



## **Micro Focus COBOL Server 2.0**

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A decorative graphic consisting of several overlapping, wavy blue lines that create a sense of motion and depth, positioned in the lower half of the page.

**Release Notes**

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# Micro Focus COBOL Server 2.0 Release Notes

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 contains 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.

# Installation



**Note:** If you are installing on Solaris, please read [UNIX Installer Issues](#) first.

## System Requirements for COBOL Server

### Hardware Requirements

#### Windows Operating Systems:

- Windows XP 64 bit SP2
- Windows XP 32-bit SP3
- Windows Vista SP1 32/64-bit
- Windows 7 32/64-bit
- Windows Server 2003 SP2 32/64-bit
- Windows Server 2003 R2 32/64-bit
- Windows Server 2008 SP2 32/64-bit
- Windows Server 2008 R2 32/64-bit

#### Disk space:

- 42 Mb for the Sentinel RMS license server
- About 170 Mb for the COBOL Server. This disk size includes the space needed to cache information locally so that you can modify the installation without the original source media.

#### UNIX Operating Systems:

- AIX POWER 6.1/7.1 - 32/64-bit
- x86-64 running Red Hat Linux 5.5/5.7/6.1 - 32/64-bit
- SPARC running Solaris 10 - 32/64-bit
- x86-64 running SuSE SLES 11/11 SP1 - 32/64-bit
- HP IA 11.31 - 32/64-bit

#### COBOL for JVM is supported on the following platforms:

- HP IA 11.31 - 32/64-bit
- x86-64 running Red Hat Linux 5.6/6.1 - 32/64-bit
- SPARC running Solaris 10 - 32/64-bit
- x86-64 running SuSE SLES 11/11 SP1 - 32/64-bit

#### Disk space:

- Between 26 and 54 Mb for the Sentinel RMS license server depending on the platform.
- Between 146 and 350 Mb for the COBOL Server. Note: The installation requires extra disk space that equals the size of the product.

## Software Requirements



**Important:** This release requires version 10000.2.990 or later of the Micro Focus licensing software. For local servers, you do not need to install it separately, as the setup file will install a new Visual COBOL client and a new licensing server on the same machine.

If you have a network server, you must update the license server before installing the product as the client is not able to communicate with license servers of versions older than 10000.2.660. On Windows, you can check the version of your license server by clicking **Help > About** in the Micro Focus Licensing System Administration tool. To check the version of the license server on UNIX, run `/var/microfocuslicensing/bin/mfcesver` or `/var/microfocuslicensing/bin/cesadmintool.sh`.

You can download the new version of the license server software from the Micro Focus SupportLine Web site: <http://supportline.microfocus.com/websync/SLM.aspx>.

Before installing COBOL Server you must have the following installed on your computer:

**Windows** 1. A version of the Microsoft .NET Framework that is targeted by your applications. You need:

- Microsoft .NET Framework 2 - if your applications use the ILCLR(2) Compiler Directive or if they target the .NET Framework versions 2, 3 or 3.5. You might need to download these installers depending on the .NET Framework you are targeting.

To download the Microsoft .NET Framework 2, [click here](#).

Microsoft .NET Framework 2 or later is also required for the Micro Focus License Manager.

- Microsoft .NET Framework 4 is required if your applications use the ILCLR(4) Compiler Directive or if they target the .NET Framework 4.

To download the Microsoft .NET Framework 4, [click here](#).



**Note:**

- If you do not target a specific version of the Microsoft .NET Framework, we recommend that you install version 4.
- .NET Framework 3 is provided with Windows Vista, Windows Server 2008
- .NET Framework 3.5 is provided with Windows 7, Windows Server 2008 R2.

2. Microsoft's Visual C++ 2010 Redistributable Package:

- To download Microsoft's Visual C++ 2010 Redistributable Package (x86), [click here](#).
- To download Microsoft's Visual C++ 2010 Redistributable Package (x64), [click here](#).



**Note:** If, when you install COBOL Server, the machine does not have Microsoft Visual C++ 2010 Redistributable Runtime already installed, it will be installed as required by COBOL Server. The installation of Microsoft Visual C++ 2008 Redistributable Runtime will add a number of `.dll` files, without digital signatures, into the `winsxs` directory.

3. Microsoft's Web Platform Installer 2.0 if your application targets ASP.NET 4. This installs and sets up ASP.NET. To download the installer [click here](#).

4. The Java Development Kit (JDK) is required for compiling Java. The JDK is downloadable from [www.oracle.com](http://www.oracle.com). After installing the JDK, you must put the `tools.jar` file for the JDK on your classpath, using a command similar to:

```
set classpath=jdk-install-directory\lib\tools.jar
```

**UNIX** • Before installing on Red Hat 6.1, you must have the 32-bit operating system libraries installed:

GNU Standard C++ Library - libstdc++(i686 version)

The object files for development using standard C libraries – glibc-devel (i686 version)

Check the [Red Hat Web site](#) for more information.

- In order to use the Web installer on Red Hat Enterprise Linux 6.1, you must have the following bug fix updates for Red Hat installed:

```
glibc-2.12-1.25.el6_1.3.i686.rpm  
openldap-2.4.23-15.el6.i686.rpm  
nss-pam-ldapd-0.7.5-7.el6.i686.rpm  
zlib-1.2.3-25.el6.i686.rpm  
nss-3.12.9-9.el6.i686.rpm  
nss-util-3.12.9-1.el6.i686.rpm  
cyrus-sasl-lib-2.1.23-8.el6.i686.rpm
```

You do not need these updates if you use the full product setup file to install the product.

You also need:

1. Java Platform Standard Edition (Java SE) 6 or later (32-bit only).

You can download the Java SE from [www.oracle.com](http://www.oracle.com) and install it anywhere on your machine.

2. Set the LANG environment variable in order to pick up localized messages. The LANG settings are English and Japanese only.
3. The Java Development Kit (JDK) is required for compiling Java. The JDK is downloadable from [www.oracle.com](http://www.oracle.com). After installing the JDK, you must put the tools.jar file for the JDK on your classpath, using a command similar to:

```
set classpath=jdk-install-directory\lib\tools.jar
```

## Installation Restrictions and Requirements



**Note:** The following information applies to Windows only.

Before starting the installation you should consider the following:

- Visual COBOL and COBOL Server cannot co-exist on the same machine. This applies to Windows only.
- If you are installing this as an upgrade, make sure that none of the product files are in use when you start the installation.
- To install on Windows, you need to be logged in with a user-ID that has write access to the registry structure under HKEY\_LOCAL\_MACHINE, HKEY\_CLASSES\_ROOT, and HKEY\_CURRENT\_USER so the installation software can set the environment appropriately. You also need to be logged on with Administrator privileges.

## Installing COBOL Server



**Note:**

- This version of the product is a full install.
- We recommend you install this product using the Web Installer. The Web Installer helps you install any missing prerequisite software and the product on your machine.

### Downloading the Product

1. Click on the product download link in your delivery notice.

This opens the Micro Focus Electronic Product Delivery page for your order.

2. Before downloading your product, check the **Legal Information** tab and read the End User License Agreement.
3. Check the **Documentation** tab and read the documentation supplied for your product.
4. Check the respective links to download the setup file or the Web installer for your product for the appropriate platform to your machine.

## Installing

**Windows** To use the Web Installer:

1. Double-click the `COBOLServer20_webinstaller.exe` file.
2. Click **Start** in the Web Installer dialog and follow the instructions to install the prerequisite software and the product.

Alternatively, you can use the setup file and install the product as follows:

1. Run the `COBOLServer20.exe` file and follow the wizard instructions to complete the installation.



**Note:** If you are installing onto a machine that has an existing Micro Focus product that uses Sentinel RMS License Manager, you will be prompted to remove it and install the Micro Focus License Manager. By doing this you will maintain the existing Sentinel RMS license files while adding the Micro Focus License Manager. If you are unsure about existing licenses on your computer or removing the Sentinel RMS License Manager, consult your System Administrator. If you want to proceed, remove Sentinel RMS License Manager by using Windows **Add or Remove Programs** and rerun the installation file.



**Note:** COBOL Server for .NET is installed as part of the process but no user action is required.

## UNIX

To use the Web Installer:

1. Give the Web installer file execute permissions once it downloaded:

```
chmod +x webinstaller_visualcobol_server_2.0_platform
```

2. Run the installer with superuser permissions:

```
./webinstaller_visualcobol_server_2.0_platform
```

If you don't run this as superuser, you will be prompted to enter the superuser password during the install.

Alternatively, you can use the setup file and install the product as follows:

1. Run the following to give execute permissions to the setup file:

```
chmod +x setup_visualcobol_server_2.0_platform
```

2. Run the installer with superuser permissions:

```
./setup_visualcobol_server_2.0_platform
```

If you don't run this as superuser, you will be prompted to enter the superuser password during the install.

If you set `COBDIR` to an already installed product, the installer will back up the existing installation and will install this release in the location `COBDIR` points to. If `COBDIR` is not set, the installer does a fresh install.

The COBOL environment is installed by default into `/opt/microfocus/VisualCOBOL`.



To install in a different location use the `-installlocation="Location"` parameter to specify an alternative directory location. For example, use:

```
./webinstaller_visualcobol_server_2.0_platform -  
installlocation="full path of new location"
```

or

```
./setup_visualcobol_server_2.0_platform -installlocation="full path  
of new location"
```

You can see details about which additional parameters can be passed to the install script if you enter the `-help` option.



**Note:**

- The installation of this product may affect the SafeNet Sentinel RMS licensed components running on your machine. During installation licensing is shutdown to allow files to be updated. To ensure the processes running on your machine will not be affected, you need to use `--skipsafenet` option which skips the installation of SafeNet:

```
./setup_visualcobol_server_2.0_platform --skipsafenet
```

- To protect the SafeNet Sentinel RMS installation from accidental updating you can create an empty file named `SKIP_SAFENET_INSTALL` in `/var/microfocuslicensing/` as follows:

```
touch /var/microfocuslicensing/SKIP_SAFENET_INSTALL
```

While the file is present, the SafeNet installer will not make changes to the installation or shutdown the running license daemons. If later licensing needs to be updated, remove the file and install Sentinel RMS server manually.

## Installing as an Upgrade

**Windows** This release works concurrently with earlier releases, so you do not need to uninstall previous versions.

**UNIX** This release works concurrently with version R4 of Visual COBOL, so you do not need to uninstall it. There are two options for installing the latest version in this case:

- Move the R4 installation to a different location and install the latest version to the default install location, `/opt/microfocus/VisualCOBOL`.

This ensures you do not need to change your environment. To move the existing older installation to a different location:

1. Execute the following command:

```
[ as root ] mv /opt/microfocus/VisualCOBOL /opt/microfocus/  
VisualCOBOLR4
```

2. Install the latest version as described in the section *Installing*.
- Install the latest version in a different location and set the environment to point to it. To do this, run the Visual COBOL 2.0 installer with the `-installlocation` option:

1. Execute the following command:

```
./InstallFile -installlocation="/opt/microfocus/VisualCOBOL2.0"
```

2. Execute `cobsetenv` to set the environment and point to the new install location:

```
./opt/microfocus/VisualCOBOL2.0/bin/cobsetenv
```

# COBOL Server Installation Options



**Note:** The following applies to Windows only.

To install COBOL Server you run `COBOLServer20.exe` which contains a number of product `.msi` files (Windows Installer packages). When run, `COBOLServer20.exe` performs some initial system checks then sequentially installs the MSIs.

`COBOLServer20.exe` can take a number of parameters, enabling you to specify a number of different types of installation:

- Standard Installation

**Format:**

```
COBOLServer20.exe
```

**Summary:**

Full installation including License Manager, Vision, and COBOL Server. During installation you can specify options including the location to which the components are installed.

- Non-interactive Installation

**Format:**

```
COBOLServer20.exe /qb
```

**Summary:**

Full installation, but the components are installed non-interactively using default options and directories.

- Silent Installation

**Format:**

```
COBOLServer20.exe /q
```

**Summary:**

Full installation, but the components are installed non-interactively with no user interface, using default options and directories.

- Modified Silent Installation

**Format:**

```
COBOLServer20.exe /q /componentargs "Micro Focus COBOL  
Server" : "INSTALLDIR=d:\cobolrts"
```

**Summary:**

Full installation, but the installation is controlled by the `/componentargs` switch and the standard MSI property `INSTALLDIR`. In the example above, COBOL Server is installed into `d:\cobolrts`.



**Note:**

- You can display the valid values for the `/componentargs` switch by using the `/displayconfig` switch:

```
COBOLServer20.exe /displayconfig
```

- Log files that are created during installation are saved in the folder specified by the `TEMP` environment variable.
- You can extract the component `.msi` files from `COBOLServer20.exe` by using the `/extractcab` switch:

```
start /wait COBOLServer20.exe /extractcab
```

The extracted `.msi` files are saved in the `SupportFiles` subfolder.

# Installing Silently

You can install Micro Focus products silently by using command line parameters to specify the installation directory, user information, and which features to install.

## On Windows:

To install silently use the following command:

```
start /wait install-file.exe /q [parameters]
```

where *install-file* for the following products is as follows:

**Visual COBOL** VisualCOBOLVisualStudio20.exe

VisualCOBOLVisualStudio20.exe and COBOLServer20.exe include a number of individual .msi files, where each .msi file installs one software component. For instance, VisualCOBOLVisualStudio20.exe includes one .msi file to install Visual COBOL and another to install License Manager; running VisualCOBOLVisualStudio20.exe installs both Visual COBOL and License Manager.

You can specify different parameters for the different .msi files within the same .exe file by using the /componentargs parameter. Valid values for the /componentargs parameter are as follows:

- License Manager
- Visual COBOL

The examples show how to use the /componentargs parameter.

After the installation is complete you can install the license silently. You need to have your Authorization Code. To install the license execute:

```
start /wait <install-dir>\bin\cesadmintool -term activate AuthorizationCode
```

## Directory Considerations (Windows)

- You must have read and write access for every directory accessed during the install.
- You can override the default installation folder using the INSTALLDIR parameter:
- If a path in a definition contains spaces, then the path must be preceded by a backslash and double quotation mark ("). For example:

```
INSTALLDIR=path  
INSTALLDIR="c:\MyProduct\  
INSTALLDIR="c:\Program Files\Micro Focus\My Product"
```

- Installing creates a log file in %temp%\LogFilename by default. To change the location or name, use the /l parameter on your Setup command line and specify the path and file name, for example:

```
/l*v drive:\path\LogFilename
```

The default names for the log files are as follows:

VisualCOBOL_install_log.txt	for the Visual COBOL wrapper
VisualCOBOLx??_install_log.txt	for Visual COBOL, where ?? is "86" for 32-bit systems and "64" for 64-bit systems.
lmsetup_install_log.txt	for License Manager
EnterpriseServerDotNet_install_log.txt	for COBOL Server for .NET
t	

- The log filename and folder name cannot contain spaces
- The log file folder must exist before beginning the silent install

## Examples

- To silently install Visual COBOL into a directory other than the default:

```
start /wait VisualCOBOLVisualStudio20.exe /q /componentargs "Visual  
COBOL:INSTALLDIR=c:\DirectoryName"
```

## On UNIX:

You can use the following command line arguments to install silently on UNIX:

```
-silent -IacceptEULA
```

For example, execute:

```
webinstaller_filename -silent -IacceptEULA
```

or

```
setup_filename -silent -IacceptEULA
```

## After Installing

**Windows** To open the help, select **Start > All Programs > Micro Focus COBOL Server > Documentation** from the Windows Taskbar. From the left hand pane, select **Micro Focus Developer > Micro Focus COBOL Server**.

**UNIX** When you have installed the product, you need to set the environment as described below.



**Note:** These commands set the environment only for the current shell. You need to execute them for each new shell that you start.

1. To set up your product, execute:

```
./opt/microfocus/VisualCOBOL/bin/cobsetenv
```

2. To verify that your product is installed and licensed, execute:

```
cob -Version
```



**Tip:** To avoid having to run `cobsetenv` for every shell, add these commands to the shell initialization files (`etc/profile`, `etc/bashrc`, etc.)

## Repairing

On Windows, if any product files, registry settings or shortcuts are accidentally removed at any point, you can perform a Repair on the installation to replace them.

To repair your installation on Windows XP:

1. Click **Start Menu > Control Panel > Add/Remove Programs**.
2. Click your Micro Focus product in the list of installed programs.
3. Click **Click here for support information**.
4. Click **Repair**.

To repair your installation on Windows Vista or Windows 7:

1. Click **Start Menu > Control Panel**.
2. Click **Uninstall a program** under **Programs**.
3. Right-click your Micro Focus product and select **Repair**.

# Licensing Information



## Note:

- This release uses the license keys for the Visual COBOL R4 release.
- This release requires the latest version of SafeNet licensing software. See *Software Requirements* in this document for more details.
- If you are unsure about what your licensing policy is or what sort of license you require, consult your System Administrator or Micro Focus SupportLine to obtain a valid license.

**Windows** Use the Authorization Code, supplied with your delivery notice, to license your product. To do this:

1. Click **Start > All Programs > Micro Focus License Manager > License Management System**.

The dialog box for the Micro Focus License System Administration Tool will be displayed.

2. Click the **Authorize** tab.
3. Enter your Authorization Code and click **Authorize**.
4. Close the Micro Focus License System Administration Tool.

If you wish to install the license silently, execute the following after the product has been installed:

```
start /wait <install-dir>\bin\cesadmintool -term activate  
AuthorizationCode
```

**UNIX** The Micro Focus Licensing System is installed into the `/var/microfocuslicensing` directory.

To license your software:

1. Run the Micro Focus Licensing Administration utility:

```
sh /var/microfocuslicensing/bin/cesadmintool.sh
```



## Note:

- You need permissions to write to the license file which normally means you need to log in as root.
  - Make sure Java is on the PATH before you run the utility. See *System Requirements* for more information.
2. Select an option as appropriate and press **Enter**:

### If you have access to the Internet:

Select **Online Authorization**. You will be prompted to enter the Authorization Code supplied with your delivery notice.

### If you do not have access to the Internet:

You need the license strings. In order to obtain them, you need your Authorization Code, your Machine Id and a machine with access to the Internet.

- a. Choose **Get Machine Id** and press **Enter**.
- b. Make a note of the information which is displayed.
- c. On the machine which is connected to the Internet, open <http://supportline.microfocus.com/activation/> in a browser.
- d. Follow the instructions to obtain the license strings and save them to a text file.

- e. Copy the text file to the first machine on which you are installing the product.
- f. At the command line, select **Manual License Installation** from the licensing options and enter the full name of the file containing the license strings.

### **License for COBOL Server for Unit Testing**

You need to install this license to run and test your applications in the runtime environment. It is a timed license and expires after one year after the date of purchase. After this time you need to contact Micro Focus to request a renewal.

There is no evaluation period for this license and you need to use your Authorization Code to obtain a full license before you can test your applications. The Authorization Code can be found in the **Requested License Key** email that is supplied when you order your product. To obtain a full license use the code that is listed under **Visual COBOL - COBOL Server for Unit Testing**.

# Known Issues

Please refer to the *Known Errors and Restrictions* topic in the *Product Information* section of your product Help.

In addition, please note the following:

## Co-existing with Earlier Micro Focus Products

**Run-time system error due to COBCONFIG** A run-time system error occurs if either the COBCONFIG or COBCONFIG\_ environment variable is set when you run a Visual COBOL application or when you use Visual COBOL to edit or create projects and the configuration file it refers to contains entries that are not valid for Visual COBOL.

For example, this might happen if you have Net Express or Studio Enterprise Edition installed and either COBCONFIG or COBCONFIG\_ is set for it.

To work around this issue, ensure that Visual COBOL is not running and then modify the configuration file by doing one of the following:

- If the invalid tunable is not needed by another application, remove it from the run-time configuration file.
- Add the following as the first line in the configuration file:  

```
set cobconfig_error_report=false
```
- Unset COBCONFIG (or COBCONFIG\_) or set it to another configuration file that does not contain the invalid tunable for the particular session you are running in.

## File Handling

When using a CGI/ISAPI application developed with the Net Express HTML Forms Designer in Visual COBOL, you may receive an error “unresolved external symbol \_NMCNVRTI” or “unresolved external symbol \_NMCNVRTO”.

To work around this issue, add the corresponding .obj file to the **Additional Directives** in the project properties, or use them from the command line to link the application: `cbllink filename.cbl NMCNVRTI.OBJ` (or `cbllink filename.cbl NMCNVRTO.OBJ`, respectively).

## Fileshare

A write of a record with an alternate key where the alternate key is the first value for that key may now return a 0/2 file status rather than a 0/0 status if a record with that alternate key value has been deleted by uncommitted transaction (possibly the same transaction as that performing the write).

## Java Support

Running a 64-bit Java application using cobjrun may cause the application to crash with a memory fault. This is part of a problem between Redhat Linux v6.1 and Oracle Java that affects 32-bit processes (cobjrun) executing 64-bit processes. To work around this issue, run 64-bit Java applications with cobjrun64.

# Resolved Issues

The resolved issues that customers have reported are listed in this section. The numbers that follow each issue are the Reported Problem Incident number followed by the Customer Incident Numbers (in parentheses). RPIs that have numbers only (and no text) are included to confirm that the RPIs have been fixed, since no further information is required.

- [.NET Compiler](#)
- [.NET ESQL Support](#)
- [.NET RTS](#)
- [Animator \(Character version\)](#)
- [Compiler](#)
- [Compiler ECM Support](#)
- [Documentation](#)
- [File Handling - External File Handler](#)
- [File Handling - Fileshare](#)
- [File Handling - Rebuild](#)
- [File Handling - Sort](#)
- [Interface Mapping General](#)
- [MFSupportInfo](#)
- [OLE Domain Support](#)
- [RTS](#)
- [Setup Issues](#)
- [Setup Issues \(UNIX\)](#)
- [SQL Support \(non-Compiler\)](#)
- [SQL: COBSQL](#)
- [SQL: DB2 ECM](#)
- [SQL: OpenESQL](#)
- [Vision File System](#)
- [XML Extensions](#)

## **.NET Compiler**

- COBOL programs no longer give compilation errors when there are multiple periods at the end of PROCEDURE DIVISION.  
1078852 (2509767)
- Dependent assemblies (ones that are required by other assemblies) that fail to load now issue a COBCH1581 warning "Could not load dependent assembly AssemblyName". Previously, they generated a COBCH0942 error. If an assembly generates both COBCH0942 and COBCH1581 errors, the error report lists only the COBCH0942 error.  
1078845 (2507380)
- Attributes that use the TYPE OF operand produced invalid MSIL and generated an exception when accessed through reflection APIs.  
1079810 (2522328)
- Certain structures of the SCREEN SECTION records could lead to generation of invalid managed code and caused the build to fail with error "COBCH0857: System error - failure during ILASM phase".  
1080096 (2524955)
- The scope of the ILUSING Compiler directive when used in a \$set command has changed. The scope of the directive is now limited only to the source file it is set in, and not globally. This new behavior may



mean that your source files no longer compile. To resolve this, add the required ILUSING statements to the required individual source files, or add the ILUSING directive on the command line. Alternatively, use the IDE to achieve the required behavior: in Visual Studio, use the Namespaces tab; in Eclipse, set the directive in the Additional Directives field.

579979 ( )

- .NET COBOL projects which included concatenation of level 78 numeric literals could not be built and caused the IDE to crash.

1080853 (2534541)

- The error message "COBCH0857 : System error - failure during ILASM phase" was sometimes produced for class programs containing multiple methods with declaratives and/or PERFORM statements.

1080854 (2534542)

- Compiling OO programs with matching methods where the method parameters had generic items sometimes failed with error COBCH0956, "Method 'MethodName' not found in inherited class", during the conformance checking phase.

1081338 (2538683)

- An incorrect decimal alignment occurred for arithmetic expressions involving a COMP-2 operand and a PIC S9(12)V99 operand in .NET COBOL.

1081334 (2540303)

- In .NET managed COBOL, SCREEN SECTION fields that use a numeric edited with decimal points displayed the number incorrectly, not taking into consideration the decimal point.

1081393 (2540560)

- When compiling for managed code, an INSPECT statement of the form "INSPECT data-item TALLYING n1 FOR TRAILING SPACE" produced an incorrect answer when data-item contained all spaces.

1082345 (2551352)

- An attempt to serialize a class containing COBOL data such as PIC X or group items could lead to a serialization exception.

1082730 (2555177)

- In managed COBOL, a level 78 item appearing as the first item under the file description (FD) for an EXTERNAL file could result in a bad code generation.

1082841 (2557615)

- In some cases, when adding the result of a division operation to a numeric item with an implied decimal point, the final value could be incorrectly rounded.

1083008 (2559639)

### **.NET ESQL Support**

- The ODBC wrapper interface to the native SQL runtime was calling a method incorrectly. As a result you could have received an exception when running managed UI applications calling the native SQL runtime system.

1083167 (2561658)

- In some cases OpenESQL did not mark an open cursor as non-purgable from the prepared statement cache and this could result in unexpected errors on subsequent fetches from the cursor.

1081741 (2543910)

- OpenESQL did not always return a consistent error message or it returned an incorrect error message when a data conversion exception occurred within the ADO.NET run-time system.

586534 ( )

## **.NET RTS**

- Loading COB32API by .NET managed COBOL code more than once caused a memory leak.  
586885 ( )
- CBL\_EXEC\_RUN\_UNIT\_CALL was not working correctly in managed code when the flag was set to create a new console.  
1082055 (2548658)
- Managed ADIS applications were corrupting the screen if you run them using the Microsoft Telnet client.  
1081681 (2544298)
- The .NET console processed numeric keys incorrectly when Caps Lock was enabled.  
1080669 (2532347)
- In COBOL for .NET, MOVE of a BigDecimal field to 01 level PIC SV999 COMP-3 item was giving an incorrect result when truncation was involved.  
1081198 (2536415)

## **Animator (Character version)**

- When using the Step function to debug a program running on Solaris that contains a DECLARATIVES section, the execution points are now correctly highlighted.  
1081749 (2544940)

## **Compiler**

- In constructs of type "STRING item1 item2 INTO identifier1", if the identifier uses a reference modification, the length from the picture clause definition was incorrectly used when determining if item1 and item2 fit into identifier1.  
586313 ( )
- Invalid syntax errors are no longer produced when compiling screen section items.  
1082549 (2549214)
- ACUCOBOL-GT reporting has been enhanced and now produces a Compiler error for the following syntax which is not yet supported: ACCEPT... CURSOR <data-item>.  
1081729 (2544855)
- An XML GENERATE statement on a record containing an ambiguous name whose case is distinct from the other declarations of that name now executes as expected.  
1081691 (2543133)
- The ACUCOBOL-GT syntax ACCEPT ... DISPLAY OMITTED previously caused an internal Compiler error.  
1081423 (2538935)
- Compiling a program which contains an XML GENERATE statement to exe no longer produces unresolved external symbol errors.  
1078019 (2498657)
- Illegal ODO items which reference many levels of qualification now display a syntax error.  
1080616 (2530541)
- Executing a statement using an intrinsic function with a reference modified argument when compiled with SSRANGE(2) no longer produces spurious run-time errors.  
1080275 (2526877)
- The RECORD-POSITION operator returned a value that was one less than the correct value.  
586672 ( )

## Compiler ECM Support

- A declaration of SQL TYPE ROWID was sometimes not processed correctly.  
1080477 (2529596)

## Documentation

- The following run-time system tunable is available: `subsystem_cancel_mode`. Specifies whether logical or physical cancels are used for CBL\_SUBSYSTEM cancels. Syntax:

```
>>-----set subsystem_cancel_mode---.-0-.----->< +-1-+
```

Parameters: 0 Physical cancels: any programs canceled with a CBL\_SUBSYSTEM cancel will be freed from memory, making more memory available. 1 Logical cancels: any programs canceled with a CBL\_SUBSYSTEM cancel will not be freed from memory. The programs are available to be reused and hence the performance of CALL/CANCEL statements is greatly increased. As far as your program is concerned, the behavior of logical and physical cancels is identical. Properties: Default: 0 on Net Express; 1 on Server Express

1080440 (2529528)

- If a compilation unit includes a class, and a version of the class already exists on the classpath, the results are undefined. To avoid this problem, either keep a separate runtime and compilation classpath, or delete built artifacts before compilation.  
584421 ( )
- If you use the full image when installing Visual COBOL or the Development Hub, you must first install Java Platform Standard Edition (Java SE) 6 Update 27.  
1082268 (2550806)
- This release requires version 10000.2.660 or later of the Micro Focus licensing software. For local servers, you do not need to install it separately, as the setup file will install a new client (Visual COBOL) and a new licensing server on the same machine. If you have a network server, you must update the license server before installing the product as the client is not able to communicate with license servers of versions older than 10000.2.660. You can check the version of your license server by clicking **Help > About** in the Micro Focus Licensing System Administration tool.  
1082175 (2549745)
- In order to successfully complete the example of Java Calling JVM COBOL in the Interoperability section of the documentation, you must add `mfcobol.jar` to the project's classpath.  
585406 ( )

## File Handling - External File Handler

- When reading a file cataloged as `DISP=SHR` the file handler now buffers the read for better performance.  
1079491 (2518330)
- DUMMY files defined as indexed now open correctly on UNIX platforms.  
1079483 (2516513)
- Dataset concatenations ending with `DD DUMMY` (or `DSN=NULLFILE`) no longer cause an abend when the file is closed.  
1078960 (2511384)
- When opening a file for I-O under mainframe emulation, the file does not have to exist.  
1078362 (2501743)
- A series of concatenated files will now all be opened with the same opcode so it is treated as a single file.  
1078617 (2503276)

- Missing indexed files in the USE statement incorrectly resulted in a 114 error. A 9/013 I/O error is now correctly displayed.  
583179 ( )
- SORT did not display correctly the report fields (such as sections, headers, trailers) when no OUTREC was specified.  
583227 ( )
- An invalid input detected in the SORT FIELDS statement caused the application to crash. A 114 error message was incorrectly displayed. This has been changed and an error "Command statement error(s) detected" is now displayed.  
583425 ( )
- Setting STRIPSPACE to OFF now correctly honors the record length and allows trailing spaces for LSEQ files.  
573921 ( )
- Support has been added to allow trailing spaces in LSEQ files when used with the variable STRIPSPACE=OFF, when printing records via stdout or piping to a file.  
585740 ( )
- Sequential files on a 64-bit machine are now correctly padded to fill the LRECL.  
586461 ( )
- A memory leak could occur when performing file I-O operations inside a Web service.  
1081398 (2540611)

#### **File Handling - Fileshare**

- An fsview close file now correctly closes the file.  
1079724 (2508855)
- A CICS close on a file no longer fails if a transaction has started and updates are made to any file.  
1079738 (2473753)
- Using a READ statement after a CLOSE REEL through Fileshare could result in a 9/077 error.  
587474 ( )

#### **File Handling - Rebuild**

- If the checkpoint LAST is set and no checkpoint exists, BATCH BACKOUT now backs out of the entire log.  
1081493 (2541220)
- Rebuild will no longer try to rebuild an indexed file without any keys, and will report the failure. Rebuild now also reports that there are no keys when performing file validation or file information on the file.  
1078000 (2499296)

#### **File Handling - Sort**

- The NUM function has been added to SORT.  
1079136 (2512764)
- The TOOLMSG output "Number of records resulting from criteria:" now displays the number of records correctly.  
1079280 (2513886)
- Users can now use the DATE+n field constants as well as comparing DATE constants within the INCLUDE/OMIT statements.  
1078273 (2501816)

- NODETAIL now correctly prevents data records from being displayed in the OUTFIL. SORT will also correctly default to displaying the entire input record if neither NODETAIL or an OUTREC is specified.  
1074166 (2443710)
- COUNT will now work correctly, representing a count of the number of data records in that section. The value of SUBMAX will now be output when defined in the OUTFIL.  
1080528 (2443710)
- SORT will now regard the next line as a continued comment (and will therefore ignore everything on that line) if the previous line is a completed statement and has a comment in column 72.  
1080262 (2527579)
- Using TOTAL or SUBTOTAL will now display the correct value instead of truncating the result.  
584223 ( )
- Using SKIP=nL in the SECTIONS section of SORT will now cause the following behavior: 1) Under a mainframe sort, (n/3 rounded up) blank lines (when n>0) will be skipped and the appropriate carriage control character will be placed in column 1 of each blank line. 2) For sequential file organizations, the same behavior will occur but no carriage-control characters will be printed. 3) For line sequential files, n blank lines will be skipped.  
1080092 (2525670)
- An RTS 252 error no longer occurs if RTS memory checking is enabled and outfil processing is used in a sort card.  
1081337 (2540109)
- Setting SORTSPACE to the same value as SORTTEMPSPACE no longer causes an RTS 252 to occur.  
1081277 (2539633)
- SORTCOMPRESS=5 will no longer cause the records output from SORT to differ from the records that are taken in.  
1080006 (2518730)
- MFSORT will now accept the following constants in the outrec, header, and footer: \* DATE1+n \* DATE1-n \* DATE1(c)+n \* DATE1(c)-n \* DATE2+n \* DATE2-n \* DATE2(c)+n \* DATE2(c)-n \* DATE3+n \* DATE3-n \* DATE3(c)+n \* DATE3(c)-n \* DATE1P+n \* DATE1P-n \* DATE2P+n \* DATE2P-n \* DATE3P+n \* DATE3P-n where n represents the number of days for DATE1 and DATE3, and number of months for DATE2, and where c represents the date separator.  
1079771 (2521778)
- The keywords CENTWIN and Y2PAST are now both accepted under both DFSORT and SYNC SORT emulation.  
585369 ( )
- Sort now closes down correctly after an RTS 163 error, and is now able to carry on and process further jobs.  
1082133 (2544148)
- When combining OUTFIL and SORTOUT files where headers and trailers were used, SORTOUT sometimes contained mainframe printer control characters.  
1082048 (2548488)
- When writing to EBCDIC files, DATE constants will now correctly be converted into EBCDIC format.  
586917 ( )
- A SORT performed from REXX no longer causes a COBRTS 114 error.  
1081942 (2546794)
- SORT will now correctly compare INCLUDE/OMIT parameters when SUM FIELDS=NONE.  
1083014 (2558088)
- Setting MFJSSTRICTSORT=ON will now cause records that are shorter than the output file's LRECL to be padded with low values instead of spaces.

1081919 (2547118)

- If a SUBSYS is specified and does not exist, SORT reverts to using EXTFH and emits a warning message.

1081570 (2542992)

- PARM RC16 is ignored but the comment line reports a warning.

1081203 (2537395)

### **Interface Mapping General**

- User Exit 5 now allows the Web service response to be overridden.

1081015 (2516533)

### **MFSupportInfo**

- MFSupportInfo now supports machines with greater than 4Gb of memory installed.

1076718 (2483333)

### **OLE Domain Support**

- In-process COM objects no longer leak memory when used within Microsoft's Windows Communication Foundation (WCF) framework.

1078908 (2509742)

### **RTS**

- The Micro Focus run-time system is no longer unloaded prematurely when using IBM TXSeries, and does not produce a COBRT 173 error.

1079371 (2516765)

- The run-time text window no longer returns incorrect data when content is copied from it using Edit/Mark.

1078975 (2511669)

- The CBL\_RENAME\_FILE and CBL\_COPY\_FILE routines no longer cause a memory leak on UNIX platforms.

1076845 (2484033)

- On Japanese Windows, the IME now consistently appears at the current cursor position when ANSI ACCEPTs are done in the COBOL Text Window.

1079925 (2523680)

- If you run 32-bit XML Extensions on AIX and you are exporting a very large data item (over 60 Mb), you can encounter error 72[6]: "Data conversion error text: Memory allocation error". To work around this issue, you need to set the LDR\_CNTRL environment variable before running the program as follows: LDR\_CNTRL=MAXDATA=0x40000000; export LDR\_CNTRL

586691 ( )

- Use of PC\_PRINTER\_DRAW\_RECTANGLE, PC\_PRINTER\_GET\_BMP\_INFO, PC\_PRINTER\_LINE\_FROM\_TO, PC\_PRINTER\_SET\_BACKGROUND\_MIX\_MODE, PC\_PRINTER\_SET\_PEN or PC\_PRINTER\_SET\_POSITION no longer give an unresolved symbol error when linking as a 32-bit application.

1072571 (2418196)

- On Windows 7, building 64-bit native COBOL applications always rebuilt the entire project. This was caused by the Microsoft FileTracker tool, used by the COBOL projects to track dependencies, not working because of Windows 7 security updates. This product now includes a fix to work around this issue.

588615 ( )

### **Setup Issues**

- The Visual COBOL R4 Web installer did not detect an existing installation of Visual COBOL R3 in a custom directory. It removed Visual COBOL R3 and installed Visual COBOL R4 in the default location without a prompt.

1080182 (2524759)

### **Setup Issues (UNIX)**

- During installation, the install script checks a list of expected locations for the GCC compiler, and when found, updates the cobopt file with that location. This list now includes locations appropriate for different platforms and different levels of GCC compiler.

1081011 (2535964)

### **SQL Support (non-Compiler)**

- The ODBC pre-compiler has been modified to properly support UTF-8 coded host variable names in EXEC SQL statements.

1079019 (2512255)

### **SQL: COBSQL**

- The Cobsql preprocessor has been updated to improve robustness of error handling when working with Oracle Pro\*COBOL on UNIX.

1082474 (2552830)

### **SQL: DB2 ECM**

- The DB2 ECM has been updated to resolve run-time errors returned when compiling against mainframe databases in 64-bit mode.

1082441 (2549058)

- The Host Compatibility Option was updated to honor database connection criteria specified on the command line.

1081585 (2537570)

### **SQL: OpenESQL**

- OpenESQL has been updated to support 64-bit operation for INSERT and FETCH statements.

1079765 (2499575)

### **Vision File System**

- There is a new configuration option - RMFM\_RUN\_INDEX\_FILES\_PREVENT\_WRITE\_STARVATION. The default value of this option is set to NO, but when set to YES, it enables the new additional locking scheme that prevents write starvation when there are many active readers of the same file.

589086 ( )

- ACUFH incorrectly returned status 00 on OPEN INPUT of a non-existent OPTIONAL file. This has been fixed so that ACUFH returns the correct status 05.

1082400 (2552367)

- An alternate key numbering mismatch occurred during the execution of the OPEN statement for an RM indexed file.

1079788 (2521519)

**XML Extensions**

- XML EXPORT failed to output some occurrences from an OCCURS data item nested in another OCCURS data item.

1080752 (2533412)



# 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](http://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 which 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 technical support, 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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