute their DLLs. If you have the 32-bit DAO engine on your system, Seagate Crystal Reports can open Access 7.0 databases using the files listed here.**

FILENAME	LOCATION	DESCRIPTION
P2BDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	CRW Physical Database DLL
P2CTDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	CRW Physical Dictionary DLL
P2IRDAO.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	CRW Physical Directory DLL
DAO2532.TLB	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	DAO Type Library
DAO3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet DAO Library
VBAJET32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment - Expression Service Loader
VEN2232.OLB	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Object Library
MSJINT32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSJTER32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
MSJT3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Engine Library
VBA232.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
MSRD2X32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft ® Red ISAM

The following files are required if you are using one of the following external databases as an Access 7.0 attached table (Installable ISAM):

FILE	LOCATION	DESCRIPTION
MSPX3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Paradox DLL
MSXB3032.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	dBASE (and FoxPro) DLL

To configure the data source properly for Access 7.0, the following files must be registered:

- n DAO3032.DLL
- n MSRD2X32.DLL
- n MSXL3032.DLL
- n MSPX3032.DLL
- n MSTX3032.DLL
- n MSXB3032.DLL

### Secured Access Databases

If you will be using secured Access databases, the SystemDB parameter in the Windows Registry database must be set to point at the path where the SYSTEM.MDW file is located. The SystemDB parameter is located in the following Registry key:

```
\\HKEY_LOCAL_MACHINE\Software\Cystal Software\Jet\3.0\Engines\Jet
```

Crystal Reports includes a utility to take care of setting this parameter for you: SYSDB32.EXE. This utility is installed in the \CRW directory when you install Crystal Reports. Simply run the utility and point it at the location of the SYSTEM.MDW file.



## Direct Access - Access 8.0



***Although the 32-bit DAO engine (specifically the file DAO3032) ships with Seagate Crystal Reports, you must obtain authorization from Microsoft in order to redistribute their DLLs. If you have the 32-bit DAO engine on your system, Seagate Crystal Reports can open Access 8.0 databases using the files listed here.***

For information on Access 8.0, please refer to the DAO 3.5 SDK.

## Direct Access - ACT!

Include the following files if your application will be reporting on ACT data:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBACT.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for ACT!
PDIRECT.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Directory DLL for ACT!

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BACT.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for ACT!
P2IRECT.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Directory DLL for ACT!

## Direct Access - Btrieve

Include the following files if your application will be reporting on Btrieve databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBBTRV.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for Btrieve
PDCTBTRV.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Dictionary DLL for Btrieve
WBTRCALL.DLL	WINDOWS\SYSTEM	Novell Btrieve DLL
WBTRVDEF.DLL	WINDOWS\SYSTEM	Novell Btrieve DLL
SEDTCNV.DLL	WINDOWS\SYSTEM	Smithware Btrieve Extension
SBTRVDEF.DLL	WINDOWS\SYSTEM	Smithware Btrieve Extension



See below for [Btrieve engine configuration](#).

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BBTRV.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for Btrieve
P2CTBTRV.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Dictionary DLL for Btrieve
WBTRCALL.DLL	WINDOWS\SYSTEM	Novell Btrieve DLL
WBTRVD32.DLL	WINDOWS\SYSTEM	Novell Btrieve DLL
S2DTCONV.DLL	WINDOWS\SYSTEM	Smithware Btrieve Extension
SBTRVD32.DLL	WINDOWS\SYSTEM	Smithware Btrieve Extension



See below for [Btrieve engine configuration](#).

## 16-bit Btrieve engine configuration

The following outlines the configuration issues and runtime files for the different version of the 16-bit Btrieve engine. The Btrieve runtime files should be in a directory included in the search path.

The best way, so far, for determining the version of the Btrieve engine being used is by the size of WBTRCALL.DLL. The file size for each version is given below.

### Btrieve 5.0

- n Takes initialization from [Btrieve] section of WIN.INI.
- n Client-based engine that access local and network files.
- n Does not use the DOS Btrieve Requester (BREQUEST.EXE).
- n Runtime file:  
WBTRCALL.DLL (51K)                      Windows Requester

### Btrieve 5.10/5.15

- n Takes initialization from [Btrieve] section of WIN.INI.

- n 'Local=Yes', 'Requester=Yes' in [BREQUEST DPMI] section of NOVDB.INI determines whether or not to attempt access using the client-based or server-based engine.
- n Requires the DOS Btrieve Requester (BREQUEST.EXE) loaded into memory when accessing network files via the Btrieve NLM. On Win95, BREQUEST.EXE must be loaded in WINSTART.BAT.
- n Runtime files:
 

WBTRCALL.DLL (13K)	Windows Requester
WBTRLOCL.DLL (51K)	Client engine

#### **Btrieve 6.0/6.10**

- n Takes initialization from NOVDB.INI.
- n 'Local=Yes', 'Requester=Yes' in [BREQUEST DPMI] section of NOVDB.INI determines whether or not to attempt access using the client-based or server-based engine.
- n Requires the DOS Btrieve Requester (BREQUEST.EXE) loaded into memory when accessing network files via the Btrieve NLM. On Win95, BREQUEST.EXE must be loaded in WINSTART.BAT.
- n Runtime files:
 

WBTRCALL.DLL (13K)	Windows Requester
WBTRLOCL.DLL (51K)	Client engine

#### **Btrieve 6.15 for Windows**

- n Takes initialization from BTI.INI.
- n 'Local=Yes', 'Requester=Yes' in [Btrieve] section of BTI.INI determines whether or not to attempt access using the client-based or server-based engine.
- n Required the DOS Btrieve Requester (BREQUEST.EXE) loaded into memory when accessing network files via the Btrieve NLM. On Win95, BREQUEST.EXE must be loaded in WINSTART.BAT.
- n Can be configured to use the client engine to read network files, but setting 'Local=Yes', 'Requester=No' in the [Btrieve] section of BTI.INI.
- n Runtime files:
 

WBTRCALL.DLL (16K)	Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL
WBTRLOCL.DLL	Client engine interface
WBTR32.EXE	Client engine
WBT32RES.DLL	Resource file for WBTR32.EXE

#### **Btrieve 6.15 for Netware**

- n Takes initialization from BTI.INI.
- n 'Local=Yes', 'Requester=Yes' in [Btrieve] section of BTI.INI determines whether or not to attempt access using the client-based or server-based engine.
- n Only reads files via the server-based engine because WBTRLOCL.DLL does not ship with this version.
- n DLL-only requester that does not require BREQUEST.EXE to access network files via the Btrieve NLM.
- n Runtime files:
 

WBTRCALL.DLL (38K)	Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL
WBTICOMM.DLL	Communications Module
- n Must also have these components from Novell/Netware:
 

TLI_WIN.DLL	Novell DLL used by WBTICOMM.DLL
TLI_SPX.DLL	Novell DLL used by TLI_WIN.DLL
NWLOCALE.DLL	Novell Natural Language Support DLL
NWCALLS.DLL	Novell Windows Client Software
NWIPXSPX.DLL	Novell Windows SPX Driver

#### **Btrieve 6.15 for Win95/NT**

- n Takes initialization from BTI.INI and the Btrieve Technologies section of the registry for Win95/NT.
- n 'Local=Yes', 'Requester=Yes' settings determine whether or not to attempt access using the client-based or server-based engine.
- n DLL-only requester that does not require BREQUEST.EXE to access network files via the Btrieve NLM.
- n Requires 'Thunk=Yes' in [Btrieve] section of BTI.INI for 16-bit applications running under Win96/NT.
- n Runtime files for 16-bit apps on Win95/NT (local engine):
 

WBTRCALL.DLL (42K)	16-bit Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL

WBTRTHNK.DLL	Windows Thunk DLL
WBTRV32.DLL	32-bit Windows Requester
W32MKDE.EXE	Micro Kernel Database Engine
W32MKRC.DLL	MKDE component
n Runtime files for 16-bit apps on Win95/NT (server engine):	
WBTRCALL.DLL (42K)	16-bit Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL
WBTRTHNK.DLL	Btrieve Thunk DLL
W32NR.DLL	Btrieve Thunk component (Win95 only)
W16NR.DLL	Btrieve Thunk component (Win95 only)
WBTRV32.DLL	32-bit Windows Requester
W32BTICM.DLL	32-bit Communications Module
n Runtime files for 16-bit apps on Win 3.x/WFW (local engine):	
WBTRCALL.DLL (42K)	Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL
WBTRLOCL.DLL	Client engine for interface
WBTR32.EXE	Client engine
WBT32RES.DLL	Resource file for WBTR32.EXE
n Runtime files for 16-bit apps on Win 3.x/WFW (server engine):	
WBTRCALL.DLL (42K)	Windows Requester
WBTRVRES.DLL	Resource file for WBTRCALL.DLL
WBTICOMM.DLL	Communications Module
TLI_WIN.DLL	Novell DLL used by WBTICOMM.DLL
TLI_SPX.DLL	Novell DLL used by TLI_WIN.DLL
NWLOCALE.DLL	Novell Natural Language Support DLL
NWCALLS.DLL	Novell Windows Client Software
NWIPXSPX.DLL	Novell Windows SPX Driver

## 32-bit Btrieve engine configuration

The following outlines the configuration issues and runtime files for 32-bit Btrieve engine. The Btrieve runtime files should be in a directory included in the search path.

### Btrieve 6.15 for Win95/NT

- n Takes initialization from the Btrieve Technologies section of the registry. Btrieve Technologies ships the utility program W32MKSET.EXE for configuring the Btrieve engine.
- n 'Local=Yes', 'Requester=Yes' in the registry determines whether or not to attempt access using the client-based or server-based engine.
- n Runtime files for local engine:

WBTRV32.DLL (61K)	32-bit Windows Requester
W32MKDE.EXE	Micro Kernel Database Engine
W32MKRC.DLL	MDKE component file
- n Runtime files for server engine:

WBTRV32.DLL (61K)	32-bit Windows Requester
W32BTICM.DLL	32-bit Communications Module
NWCALLS.DLL	Novell Windows Client Software

### Derivative License : Btrieve Workstation Engine

Third parties creating derivative software products based on Crystal Reports are not licensed to distribute their application without purchasing a Btrieve Workstation Engine and executing a Derivative Software License Agreement.

## Direct Access - Clipper

Include the following file if your application will be reporting on dBASE databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBXBSE.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for xBase

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BXBSE.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for xBase

## Direct Access - dBASE III+, IV, dBASE for Windows, and Visual dBASE

Include the following files if your application will be reporting on dBASE databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBXBSE.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for xBase (.DBF files only)

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BXBSE.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for xBase

## dBASE based on IDAPI (Borland Database Engine)

Include the following files if your application will be reporting on dBASE databases via the IDAPI (Borland Database Engine):

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBBDE.DLL (16-bit)	\\WINDOWS\CRYSTAL	Crystal's Borland Database Engine DLL

*(If you include this file, you do not need to include PDBXBSE.DLL with your application.)*

IDAPI01.DLL	\\IDAPI (usually)	Borland IDAPI
IDASCI01.DLL	\\IDAPI (usually)	Borland IDAPI
IDBAT01.DLL	\\IDAPI (usually)	Borland IDAPI
IDDBAS01.DLL	\\IDAPI (usually)	Borland IDAPI
IDODBC01.DLL	\\IDAPI (usually)	Borland IDAPI
IDPDX01.DLL	\\IDAPI (usually)	Borland IDAPI
IDQRY01.DLL	\\IDAPI (usually)	Borland IDAPI
IDR10009.DLL	\\IDAPI (usually)	Borland IDAPI
ILD01.DLL	\\IDAPI (usually)	Borland Language Driver API & Resource Library

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BBDE.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for IDAPI
BLW32.DLL	\\IDAPI (usually)	Borland Locale API
CEEUROPE.BLL	\\IDAPI (usually)	Borland Language File
CHARSET.BLL	\\IDAPI (usually)	Borland Language File
EUROPE.BLL	\\IDAPI (usually)	Borland Language File
IDAPI32.DLL	\\IDAPI (usually)	Borland Database Engine
IDAPIINST.DLL	\\IDAPI (usually)	Borland Database Engine
IDASCI32.DLL	\\IDAPI (usually)	Borland Database Engine
IDBAT32.DLL	\\IDAPI (usually)	Borland Database Engine
IDDBAS32.DLL	\\IDAPI (usually)	Borland Database Engine

IDDR32.DLL	\\IDAPI (usually)	Borland Database Engine
IDODBC32.DLL	\\IDAPI (usually)	Borland Database Engine
IDPDX32.DLL	\\IDAPI (usually)	Borland Database Engine
IDQBE32.DLL	\\IDAPI (usually)	Borland Database Engine
IDR20009.DLL	\\IDAPI (usually)	Borland Database Engine
IDSQ32.DLL	\\IDAPI (usually)	Borland Database Engine
OTHER.BLL	\\IDAPI (usually)	Borland Language File
USA.BLL	\\IDAPI (usually)	Borland Language File
CW3215.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Dynamic Link Run Time Library

## Direct Access - Exchange

### 16-bit

FILE	LOCATION	DESCRIPTION
PDSMAPI.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Microsoft Exchange Folder Contents and Address Lists



*The 16-bit Exchange client installed and configured on the local machine.*

### 32-bit

FILE	LOCATION	DESCRIPTION
P2STRACK.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Microsoft Exchange Message Tracking Logs
P2SMAPI.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Microsoft Exchange Folder Contents and Address Lists
P2SEXR.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Properties of Exchange Mailboxes and Public Folders
P2SREPL.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Replica Lists of Public Folders
P2SACL.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Server DLL for Access Control Lists (ACL) of Public Folders



*The 32-bit Exchange client installed and configured on the local machine.*

## Direct Access - FoxPro 2.5 and earlier

Include the following files if your application will be reporting on dBASE databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDBXBSE.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Database DLL for xBase

### 32-bit

FILE	LOCATION	DESCRIPTION
P2BXBSE.DLL	\\WINDOWS\\CRYSTAL	Crystal Reports Physical Database DLL for xBase

## Direct Access - Microsoft SQL Server 6.x

Include the following files if your application will be reporting on SQL databases:

## 16-bit

FILE	LOCATION	DESCRIPTION
PDSSQL.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for Microsoft SQL Server
MSDBLIB3.DLL	\SQL60\BIN (usually)	Microsoft SQL Server Client Library



**The 16-bit SQL Server client software must be installed on the system accessing the database.**

## 32-bit

FILE	LOCATION	DESCRIPTION
P2SSQL.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for Microsoft SQL Server
NTWDBLIB.DLL	\SQL60\BIN (usually)	Microsoft SQL Server Client Library



**The 32-bit SQL Server client software must be installed on the system accessing the database.**

## Direct Access - NT Event Log



**The NT Event Log can only be reported on with the 32-bit version of Crystal Reports running on Windows NT 3.51 or later.**

## NT only

FILE	LOCATION	DESCRIPTION
P2SEVT.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Server DLL for Windows NT Event Log

## Direct Access - Oracle 7

Include the following files if your application will be reporting on Oracle databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
PDSORA7.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for Oracle 7
ORA72WIN.DLL	\ORAWIN\BIN (usually)	Oracle SQL*Net Client



**The 16-bit version of Oracle SQL\*Net Client must be installed on the system that will access the Oracle database.**

### 32-bit

FILE	LOCATION	DESCRIPTION
P2SORA7.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL Oracle 7
ORANT71.DLL	\ORANT\BIN (usually)	Oracle SQL*Net Client
OCIW32.DLL	\ORANT\BIN (usually)	Oracle SQL*Net Client



**The 32-bit version of Oracle SQL\*Net Client must be installed on the system that will access the**

**Oracle database.**

**Direct Access - Paradox**

Include the following files if your application will be reporting on Paradox databases:

**Paradox based on Paradox Engine**

**16-bit**

<b>FILE</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>
PDBPDX.DLL (16-bit)	WINDOWS\CRYSTAL	Crystal Reports Physical Database DLL for Paradox Engine - 16-bit
PXENGWIN.DLL	WINDOWS\SYSTEM	Borland Paradox Engine

**Paradox based on IDAPI (Borland Database Engine)**

**16-bit**

<b>FILE</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>
PDBBDE.DLL (16-bit)	WINDOWS\CRYSTAL	Crystal's Borland Database Engine DLL

*(If you include this file, you do not need to include PDBXBSE.DLL with your application.)*

IDAPI01.DLL	\IDAPI (usually)	Borland IDAPI
IDASCI01.DLL	\IDAPI (usually)	Borland IDAPI
IDBAT01.DLL	\IDAPI (usually)	Borland IDAPI
IDDBAS01.DLL	\IDAPI (usually)	Borland IDAPI
IDODBC01.DLL	\IDAPI (usually)	Borland IDAPI
IDPDX01.DLL	\IDAPI (usually)	Borland IDAPI
IDQRY01.DLL	\IDAPI (usually)	Borland IDAPI
IDR10009.DLL	\IDAPI (usually)	Borland IDAPI
ILD01.DLL	\IDAPI (usually)	Borland Language Driver API & Resource Library

**32-bit**

<b>FILE</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>
P2BBDE.DLL	WINDOWS\CRYSTAL	Crystal's Borland Database Engine DLL
BLW32.DLL	\IDAPI (usually)	Borland Locale API
CEEUROPE.BLL	\IDAPI (usually)	Borland Language File
CHARSET.BLL	\IDAPI (usually)	Borland Language File
EUROPE.BLL	\IDAPI (usually)	Borland Language File
IDAPI32.DLL	\IDAPI (usually)	Borland Database Engine
IDAPIINST.DLL	\IDAPI (usually)	Borland Database Engine
IDASCI32.DLL	\IDAPI (usually)	Borland Database Engine
IDBAT32.DLL	\IDAPI (usually)	Borland Database Engine
IDDBAS32.DLL	\IDAPI (usually)	Borland Database Engine
IDDR32.DLL	\IDAPI (usually)	Borland Database Engine
IDODBC32.DLL	\IDAPI (usually)	Borland Database Engine
IDPDX32.DLL	\IDAPI (usually)	Borland Database Engine
IDQBE32.DLL	\IDAPI (usually)	Borland Database Engine
IDR20009.DLL	\IDAPI (usually)	Borland Database Engine
IDSQ32.DLL	\IDAPI (usually)	Borland Database Engine
OTHER.BLL	\IDAPI (usually)	Borland Language File
USA.BLL	\IDAPI (usually)	Borland Language File
CW3215.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Dynamic Link Run Time Library

**Direct Access - Sybase System 10/11**



## 16-bit

FILE	LOCATION	DESCRIPTION
PSSYB10.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for Sybase System 10/11
WCTLIB.DLL	SQL10\DLL (usually)	Open Client DB-Library
WCSLIB.DLL	SQL10\DLL (usually)	Open Client DB-Library



***The 16-bit Open Client DB-Library must be installed on the system that will access the database.***

## 32-bit

FILE	LOCATION	DESCRIPTION
P2SSYB10.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for Sybase System 10/11
LIBCT.DLL	SQL10\DLL (usually)	Open Client DB-Library
LIBCS.DLL	SQL10\DLL (usually)	Open Client DB-Library



***The 32-bit Open Client DB-Library must be installed on the system that will access the database.***

## ODBC Data Sources

[ODBC - Required Runtime Files](#)



Click the ODBC data source for your runtime report:

[Access 2.0](#)

[Access 7.0](#)

[ASCII Text](#)

[DB2/2](#)

[DB2/2 via INTERSOLV DataDirect Library](#)

[Excel](#)

[Gupta SQLBase](#)

[ODBC - Gupta SQLBase via INTERSOLV DataDirect Library](#)

[INFORMIX](#)

[Oracle](#)

[Oracle via INTERSOLV DataDirect Library](#)

[Lotus Notes](#)

[Microsoft SQL Server](#)

[Scalable SQL](#)

[Scalable SQL via INTERSOLV DataDirect Library](#)

[Sybase SQL Server](#)

[Sybase SQL Server via INTERSOLV DataDirect Library](#)

[Sybase System 10](#)

[Visual FoxPro](#)

## ODBC - Required Runtime Files

Include the following files with any application that uses ODBC:



**Be sure to check the requirements for the specific ODBC driver you are using. See the list of ODBC Data Sources below.**

### 16-bit

FILE	LOCATION	DESCRIPTION
ODBC.DLL	\WINDOWS\SYSTEM	Microsoft ODBC DLL
ODBCINST.DLL	\WINDOWS\SYSTEM	Microsoft ODBC Installer DLL
PDSODBC.DLL	\WINDOWS\CRYSTAL	Crystal Reports Physical Server DLL for ODBC 16-bit

### 32-bit

FILE	LOCATION	DESCRIPTION
ODBC32.DLL	\WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Driver Manager
ODBCCP32.DLL	\WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Installer
ODBCINT.DLL	\WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Resource DLL
P2SODBC.DLL	\WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Server DLL for ODBC



**You must also register any distributed ODBC drivers on the user's system by modifying the Windows ODBCINST.INI and ODBC.INI files. For complete information on how to register ODBC drivers in ODBCINST.INI, please refer to the Microsoft ODBC Software Development Kit.**



**After ODBC drivers are registered on the user's system, ODBC Administrator must be used to create an ODBC data source for the data that will be accessed by your distributed reports. Provide information to your users on how to use ODBC Administrator to create data sources.**

## ODBC - Access 2.0

### 16-bit specific requirements

FILE	LOCATION	DESCRIPTION
ODBCJT16.DLL	\WINDOWS\SYSTEM	ODBC driver for Microsoft Access
MSAJT200.DLL	\WINDOWS\SYSTEM	Microsoft Jet Engine Library
MSABC200.DLL	\WINDOWS\SYSTEM	Microsoft Access Basic
MSJETERR.DLL	\WINDOWS\SYSTEM	Microsoft Jet Error Database Engine Error DLL
MSJETINT.DLL	\WINDOWS\SYSTEM	Microsoft Access Jet Database Engine International DLL
ODBCTL16.DLL	\WINDOWS\SYSTEM	ODBC Helper Function DLL

## 32-bit

FILE	LOCATION	DESCRIPTION
MSJT3032.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	ODBC Desktop driver DLL
MSJTER32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
MSJINT32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSRD2X32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Microsoft ® Red ISAM
MSVCRT20.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Microsoft ® C Runtime Library
ODBCCP32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Microsoft ODBC Installer
ODBCJT32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	ODBC driver for Microsoft Access
VBAJET32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Visual Basic for Applications Development Environment - Expression Service Loader
VBAR232.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
VEN2232.OLB	\\WINDOWS\\SYSTEM or \\WINDOWS\\ SYSTEM32 (NT only)	Visual Basic for Applications Object Library

To configure the data source properly for Access 2.0, the following files must be registered:

- n DAO3032.DLL
- n MSRD2X32.DLL

## ODBC - Access 7.0



**Access 7.0 can only be reported on with the 32-bit version of Crystal Reports.**

<b>FILE</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>
MSJT3032.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC Desktop driver DLL
MSJTER32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
MSJINT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSVCRT20.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft © C Runtime Library
ODBCCP32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Installer
ODBCJT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC driver for Microsoft Access
VBAJET32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment - Expression Service Loader
VBAR232.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
VEN2232.OLB	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Object Library

To configure the data source properly for Access 7.0, the following files must be registered:

- n DAO3032.DLL
- n MSRD2X32.DLL

## ODBC - ASCII Text

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRTXT09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC Text driver
QECR.LIC	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV license file

### 32-bit

FILE	LOCATION	DESCRIPTION
MSJT3032.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC Desktop driver DLL
ODBCJI32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Desktop Driver Pack 3.0
MSJTER32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
MSJINT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSJINT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC Error DLL
MSTX3032.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Text Isam
MSVCRT20.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft © C Runtime Library
ODBCJT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC driver for Microsoft Access
ODTEXT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	ODBC (3.0) driver for text files
VBAJET32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment - Expression Service Loader
VBAR232.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
VEN2232.OLB	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Object Library

To configure the data source properly for ASCII Text, the following files must be registered:

- n DAO3032.DLL
- n MSTX3032.DLL



## ODBC - Centura SQLBase (formerly Gupta)

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRGUP09.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC SQLBase driver
QECR.LIC	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV license file

### NT ONLY

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRGUP11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC SQLBase driver
QECR.LIC	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV license file

## ODBC - Centura SQLBase via INTERSOLV DataDirect Library (formerly Gupta)

### 16-bit

FILE	LOCATION	DESCRIPTION
PDSGUPTA.DLL	WINDOWS\CRYSTAL	Crystal Reports Physical Database Server DLL for Gupta SQLBase
CRLIB.DLL	WINDOWS\SYSTEM	INTERSOLV DTK DLL
CRGUI09.DLL	WINDOWS\SYSTEM	INTERSOLV Graphical Interface library
CRSQL09.DLL	WINDOWS\SYSTEM	INTERSOLV SQL-support library
CRBAS09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	WINDOWS\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC driver utility DLL
CRGUP09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC SQLBase driver
QECR.LIC	WINDOWS\SYSTEM	INTERSOLV license file

### 32-bit

FILE	LOCATION	DESCRIPTION
CRGUP11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC SQLBase driver

CRUTL11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRBAS11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
QECR.LIC	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV license file

## ODBC - DB2/2



**Crystal Reports 6.0 ONLY ships with a 32-bit NATIVE driver. There is no true 16-bit driver for DB2.**

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	WINDOWS\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC driver utility DLL
CRUTL09.DLL	WINDOWS\SYSTEM	Utilities library
CRDB209.DLL or CRDBM09.DLL	WINDOWS\SYSTEM	INTERSOLV ODBC DB2/2 driver
QECR.LIC	WINDOWS\SYSTEM	INTERSOLV ODBC driver license file



**16-bit versions of Crystal Reports ship with Intersolv DataDirect driver called PDSDB22.DLL**

### 32-bit

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRDB211.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC DB2/2 driver
QECR.LIC	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file



**32-bit Crystal Reports ship with a TRUE NATIVE driver called P2SDB2.DLL**



**DB2 native drivers are implemented using a union; therefore, fields that are longer than 255 characters are not**



*supported.*

## ODBC - DB2/2 via INTERSOLV DataDirect Library

### 16-bit

FILE	LOCATION	DESCRIPTION
PDSDB22.DLL	\\WINDOWS\CRYSTAL	Crystal Reports Physical Database Server DLL for IBM DB2
CRLIB.DLL	\\WINDOWS\SYSTEM	INTERSQLV DTK DLL
CRGUI09.DLL	\\WINDOWS\SYSTEM	INTERSQLV Graphical Interface library
CRSQL09.DLL	\\WINDOWS\SYSTEM	INTERSQLV SQL-support library
CRBAS09.DLL	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\SYSTEM	INTERSQLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver utility DLL
CRDBM09.DLL	\\WINDOWS\SYSTEM	INTERSQLV ODBC DB2/2 driver
QECR.LIC	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver license file



***DB2 native drivers are implemented using a union; therefore, fields that are longer than 255 characters are not supported.***

## ODBC - Excel

Include the following files if your application will be pointing to an Excel (.XLS) file:



***Be sure to check the requirements for the specific ODBC you are using.***

### 16-bit

FILE	LOCATION	DESCRIPTION
CRXLS07.DLL	\\WINDOWS\SYSTEM	For Excel 4.0 and earlier
CRXLS507.DLL	\\WINDOWS\SYSTEM	For Excel 5.0
CRBAS09.DLL	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\SYSTEM	INTERSQLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver utility DLL
QECR.LIC	\\WINDOWS\SYSTEM	INTERSQLV ODBC driver license file

### 32-bit

FILE	LOCATION	DESCRIPTION
ODEXL32.DLL	\\WINDOWS\SYSTEM or \\WINDOWS\SYSTEM32 (NT only)	ODBC (3.0) driver for Excel
MSJT3032.DLL	\\WINDOWS\SYSTEM or \\WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Engine Library
MSJTER32.DLL	\\WINDOWS\SYSTEM or \\WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine Error DLL
MSJINT32.DLL	\\WINDOWS\SYSTEM or \\WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Database Engine International DLL
MSXL3032.DLL	\\WINDOWS\SYSTEM or \\WINDOWS\SYSTEM32 (NT only)	Microsoft Jet Excel Isam
MSVCRT20.DLL	\\WINDOWS\SYSTEM or \\	Microsoft © C Runtime Library

	WINDOWS\SYSTEM32 (NT only)	
ODBCJI32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Desktop Driver Pack 3.0
ODBCTL32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	ODBC Helper Function DLL
ODBCCP32.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Microsoft ODBC Installer
ODBCJT32.DLL	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	ODBC driver for Microsoft Access
VBAJET32.DLL	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment Expression Service Loader
VBAR232.DLL	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Development Environment
VEN2232.OLB	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	Visual Basic for Applications Object Library

To configure the data source properly for Excel, the following files must be registered:

- n DAO3032.DLL
- n MSXL3032.DLL

## ODBC - INFORMIX

Include the following files with runtime reports that report on INFORMIX databases using the Crystal Reports INFORMIX driver:

### 16-bit

FILE	LOCATION	DESCRIPTION
CRINF509.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC INFORMIX5 driver
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file



***The 16-bit INFORMIX-Net 5.x client installed and configured on the local machine.***

### 32-bit for INFORMIX-NET 5.x

FILE	LOCATION	DESCRIPTION
CRINF511.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC INFORMIX5 driver
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
QECR.LIC	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file



***The 32-bit INFORMIX-Net 5.x client installed and configured on the local machine.***

### 32-bit for INFORMIX-NET 7.x

FILE	LOCATION	DESCRIPTION
CRINF711.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC INFORMIX7 driver
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
QECR.LIC	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file



***The 32-bit INFORMIX-Net 7.x client must be installed and configured on the local machine.***

## ODBC - Lotus Notes

### 16-bit only

FILE	LOCATION	DESCRIPTION
NSQLCFG.DLL	\\WINDOWS\\SYSTEM	Lotus Notes ODBC Driver Set up
NOTESSQL.DLL	\\WINDOWS\\SYSTEM	Lotus Notes ODBC Driver
NSQLODBC.DLL	\\WINDOWS\\SYSTEM	Lotus Notes ODBC Driver

## ODBC - Microsoft SQL Server

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRSS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Microsoft SQL Server driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

### 32-bit

FILE	LOCATION	DESCRIPTION
SQLSRV32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Microsoft SQL Server ODBC Driver
DBNMPNTW.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Named Pipes Net DLL for SQL Clients

## ODBC - Oracle

Include the following files if your application will be reporting on Oracle databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRORA09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Oracle 6 driver
CROR709.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Oracle 7 driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file
ORA6WIN.DLL	\\WINDOWS\\SYSTEM	Oracle version 6.x client-side API
ORA71WIN.DLL	\\WINDOWS\\SYSTEM	Oracle version 7.x client-side API

### 32-bit

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CROR711.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC Oracle 7 only driver

OCIW32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Oracle Call Interface (OCI) for Windows
QECR.LIC	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file

## ODBC - Oracle via INTERSOLV DataDirect Library

### 16-bit

FILE	LOCATION	DESCRIPTION
CRLIB.DLL	\\WINDOWS\\SYSTEM	INTERSOLV DTK DLL
CRGUI09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV Graphical Interface library
CRSQL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV SQL-support library
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRORA09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Oracle 6 driver
CROR709.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Oracle 7 driver
ORA6WIN.DLL	\\WINDOWS\\SYSTEM	Oracle version 6.x client-side API
ORA71WIN.DLL	\\WINDOWS\\SYSTEM	Oracle version 7.x client-side API
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

## ODBC - Scalable SQL

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRXQL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Scalable SQL driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

### 32-bit NT ONLY

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
CRFLT11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
QECR.LIC	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file

## ODBC - Scalable SQL via INTERSOLV DataDirect Library

### 16-bit

FILE	LOCATION	DESCRIPTION
CRLIB.DLL	\\WINDOWS\\SYSTEM	INTERSOLV DTK DLL
CRGUI09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV Graphical Interface library
CRSQL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV SQL-support library

CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRXQL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC Scalable SQL driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

## ODBC - Sybase SQL Server and Microsoft SQL Server

Include the following files if your application will be reporting on Sybase SQL Server or Microsoft SQL Server databases:

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRSS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC SQL Server driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

### 32-bit

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
SQLSRV32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Microsoft SQL Server ODBC Driver
CRFLT11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver utility DLL
CRSYB11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC SQL Server driver
LIBCT.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Sybase Client Libraries
LIBCS.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	Sybase Client Libraries
QECR.LIC	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver license file



***The 32-bit Sybase SQL Server or Microsoft SQL Server client must be installed and configured on the local machine.***

## ODBC - Sybase SQL Server via INTERSOLV DataDirect Library

### 16-bit

FILE	LOCATION	DESCRIPTION
CRLIB.DLL	\\WINDOWS\\SYSTEM	INTERSOLV DTK DLL
CRGUI09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV Graphical Interface library
CRSQL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV SQL-support library

CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRSS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC SQL Server driver
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file



*When executing multiple statements in a stored procedure, the function `SQLMoreResults` will ignore all statements other than `Select` statements. Since the SQL Server and Sybase drivers do not have a way to prepare statements, the driver will not send that statement to the server until `SQLExecute` is called. Prepare will not return any of the normal errors that most of the drivers will return. However, if the user requests information about result columns, the driver will execute a `Select` statement and return warnings or errors at `SQLNumResultCols`, `SQLDescribeCol`, or `SQLColAttributes` time.*



*If you have problems with the catalog functions returning incorrect data, you may need to upgrade your catalog stored procedures. In particular, the SQL Server version 4.2 procedures do not provide enough information for many of our catalog functions to work properly. Make sure you have installed the latest version of the stored procedures, which are available from your database vendor. Refer to your SQL Server documentation for more information.*

## ODBC - Sybase System 10

### 16-bit

FILE	LOCATION	DESCRIPTION
CRBAS09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver shared library
CRFLT09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV flat-file ODBC driver shared library
CRUTL09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver utility DLL
CRSYB09.DLL	\\WINDOWS\\SYSTEM	INTERSOLV ODBC SQL Server driver
WCTLIB.DLL	\\SQL10\\DLL	Sybase client library
WCSLIB.DLL	\\SQL10\\DLL	Sybase client library
QECR.LIC	\\WINDOWS\\SYSTEM	INTERSOLV ODBC driver license file

### 32-bit

FILE	LOCATION	DESCRIPTION
CRBAS11.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32 (NT only)	INTERSOLV ODBC driver shared library
SQLSRV32.DLL	\\WINDOWS\\SYSTEM or \\WINDOWS\\SYSTEM32	Microsoft SQL Server ODBC Driver

CRFLT11.DLL	(NT only) \WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32	INTERSOLV flat-file ODBC driver shared library
CRUTL11.DLL	(NT only) \WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32	INTERSOLV ODBC driver utility DLL
CRSYB11.DLL	(NT only) \WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32	INTERSOLV ODBC SQL Server driver
LIBCS.DLL	\SQL10\DLL	Sybase client library
LIBCT.DLL	\SQL10\DLL	Sybase client library
QECR.LIC	(NT only) \WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32	INTERSOLV ODBC driver license file



***When executing multiple statements in a stored procedure, the function SQLMoreResults will ignore all statements other than Select statements. Since the SQL Server and Sybase drivers do not have a way to prepare statements, the driver will not send that statement to the server until SQLExecute is called. Prepare will not return any of the normal errors that most of the drivers will return. However, if the user requests information about result columns, the driver will execute a Select statement and return warnings or errors at SQLNumResultCols, SQLDescribeCol, or SQLColAttributes time.***



***If you have problems with the catalog functions returning incorrect data, you may need to upgrade your catalog stored procedures. In particular, the SQL Server version 4.2 procedures do not provide enough information for many of our catalog functions to work properly. Make sure you have installed the latest version of the stored procedures, which are available from your database vendor. Refer to your SQL Server documentation for more information.***

## ODBC - Visual FoxPro

### 32-bit only

FILE	LOCATION	DESCRIPTION
VFPODBC.DLL	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	Microsoft Visual FoxPro ODBC Driver
FOXPRO.INT	\WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)	Microsoft Visual FoxPro language index



## Crystal Query Files

If your runtime report is based on a Crystal Query file (.QRY), you must include the following files at runtime:

### 16-bit only

FILE	LOCATION	DESCRIPTION
PDIXBSE.DLL	\WINDOWS\CRYSTAL	Crystal Query saved data driver
PDLODBC.DLL	\WINDOWS\CRYSTAL	Crystal Query saved data driver

### 32-bit only

FILE	LOCATION	DESCRIPTION
P2IXBSE.DLL	\WINDOWS\CRYSTAL	Crystal Query saved data driver
P2LODBC.DLL	\WINDOWS\CRYSTAL	Crystal Query saved data driver



***You must also include runtime files for the direct access database or ODBC data source format your query file reads.***

## Crystal Dictionaries

If your runtime report is based on a Crystal Dictionary file (.DC5), you must include the following files at runtime:

### 16-bit only

FILE	LOCATION	DESCRIPTION
PDIXBSE.DLL	\WINDOWS\CRYSTAL	Crystal Dictionary saved data driver

### 32-bit only

FILE	LOCATION	DESCRIPTION
P2IXBSE.DLL	\WINDOWS\CRYSTAL	Crystal Dictionary saved data driver



***You must also include runtime files for the direct access database or ODBC data source format your dictionary reads.***

## Export Destinations

If your application will give users the ability to export reports, you must include files from the following list appropriate to the export destinations provided:

### 16-bit

FILE	LOCATION	DESCRIPTION
UXDDISK.DLL	\WINDOWS\CRYSTAL	Disk file destination
UXDMAPI.DLL	\WINDOWS\CRYSTAL	MAPI format (Microsoft Mail, Microsoft Exchange )
UXDVIM.DLL	\WINDOWS\CRYSTAL	VIM format (cc: MAIL, Lotus Notes, WordPerfect Office, etc.)
UXDNOTES.DLL	\WINDOWS\CRYSTAL	Lotus Notes
UXDPOST.DLL	\WINDOWS\CRYSTAL	Microsoft Exchange Public Folders

### 32-bit

FILE	LOCATION	DESCRIPTION
U2DDISK.DLL	\WINDOWS\CRYSTAL	Disk file destination
U2DMAPI.DLL	\WINDOWS\CRYSTAL	MAPI format (Microsoft Mail, Microsoft Exchange)
U2DPOST.DLL	\WINDOWS\CRYSTAL	Microsoft Exchange Public Folders

## Export Formats

If your application will give users the ability to export reports, you must include files from the following list appropriate to the export formats provided:

### 16-bit

FILE	LOCATION	DESCRIPTION
UXFCR.DLL	\\WINDOWS\CRYSTAL	Crystal Reports format 16-bit
UXFDIF.DLL	\\WINDOWS\CRYSTAL	DIF format
UXFDOC.DLL	\\WINDOWS\CRYSTAL	Word for DOS and WordPerfect format
WORDDOS.XTD	\\WINDOWS\CRYSTAL	Only required if exporting to Word for DOS
WPERFECT.XTD	\\WINDOWS\CRYSTAL	Only required if exporting to WordPerfect
UXFHTML.DLL	\\WINDOWS\CRYSTAL	HTML format
UXFODBC.DLL	\\WINDOWS\CRYSTAL	ODBC data source
UXFQP.DLL	\\WINDOWS\CRYSTAL	Quattro Pro
UXFREC.DLL	\\WINDOWS\CRYSTAL	Record format
UXFRTF.DLL	\\WINDOWS\CRYSTAL	Rich Text Format
UXFSEP.V	\\WINDOWS\CRYSTAL	Comma Separated Values format
UXFTEXT.DLL	\\WINDOWS\CRYSTAL	Text format
UXFWKS.DLL	\\WINDOWS\CRYSTAL	Lotus 1-2-3 format
UXFWORDW.DLL	\\WINDOWS\CRYSTAL	Microsoft Word for Windows format
UXFXLS.DLL	\\WINDOWS\CRYSTAL	Microsoft Excel format
LF*W.DLL	\\WINDOWS\CRYSTAL	Picture export formats. Only needed in HTML export.
LTKRN60W.DLL	\\WINDOWS\CRYSTAL	LeadTools Kernel module. Only needed in HTML export.
LTFIL60W.DLL	\\WINDOWS\CRYSTAL	LeadTools File module. Only needed in HTML export.

### 32-bit

FILE	LOCATION	DESCRIPTION
U2FCR.DLL	\\WINDOWS\CRYSTAL	Crystal Reports format 32-bit
U2FDIF.DLL	\\WINDOWS\CRYSTAL	DIF format
U2FHTML.DLL	\\WINDOWS\CRYSTAL	HTML format
U2FODBC.DLL	\\WINDOWS\CRYSTAL	ODBC data source
U2FREC.DLL	\\WINDOWS\CRYSTAL	Record format
U2FRTF.DLL	\\WINDOWS\CRYSTAL	Rich Text Format
U2FSEP.V	\\WINDOWS\CRYSTAL	Comma Separated Values format
U2FTEXT.DLL	\\WINDOWS\CRYSTAL	Text format
U2FWKS.DLL	\\WINDOWS\CRYSTAL	Lotus 1-2-3 format
U2FWORDW.DLL	\\WINDOWS\CRYSTAL	Microsoft Word for Windows format
U2FXLS.DLL	\\WINDOWS\CRYSTAL	Microsoft Excel format
LF*N.DLL	\\WINDOWS\CRYSTAL	Picture export formats. Only needed in HTML export.
LTKRN60N.DLL	\\WINDOWS\CRYSTAL	LeadTools Kernel module. Only needed in HTML export.
LTFIL60N.DLL	\\WINDOWS\CRYSTAL	LeadTools File module. Only needed in HTML export.

## 32-bit Foreign Language Requirements

If you will be distributing a runtime version of the Crystal Report Engine with your applications in a language other than English, you must make sure that you include the correct resource files to ensure that the files will appear in the appropriate language.

Each language has a two letter abbreviation that appears directly before the extension of the file name. In the table below, the two letter abbreviation has been replaced with **XX**.



***The foreign language runtime files listed here are not included with the English version of Crystal***

**Reports. You must purchase the files separately from Seagate Software for the language(s) you are interested in.**

### 32-bit

ORIGINAL NAME	FILE	LOCATION	DESCRIPTION
CRD32.EXE	CD2C60XX.DLL	WINDOWS\CRYSTAL\	Crystal Dictionary resource DLL
CRRUN32.EXE	CN2C60XX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Compiled Reports resource DLL
CQW32.DLL	CQ2C60XX.DLL	WINDOWS\CRYSTAL	Crystal Query resource DLL
C2SUPPRT.DLL	CS2C60XX.DLL	\CRW	Crystal Support resource DLL
CRW32.EXE	CR2C60XX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal Reports resource DLL
CRPE32.DLL	CR2C60XX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal Report Engine resource DLL
P2BACT.DLL	P3D6ATXX.DLL	WINDOWS\CRYSTAL\	Crystal's ACT! resource DLL
P2BBDE.DLL	P3D6BEXX.DLL	WINDOWS\CRYSTAL\	Crystal's Borland Database Engine DLL
P2BBND.DLL	P3D6BDXX.DLL	WINDOWS\CRYSTAL\	Crystal's Bound Report resource DLL
P2BBTRV.DLL	P3D6BTXX.DLL	WINDOWS\CRYSTAL\	Crystal Btrieve resource DLL
P2BDAO.DLL	P3D6DOXX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal's DAO resource DLL
P2BXBSE.DLL	P3D6XBXX.DLL	WINDOWS\CRYSTAL\	Crystal's dBase resource DLL
P2CTBTRV.DLL	P3T6BTXX.DLL	WINDOWS\CRYSTAL\	Crystal Btrieve DLL
P2CTDAO.DLL	P3T6DOXX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal's DAO resource DLL
P2IRACT.DLL	P3R6ATXX.DLL	WINDOWS\CRYSTAL\	Crystal's ACT! resource DLL
P2IRDAO.DLL	P3R6DOXX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal's DAO resource DLL
P2IXBSE.DLL	P3D6XBXX.DLL	WINDOWS\CRYSTAL	Crystal's saved data resource DLL
P2LODBC.DLL	P3L6ODXX.DLL	WINDOWS\SYSTEM or WINDOWS\SYSTEM32 (NT only)	Crystal's query generator resource DLL
P2OESBSE.DLL	P3O6ESXX.DLL	WINDOWS\CRYSTAL	Crystal's Essbase resource DLL
P2SACL.DLL	P3S6ACXX.DLL	WINDOWS\CRYSTAL	Crystal's Microsoft Exchange resource DLL
P2SEVT.DLL	P3S6EVXX.DLL	WINDOWS\CRYSTAL	Crystal's Event Log resource DLL
P2SEXSR.DLL	P3S6XSXX.DLL	WINDOWS\CRYSTAL\	Crystal's Microsoft Exchange resource DLL
P2SMAPI.DLL	P3S6MPXX.DLL	WINDOWS\CRYSTAL\	Crystal's Microsoft Exchange resource DLL
P2SODBC.DLL	P3S6ODXX.DLL	WINDOWS\CRYSTAL\	Crystal's ODBC resource DLL
P2SORA7.DLL	P3S6O7XX.DLL	WINDOWS\CRYSTAL\	Crystal's Oracle resource

P2SREPL.DLL	P3S6RPXX.DLL	WINDOWS\CRYSTAL\	DLL Crystal's Microsoft Exchange resource DLL
P2SSQL.DLL	P3S6SQXX.DLL	WINDOWS\CRYSTAL\	Crystal's SQL resource DLL
P2SSYB10.DLL	P3S6STXX.DLL	WINDOWS\CRYSTAL\	Crystal's Sybase resource DLL
P2STRACK.DLL	P3S6TKXX.DLL	WINDOWS\CRYSTAL\	Crystal's Message Tracking Log resource DLL
P2SWBLG.DLL	P3S6WLXX.DLL	WINDOWS\CRYSTAL\	Crystal's Web Log resource DLL
U2DDISK.DLL	X2D6DKXX.DLL	WINDOWS\CRYSTAL\	Disk format resource DLL
U2DMAPI.DLL	X2D6MPXX.DLL	WINDOWS\CRYSTAL\	MAPI format resource DLL
U2DPOST.DLL	X2D6PTXX.DLL	WINDOWS\CRYSTAL\	Microsoft Exchange Folder format resource DLL
U2FCR.DLL	X2F6CRXX.DLL	WINDOWS\CRYSTAL\	Crystal Reports format resource DLL
U2FDIF.DLL	X2F6DFXX.DLL	WINDOWS\CRYSTAL\	DIF format resource DLL
U2FHTML.DLL	X2F6HTXX.DLL	WINDOWS\CRYSTAL\	HTML format resource DLL
U2FODBC.DLL	X2F6ODXX.DLL	WINDOWS\CRYSTAL\	ODBC format resource DLL
U2FREC.DLL	X2F6RCXX.DLL	WINDOWS\CRYSTAL\	Record format resource DLL
U2FRTF.DLL	X2F6RTXX.DLL	WINDOWS\CRYSTAL\	RTF format resource DLL
U2FSEPV.DLL	X2F6SVXX.DLL	WINDOWS\CRYSTAL\	Comma Separated Values format resource DLL
U2FTEXT.DLL	X2F6TXXX.DLL	WINDOWS\CRYSTAL\	Text format resource DLL
U2FWKS.DLL	X2F6WKXX.DLL	WINDOWS\CRYSTAL\	Lotus 1-2-3 format resource DLL
U2FWORDW.DLL	X2F6WDXX.DLL	WINDOWS\CRYSTAL\	Word for Windows format resource DLL
U2FXLS.DLL	X2F6XLXX.DLL	WINDOWS\CRYSTAL\	Excel format resource DLL

All DLL's contain the English language strings, dialog boxes, menus, etc. If you do not specify a language resource in the path, English will automatically be used.

To use this language resource file...	Use the DLL's that end with these letters...
French	FR
Deutsch (German)	DE
Italian	IT
Japanese	JP
Portuguese	PT
Spanish	ES

If you specify a language resource other than English, you must also set the language setting in the Windows Control Panel, International Settings to the same language. If you do not change the setting in Windows Control Panel, English will automatically be used.

## Name Convention

Crystal Reports uses a naming convention for foreign language resource requirements. These resource files are only required in foreign language applications (other than English).

For example, in the database dlls (P\*.DLLs), the following convention is true:

### Character

1. The first character in the file name is the letter P, it specifies that this resource is a database resource.
2. The second character specifies 1 for 16-bit, or 3 for 32-bit.

3. The third character represents a database type code. Please see the first 3 characters of your database driver DLL.
4. The fourth character is always a six, the major release version.
5. The fifth and sixth character represent the database you are using. See chart below.
6. The seventh and eighth characters are the language code.

For example, the following chart breaks down a 32-bit application that uses PDB ODBC driver, in German, each appropriate selection marked with an asterix (\*):

**One character specification of DLL type**

P = database DLL

**One digit bit indicator**

1 = 16-bit

3 = 32-bit

**1 character database driver type identifier**

P2B = D

P2L = L

P2O = O

P2Q = Q

P2IR = R

P2S = S

P2CT = T

**1 digit version number (major) (6)**

**2 characters database identifier**

ACT = AT

BDE = BE

BND = BD

BTRV = BT

DAO = DO

JET = JT

PDX = PX

XBSE = XB

ESBSE = ES

QBE = QB

ACL = AC

DB22 = D2

EVT = EV

EXSR = XS

GUPTA = GT

MAPI = MP

NETW = NW

ODBC = OD

ORA7 = O7

ORA7 = O7

ORA7 = O7

ORA7 = O7

ORA7 = O7

ORA7 = O7

ORA7 = O7

ORA7 = O7

**2 characters language codes**

DE = German

FR = French

IT = Italian

JP = Japanese

PT = Portuguese

ES = Spanish

**EXAMPLE**

P 3 D 6 OD DE.DLL

DE German Language

OD ODBC database driver

6 Version 6.X

D PDB database driver type (first three characters of your database driver)

3 32-bit application (use the number 2 for export dlls)

P Database DLL

## 16-bit Foreign Language Requirements

If you will be distributing a runtime version of the Crystal Report Engine with your applications in a language other than English, you must make sure that you include the correct resource files to ensure that the files will appear in the appropriate language. Each language has a two letter abbreviation that appears directly before the extension of the file name. In the table below, the two letter abbreviation has been replaced with **XX**.



***The foreign language runtime files listed here are not included with the English version of Crystal Reports. You must purchase the files separately from Seagate Software for the language(s) you are interested in.***

### 16-bit

ORIGINAL NAME	FILE	LOCATION	DESCRIPTION
CRRUN.EXE	CN1C60XX.DLL	WINDOWS\SYSTEM	Crystal's Compiled Reports resource DLL
CRSUPPRT.DLL	CS1C60XX.DLL	\CRW	Crystal Support resource DLL
CRW.EXE	CR1C60XX.DLL	WINDOWS\SYSTEM	Crystal Report resource DLL
CRD.EXE	CD1C60XX.DLL	WINDOWS\CRYSTAL\	Crystal Dictionary resource DLL
CQW.EXE	CQ1C60XX.DLL	WINDOWS\CRYSTAL\	Crystal Query resource DLL
CRPE.DLL	CR1C60XX.DLL	WINDOWS\CRYSTAL\	Crystal Report Engine resource DLL
PDBACT.DLL	P1D6ATXX.DLL	WINDOWS\CRYSTAL\	Crystal's ACT! resource DLL
PDBBDE.DLL	P1D6BEXX.DLL	WINDOWS\CRYSTAL\	Crystal's Borland Database Engine resource DLL
PDBBND.DLL	P1D6BDXX.DLL	WINDOWS\CRYSTAL\	Crystal's Bound Report resource DLL
PDBBTRV.DLL	P1D6BTXX.DLL	WINDOWS\CRYSTAL\	Crystal's Btrieve resource DLL
PDBDAO.DLL	P1D6DOXX.DLL	WINDOWS\CRYSTAL\	Crystal's DAO resource DLL
PDBJET.DLL	P1D6JTXX.DLL	WINDOWS\CRYSTAL\	Crystal's JET resource DLL
PDBPDX.DLL	P1D6PXXX.DLL	WINDOWS\CRYSTAL\	Crystal's Paradox resource DLL
PDBXBSE.DLL	P1D6XBXX.DLL	WINDOWS\CRYSTAL\	Crystal's dBase resource DLL
PDCTBTRV.DLL	P1T6BTXX.DLL	WINDOWS\CRYSTAL\	Crystal's Btrieve resource DLL
PDCTDAO.DLL	P1T6DOXX.DLL	WINDOWS\CRYSTAL\	Crystal's DAO resource DLL
PDCTJET.DLL	P1T6JTXX.DLL	WINDOWS\CRYSTAL\	Crystal's JET resource DLL
PDIRACT.DLL	P1R6ATXX.DLL	WINDOWS\CRYSTAL\	Crystal's ACT! resource DLL
PDIRDAO.DLL	P1R6DOXX.DLL	WINDOWS\CRYSTAL\	Crystal's DAO resource DLL
PDIRJET.DLL	P1R6JTXX.DLL	WINDOWS\CRYSTAL\	Crystal's JET resource DLL
PDIXBSE.DLL	P1D6XBXX.DLL	WINDOWS\CRYSTAL\	Crystal's saved data resource DLL
PDLODBC.DLL	P1L6ODXX.DLL	WINDOWS\CRYSTAL\	Crystal's query generator resource DLL
PDSDB22.DLL	P1S6D2XX.DLL	WINDOWS\CRYSTAL\	Crystal's DB2/2 resource

PDSGUPTA.DLL	P1S6GTXX.DLL	WINDOWS\CRYSTAL\	DLL Crystal's Gupta resource DLL
PDSMAPI.DLL	P1S6MPXX.DLL	WINDOWS\CRYSTAL\	Crystal's MAPI resource DLL
PDSODBC.DLL	P1S6ODXX.DLL	WINDOWS\CRYSTAL\	Crystal's ODBC resource DLL
PDSORA7.DLL	P1S6O7XX.DLL	WINDOWS\CRYSTAL\	Crystal's Oracle7 resource DLL
PDSSQL.DLL	P1S6SQXX.DLL	WINDOWS\CRYSTAL\	Crystal's SQL Server resource DLL
PDSBYB10.DLL	P1S6STXX.DLL	WINDOWS\CRYSTAL\	Crystal's Sybase System 10 resource DLL
UXDDISK.DLL	X1D6DKXX.DLL	WINDOWS\CRYSTAL\	Disk format resource DLL
UXDMAPI.DLL	X1D6MPXX.DLL	WINDOWS\CRYSTAL\	MAPI format resource DLL
UXDNOTES.DLL	X1D6NTXX.DLL	WINDOWS\CRYSTAL\	Lotus Notes format resource DLL
UXDPOST.DLL	X1D6PTXX.DLL	WINDOWS\CRYSTAL\	Microsoft Exchange folder format resource DLL
UXDVIM.DLL	X1D6VMXX.DLL	WINDOWS\CRYSTAL\	cc:Mail format resource DLL
UXFCR.DLL	X1F6CRXX.DLL	WINDOWS\CRYSTAL\	Crystal Reports format resource DLL
UXFDIF.DLL	X1F6DFXX.DLL	WINDOWS\CRYSTAL\	DIF format resource DLL
UXFDOC.DLL	X1F6DCXX.DLL	WINDOWS\CRYSTAL\	Word format resource DLL
UXFHTML.DLL	X1F6HTXX.DLL	WINDOWS\CRYSTAL\	HTML format resource DLL
UXFODBC.DLL	X1F6ODXX.DLL	WINDOWS\CRYSTAL\	ODBC format resource DLL
UXFQP.DLL	X1F6QPXX.DLL	WINDOWS\CRYSTAL\	Quattro Pro format resource DLL
UXFREC.DLL	X1F6RCXX.DLL	WINDOWS\CRYSTAL\	Record format resource DLL
UXFRTF.DLL	X1F6RTXX.DLL	WINDOWS\CRYSTAL\	RTF format resource DLL
UXFSEPV.DLL	X1F6SVXX.DLL	WINDOWS\CRYSTAL\	Comma Separated Values format resource DLL
UXFTEXT.DLL	X1F6TXXX.DLL	WINDOWS\CRYSTAL\	Text format resource DLL
UXFWKS.DLL	X1F6WKXX.DLL	WINDOWS\CRYSTAL\	Lotus 1-2-3 format resource DLL
UXFWORDW.DLL	X1F6WDXX.DLL	WINDOWS\CRYSTAL\	Word for Windows format resource DLL
UXFXLS.DLL	X1F6XLXX.DLL	WINDOWS\CRYSTAL\	Excel format resource DLL

All DLL's contain the English language strings, dialogs, menus, etc. If you do not specify a language resource in the path, English will automatically be used.

<b>To use this language resource file...</b>	<b>Use the DLL's that end with these letters...</b>
French	FR
Deutsch (German)	DE
Italian	IT
Japanese	JP
Portuguese	PT
Spanish	ES

If you specify a language resource other than English, you must also set the language setting in the Windows Control Panel,



International Settings to the same language. If you do not change the setting in Windows Control Panel, English will automatically be used.

## **Name Convention**

Crystal Reports uses a naming convention for foreign language resource requirements. These resource files are only required in foreign language applications (other than English).

For example, in the database dlls (P\*.DLLs), the following naming convention is true:

### **Character**

1. The first character in the file name is the letter P, it specifies that this resource is a database resource.
2. The second character specifies 1 for 16-bit, or 3 for 32-bit.
3. The third character represents a database type code. Please see the first 3 characters of your database driver DLL.
4. The fourth character is always a six, the major release version.
5. The fifth and sixth character represent the database you are using. See chart below.
6. The seventh and eighth characters are the language code.

For example, the following chart breaks down a 16-bit application that uses PDB ODBC driver, in German, each appropriate selection marked with an asterisk (\*):

### **One character specification of DLL type**

P = database DLL

### **One digit bit indicator**

1 = 16-bit

3 = 32-bit

### **1 character database driver type identifier**

PDB = D

PDL = L

PDO = O

PDQ = Q

PDIR = R

PDS = S

PDCT = T

### **1 digit version number (major) (6)**

### **2 characters database identifier**

ACT = AT

BDE = BE

BND = BD

BTRV = BT

DAO = DO

JET = JT

PDX = PX

XBSE = XB

ESBSE = ES

QBE = QB

ACL = AC

DB22 = D2

EVT = EV

EXSR = XS

GUPTA = GT

MAPI = MP

NETW = NW

ODBC = OD

ORA7 = O7

ORACL = OR

REPL = RP

SQL = SQ

SYB10 = ST

SYBAS = SY  
TRACK = TK  
WBLG = WL

**2 characters language codes**

DE = German  
FR = French  
IT = Italian  
JP = Japanese  
PT = Portuguese  
ES = Spanish

**EXAMPLE**

P 1 D 6 OD DE.DLL

DE German Language

OD ODBC database driver

6 Version 6.X

D PDB database driver type (first three characters of your database driver)

1 16-bit application (use the number 2 for export dlls)

P Database DLL

## Graphs and Charts

### 16-bit

FILE	LOCATION	DESCRIPTION
PG.DLL	WINDOWS\SYSTEM	Presentations Graphics DLL

### 32-bit

FILE	LOCATION	DESCRIPTION
CCSDK32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Presentations Graphics DLL

## ToWords Function

### 16-bit

FILE	LOCATION	DESCRIPTION
CRXLATE.DLL	WINDOWS\CRYSTAL	Crystal Reports ToWords DLL

### 32-bit

FILE	LOCATION	DESCRIPTION
CRXLAT32.DLL	WINDOWS\CRYSTAL	Crystal Reports ToWords DLL

## Crystal Custom Control (VBX)

### 16-bit

FILE	LOCATION	DESCRIPTION
CRYSTAL.VBX	WINDOWS\SYSTEM	Crystal Reports Custom Control (VBX)
PDBBND.DLL	WINDOWS\SYSTEM	Include this file if your Visual Basic application binds the Crystal Custom Control to the Visual Basic Data control.

## Crystal ActiveX Control (OCX)

### 16-bit

FILE	LOCATION	DESCRIPTION
CRYSTL16.OCX	WINDOWS\SYSTEM	Crystal Reports OLE Control
PDBBND.DLL	WINDOWS\SYSTEM	Crystal Reports Physical Database DLL for Data-Bound Control
OC25.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ® OLE Control runtime DLL

### 32-bit

FILE	LOCATION	DESCRIPTION
CRYSTL32.OCX	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Reports OLE Control
P2BBND.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Reports Physical Database DLL for Data-Bound Control
IMPLODE.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Compression Library
MFCANS32.DLL	WINDOWS\SYSTEM or \	OLE2ANSI Library - Retail Version

	WINDOWS\SYSTEM32 (NT only)	
OLEPRO32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft ® OLE Property Support DLL

## User Function Libraries

If your report contains a formula which uses one of the User Defined Functions (a function listed in the Formula Editor's Additional Functions section), the associated XXXXXXXX.DLL file must be included on the distribution diskette. If the function is one of the Crystal Reports sample User Defined Functions, include the UFLSAMPL1.DLL file.

If your report contains a formula which uses a DateTime conversion Function, the UFLDTS.DLL must be included on the distribution diskette.

### 16-bit

FILE	LOCATION	DESCRIPTION
UFLSAMP1.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following functions: Now Picture (.) LooksLike (.) Soundex ()
UF5DTS.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following functions in your report: DTSToDate DTSToTimeString DTSToSeconds
UF5TOTAL.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following running total functions in your report: ResetTotal(namestring) RT(namestring, function, number, Whostring) RT(namestring, fetchfunction, number, Whostring) RTWho(namestring, function)
UF5STORE.DLL	WINDOW\CRYSTAL	You need to include this DLL if you are using any of the following subreport functions in your report: FetchBooleanVar(x) FetchCurrencyVar(x) FetchDateVar(x) FetchNumberVar(x) FetchStringVar(x) SaveBooleanVar(x,y) SaveCurrencyVar(x,y) SaveDateVar(x,y) SaveNumberVar(x,y) SaveStringVar(x,y)
UFLDTS.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following Date Time Conversion functions in your report: DTSToDate () DTSToTimeString () DTSToSeconds ()
UFLBAR.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using and of the bar code functions.

### 32-bit

FILE	LOCATION	DESCRIPTION
U2LSAMP1.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following functions: Now Picture (.) LooksLike (.) Soundex ()
U25DTS.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the

		following functions in your report: DTSToDate (dts) DTSToTimeString (dts) DTSToSeconds (dts)
U2LDTS.DLL	WINDOWS\CRYSTAL	You need to include this DLL if you are using any of the following Date Time Conversion functions in your report: DTSToDate () DTSToTimeString () DTSToSeconds ()
U25TOTAL.DLL	WINDOWS\CRYSTAL	You need to include this DLL is you are using any of the following running total functions in your report: ResetTotal(namestring) RT(namestring, function, number, Whostring) RT(namestring, fetchfunction, number, Whostring) RTWho(namestring, function)
U25STORE.DLL	WINDOW\CRYSTAL	You need to include this DLL is you are using any of the following subreport functions in your report: FetchBooleanVar(x) FetchCurrencyVar(x) FetchDateVar(x) FetchNumberVar(x) FetchStringVar(x) SaveBooleanVar(x,y) SaveCurrencyVar(x,y) SaveDateVar(x,y) SaveNumberVar(x,y) SaveStringVar(x,y)

## OLE Automation (CPEAUT)

### 16-bit

FILE	LOCATION	DESCRIPTION
CPEAUT16.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Report Automation Server
CRPE.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Report Engine API
MFC42.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Foundation Class Libraries
MSVCRT.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	C Runtime Libraries

### 32-bit

FILE	LOCATION	DESCRIPTION
CPEAUT32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Report Automation Server
CRPE32.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Crystal Report Engine API
MFC42.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	Microsoft Foundation Class Libraries
MSVCRT.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	C Runtime Libraries
&&&U2LESBSE.DLL	WINDOWS\SYSTEM or \WINDOWS\SYSTEM32 (NT only)	

&&&U2LFINRA.DL L	WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)
&&&U2LEXCH.DL L	WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)
&&&U2L2000.DLL	WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)
&&&U252000.DLL	WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)
&&&U2LCOM.DLL	WINDOWS\SYSTEM or \ WINDOWS\SYSTEM32 (NT only)

## Crystal ASP Web Report Server Manual Installation



Click the topic of interest from the following list for further information:

[Required Files for Crystal ASP Web Report Server](#)

[Viewers](#)

[Active X Viewer](#)

[Java Viewer](#)

[HTML Page or HTML Frame](#)

[Configuration of Web Server when using HTML Viewers](#)

[Configuring Crystal ASP Web Report Server](#)

## Required Files for Crystal ASP Web Report Server

Please ensure that all of the files listed below are installed on your target web server machine in the appropriate directories, and the Microsoft ASP layer is functioning properly.

[EMFGEN.DLL](#)

[RPTSERVER.ASP](#)

[HTMSTART.ASP](#)

[FRAMEPAGE.ASP](#)

[TOOLBAR.ASP](#)

[EXLATE32.DLL](#)

[CRIMAGE.DLL](#)

[CCSDK32.DLL](#)

[WEBCONF.EXE](#)



## **EMFGEN.DLL**

### **Target Machine Location**

<windir>\System32 (NT)  
<windir>\System

### **Description**

EMF generator for ASP server



*Requires REGSVR32.EXE to register the object.*

## **RPTSERVER.ASP**

### **Target Machine Location**

Any directory that can be accessed via web. Almost always is the same directory as application's pages that reference the viewers(i.e. object and applet tags).

### **Description**

Crystal ASP Report Server Page

## **HTMSTART.ASP**

### **Target Machine Location**

Same directory as RPTSERVER.ASP

### **Description**

HTML\_FRAME viewer creation page.

## **FRAMEPAGE.ASP**

### **Target Machine Location**

Same directory as RPTSERVER.ASP

### **Description**

HTML\_FRAME viewer report frame creation page.

## **TOOLBAR.ASP**

### **Target Machine Location**

Same directory as RPTSERVER.ASP

### **Description**

HTML\_FRAME viewer toolbar frame creation page.

## **EXLATE32.DLL**

### **Target Machine Location**

<windir>\System32 (NT)

<windir>\System

### **Description**

Encapsulated page HTML translator DLL for Crystal Reports

## **CRIMAGE.DLL**

### **Target Machine Location**

<windir>\System32 (NT)

<windir>\System

### **Description**

Crystal Image Generator for Crystal Web Report Server

## **CCSDK32.DLL**

### **Target Machine Location**

<windir>\System32 directory

### **Description**

Graph Chart Engine DLL

## **WEBCONF.EXE**

### **Target Machine Location**

Any Directory

### **Description**

Seagate Crystal Web Report Server Configuration Utility

All required files for the Crystal Report Engine Object as listed in runtime.hlp (under miscellaneous) as well as any database access DLLs and user function libraries that your reports are using, and any export format/destination DLLs that your web application utilizes. The database access DLLs ,user function libraries, and export format/destination DLLs are listed in runtime.hlp.



## Viewers

The user must select at least one of the options below depending on which viewers he would like to make available to his end users. Note that if the user is using the HTML\_FRAME and HTML\_PAGE viewers, the "images" directory must be created below a virtual directory named "viewer" on the target machine (You will use WEBCONF.EXE to tell the report server the location of this virtual directory). For example, on the machine that has Crystal Reports installed, the "/viewer" virtual directory is referencing <Seagate Crystal Reports>\CRWEB and the "images" directory is below the CRWEB directory.

[Active X Viewer](#)

[Java Viewer](#)

[HTML\\_Page or HTML\\_Frame](#)

## **Active X Viewer**

### **File**

Contents of </viewer virtual directory>\ActiveXViewer directory

### **Target Machine Location**

Copy ActiveXViewer Directory and all contents to any location on target machine. The location must be accessible via web.

## **Java Viewer**

### **File**

Contents of </viewer virtual directory>\JavaViewer directory

### **Target Machine Location**

Copy JavaViewer Directory and all contents to any location on target machine. The location must be accessible via web.

## **HTML\_Page or HTML\_Frame**

### **File**

Contents of </viewer virtual directory>\images directory

### **Target Machine Location**

Copy images Directory and all contents to desired virtual directory on target machine.

## Configuration of Web Server when using HTML Viewers



*If your users will be using the HTML\_FRAME or HTML\_PAGE viewers, you must add some settings to IIS server and to the Crystal ASP Web Report Server.*

### Microsoft IIS Server Additions

- 1 Start regedit.exe.
- 2 Navigate to the key, HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\Script Map
- 3 Add the following string values to this key:  
Value Name: .cri  
Value Data: <location of crimage.dll>\crimage.dll
- 4 Exit regedit.exe. Figure 1 displays a sample addition.
- 5 Start Internet Service Manager.
- 6 Create a virtual directory called "viewer" and ensure that it references the directory above the "images" directory that you copied.
- 7 Stop the Microsoft IIS Web Service by using the Control Panel.

## Configuring Crystal ASP Web Report Server

To configure the Crystal ASP Web Report Server, you must use the WEBCONF.exe utility. The only settings that are important are the "viewer" and "cache" directories. You may ignore the other settings. For a description of all of the settings that the utility provides, please refer to the Developer's help(search key = "Web Report Engine Configuration Utility"). Please ensure that the **viewer** setting contains the value, "viewer", and is referencing the same directory as your web server's "viewer" virtual directory. Note that any settings that are applied in WEBCONF.EXE will not be applied to the web server until the service has been restarted. After you have applied your desired settings, you can start your Web Server service and begin viewing reports through a browser.

## Crystal Web Report Server Manual Installation



Click the topic of interest from the following list for further information:

[Required Files for Crystal Web Report Server](#)

[Viewers](#)

[Configuration of Web Server and Crystal Web Report Server \(WEB REPORT SERVER\)](#)

[Configuring Crystal Web Report Server](#)

## Required Files for Crystal Web Report Server

Please ensure that all of the files listed below are installed on your target web server machine in the appropriate directories.

[CRWEB.DLL](#)

[CRPGSVR.EXE](#)

[CRIMAGE.DLL](#)

[EXLATE32.DLL](#)

[CCSDK32.DLL](#)

[U2FCR.DLL](#)

[U2FHTML.DLL](#)

[U2DDISK.DLL](#)

[LF\\*N.DLL](#)

[LTKRN60N.DLL](#)

[LTFIL60N.DLL](#)

[WEBCONF.EXE](#)



## **CRWEB.DLL**

### **Target Machine Location**

Any Directory on Target Machine

### **Description**

Crystal Web Report Server ISAPI/NSAPI DLL

## **CRPGSVR.EXE**

### **Target Machine Location**

Same Directory as CRWEB.DLL

### **Description**

Crystal Report Page Server

**CRIMAGE.DLL**

**Target Machine Location**

Same Directory as CRWEB.DLL

**Description**

Crystal Image Generator for Crystal Web Report Server

## **EXLATE32.DLL**

### **Target Machine Location**

<windir>\System32 directory

### **Description**

Encapsulated page HTML translator DLL for Crystal Reports

## **CCSDK32.DLL**

### **Target Machine Location**

<windir>\System32 directory

### **Description**

Graph Chart Engine DLL

## **U2FCR.DLL**

### **Target Machine Location**

<windir>\Crystal

### **Description**

Crystal Reports File Format for 32-bit

## **U2FHTML.DLL**

### **Target Machine Location**

<windir>\Crystal

### **Description**

HTML file Format for 32-bit

## **U2DDISK.DLL**

### **Target Machine Location**

<windir>\Crystal

### **Description**

Disk File Destination for 32-bit



**LF\*N.DLL****Target Machine Location**

<windir>\System32

**Description**

Picture File Format helper files for U2FHTML.DLL

## **LTKRN60N.DLL**

### **Target Machine Location**

<windir>\System32

### **Description**

LeadTools Kernel module. Helper file for U2FHTML.DLL.

## **LTFIL60N.DLL**

### **Target Machine Location**

<windir>\System32

### **Description**

LeadTools file module. Helper file for U2FHTML.DLL.

## **WEBCONF.EXE**

### **Target Machine Location**

Same Directory as CRWEB.DLL

### **Description**

Seagate Crystal Web Report Server Configuration Utility

All required files as listed in Runtime.hlp as well as any database access DLLs or user function libraries that your reports are using. The database access DLLs and user function libraries are listed in Runtime.hlp.

## Viewers

The user must select at least one of the options below depending on which viewers he would like to make available to his end users. Note that the directories must retain the same name as they do on the machine with Crystal Reports installed and they must be created below a virtual directory on the target machine. (You will use WEBCONF.EXE to tell the report server the name and location of this virtual directory). For example, on the machine that has Crystal Reports installed, the "/viewer" virtual directory is referencing <Seagate Crystal Reports>\CRWEB and all of the viewer directories are below the CRWEB directory.

## **Active X Viewer**

### **File**

Contents of </viewer virtual directory>\ActiveXViewer directory

### **Target Machine Location**

Copy ActiveXViewer Directory and all contents to location of "/viewer" virtual directory on target machine.

## **Java Viewer**

### **File**

Contents of </viewer virtual directory>\JavaViewer directory

### **Target Machine Location**

Copy JavaViewer Directory and all contents to location of "/viewer" virtual directory on target machine.

## **HTML\_Page or HTML\_Frame**

### **File**

Contents of </viewer virtual directory>\images directory

### **Target Machine Location**

Copy images Directory and all contents to location of "/viewer" virtual directory on target machine.



## **Configuration of Web Server and Crystal Web Report Server (WEB REPORT SERVER)**

After you have installed all of the required files to their appropriate locations, you must configure the Web Server and the Crystal Web Report Server. This is a two-step process. You must first configure the Web Server with the appropriate entries, and then apply the Crystal Web Report Server Settings.

[Configuring Web Servers \(WEB REPORT SERVER\)](#)

[Configuring Crystal Web Report Server](#)

## **Configuring Web Servers (WEB REPORT SERVER**

[Netscape Servers](#)

[Microsoft IIS Servers](#)

## Netscape Servers

- 1 Shutdown the Netscape Web Server Service using the Control Panel and ensure that the Netscape Server Administration application is not running.
- 2 Open <netscape server root>\configobj.conf.
- 3 Enter the following lines at the top of the file:
- 4 Init fn="load-modules" funcs="CrystalReportServer" shlib="<location of crweb.dll on target machine>/crweb.dll"
- 5 Init fn="load-modules" funcs="send\_crystal\_image" shlib="<location of crimage.dll on target machine>/crimage.dll"
- 6 Enter the following lines in <Object name="default"> section:

```
Service fn="CrystalReportServer" method="(GET|POST)" type="magnus-internal/rpt"
Service fn="send_crystal_image" method="(GET|POST)" type="magnus-internal/cri"
```
- 7 Save and close the obj.conf file. Here is an example of a obj.conf file with the above lines added.  
# Netscape Communications Corporation - obj.conf  
# You can edit this file, but comments and formatting changes  
# might be lost when the admin server makes changes.

# Use only forward slashes in pathnames--backslashes can cause  
# problems. See the documentation for more information.

```
Init fn="flex-init" access="C:/Netscape/SuiteSpot/httpd-toads/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"
Init fn="load-modules" funcs="CrystalReportServer" shlib="C:/Program Files/Seagate
Crystal Reports/crweb.dll"
Init fn="load-modules" funcs="send_crystal_image" shlib="C:/Program Files/Seagate
Crystal Reports/crimage.dll"
```

```
<Object name="default">
NameTrans fn="pfx2dir" from="/ns-icons" dir="C:/Netscape/SuiteSpot/ns-icons"
NameTrans fn="pfx2dir" from="/mc-icons" dir="C:/Netscape/SuiteSpot/ns-icons"
NameTrans fn="pfx2dir" from="/proj" dir="c:/inetpub/wwwroot"
NameTrans fn="document-root" root="C:/Netscape/SuiteSpot/docs"
PathCheck fn="nt-uri-clean"
PathCheck fn="check-acl" acl="default"
PathCheck fn="find-pathinfo"
PathCheck fn="find-index" index-names="index.html,home.html"
ObjectType fn="type-by-extension"
ObjectType fn="force-type" type="text/plain"
Service fn="CrystalReportServer" method="(GET|POST)" type="magnus-internal/rpt"
Service fn="send_crystal_image" method="(GET|POST)" type="magnus-internal/cri"
Service method="(GET|HEAD)" type="magnus-internal/imagemap" fn="imagemap"
Service method="(GET|HEAD)" type="magnus-internal/directory" fn="index-common"
Service method="(GET|HEAD)" type="*~magnus-internal/*" fn="send-file"
AddLog fn="flex-log" name="access"
</Object>
```

```
<Object name="cgi">
ObjectType fn="force-type" type="magnus-internal/cgi"
Service fn="send-cgi"
</Object>
```

- 10 Open <netscape server root>\configmime.types.
- 11 Enter the following lines at the top of the file:

```
type=magnus-internal/rpt exts=rpt
type=magnus-internal/cri exts=cri
```
- 12 Save and close the mime.types file. Here is an example of a mime.types file with the above lines added.  
#Netscape Communications Corporation MIME Information  
# Do not delete the above line. It is used to identify the file type.

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

```
type=application/octet-stream exts=bin
type=application/astound exts=asd,asn
type=application/fastman exts=lcc
type=application/java-archive exts=jar
type=application/java-serialized-object exts=ser
type=application/java-vm exts=class
type=application/mac-binhex40 exts=hqx
type=application/x-stuffit exts=sit...
```

- 13** Start the Netscape Administrator application and select the server whose files we modified.
- 14** A "Java Script Alert" message box will be displayed stating that manual edits were made and that you should select the apply button to add the changes. Select OK.
- 15** Select the apply button and load the latest configuration files.

## Microsoft IIS Servers

- 1 Start regedit.exe.
- 2 Navigate to the key, HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\Parameters\Script Map.
- 3 Add the following string values to this key:
  - Value Name: .rpt
  - Value Data: <location of crweb.dll>\crweb.dll
  - Value Name: .cri
  - Value Data: <location of crimage.dll>\crimage.dll
- 4 Exit regedit.exe.
- 5 Stop the Microsoft IIS Web Service by using the Control Panel.

## Configuring Crystal Web Report Server

To configure the Crystal Web Report Server, you must use the webconf.exe utility. For a description of all of the settings that the utility provides, please refer to the Developer's help(search key = "Web Report Engine Configuration Utility"). Please ensure that the **viewer** setting is referencing the same directory as your web server's virtual directory that contains the viewer directories.

Note that any settings that are applied in WEBCONF.EXE will not be applied to the web server until the service has been restarted. After you have applied your desired settings, you can start your Web Server service and begin viewing reports through a browser.

