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Visual COBOL is the industry leading solution for COBOL application development and deployment on Windows, Unix and Linux systems. It combines best in class development tooling within Eclipse and Visual Studio, with the flexibility of deployment across the widest range of enterprise platforms including .NET and the Java Virtual Machine. Visual COBOL is the most advanced COBOL toolset available for distributed application development.

This release includes dozens of enhancements based on actual customer requests. This document highlights a few of those enhancements. More details of the powerful features available can be found in the product specific data sheets.

PERFORMANCE

.NET and Java have become key deployment platforms across the enterprise with many business systems now exclusively .NET or Java based. Taking COBOL into these environments allows our customers to build out .NET or Java systems more quickly based on functionality within their existing COBOL systems.

To ensure COBOL systems continue to provide optimal performance, this release includes many enhancements to increase runtime performance. While performance gains will vary from application to application, many common COBOL operations have seen significant boosts in performance. These optimizations include:

• CALL statements are on average 30% faster

• Very large programs are now generated more optimally enabling the JVM to generate code for faster execution. Often, showing improvements many times faster than previously seen.

• Packed decimal operations are now 200-300% faster

• File and directory searching in .Net is now over 600% faster

• File Handling operations up to 15% faster

COBOL JVM

With Visual COBOL, COBOL applications can be compiled to Java Byte Code and deployed directly within the Java Virtual Machine. Coupled with the power of Java Application Servers, COBOL applications can now provide back end functionality for web services and web applications.

Java Application Servers

This release sees our coverage increase to include the industry's leading Java application server platforms including IBM WebShpere, Oracle Weblogic, JBOSS and Tomcat.

Web Tools Platform

To make building COBOL web applications even easier using COBOL JVM, Visual COBOL now ships the Eclipse Web Tools Platform (WTP) as standard. The WTP extends Eclipse with tools for developing Web and Java EE applications. It includes source and graphical editors for a variety of languages, wizards and built-in applications to simplify development; and tools and APIs to support deploying, running, and testing apps.

Web Services and JSP Tutorials

With this release, we include tutorials and getting started guides for deploying COBOL applications within a Java App Server. The tutorials take you through the complete process of downloading, installation and configuration of the app server, through to creating a web service or JSP application and invoking a COBOL program to provide the backend service functionality.

JDBC Connection Sharing

Deploying COBOL applications within the JVM often means COBOL applications will provide back end functionality to Java modules. To help applications share resources across COBOL and Java, COBOL applications can now access existing database connections created in Java, ensuring efficient use of database resources and consistency of transactional operations.

ENTERPRISE SERVER FOR J2EE AND WEB SERVICES DEPLOYMENT

Enterprise Server is a scalable transaction processor for COBOL systems and is now available within Visual COBOL. Enterprise Server offers a high-performance and robust platform for hosting COBOL systems that integrate with Java App Servers, or for

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exposing COBOL systems as web services with no compromise on performance as they continue to execute as native code. Using a graphical editor called the Interface Mapping Toolkit, COBOL developers can quickly create entry points into existing COBOL programs that are then accessible to a wide range of other programming languages and 3rd party toolsets.
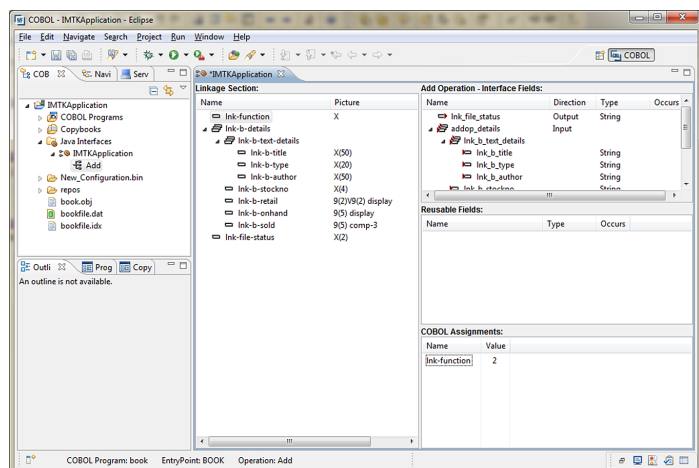
*Creating a web service using the Interface Mapping Toolkit within Eclipse*

ECLIPSE AND VISUAL STUDIO

Visual COBOL continues to set the benchmark for COBOL application development with many new features designed to increase efficiency of development teams and on-board new COBOL developers faster than ever. New features include:

Smart editing – COBOL source code can be edited in a variety of styles including traditional fixed format as well as free format. The Visual COBOL editor in Eclipse and Visual Studio is now sensitive to these different styles, adjusting keyboard handling and preserving formatting (including comments) based on the current source format.

Copybook dependency view – A new tool window which shows copybooks used within a program making it easy to find dependent source files. As well as seeing what copybooks a given program is using, developers can also quickly identify which programs in the project share copybooks.

Advanced COBOL Searches – COBOL Source Information is now available enabling developers to quickly find items of interest such as fields, paragraphs and even COBOL verbs.
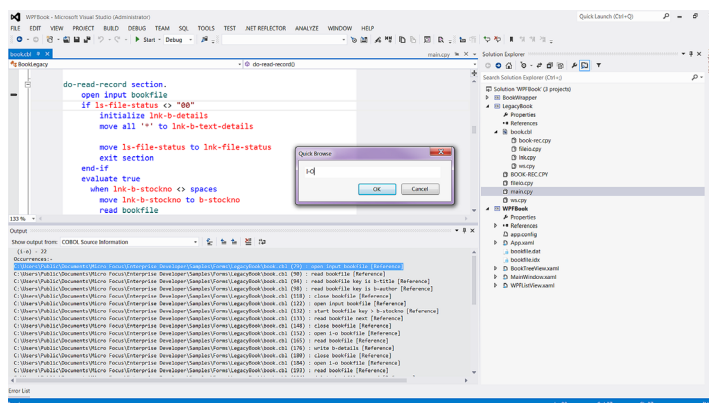
COBOL Source Information output from Visual Studio showing all occurrences of file IO usage within a program

Faster project loads and builds – Visual Studio and Eclipse integration has been optimized to provide better support for larger code bases. Projects load faster, background parsing and developer tools are more responsive and improved project dependency analysis means only out of date source files are recompiled.

Filter views – filtered views now organize source files and copybooks into separate virtual folders. Developers can also create customizable filters to organize source files based on file extensions.

Expanded source view – Introducing the expanded source file functionality within Visual Studio 2012. This view enables the developer to see the entire program including all dependent copy files within a single editor view. Source files and copybooks can now be edited inline and also show the effect of copy replacing.

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Error Markers – icons now identify the source file in error within the Visual Studio Solution Explorer and Eclipse Package Explorer, making it quick to see at-a-glance which source files have problems.
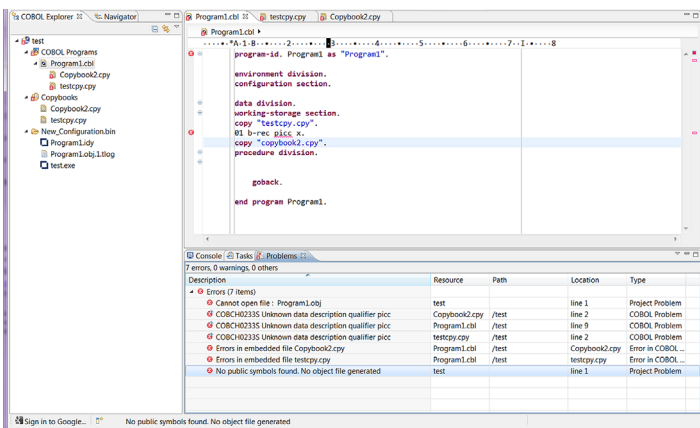
Eclipse enhanced error markers and copybook dependency view

Multi-output .NET projects – COBOL projects targeting .NET can now generate multiple executables per project making it easier to move large codebases into .NET.

Quickfix hints - Missing copybooks can now be fixed up quickly within Eclipse using an automatic quick fix tool.

Copybook projects – Eclipse now supports copybook projects which allow copybooks to be easily shared and accessed across multiple projects within the workspace without the need to setup external folders.

OpenESQL Assistant – The OpenESQL Assistant makes it possible to quickly generate and test COBOL snippets that connect to and query relational databases. This is now available within both Eclipse and Visual Studio.

Azure support – Microsoft Azure support is now included as standard in Visual Studio. This support enables .NET COBOL applications to be deployed into the Microsoft Azure Cloud.

Eclipse – Visual COBOL now includes support for Eclipse 3.8 and Eclipse 4.3.

RESTful Web Services – Visual Studio users now also have access to a new project template for creating RESTful web services using ASP.NET. RESTful web services have gained in popularity and can now be used to access COBOL programs on the backend.

Visual Studio outlining on paragraphs and sections – The Visual Studio editor now provides outlining on COBOL sections and paragraphs making it possible to get extra screen estate by hiding sections of code.
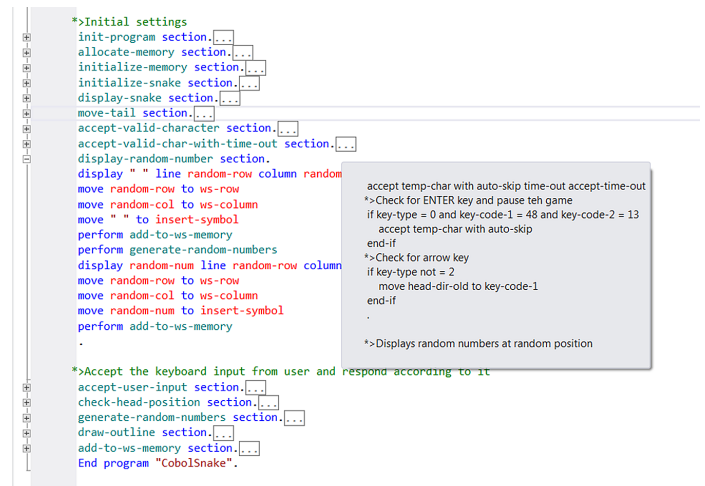
Collapsible regions in Visual Studio

Visual Studio 'watch' window – The watch window now supports mixed hex/text data formats. Developers can view the same field in both hex/text without needing to switch between modes.

COBOL LANGUAGE

Micro Focus is committed to evolving the COBOL language to ensure it continues to offer the best choice for business applications. In this release new COBOL syntax for managed code includes:

• Optional parameters

• Named parameters

• Event attach/detach

• Delegate combining

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The Visual COBOL Samples Browser provides examples of how to use these new features.

VISUAL STUDIO 2013

Visual Studio is the flagship development platform from Microsoft. With integration already in Visual Studio 2010 and 2012, Micro Focus is pleased to announce support for COBOL development within Visual Studio 2013. To take a closer look at the features for yourself, start your trial here www.microfocus.com/vs2013
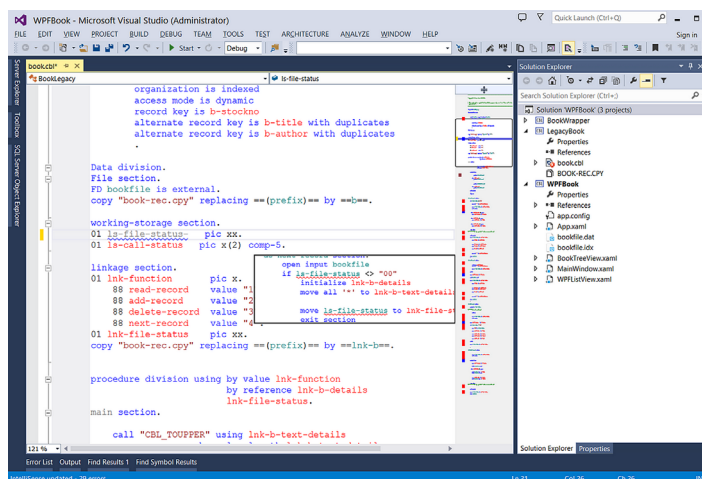
Visual Studio 2013 – showing enhanced scrollbar and preview window

PLATFORM SUPPORT

Micro Focus is committed to assuring the long term success of its customers' applications. Key to this is our focus on COBOL application portability across the enterprise. Micro Focus executes thousands of test cases across all supported operating system and processor combinations, including 32 and 64-bit, .NET and JVM, ensuring COBOL applications run with the same reliability our customers have come to depend on no matter where the application is deployed.

Supported Operating Systems are listed below - if your operating system is not covered here, please discuss this with your account manager as we may still have coverage for your environment:

Windows on Intel x86/x64

• Windows Vista

• Windows XP

• Windows 7

• Windows 8.1

• Windows Server 2003

• Windows Server 2008

• Windows Server 2012 R2

AIX

6.1 / 7.1

Linux on Intel x86/x64

SUSE 11 SP2/SP3

Red Hat 5.10, 6.5, 7.0

Oracle Linux* 6.5, 7.0

* Includes both Red Hat Compatible and Oracle Unbreakable Kernels

z/Linux on 390

SUSE 11 SP2/SP3

Red Hat 6.5, 7.0

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Solaris

Solaris 10, 11.1 on SPARC

Solaris 11.1 on Intel

HPUX

HPUX 11i v3 (11.31) on Itanium

SUPPORTED DATABASES

Micro Focus supports ODBC, JDBC and ADO.NET database access using OpenESQL. Supported database configurations include:

• Microsoft SQL Server 2008 R2, 2012

• IBM DB2 9.5, 9.7, 10.1, 10.5

• Oracle 11g R1, 11g R2, 12c

Other relational databases are also supported. Please contact your account manager if you have other database requirements.

MICROSOFT .NET

All versions of the Microsoft .NET Framework to version 4.5.2 are supported.

SUPPORTED APPLICATION SERVERS FOR COBOL JVM

Micro Focus has tested COBOL JVM deployment against these known configurations:

Tomcat 7.0.39	JRE 1.6.027	
JBoss Application Server 6.1	JRE 1.6.027	
Oracle WebLogic 12.1.1	JRE 1.6.027	IBM JRE 1.6.1 SR10 FP1
IBM WebSphere 8.5	JRE 1.6.027	IBM JRE 1.6.1 SR10 FP1

SUPPORTED APPLICATION SERVERS FOR ENTERPRISE SERVER

Micro Focus has tested J2EE deployment with Enterprise Server against these configurations:

• WebSphere 8.0, 8.5

• Oracle WebLogic Server 10.3.5, 12.1.1

• JBoss Application Server 5.1, 6.1

Middleware

• Tuxedo and Tuxedo ART 12.1.3c

DEVELOPMENT ENVIRONMENTS

• Visual Studio 2010, 2012, 2013

• Eclipse 3.8, 4.3

Please note Eclipse support is provided on Windows and Linux systems. Remote development support is available for Unix platforms using the features of Visual COBOL Development Hub in combination with Visual COBOL for Eclipse.

For More Information

Interested in finding out more details or upgrading to Visual COBOL? Ask us about our free of charge Value Profile service.

http://www.microfocus.com/services/value_profile_day_service. aspx

For additional information please visit: www.microfocus.com