Relativity Data Server

2015-03-11

Contents

Introduction

These release notes contain information that might not appear in the Help. Read them in their entirety before you install the product.

Note: This document may contain a number of links to external Web sites. Micro Focus cannot be responsible for the contents of the Web site or for the contents of any site to which it might link. Web sites by their nature can change very rapidly and although we try to keep our links up-to-date, we cannot guarantee that they will always work as expected.

Product description

Relativity enables the construction of a true relational database using existing COBOL application data. It provides a full-featured, Windows Open Services Architecture (WOSA), Open Database Connectivity (ODBC)-compliant relational database engine. Thus, Relativity allows SQL-based client access to COBOL application data without moving, converting, replicating, or re-engineering COBOL data files.

With Relativity providing SQL-based access to COBOL data files, any ODBC-enabled client/server development application or tool can be chosen to build applications for decision support, and specialized data processing functions. Relativity enables any working application to benefit from client/server technology without rewriting or migrating that application.

Relativity is available in the following forms:

Designer Suite

The Relativity Designer Suite contains the Designer, Database Administrator, and Data Manager.

This Windows-only product enables you to create a Relativity database. Use the database to import COBOL file record definitions into it, and then create tables based on those record definitions.

Use the Database Administrator to maintain such things as the table connections, date constants, and character sets used in a Relativity database.

Data Manager

The Relativity Data Manager contains the Database Administrator, and Data Manager.

This Windows-only product is a single-tier solution required when your ODBC application and COBOL data files reside on the same machine, and the ODBC application is a 32-bit program.

Use the Database Administrator to maintain such things as the table connections, date constants, and character sets used in a Relativity database.

Data Server

The Relativity Data Server contains the Data Server for a specific platform (Windows or UNIX), and also a platform-specific Data Client.

It is a client/server solution required when your ODBC application is required to access COBOL data files that reside on another machine, or when your ODBC application is a 64-bit program.

This product also contains a Java Client, which is part of the client/server solution required by JDBC (Java Database Connectivity) applications.

Installation

System requirements

Hardware requirements

This Relativity product has the following requirements in addition to those requirements of Visual COBOL or Enterprise Developer. See the in-product documentation for details of the Visual COBOL or Enterprise Developer requirements.

The disk space requirements are, approximately:

Platform	Relativity Data Server	License Administration tool
x86 Windows platforms	100MB	25MB
x64 Windows platforms	100MB	25MB
UNIX	100MB	100MB

Operating systems supported

For a list of up-to-date operating systems supported, check the *Product Availability* section on the Micro Focus SupportLine Web site: *http://supportline.microfocus.com/prodavail.aspx*.

This product operates on the following platforms:

- AIX 6.1 and 7.1 on PowerPC
- Red Hat 5.5, 5.10, and 6.5 on x86
- Oracle Linux 6.5/7.0 on x86
- SuSE SLES 11 and 11 SP3 on x86
- Windows XP to Server 2012 R2, and everything in between

Software requirements

This product requires one of the following Micro Focus products:

- Visual COBOL for Visual Studio 2010, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Visual Studio 2010, version 2.2 Update 2, HotFix 5, or later
- Visual COBOL for Visual Studio 2012, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Visual Studio 2012, version 2.2 Update 2, HotFix 5, or later
- Visual COBOL for Eclipse, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Eclipse, version 2.2 Update 2, HotFix 5, or later

Other requirements

This product requires version 10000.2.990 or later of the Micro Focus licensing software.

If you have one of the products listed above installed locally, you do not need to install the licensing software separately, as the product setup file also installs a new license server on the same machine.

If your license server is on the network, you must update it before installing your Relativity product, because the client is not able to communicate with license servers of versions older than 10000.2.660.

Check the version of your license server by running the **Micro Focus Licensing System Administration** tool and selecting **Help** > **About** (Windows) or option **8 - Get License Details** (UNIX).

You can download the required version of the license server software from the Micro Focus SupportLine Web site: *http://supportline.microfocus.com*.

Additional software requirements

To ensure full functionality for some Visual COBOL or Enterprise Developer features, you might be required to obtain and install third-party software in addition to the prerequisite software installed automatically by the product setup file. The following information specifies the third-party software required for each feature.

Compiling Java

Either the IBM or the Oracle Java Development Kit (JDK), version 1.5 or later, is required for compiling Java.

After installing the JDK, you need to set up your Java environment.

JDBC Support

Oracle's Java Platform, Enterprise Edition (Java EE) 6 or Java 7 is required to execute the Java Client and develop a JDBC application. You can download Oracle's Java EE from Oracle's Web site and install it anywhere on your machine.

Note: If you are using Java EE 6, it must be a version that contains JDK 6, update 27 as a minimum.

Downloading the product

Use the download links in your Electronic Product Delivery email to download the required Relativity products.

For more information, follow the same links for the installation instructions and the End User License Agreement.

Restrictions and requirements

Before starting the installation, you should consider the following:

- (Windows) If, when you install a Relativity product, the machine does not have the Microsoft Visual C++ 2010 Redistributable Run-time already installed, it is installed as part of the Visual COBOL or Enterprise Developer install. The installation of Microsoft Visual C++ 2010 Redistributable Run-time adds a number of `.dll` files, without digital signatures, into the `winsxs` directory.
- (Windows) You need to be logged on with a user ID that has write access to the registry structure under HKEY_LOCAL_MACHINE, HKEY_CLASSES_ROOT, and HKEY_CURRENT_USER so that the installation can set the environment appropriately. You also need to be logged on with Administrator privileges.

Installing Relativity Data Server

Note: Before installing, see *Restrictions and Requirements*.

This version of the product is a full install.

What to install

You need to install the following files, in the following order:

- The Data Server install file - `DataServerx86.msi` (Windows) or `setup_dataserver_version_platform_x86-64` (UNIX). See *Data Server installation*.
- The Data Client install file appropriate to your system - `DataClientx86.msi`, `DataClientx64.msi` (both Windows) or `setup_dataclient_version_platform_x86-64` (UNIX). See *Data Client installation*.
- The Java Client install file if you plan to use JDBC applications - `jclient.zip`. See *Java Client Installation*.

Data Server installation

The Data Server is one of the core pieces of the Relativity product; either Data Server or Data Manager must be installed in order to use any of the Relativity products.

A Data Server is required in situations where the data files are located on a different machine from the ODBC application, or if the ODBC application is a 64-bit program. When you install the Data Server, it is also necessary to install a Data Client to communicate with it. While the Data Server itself is a 32-bit program, you require a 64-bit Data Client to enable 64-bit ODBC applications to communicate with the Data Server, even if it is installed on the same machine as the ODBC application.

The Data Server requires an installation of Visual COBOL or Enterprise Developer in order to access data files. If the Data Server is to be used with the Relativity Designer Suite in order to develop Relativity catalogs, Visual COBOL or Enterprise Developer must also be installed either on the same machine as the Data Server, or on the machine on which the Designer is installed (see *Location of the data files* for more information). If Visual COBOL or Enterprise Developer is not installed on the machine with the Data Server, then COBOL Server or Enterprise Server must be installed on the same machine as the Relativity Designer.

To install the Relativity Data Server on Windows:

1. Before installing the Data Server, you must install a Relativity license, using the Micro Focus License Administration tool, because part of the installation process is to start the Data Server; therefore, a valid license is required. If a valid license is not present at the time of installation, the installation will complete, the Data Server service will start, but it will reject connections until a valid license is installed. See *Installing licenses* for more information.
2. Run `DataServerx86.msi` and follow the wizard instructions to install the prerequisite software and the product.
3. Following installation of the Data Server, install a Data Client (see *Data Client installation*), after which you should follow the instructions in the *Data Server verification* and *Data Client verification* sections.

To install the Relativity Data Server on UNIX:

1. Before installation of the Data Server, it is necessary to install a license using the Micro Focus License Administration tool; see *Installing licenses* for more information.

   > **Note:** If a valid license is not present, the installation will complete, but when you start the Data Server service, it will reject connections until a valid license is installed.
2. Ensure you are logged on with root privileges.
3. Run `cobsetenv` to set up the Visual COBOL or Enterprise Developer environment:

   ```
   . /opt/microfocus/VisualCOBOL/bin/cobsetenv
   ```
4. Change the setup file `./setup_dataserver_version_platform_x86_64` to be executable:

   ```
   chmod a+x ./setup_dataserver_version_platform_x86_64
   ```

5. Run `./setup_dataserver_`*`version_platform`*`_x86_64` and follow the on-screen instructions.
6. Start the Data Server:
   ```
   . /opt/microfocus/DataServer/RUNACTIVE
   ```
7. Following installation of the Data Server, install a Data Client (see *Data Client installation*), after which you should follow the instructions in the *Data Server verification* and *Data Client verification* sections.

Data Client installation

A Data Client is required to communicate with a Data Server. There are three versions of the Data Client: a 32-bit version for Windows, a 64-bit version for Windows, and a 32-bit version for UNIX.

Install a Data Client on the machine containing the ODBC application, which is typically on a different machine from the Data Server with which it communicates, but there are two exceptions:

- On Windows, if an 64-bit ODBC application is in use, a Data Server and a 64-bit Data Client must be installed on the same machine to support the 64-bit ODBC application;
- On UNIX, if the ODBC application and the data files both reside on the same machine, both a Data Server and a Data Client must be installed on the same machine, as there is not a Relativity Data Manager available on UNIX.

A Data Client does not require Visual COBOL, Enterprise Developer, COBOL Server, or Enterprise Server to be installed on the same machine. It does not access the data files directly.

To install a 32-bit Data Client on Windows:

1. Run `DataClientx86.msi` and follow the wizard instructions to install prerequisite software and the product.
2. After installation of a Data Client, run the **Relativity Server Administrator** from the Control Panel to define any Data Servers that the Data Client needs to access:
   a. From the Windows **Start** menu, select **Control Panel**.

   🖉 **Note:** If the Control Panel is displaying **Category** view, switch to **Icon** view.

   b. Start the **Micro Focus Relativity Server Admin**.
   c. To define a Data Server, on the **Select Server** screen, click **New**, enter the network name of where the Data Server resides, and the port number to use to connect, and then click **OK**.
3. Following installation of the Data Client, you should follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

To install a 64-bit Data Client on Windows:

1. Run `DataClientx64.msi` and follow the wizard instructions to install prerequisite software and the product.
2. After installation of the Data Client, run the Relativity Server Administrator from the Control Panel to define any Data Servers that the Data Client needs to access:
   a. From the Windows **Start** menu, select **Control Panel**.

   🖉 **Note:** If the Control Panel is displaying **Category** view, switch to **Icon** view.

   b. Double-click **Micro Focus Relativity Server Admin**.
   c. To define a Data Server, on the **Select Server** screen, click **New**, enter the network name of where the Data Server resides, and the port number to use to connect, and then click **OK**.
3. On completion of the Data Client installation, follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

To install a 32-bit Data Client on UNIX:

1. Ensure you are logged on with *root* privileges.
2. Change the setup file to be executable with the following command:

   ```
   chmod a+x setup_dataclient_version_platform_x86_64
   ```
3. Run `setup_dataclient_version_platform_x86_64` and follow the on-screen instructions.

   ```
   ./setup_dataclient_version_platform_x86_64
   ```

   In order to complete the installation of a Data Client, it is necessary to install an ODBC driver manager, such as iODBC or unixODBC.
4. If necessary, download and install one of the aforementioned driver managers.
5. Enter the commands below:

   a. `PATH=$PATH:/opt/microfocus/DataClient/bin`
   b. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataClient/lib:/usr/lib`
   c. `export PATH LD_LIBRARY_PATH`
   d. `reldriveradmin --install-driver --directory /opt/microfocus/DataClient/lib`
6. If necessary, add a rule to the firewall manager to open TCP/IP on port 1583.
7. On completion of the Data Client installation, follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

Java Client installation

The Relativity Java Client is intended to provide access to a Relativity Server data source from a Java JDBC application.

To install the Java Client on Windows and UNIX:

1. Unzip `jclient.zip` to a directory that is accessible to your JDBC application; this should be a directory on the CLASSPATH.

   This directory is one in which the Java runtime environment or web server will have access.
2. After the installation, follow the directions in `reljdbc.htm` to complete the installation.

Installation verification

By verifying the installation of each product in the Relativity Data Server, you also undertake the initial setup.

The following instructions assume that you have run all required product installations for Relativity Data Server. It is useful to have an ODBC-enabled application, such as Microsoft Access, also installed to fully verify the installation.

Data Server verification

The following instructions enable you to create the server data source used by the client ODBC applications. You only need to create the server data source once, from one of your clients. It is preferable to do this from a Windows client, but if you do not have any Windows clients, follow the instructions in the *UNIX* section.

Windows:

The following instructions assume the 32-bit Data Client is being used on a 64-bit Windows machine, and are applicable if you are connecting to a Data Server on both a Windows or a UNIX platform.
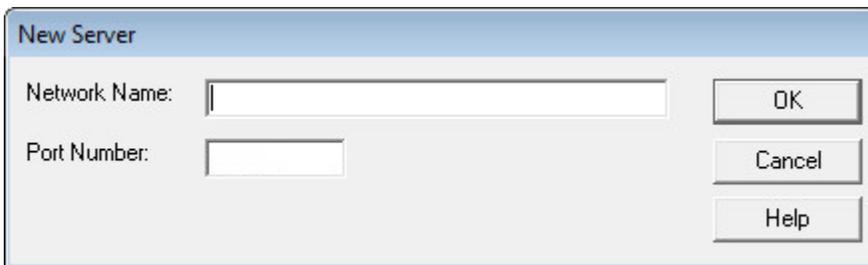
1. On the Data Client machine, open the **Control Panel**.
2. If the Control Panel is displaying in Category view, change to Icons view.
3. Double-click **Relativity Server Admin** to start it.
4. If the **User Account Control** message box appears, click **Yes**.

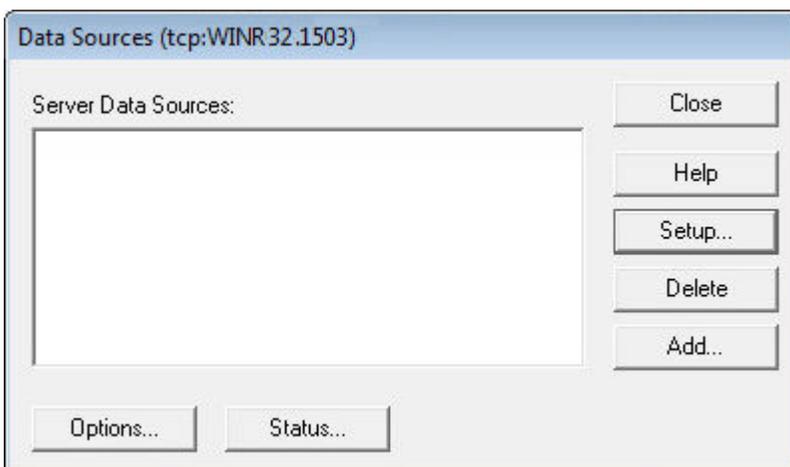   The **Select Server** screen appears.
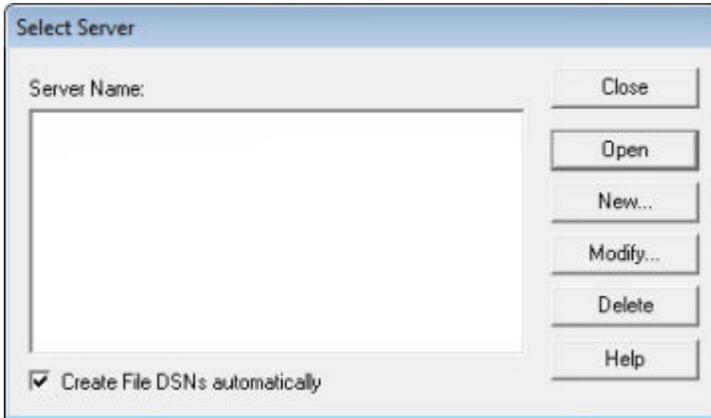
5. Click **New**.

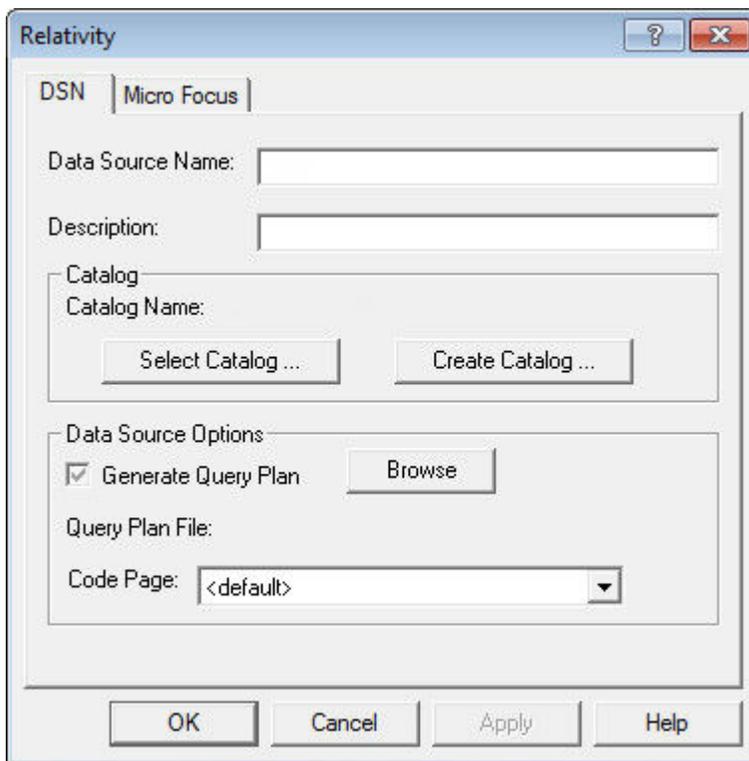   The **New Server** screen appears.

6. Enter the network name of the Data Server to use. If necessary, change the **Port Number** field to the correct port number (the default is 1583). Click **OK**.

   If you have entered the correct details, the **Data Sources** screen appears.

7. Click **Add**.

   The **Relativity** screen appears.

8. In the **Data Source Name** field, enter **Verify**.
9. Click **Select Catalog**.

    The **Select Catalog for Data Source** screen appears.
10. Do one of the following:

    - If connecting to a Windows server, navigate to `%PUBLIC%\Documents\Micro Focus \Relativity Data Server\Samples\MF\Verify`, select `verify.rcg`, and then click **OK**.
    - If connecting to a UNIX server, navigate to `samples/mf/verify`, select `verify.rcg`, and then click **OK**.

    The **Relativity** screen appears.
11. Click **OK**.
12. Click **Close** twice to close the **Data Sources** and the **Select Server** screens.

After you have created the server data source, you must create a client data source on each client machine; see *Data Client verification*.

UNIX:

If you only have UNIX data clients, you must create the server data source from the Data Server itself. On the command line, enter the following:

1. `PATH=$PATH:/opt/microfocus/DataServer/2.2.2/bin`
2. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataServer/lib:/usr/lib`
3. `export PATH LD_LIBRARY_PATH`
4. `relserveradmin --add-data-source Verify --server-name ` *ServerName*`.1583 -- catalog samples/mf/verify/verify.rcg --type MF`

After you have created the server data source, you must create a client data source on each client machine; see *Data Client verification*.
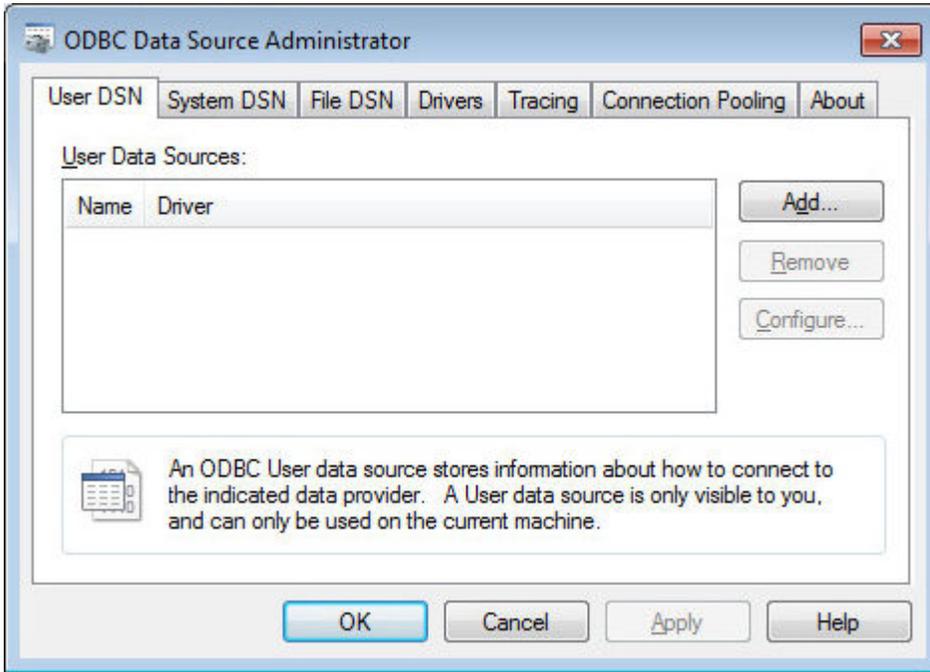
Data Client verification

Follow these instructions on each data client after you have created the server data source, as detailed in *Data Server verification*.

Windows:

1. Open the ODBC Administrator (see *Locating the ODBC Administrator*).

    The **ODBC Data Source Administrator** screen appears.

2. Click **Add**.

    The **Create New Data Source** screen appears.
3. Select **Micro Focus Relativity Data Client** from the list of drivers, and then click **Finish**.

    The **ODBC Relativity C/S Setup** screen appears.
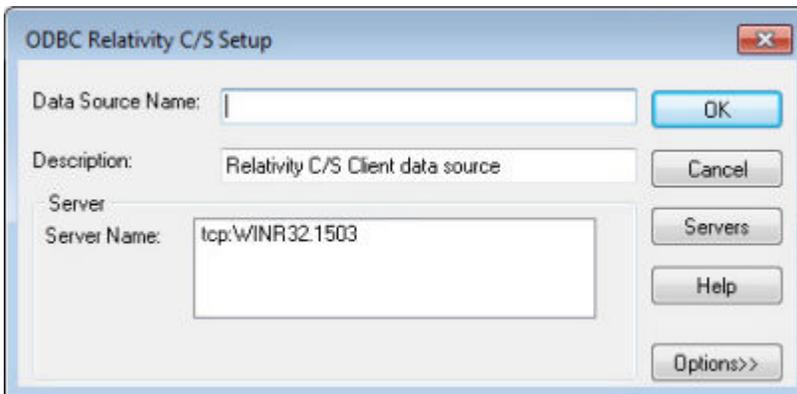
4. In the **Data Source Name** field, enter **Verify**, then in the **Server Name** list box, select the name used to create the Verify server data source (which you created in *Data Server verification*).

    A Server DSN list box appears, listing the server data source names on the server.
5. Select **Verify**, and then click **OK**.

6. Click **OK** again to close the **ODBC Data Source Administrator** screen.

> ✏ **Note:** In this example, the names of the server data source and the client data source are the same; whilst this is a helpful technique, it is not a requirement.

At this point, the Relativity driver has been loaded, it has opened a Relativity catalog, and a Relativity database has been created. This has very thoroughly exercised the installation; however, as an extra step, start a 32-bit ODBC application, open the Verify data source, and then execute the following SQL query:

```
SELECT * FROM BACKORDER
```

The result should show the BACKORDER table that started life as a COBOL data file.

UNIX:

On the command line of your UNIX data client, enter the following:

1. `PATH=$PATH:/opt/microfocus/DataClient/bin`
2. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataClient/lib:/usr/lib`
3. `export PATH LD_LIBRARY_PATH`
4. `relclientadmin --add-data-source Verify --server-name ServerName.1583 --server-data-source-name Verify --type S`

> ✏ **Note:** In this example, the names of the server data source name and the client data source are the same; whilst this is a helpful technique, it is not a requirement.

Locating the ODBC Administrator

The Windows ODBC Administrator is an important utility due to its role of creating data sources.

Locating the ODBC Administrator on Windows 7 32-bit

On a 32-bit Windows machine:

1. From the **Start** menu, open the **Control Panel**.
2. Do one of the following:
   - If the Control Panel is displaying in **Category** view, select **System and Security**, and then **Administrative Tools**.
   - If the Control Panel is displaying in **Icons** view, select **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.

   The **ODBC Data Source Administrator** screen appears.

Locating the 32-bit ODBC Administrator on Windows 7 64-bit

Creating a 32-bit data source for the Relativity Data Manager or the Relativity 32-bit Data Client requires a 32-bit ODBC administrator on 64-bit Windows. Unfortunately, that is not the default ODBC administrator on a 64-bit Windows 7 machine. To start the required ODBC Administrator, follow the procedure below:

1. From the **Start** menu, in the **Search programs and files** box, type `odbc`.
2. In the results box, double-click **ODBC Data Source Administrator (32-bit)**.

   The **ODBC Data Source Administrator** screen appears.

   > 💡 **Tip:** To speed up access to this utility, right-click **ODBC Data Source Administrator (32-bit)** and select **Pin to Taskbar** or **Pin to Start Menu**.

Locating the 64-bit ODBC Administrator on Windows 7 64-bit

Creating a 64-bit data source for the Relativity 64-bit data client requires a 64-bit ODBC administrator on 64-bit Windows.

To start the correct administrator:

1. From the **Start** menu, open the **Control Panel**.
2. Do one of the following:

   - If the Control Panel is displaying in **Category** view, select **System** and **Security**, and then **Administrative Tools**.
   - If the Control Panel is displaying in **Icons** view, select **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.

   The **ODBC Data Source Administrator** screen appears.

Post-installation considerations

The steps you must perform after installation depend upon the location of the data files.

Location of data files

- If the data files exist on a Windows machine, and the 32-bit ODBC application is installed on the same machine, you only need to create a data source using the Windows ODBC administrator.
- If the data files exist on a Windows machine, and the 64-bit ODBC application is installed on the same machine, you must create a server data source using the Data Server for Windows, and then create a client data source using the 64-bit Data Client that references the server data source. (There is not a 64-bit Data Manager.)
- If the data files exist on a Windows machine that is separate from the ODBC application, you must create a server data source on the Windows machine containing the data files, install the Data Client on each client machines containing the ODBC application, and then create a client data source on each that references the server data source.
- If the data files exist on a UNIX machine, you must create a server data source on the UNIX machine containing the data files, install the Data Client on each machine containing the ODBC application, and then create a client data source on each that references the server data source. (There is not a single-tier Data Manager for UNIX.)

Uninstalling

Windows - all components

To uninstall one or more Relativity products from Windows:

1. Log in with the same user ID you used when you installed the product.
2. From the **Start** menu, open the **Control Panel**.
3. Do one of the following:

   - If the Control Panel is displaying in **Category** view, click **Uninstall a program** under **Programs** (or **Add/Remove Programs** on older versions of Windows).
   - If the Control Panel is displaying in **Icons** view, double-click **Programs and Features**.

> **Note:** On older versions of Windows, such as Windows XP, ensure that **Show Updates** is selected, so that any HotFixes are listed.

4. Select one of the following products and click **Remove** or **Uninstall**:

   - Micro Focus Relativity Data Client (32-bit)
   - Micro Focus Relativity Data Client (64-bit)
   - Micro Focus Relativity Data Server

5. Click **Yes** to confirm.
6. If required, repeat from step 4 to uninstall further products.

This process only removes files that the installation software installed. If the product directory has not been removed, delete any unwanted files and sub-directories within it using Windows Explorer. The following folders might not be removed:

- The *Micro Focus product name* folder in the Start menu - you can delete this manually.
- `%systemdrive%\Users\Public\Documents\Micro Focus` - this includes the binaries and the log files of the samples you have built.
- `%ProgramData%\Micro Focus` - this includes some data files used by the Micro Focus licensing tool.
- `%Program Files%\Micro Focus` - you can delete this manually.

Some registry entries are also not removed by the uninstallation process and you need to manually delete them.

To uninstall a product from the command line, you need the installation file, and you need to execute the following command:

```
msiexec /x install-file.msi
```

UNIX - Micro Focus Relativity Data Server

To uninstall the Micro Focus Relativity Data Server on UNIX:

1. Log in as root, and change directory to the Relativity Data Server's installation directory with the following commands:

   ```
   cd /opt/microfocus/DataServer
   cd `cat .active`
   ```

2. If the Data Server to be uninstalled is currently running, stop it with the following command:

   ```
   ./STOP
   ```

3. Finally, perform the uninstall with the following commands:

   ```
   cd ..
   `cat .active`/bin/Uninstall_Relativity_DataServerx.y.sh
   ```

   where $x.y$ represents the version number.

UNIX - Micro Focus Relativity Data Client

To uninstall the Micro Focus Relativity Data Client on UNIX:

1. Log in as root, and change directory to the Relativity Data Client's installation directory with the following commands:

   ```
   cd /opt/microfocus/DataClient/bin
   ```

2. Perform the uninstall with the following command:

   ```
   Uninstall_Relativity_DataClient2.2.sh
   ```

Licensing information

Note: If you have purchased licenses for a previous release of this product, those licenses will also enable you to use this release.

The latest version of the **SafeNet** licensing software is required. See the Software Requirements section in this document for more details.

Your entitlement for using this product is governed by the Micro Focus End User License Agreement and by your product order. If you are unsure of what your license entitlement is or if you wish to purchase additional licenses, contact your sales representative or Micro Focus SupportLine.

To buy and activate a full unlimited license

To buy a license for Visual COBOL or Enterprise Developer, contact your sales representative or Micro Focus SupportLine.

For instructions on using the Micro Focus Licensing Administration Tool, see *Licensing* in the Visual COBOL or Enterprise Developer help.

To start Micro Focus License Administration

Windows

From the Windows Taskbar click **Start** > **All Programs** >**Micro Focus License Manager** > **License Administration**.

UNIX

Log on as root, and from a command prompt type:
```
/var/microfocuslicensing/bin/cesadmintool.sh
```

Installing licenses

If you have a license file

Windows

1. Start Micro Focus License Administration.
2. Click the **Install** tab.
3. Do one of the following:

   - Click **Browse** next to the **License file** field and select the license file (which has an extension of `.mflic`).
   - Drag and drop the license file from Windows Explorer to the **License file** field.
   - Open the license file in a text editor, such as Notepad, then copy and paste the contents of the file into the box below the **License file** field.
4. Click **Install Licenses**.

UNIX

1. Start the Micro Focus License Administration tool and select the **Manual License Installation** option by entering 4.
2. Enter the name and location of the license file.

If you have an authorization code

Authorizing your product when you have an Internet connection

Note: This topic only applies if you have an authorization code.

The following procedure describes how to authorize your product using a local or network license server. The license server is set up automatically when you first install the product.

Windows

1. Start Micro Focus License Administration.
2. Click the **Install** tab.
3. Type the authorization code in the **Enter authorization code** field.
4. Click **Authorize**.

If you change the name of the machine running your license server after it has granted licenses, the licenses stop working.

UNIX

1. Start Micro Focus License Administration.
2. Select the **Online Authorization** option by entering 1 and pressing **Enter**.
3. Enter your authorization code at the **Authorization Code** prompt and then press **Enter**.

Authorizing your product when you don't have an Internet connection

Note: This topic only applies if you have an authorization code.

This method of authorization is required if your machine does not have an Internet connection or if normal (automatic) authorization fails.

Windows

1. Start Micro Focus License Administration.
2. Click **Manual Authorization** on the Install page.
3. Make a note of the contents of the **Machine ID** field. You will need this later.
4. Do one of the following:

   - If your machine has an Internet connection, click the SupportLine Web link in the Manual Authorization Information window.
   - If your machine does not have an Internet connection, make a note of the Web address and type it into a Web browser on a machine that has an Internet connection.

   The Micro Focus SupportLine Manual product authorization Web page is displayed.
5. Type the authorization code in the **Authorization Code** field. The authorization code is a 16-character alphanumeric string supplied when you purchased your product.
6. Type the Machine ID in the **Machine ID** field.
7. Type your email address in the **Email Address** field.

8. Click **Generate**.
9. Copy the generated license string (or copy it from the email) and paste it into the box under the **License file** field on the Install page.
10. Click **Install Licenses**.

UNIX

In order to authorize your product you must have the following:

- Your authorization code (a 16-character alphanumeric string).
- The machine ID. To get this, start the Micro Focus License Administration tool and select the **Get Machine Id** option by inputting 6. Make a note of the "Old machine ID".

If you have previously received the licenses and put them in a text file, skip to step 6.

1. Open the Micro Focus license activation web page *http://supportline.microfocus.com/activation* in a browser.
2. Enter your authorization code and old machine ID and, optionally, your email address in the **Email Address** field.
3. Click **Generate**.
4. Copy the licenses strings from the web page or the email you receive into a file.
5. Put the license file onto your target machine.
6. Start the Micro Focus License Administration tool and select the **Manual License Installation** option by inputting 4.
7. Enter the name and location of the license file.

To obtain more licenses

If you are unsure of what your license entitlement is or if you wish to purchase additional licenses for Visual COBOL or Enterprise Developer, contact your sales representative or Micro Focus SupportLine.

Updates and SupportLine

Our Web site gives up-to-date details of contact numbers and addresses.

Further Information and Product Support

Additional technical information or advice is available from several sources.

The product support pages contain a considerable amount of additional information, such as:

- The WebSync service, where you can download fixes and documentation updates.
- The Knowledge Base, a large collection of product tips and workarounds.
- Examples and Utilities, including demos and additional product documentation.

To connect, enter *http://www.microfocus.com* in your browser to go to the Micro Focus home page.

Note: Some information may be available only to customers who have maintenance agreements.

If you obtained this product directly from Micro Focus, contact us as described on the Micro Focus Web site, *www.microfocus.com*. If you obtained the product from another source, such as an authorized distributor, contact them for help first. If they are unable to help, contact us.

Information We Need

However you contact us, please try to include the information below, if you have it. The more information you can give, the better Micro Focus SupportLine can help you. But if you don't know all the answers, or you think some are irrelevant to your problem, please give whatever information you have.

- The name and version number of all products that you think might be causing a problem.
- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
- Your serial number. To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus.

On Windows, if you are reporting a protection violation you might be asked to provide a dump (`.dmp`) file. To produce a dump file you use the **Unexpected Error** dialog box that is displayed when a protection violation occurs. Unless requested by Micro Focus SupportLine, leave the dump setting as `Normal` (recommended), click **Dump**, then specify a location and name for the dump file. Once the dump file has been written you can email it to Micro Focus SupportLine.

Alternatively, you might be asked to provide a log file created by the Consolidated Tracing Facility (CTF) - a tracing infrastructure that enables you to quickly and easily produce diagnostic information detailing the operation of a number of Micro Focus software components.

On UNIX, you can use the Micro Focus UNIX Support Scan Utility, `mfsupport`, to create a log file that contains the details about your environment, product, and settings. The `mfsupport` script is stored in `$COBDIR/bin`.

To run `mfsupport`:

1. Start a UNIX shell.

2. Set COBDIR to the product with issues.
3. Execute `mfsupport` from a directory where you have write permissions.

   This creates a log file, `mfpoll.txt`, in that directory.
4. When the script finishes, send the `mfpoll.txt` file to your Micro Focus SupportLine representative.

   📝 **Note:**

   If COBDIR is set to a location that does not contain `etc/cobver`, the script outputs the contents of `/opt/microfocus/logs/MicroFocusProductRegistry.dat` which keeps a list of the installed Micro Focus products.

Creating Debug Files

If you encounter an error when compiling a program that requires you to contact Micro Focus SupportLine, your support representative might request that you provide additional debug files (as well as source and data files) to help us determine the cause of the problem. If so, they will advise you how to create them.

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