Micro Focus Visual COBOL 2.1 for Visual Studio

Release Notes

2012-11-06

Contents

Micro Focus Visual COBOL 2.1 for Visual Studio 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.

Product Description

Visual COBOL enables you to develop COBOL applications within Microsoft Visual Studio. You use the integrated development environment (IDE) in Visual Studio to edit, compile and debug COBOL applications. The IDE provides all the functionality to manage projects and build applications.

The product is available in two variants - Visual COBOL for Visual Studio 2010 , and Visual COBOL for Visual Studio 2012.

Compiling for COBOL Server or for COBOL Server 2012	Visual COBOL for Visual Studio 2010 and Visual COBOL for Visual Studio 2012 each target a different version of the COBOL run-time system - COBOL Server and COBOL Server 2012, respectively.
	Ensure that after you've edited the project in the preferred version of Visual Studio, you compile your source code in that version of Visual COBOL which targets the version of the COBOL run-time in which you want your applications to run.
	For example, if you build your application using Visual COBOL for Visual Studio 2010 you cannot deploy the target files to COBOL Server 2012; you must use COBOL Server.

> **Important:** Application executables that were compiled using earlier Micro Focus products must be recompiled from the sources using Visual COBOL.

System Requirements for Visual COBOL for Visual Studio

Hardware Requirements

Visual COBOL has the following requirements in addition to the requirements of Microsoft Visual Studio. See the Visual Studio documentation for details of the Microsoft requirements.

The disk space requirements are:

- 58MB for the Sentinel RMS license server
- 200MB for Micro Focus COBOL integration into Visual Studio

Note: This includes the space needed to cache information locally so that you can modify the installation without the original source media.

Operating Systems Supported

Note: You can produce 64-bit and 32-bit applications on 64-bit operating systems.

The following platforms are supported:

32-bit Windows Platforms
- Windows Server 2008 SP2
- Windows Server 2008 R2
- Windows Vista
- Windows XP Professional SP3 or later
- Windows 7
- Windows 8

64-bit Windows Platforms
- Windows Server 2008 SP2
- Windows Server 2008 R2
- Windows Vista
- Windows XP Professional SP2 or later
- Windows 7
- Windows 8

Citrix and Terminal Server
- Windows Server 2008 SP2
- Windows Server 2008 R2
- Windows 7
- Windows 8

Software Requirements

Note: If you use the Micro Focus Web Installer to install this product, it checks your system and installs the missing prerequisite software.

⚠ 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 installs 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.

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*.

If you choose to install using the full image, you need to install the following software beforehand:

- A full version of Microsoft Visual Studio 2010 or Microsoft Visual Studio 2012 (Premium, Professional, or Ultimate), or the the respective version of the Microsoft Visual Studio Integrated Shell.

  ✎ Note:

  - Microsoft Visual Studio Express Edition is not supported.
  - You can download the Visual Studio Integrated Shell from the *Microsoft Download Center*. If you choose to install the Shell, ensure you run the installer to complete the installation - run `vsintshell.enu.exe` from the location where you installed the download.

The following functionality, tools and features have additional requirements:

Visual Studio IDE

- Microsoft Windows SDK is required if you are using Visual Studio Shell. See the *Microsoft Download Center* and search for Windows SDK.
- Microsoft .NET Framework 4.0. This is included with the above versions of Visual Studio.
- Microsoft .NET Framework 4.5. This is included with Visual Studio 2012.
- Visual Studio 2010 Service Pack 1 is required if you are using Visual COBOL for Visual Studio 2010 and Visual COBOL for Visual Studio 2012 on the same machine. In addition, when building a native COBOL project that contains resources you must replace the `cvtres.exe` in the `bin` and `bin64` directories of your Visual COBOL installation with the version of the file which gets installed with Visual Studio 2010 SP1. You can download Service Pack 1 for Visual Studio 2010 from the *Microsoft Download Center*.

SQL CLR Integration for Visual Studio 2012
The following software is required to use the SQL CLR integration feature, which is specifically for the development and deployment of COBOL stored procedures under Microsoft SQL Server.

Projects based on the SQL Server Database Project template require:

- Either of the following:

  - Visual Studio Shell 2012 and Microsoft SQL Server Tools (SSDT SDK)
  - Visual Studio Professional 2012, Premium 2012, or Ultimate 2012

- Any of the following:

  - SQL Server 2008 R2 targeting .NET CLR v2.0 frameworks (2.0, 3.0, 3.5)
  - SQL Server 2012 targeting .NET CLR v4.0 framework (4.0), or .NET CLR v2.0 frameworks (2.0, 3.0, 3.5)
  - SQL Server Azure targeting .NET CLR v4.0 framework (4.0) and also .NET CLR v2.0 frameworks (2.0, 3.0, 3.5)

⚠ Important: The SQL CLR Database project template is not supported with Visual Studio 2012. Projects based on the SQL CLR Database project template are automatically upgraded to use the SQL Server Database project template when opened in Visual COBOL for Visual Studio 2010.

Windows Forms

- Microsoft Internet Information Service (IIS) is also required for generating Windows Forms test clients.

XML Extensions

- XML Extensions has the same requirements as RM/COBOL version 12 for 32-bit Windows. (See the *RM/COBOL User's Guide, Second Edition* or later.) Additionally, XML Extensions may be used in conjunction with Terminal Server.

Installing Visual COBOL for Visual Studio

> **Note:**
> - This version of the product is a full install.
> - It is recommended to install this product using the Web Installer. The Web Installer helps you install any missing prerequisite software and the product on your machine.

Installation Restrictions and Requirements

Before starting the installation you should consider the following:

- Visual COBOL and COBOL Server cannot co-exist on the same machine.
- Visual COBOL and Enterprise Developer cannot co-exist on the same machine.
- If, when you install Visual COBOL for Visual Studio 2010, the machine does not have Microsoft Visual C++ 2010 Redistributable Runtime already installed, it is installed as required by Visual COBOL. The installation of Microsoft Visual C++ 2010 Redistributable Runtime adds a number of `.dll` files, without digital signatures, into the `winsxs` directory.
- If, when you install Visual COBOL for Visual Studio 2012, the machine does not have Microsoft Visual C++ 2012 Redistributable Runtime already installed, it is installed as required by Visual COBOL. The installation of Microsoft Visual C++ 2012 Redistributable Runtime adds a number of `.dll` files, without digital signatures, into the `winsxs` directory.
- If you are installing this as an upgrade, make sure that none of the product files are in use when you start the installation.
- 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.

Downloading the Product

1. Use the download links in your Electronic Product Delivery email.

   For more information follow the links for the install instructions and the End User License Agreement.

Installing

To use the Web Installer:

1. Double-click the `VisualCOBOLVisualStudio21_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 on your machine and install the product as follows:

1. Run the `VisualCOBOLVisualStudio21.exe` file and follow the wizard instructions to complete the installation.

Note: If you are installing Visual COBOL for Visual Studio 2012 the files are
`VisualCOBOLVisualStudio21_2012_webinstaller.exe` and
`VisualCOBOLVisualStudio21_2012.exe`, respectively.

Note:

- If you are installing onto a machine that has an existing Micro Focus product that uses an older Sentinel RMS License Manager, you might be prompted to remove it and install the Micro Focus License Manager. By doing this you 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.
- Trial licenses cannot be used with remote desktop services. If you want to use your product in this way, please contact Micro Focus SupportLine to obtain a relevant license.
- We recommend that you install any updates for Visual Studio and the .NET Framework that are available at the *Microsoft Download* site.
- If you install JDK you might be prompted to install the latest update. The latest update is not required for use with Visual COBOL but you can install it if you wish.

Installing as an Upgrade

This release does not work concurrently with earlier releases and installing it uninstalls previous versions of the product.

Before installing, check *Installation Restrictions and Requirements*.

After Installing

You are now ready to run Visual COBOL. From the Windows taskbar click **Start > All Programs > Micro Focus Visual COBOL > Visual COBOL for Visual Studio 2010**.

Note: The Start menu is not available on Windows 8. You use the Start screen to invoke programs.

Please refer to the *Start Here* and *Product Information* sections in your product Help. Here, you will find information on getting started including tutorials and demonstration programs.

Note:

- The first release of Visual Studio 2010 has a browser-based help system, Microsoft Help Viewer 1.0, which does not include an index for the locally-installed help. Navigation of the content is only available using the table of contents and Search and the help contents for the Help system does not expand and collapse in the same way as previous Help systems.
- If you have problems trying to view the Micro Focus help, ensure that the Visual Studio Help Library is pointing to local help. From the Visual Studio menu click **Help > Manage Help Systems > Choose online or local help** and check the **I want to use local help** button.
- Visual Studio 2010 SP1 provides an upgrade of the help system, Microsoft Help Viewer 1.1, which provides a stand-alone help viewer with an index and a fully expandable table of contents.
- If you do not wish to install Visual Studio 2010 SP1, you can install some third party tools that enable the index or the fully expanding table of contents. Read *http://kb.microfocus.com/display/4/kb/article.aspx?aid=31484* for more.

- To view the help in Visual Studio 2012, ensure that the Visual Studio Help Library is pointing to local help. From the Visual Studio menu click **Help > Set Help Preferences > Launch in Help Browser**.

- For full details of the Visual Studio 2012 Help system, see the locally installed Microsoft Help Viewer 2.0 Help, which is available from Help menu in the IDE.

Repairing

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 versions of Windows Vista or later:

1. From the **Control Panel**, click **Uninstall a program** under **Programs**.
2. Right-click your Micro Focus product and select **Repair**.

To repair your installation on older versions of Windows, such as 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**.

Uninstalling

To uninstall the product, you cannot simply delete its files from your hard disk. To uninstall the product:

1. Log in with the same user-ID as you used when you installed the product.
2. Click **Uninstall a program** under **Programs** (or **Add/Remove Programs** on older versions of Windows) in **Control Panel**.
3. On older versions of Windows such as Windows XP, ensure that **Show Updates** (at the top of the Add or Remove Programs dialog) is checked, so that any hot fixes or WrapPacks are listed.
4. On versions of Windows Vista and later, click **View installed updates** in the left-hand pane.
5. Select the product and click **Remove** or **Uninstall**, respectively.

When you uninstall, the only files deleted are those that the installation software installed. If the product directory has not been removed, delete any unwanted files and subdirectories within it using Windows Explorer.

Note: The installer creates separate installations for Micro Focus Visual COBOL and Micro Focus License Manager. Uninstalling only Visual COBOL does not automatically uninstall the Micro Focus Licensing Manager or any of the prerequisite software.

To completely remove the product you must uninstall the Micro Focus Licensing Manager as well.

You can optionally remove the prerequisite software. For instructions, check the documentation of the respective software vendor.

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

The following folders might not be removed:

- The `Micro Focus Product Name` folder in the Start menu - you can delete it manually.
- `%systemdrive%\Users\Public\Documents\Micro Focus` - includes the binaries and the log files of the samples which you have built.
- `%ProgramData%\Micro Focus` - includes some data files used by the Micro Focus licensing system.
- `%Program Files%\Micro Focus` - you can delete it manually.

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
```

License for the Integrated Development Environment for Visual Studio

Your product is supplied with an evaluation license that typically enables you to use your product for 30 days. While you are using the evaluation license, a dialog will display when you start your product prompting you to enter the Authorization Code. This code can be found in the **Requested License Key** email that is supplied when you order your product. Depending on your product order, you might have multiple license Authorization Codes. To obtain a full license for Visual COBOL, enter the code that is printed under **Visual COBOL - Visual COBOL for Visual Studio**.

> **Note:** If you have purchased a Visual COBOL timed license, the license management system may show these as Trial licenses. This does not affect the license you have purchased.

What's New

The following sections outline the new features that have been added in this release of Visual COBOL for Visual Studio 2010.

New Features in Visual COBOL 2.1

ACUCOBOL-GT Data Types in Managed Code

ACUCOBOL-GT data types and sign() variants that were previously only available in native code are now supported in managed code. Use the Compiler directives COMP1 and COMP2 to set ACUCOBOL-GT behavior for those particular data types.

ACUCOBOL-GT Library Routines in Managed Code

ACUCOBOL-GT library routines that were previously only available in native code are now supported in managed code.

Associating File Extensions With the COBOL Language

This release includes enhancements to the way you associate file extensions and extensionless files with the COBOL language.

if you are importing existing COBOL applications into Visual Studio, it is recommended that you create associations with COBOL within the IDE for any extensions that are not traditionally used in COBOL.

Compiler Directives

The following new Compiler directives are now available

- DISPLAY - Defines the default behavior of standard DISPLAY statements.
- COMP1 - Specifies the behavior of a COMP-1 data item.
- COMP2 - Specifies the behavior of a COMP-2 data item.
- RESTRICT-GOTO - Generates a syntax error for GO TO statements that transfer control to outside of the current section.
- ILSMARTRESTRICT - Limits the generation of properties in ILSMARTLINKAGE classes to non-redefining elementary items.

The following Compiler directives have changed:

- DATAMAP - Two new parameters allow you to display either the address or offset values for data items in your program.

`.int, .gnt` and `.lbr` File Types Support

Support has been added within the IDE for compiling native COBOL applications to the Micro Focus legacy formats `.int` and `.gnt`, and to package these files as a Micro Focus library file (`.lbr`). Improvements include:

- An option to compile all native COBOL projects to `.int` and `.gnt` code. You can set this on the Application page in your project's properties.
- A new native COBOL project template, Micro Focus INT/GNT.
- An option to package the `.int` and `.gnt` files produced by the project as a Micro Focus `.lbr` library files.
- Improvements to the Net Express Project Import wizard that enable you to convert existing Net Express projects to Visual COBOL projects that compile to `.int` and `.gnt` code.

Managed COBOL Enhancements

Delegates and Events
This release provides support for combining delegates, using the METHOD keyword to specify method groups, and implicit conversion from a method group or an anonymous method to the suitable delegate type.

Handling Invalid Numeric Data
The handling of invalid numeric data is controlled by a number of Compiler directives: HOSTNUMMOVE, HOSTNUMCOMPARE and SIGNFIXUP. These directives were previously only available in native code but are now supported in managed code.

Resolving Types
In this release, the Compiler attempts to resolve types to those defined in the current compilation unit wherever possible. The Compiler will attempt to resolve such types to an external name only if no suitable type exists in the current compilation unit. For example:

```
$set ilusing"System"
class-id MyNamespace.EventHandler.
01 o type EventHandler.
end class.
```

In this release, `01 o type EventHandler.` resolves to *MyNamespace*`.EventHandler` and not to `System.EventHandler`.

Specifying Properties
In previous versions of the products, properties declared using the PROPERTY keyword on a data item were generated as final properties. Starting with this release, they are generated as virtual properties by default. In order to make the properties final, you need to specify the word FINAL following PROPERTY. This change may affect the generation of Proxy classes, for example, if you are using WCF.

OpenESQL

SQL Compiler Directive Options
OpenESQL has been enhanced to support the the following new SQL compiler directive options:

DATE	Controls the reformatting of date values in output parameters and in input parameter character host variables when DETECTDATE is also specified.
TIME	Controls the reformatting of date values in output parameters and in input parameter character host variables when DETECTDATE is also used.
DATEDELIM	Specifies a single character as the delimiter between the year, month, and day components to override the default delimiter determined by the HCOSS DIALECT or DATE directive specification.
TIMEDELIM	Specifies a single character as the delimiter between the hour, minute, and second components to override the default delimiter determined by the HCOSS DIALECT or TIME directive specification.

TSTAMPSEP	Specifies a single character as the separator between the date and time parts of timestamp and date/time data.
SQL Server	We now support Microsoft SQL Server 2012.

Main Features of Visual COBOL 2.1 for Visual Studio 2012

This version of Visual COBOL includes the following main features:

Integration with Visual Studio 2012

Visual COBOL provides support for the new features of Visual Studio 2012 and the Visual Studio 2012 Integrated Shell, including:

Compatibility (Project Round-Tripping)	The project round-tripping features enables you to use Visual Studio 2012 to open and edit a project created with Visual Studio 2010 without upgrading or changing anything. After closing the project, you can still open it in Visual Studio 2010 to make further changes.
	These are the requirements and the restrictions for using project round-tripping with COBOL projects:
	Note: • The version of Visual Studio 2010 being used to create and edit projects must be Service Pack 1. • For managed COBOL, the feature only works for applications that target versions of the .NET Framework 2 to 4. • There is a new format for COBOL SQL CLR projects in Visual Studio 2012. Such projects created with Visual Studio 2010 will be upgraded when you open them in Visual Studio 2012.
.NET Framework 4.5 Compatibility	Provides support for creating managed COBOL applications that target version 4.5 of the .NET Framework.
Reference Manager	Supports the new Add Reference dialog box which ensures a faster way for adding references to your projects.
Browse Code in Solution Explorer Hub	Supports the enhanced Solution Explorer Hub without the in-built class/object browser features.
Previewing Files in the Code Editor	Supports code preview for COBOL files which enables you to explore the files in your project without opening them in the editor.
Loading Projects Asynchronously	Enables you to load your source code in the IDE and start working on it faster even when you have large applications.
Search	Supports the enhanced search features across the IDE for COBOL projects.
Visual Studio 2012 Themes	Visual COBOL conforms to the new look and feel of Visual Studio 2012.
Microsoft Help Viewer 2.0	Provides support for the Micro Focus Help in Microsoft Help Viewer 2.0.

New SQL CLR Project Templates

The COBOL SQL CLR project template has a new format. COBOL SQL CLR projects created with Visual Studio 2010 will be upgraded when you open them in Visual Studio 2012.

Windows 8

Supports Windows 8.

Coexistence with Visual COBOL for Visual Studio 2010

Visual COBOL 2.1 for Visual Studio 2012 and Visual COBOL 2.1 for Visual Studio 2010 can coexist on the same machine. You can use either one of these versions to edit COBOL projects that are supported by the project round-tripping feature in Visual Studio 2012.

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:

ASP.NET

It is not possible to run ASP.NET Web Sites or Web Services on a production machine (one that has Micro Focus COBOL Server installed) without an additional setup. This is because the production machine does not contain development tools such as the COBOL Compiler. To workaround this, you need to do the following steps:

1. Precompile the site before you deploy it using the **Publish Web Site** command in Visual Studio.
2. Edit the `.asmx` file of the Web service project or the `.aspx` file of the Web site and delete the `Language="COBOL"` statement.
3. Edit the `Web.config` file with a text editor and delete the line which contains: `<compiler language="COBOL"...`
4. Ensure that a .NET Server license is installed using Apptrack.

COBOL Watchpoints

The debugger ignores a COBOL watchpoint that is hit if there is no statement following the statement that modifies the data on which that watchpoint is set.

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 aVisual 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.

Creating COBOL Projects from Selection

The documentation on creating COBOL projects from selection specifies that the newly created project has the same properties and references as the original project. You should also note that the new project has the default build configuration for the selected project type.

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).
- If you are accessing Vision files through the Vision file handler (as opposed to the default Micro Focus File Handler) and you are upgrading from Visual COBOL version 2.0 to version 2.1, you must first uninstall version 2.0, otherwise the Vision file handler may not function correctly.

Fileshare

A write of a record with an alternate key where the alternate key is the first value for that key may could 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).

Installation

- A bug in 64-bit Windows 7 may cause the display of the Compatibility Assistant dialog box during the installation of the product showing incorrectly that `aslmpclocate.exe` and `init2aslm.exe` are not compatible. The two utilities run properly and the installation is successful. To avoid receiving this notification, run Windows update and install update KB978637 before installing this product.
- If, when you start Visual Studio, you receive a message box about a Micro Focus package load failures, check that the Packages folder is on the PATH environment variable. If it is not, click No to disable loading the packages.

  If you accidently click Yes, you need to re-enable loading the packages, as follows:

  1. Open a Visual Studio command prompt from the **Start** menu.
  2. Enter the command:

     ```
     devenv /ResetSkipPkgs
     ```
  3. Reboot the machine.

     This should resolve the problem. The PATH is set up correctly and the packages are found.
- Installing this release as an upgrade to a previous version of the product might take longer compared to installing the product for the first time.

Native COBOL

On Windows XP, when building a native COBOL application in Visual Studio, a dialog may pop up with error "Unhandled exception at 0xc0006866 in cobol.exe: 0xC0000005: Access violation reading location 0xc0006866)". This is caused by Symantec antivirus runtime protection. To resolve this, you need to apply the following fix from Symantec: *http://www.symantec.com/business/support/index?page=content&id=TECH97280&locale=en_US*.

Visual Studio IDE

- In your project properties, the Application page currently allows you to select any of the static methods in the application as a Startup object. This is incorrect. You should always set only the first static method or the program name as a Startup object in order for the project to build.
- In Visual Studio, the controls on the COBOL page in the project properties are not displayed for a WPF project. To workaround this issue, open the Application page in the project properties and from the drop-down list under Output type choose the same output type that was already selected. Close the project property pages and save the project. The next time you open the project properties, the COBOL page is properly displayed.

- When compiling a native COBOL application in Visual COBOL for Visual Studio which contains resource files, you may receive compiler error "cannot open include file 'pshpack2.h'". To workaround this problem, ensure you have the Windows SDK installed on your machine, add the include folder in the Windows SDK installation (by default, `%ProgramFiles%\Microsoft SDKs\Windows\v7.0A\include` on Windows 7) to your include path, and recompile. Note: The Windows SDK is available as a free download from Microsoft's Web site.

Visual Studio Shell

The following restrictions apply if you are using the Visual Studio Shell:

- On Windows XP, when building a managed COBOL application in Visual Studio, you may receive a dialog box with error "The application failed to initialize properly (0xc0000005)". If you are running Symantec antivirus runtime protection then this might be the cause for this issue. To resolve it, *click here* to download a fix from Symantec.
- WCF is not supported so the WCF demonstration programs do not work and the project templates for WCF are not installed.
- There is no integrated designer for icon and bitmap files.
- The Windows SDK must be installed.
- Examples and demonstration programs that use languages other than COBOL do not work because Visual Studio Shell doesn't support any other languages. This applies to the following demonstrations:

    - CursorDemo
    - InterfacingWithStdCOBOL
    - LobDemo
    - OrderStatusDemo

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 Native Debug*
- *.NET Win ishcondition=""Form/WebForm*
- *Compiler*
- *Data Tools editor*
- *Documentation*
- *File Handling - External File Handler*
- *File Handling - Fileshare*
- *File Handling - Sort / JCL Sort*
- *MVS REXX Emulation*
- *Run-Time System*
- *Setup Issues*
- *SQL: COBSQL*
- *SQL: DB2 ECM*
- *SQL: OpenESQL*
- *Vision File System*
- *Visual Studio IDE*
- *XDB DCLGEN Utility*
- *XDB Server*
- *XML syntax support runtime*

.NET Compiler

- When compiling for managed code, you can no longer use the ALTER, ON or EXHIBIT CHANGED statements in class programs. You can only use these statements in procedural COBOL programs (i.e. programs specified with the PROGRAM-ID header).

  1084928 (2581987)
- When compiling to managed COBOL, we no longer produce an error for MOVE statements in which the source is a PIC N field and the target is an object reference of type string.

  1084133 (2572679)
- In managed COBOL, using the EXIT PARAGRAPH and NEXT SENTENCE statements in the same paragraph could lead to bad control flow.

  1084070 (2572411)
- When compiling to managed code, the ASSIGN TO DISK FROM data-name clause (of the SELECT statement) is now working correctly.

  1085027 (2582960)
- A write to a record of a file defined in a class could result in the generation of a bad code if that record was not referenced in your code.

  1083955 (2570957)

- The use of extended ACCEPT or DISPLAY statements in Windows applications (ilsubsystem"2") now produces error COBCH1634: Extended ACCEPT/DISPLAY not allowed with a Windows GUI executable (ILSUBSYSTEM"2"). Remove the syntax or change the output type of your application to 'Console Application'.

  1084365 (2575702)
- The directive NOIOCONV no longer causes the compiler to produce system errors when compiling for managed code.

  1071930 (2359629)
- When a pic x item is passed as a parameter to a method that is expecting a character (System.Character or char in C#), conversion from the current locale to the relevant Unicode character is performed. Previously, the conversion did not take place, causing corruption.

  1084595 (2577800)
- Access to indexers using zero-based indexing (e.g. display simpleIndexer[2]) is now working correctly.

  1084699 (2579210)

.NET ESQL Support

- The OpenESQL pre-compiler no longer converts underscores in COBOL host variables in EXEC SQL statements to dashes.

  1085254 (2585445)
- The default setting of SQL(BEHAVIOR) is MAINFRAME for versions of Visual COBOL and Enterprise Developer 2.0 and later. If you are upgrading existing applications that support ADO.NET, use Mirosoft SQL Server, and depend on cursors that are not explicitly declared as forward-only, read-only being implemented as ADO.NET datasets, ensure that in the latest version of the Micro Focus products they use the directive SQL(BEHAVIOR=UNOPTIMIZED), or update their code to declare cursors using the scrolloption 'dataset' that requires a dataset-based cursor.

  1084942 (2582082)

.NET Native Debug

- JIT debugging of 64-bit processes now works correctly in Visual Studio.

  589153 ( )

.NET WinForm/WebForm

- Using the UI to add COBOL switches or environment variables to a COBOL Web Application (right-click the configuration file in Solution Explorer and select Edit) no longer causes a configuration error when you run the application.

  1082871 (2558133)

Compiler

- The DBCSSOSI directive now compiles correctly.

  590357 ( )
- DISPLAY MESSAGE BOX ... RETURNING syntax now returns an E-level error message stating that it is unsupported in this COBOL system.

  584600 ( )
- You can now configure the DATAMAP clause to output either addresses or offsets. DATAMAP(ADDR) or DATAMAP with no option shows addresses. DATAMAP(OFFSET) shows offsets. Compile managed COBOL code sets DATAMAP(OFFSET) at the end of directive processing as addresses are not available for managed code.

1054182 (2093752)

- Compilation of ACU DISPLAY windowing syntax will no longer receive spurious internal error messages during a background syntax check.

591227 ( )

- Compiling with a large number of ADDSYN directives specified now works as expected.

1083917 (2567767)

- The maximum value for the PAGE LIMIT clause has been increased from 999 to 9999.

1084391 (2576431)

- DISPLAY(CONSOLE) is a new directive available to override the behavior set by RM or ACU directives, so that standard DISPLAY syntax is processed as standard ANSI DISPLAYs, directed to CONSOLE. RM and ACU directives set DISPLAY(CRT) immediately, allowing you to set DISPLAY(CONSOLE) after either of those directives, if required.

1084496 (2577799)

- A compiler bug that produced illegal int-code for "call ... returning pointer-item" under DIALECT(RM) has been fixed.

1085375 (2586367)

Data Tools Editor

- The Data File Editor now allows editing of an EBCDIC data file on a DBCS OS.

1083716 (2567163)

Documentation

- Information detailing the process of XML-enabling COBOL applications that was previously left out of the Visual COBOL documentation has been reinstated and is now available under Programming > COBOL Programming > XML Input/Output.

1084142 (2573343)

File Handling - External File Handler

- Reading IDXFORMAT"9" records non-transactionally over fileshare no longer causes any issues.

1083646 (2566578)

- When opening a mainframe file for input, the file is now not optional as per the mainframe.

1082362 (2506971)

- When attempting to OPEN I/O a read-only file using the RM/COBOL File Handler, a 37, 07 error message is displayed if the program is running in ANSI85 mode. The error message is not displayed if the program is running in ANSI74 mode.

1084329 (2573607)

- Cobfhrepro now works correctly when session id is specified.

590271 ( )

- Invalid XML syntax in MF.MFFH.XML has been corrected.

589406 ( )

- The maximum field length that MFSORT supports for PD summary fields is extended from 9 bytes to 18 bytes.

1084961 (2581353)

File Handling - Fileshare

- If you are accessing RM/COBOL files through Fileshare, the RETRYLOCK option is now working correctly.

  1084744 (2579930)

- Closing a file using FSVIEW now correctly removes the file from fileshare's open file table.

  587706 ( )

- The FSVIEW option 'stats get' gives the statistics for current users, peak users, file opens and peak file opens. The corresponding FSVIEW API is FSV-C-get-stats.

  1083664 (2567737)

- FSVIEW will no longer process the last command in a command file twice.

  589764 ( )

File Handling - Sort / JCL Sort

- The informational "Operand 'VLSHRT' Ignored" message has been removed from the sort sysout.

  1083225 (2562501)

- Using SYMNAMES sometimes caused SORT to use the wrong field position and lengths.

  1083320 (2563738)

- Data format FI is now supported in the OUTREC edit fields section.

  1083495 (2565051)

- SORT now works correctly when there are concatenated VB files with different record lengths in SORTIN.

  1084194 (2573990)

- SORT now gracefully handles the error when there is an INCLUDE/OMIT condition with invalid HEX/ Binary digit.

  1084231 (2574465)

- SORT now ignores the operand 'WORK' along with its value.

  1081023 (2533397)

- A sort using SORTTEMPSPACE no longer ever results in a COBRTS 252 error.

  1081943 (2546898)

- CENTWIN and Y2PAST are now supported as PARMS.

  1080717 (2531364)

- The MFSORT help screen now shows that OPTION is supported.

  590260 ( )

- SORT worked incorrectly for multiple fields to be converted in INREC/OUTREC/OUTFIL OVERLAY syntax.

  1084481 (2577157)

- The TOTAL field length calculation now works correctly when TOTALs are zeros.

  1082887 (2558079)

- Trailers are now included in the SYSOUT outfil record count.

  1084193 (2573272)

- Records following HEADER2 and HEADER3 will now be the correct length.

  590270 ( )

- Header lengths are now calculated correctly, taking line feeds into account instead of giving a SORT099I error. Headers will now be printed for outfiles that do not have any records.

  1083701 (2565909)

- SORT now works correctly when SYSIN is given as LSEQ PDS Member.

  1082529 (2550678)
- When using MFJTOOL with a VB input file, an appropriate error is thrown when the output file is not VB or has not worked successfully when the output file is VB. Previously, a COBRTS 139 error was thrown.

  1084567 (2577626)
- Sort now works correctly when OPTION COPY is given before the SORT FIELDS in SYSIN.

  1083679 (2565053)
- SORT caused different sort processing for large sort cards. This has been fixed so SORT now returns an error message and exits the sort processing when the sort card has more than 1024 INCLUDE/OMIT conditions.

  1084065 (2571660)
- When using MFSORT, smaller records are padded to the size of the minimum record length of a VB file and the record length is changed to the minimum of sortout.

  1082943 (2554482)
- Sort now displays HEADER2 at the start and TRAILER2 at the end of each page.

  1083702 (2566545)

MVS REXX Emulation

- The DATE() function now formats the year correctly when converting between a Julian and a standard date format.

  1083437 (2564240)
- The LISTDSI external function now correctly sets values for the SYSREFDATE and SYSMGMTCLASS variables.

  1084902 (2581611)

Run-Time System

- The call MVS_REGISTER_DDNAME is an MFE-only call used by the IDE. FileHandler no longer calls this routine.

  1083028 (2559292)
- IF NUMERIC validation of COMP-3 slack nibbles (when there is an even number of digits in the picture clause) is now done in a way that is compatible with that on the mainframe.

  1083801 (2569340)
- The RUN program now accepts command line arguments of up to 1023 characters long.

  1083215 (2561567)

Setup Issues

- When working on managed SQL applications, you no longer receive syntax check errors caused by some COBOL SQL .dll files that were previously missing.

  1084318 (2575613)

SQL: COBSQL

- The Cobsql preprocessor was updated to no longer misinterpret WORKING-STORAGE items whose definitions were spread across multiple source lines.

  1080078 (2507684)
- The Cobsql preprocessor has been updated to correctly process variables defined as USAGE COMP after an EXEC SQL INCLUDE SQLCA when the CP preprocessor directive NOSQL is specified.

1084463 (2577593)

- The Cobsql preprocessor has been updated to correctly process Pro*COBOL-generated data items when the first WORKING-STORAGE variable in user code contains a VALUE clause with the literal value on a separate source line.

  1084753 (2579264)

SQL: DB2 ECM

- The DB2 pre-compiler now generates GOBACK instead of STOP RUN at the end of program source, so that poorly coded programs do not fail when running under IMS or other transaction monitors.

  1083235 (2559616)

SQL: OpenESQL

- The OpenESQL preprocessor has been updated such that when a program or application is compiled with the SQL(DBMAN=ADO) compiler directive, the calls generated do not modify user data when a null value is returned.

  1083563 (2561563)
- The OpenESQL preprocessor no longer accepts singleton select statements that have no INTO clause, or host variables that are not preceded by a colon, apart from SQLDA references in dynamic SQL. In rare cases where a singleton select without an INTO clause is required, code it by placing the SELECT statement inside of a BEGIN/BEND block.

  1084430 (2576585)
- The ODBC Compiler did not identify specialized classes such as ENUMS, and incorrectly generated SQL interface code for them that caused Compiler errors. The ODBC Compiler has been enhanced so that it no longer generates SQL interface code for those classes.

  1083144 (2561349)
- Previously, the SQL pre-compilers did not always recognized the EXEC SQL INCLUDE statements during the syntax checking phase and returned incorrect error messages.

  1085057 (2582967)

Vision File System

- When you configure your application to return RM/COBOL file status codes, by setting COBFSTATCONV=rmstat, the codes returned are ANSI'85 codes.

  1082469 (2553438)

Visual Studio IDE

- Compile extensionless COBOL files with the IDE no longer fails.

  591781 ( )
- Previously, if you started debugging using CBL_DEUGBREAK and there was a COBOL source file open in the editor, when you stopped debugging its dictionary file (.idy) was not being released. This resulted in any subsequent builds and rebuilds failing. This problem has been resolved.

  588696 ( )
- The IDE no longer ignores certain Run-Time System errors from the Compiler which previously caused the build to fail without an explanation.

  591692 ( )
- The native COBOL projects in Visual Studio have been enhanced so that you can now build them to multiple executables - each COBOL program in the project producing a separate executable.

  590335 ( )

- Command line arguments are now passed to the program when started via the 'Start without Debugging' option in the Visual Studio IDE.

  568188 ( )
- You no longer receive an error message when adding an event handler to an object in a COBOL WPF project if the .xaml code behind file includes a class that does not have methods in it.

  591072 ( )
- A new setting has been added to the COBOL tab in the project properties, "Generate listing option", which produces an .lst file in a Listing subfolder in the project directory. The "Generate directives file" setting now generates the directive file in the project output directory.

  1077662 (2494484)
- Previously, Visual Studio used to always rebuild the entire project after you changed the project properties or added files when there were build error. This has been changed so that during subsequent builds Visual Studio only rebuilds the files that are out-of-date.

  1084393 (2576400)
- There is now a build summary report for projects that compile to multiple output files.

  1084506 (2578006)
- Using drag and drop in Solution Explorer to move a file from one project to another no longer leaves a copy of the file in the original project directory on the disk.

  592120 ( )
- A problem with using drag and drop to add files to projects in Solution Explorer has been resolved. It now correctly creates copies of the files in the project folder when the CTRL button is pressed.

  567446 ( )

XDB DCLGEN Utility

- A protection violation sometimes occurred when you used the XDB Declaration Generator tool on 64-bit Windows platforms.

  591030 ( )

XDB Server

- Support has been added to enable the execution of DESCRIBE INPUT statements.

  1079821 (2508551)
- A mutex deadly embrace no longer results in a server hang.

  1085199 (2583889)

XML syntax support runtime

- An issue with the PREXML preprocessor has been resolved and it now does not truncate data names longer than 30 characters.

  1085342 (2586384)
- In previous releases, the documentation for XML Input/Output was missing from the online help. This documentation is now included in the online help.

  1084119 (2572393)

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.

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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