

## Data Sheet

### BUSINESS CHALLENGE

Users of business IT applications increasingly demand that the applications become easier to use and integrate with other business systems. As a result IT organizations are asked to deliver modern user interfaces and integrate multiple business systems.

At the same time IT continually strives to reduce operational costs and risks by standardizing on common platforms for all their applications – allowing the same tools and processes to be used regardless of programming language used to build the applications. Microsoft's .NET framework and the Java Virtual Machine (JVM) are widely seen as the standard frameworks of choice.

Often those applications run on aging or even unsupported hardware and software environments. Moving to commodity hardware and standard frameworks can return considerable cost savings and business agility.

Previously IT organizations and ISVs considered their only option to deliver the new features and deploy into the standard frameworks was rewriting business applications in Java or C#. This introduces both cost and risk for little added value. With Visual COBOL the application can remain in COBOL and the application provider can choose to deploy in native code or as managed code for .NET or JVM platforms, gaining the benefits of the platform and the traditional strength and reliability of existing application.

Skilled IT programming resources in any enterprise business language are becoming increasingly hard to find. By standardizing on the leading integrated development environments (IDEs) – Visual Studio and Eclipse – and ensuring COBOL is a first-class citizen in those IDEs, IT teams and ISVs can easily move programmers between projects regardless of the programming languages being used – increasing business agility and reducing costs.

### PRODUCT OVERVIEW

When considering the tools needed to build, test and deploy these business applications on Windows platforms as native code or as .NET managed code, Visual Studio represents the best IDE available today. Micro Focus Visual COBOL's extension for Visual Studio 2010 or 2012 delivers the richest development experience for COBOL programmers available on Windows. In parallel, the COBOL language has been enhanced to make it even easier to use for .NET applications.

Micro Focus Visual COBOL provides tools and examples to build modern Windows and Web applications. It also introduces further programmer productivity features such as the new 'Project Details View' and other tools to make it easier to reuse existing code from Net Express, RM/COBOL or ACUCOBOL.

An optional add-on for Visual COBOL for Visual Studio extends the COBOL support for building, testing and deploying COBOL applications to the Microsoft Windows Azure cloud platform.

### BUSINESS BENEFIT

Visual COBOL provides familiar, high-performance developer tools to address the needs of modern business IT. By combining rich tools with a modern language, existing applications can be reused in new ways, integrated with other systems and deployed to cost-effective and robust execution environments.

Visual COBOL for Visual Studio is a part of the Visual COBOL product portfolio from Micro Focus which includes testing and developer productivity tools.

### FEATURE OVERVIEW

- Fully integrated COBOL development environment delivers high programmer productivity by exploiting Visual Studio tools and providing instant feedback.
- Support for both Visual Studio 2012, the latest major release, as well Visual Studio Visual Studio 2010.
- Enhanced COBOL syntax for .NET development makes it easier for COBOL programmers to use .NET services or for programmers with .NET experience in other programming languages to be productive with COBOL.

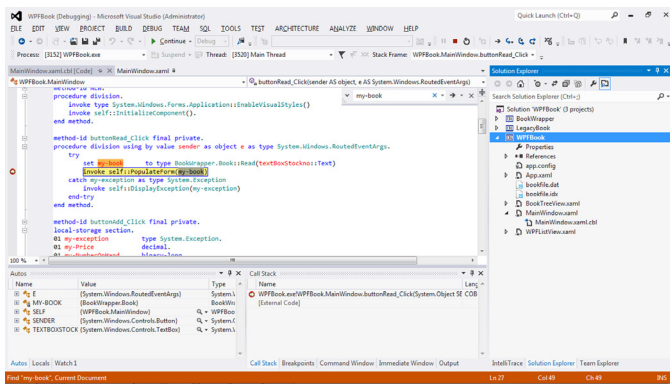
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- Visual COBOL supports the development and deployment of both 'managed' .NET (with multi-targeting for .NET Framework V4.5 and earlier versions) and 'unmanaged' native code applications.
- Visual COBOL includes new project templates for Web applications using Microsoft's ASP.NET framework
- SQL Server Stored Procedures can be built and deployed from Visual Studio.
- Build COBOL applications for the cloud running on Microsoft's Azure platform
- Selected extend@ compatibility including data types, selected C\$ runtime calls and the Vision file handler
- Selected RM/COBOL compatibility includes syntax extensions and the RM/COBOL file handler

### DETAILED FEATURE OVERVIEW

#### COBOL IDE

Fig 1: Modern COBOL IDE using Visual Studio 2012



The Visual Studio editor has been extended to enhance COBOL programmer productivity. These changes include visual indication of COBOL margins which are sensitive to the COBOL margin directive currently being used, enablement of the Visual Studio program navigation features for COBOL, code snippets, COBOL comment structures and more.

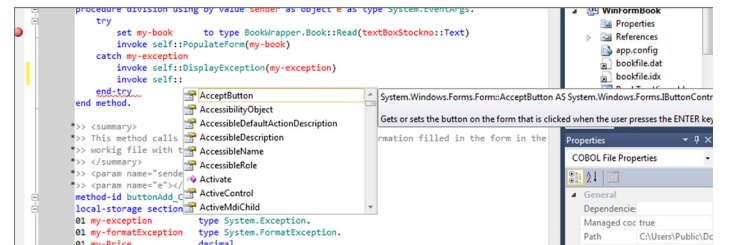
COBOL sensitivity is extended to support COBOL methods and data items in IntelliSense. Background parsing continuously ensures that the code being worked on will compile cleanly.

The Visual Studio debugger fully supports COBOL in data queries, data tips, watch windows etc. and control over the program execution flow.

#### Modern COBOL

As COBOL has historically been case-insensitive, interoperability with .NET methods has been less intuitive than it should be. For example method or member names had to be enclosed within quotation marks. Visual COBOL removes these restrictions so the code is more natural for .NET programming while retaining COBOL's traditional ease of understanding. Unnecessary COBOL elements such as 'REPOSITORY' have been made optional which greatly reduces the size and complexity of a COBOL .NET program, improves readability and simplifies the learning process for C# or VB programmers.

Figure 2: Modern OO COBOL with IntelliSense



#### WEB APPLICATIONS

Visual COBOL includes project templates for ASP.NET applications using COBOL as the language for 'code behind' logic. These templates are extended, with an optional add-on, to build COBOL applications for deployment on the Windows Azure platform.

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### USER INTERFACE MODERNIZATION

Visual COBOL integrates with powerful user interface design tools available within Visual Studio. COBOL developers can create sophisticated user interfaces using WPF, entirely in COBOL, or alternatively, can build VB or C# user interfaces that use backend COBOL logic.

### Relational Database Support

The OpenESQL toolset provides support for COBOL applications accessing any ODBC or ADO enabled relational database using the familiar 'EXEC SQL' syntax. It also includes tools to make it easy to build new SQL queries based on existing databases.

SQL Server Stored Procedures written in COBOL can now be built and tested in Visual Studio. They can then be published directly or indirectly into SQL Server using the standard tools provided by Visual Studio.

### Extend® Compatibility

It was already possible to move many **extend®** applications to Visual COBOL but work was needed to update the source code where the applications used some of the advanced features. Now **extend®** compatibility in Visual COBOL data types and selected runtime calls means that less work is required to make the move. Compiler warnings highlight code that may need work to be used in Visual COBOL. The inclusion of Vision, the **extend®** file handler, allows existing data files to be reused with Visual COBOL without requiring any risk or effort to migrate the data files.

### RM/COBOL Compatibility

Visual COBOL provides new RM/COBOL compatibility including syntax extensions such as XML Extensions and CALL run time behavior to make it easier to move existing code to Visual COBOL. The RM file handler is also included to avoid having to migrate the application's data. RM/COBOL Business Information Server® (XBIS) is also available as an optional add-on to make it easier to migrate existing XBIS applications.

### COBOL Server

Visual COBOL is built on a new Micro Focus COBOL platform known as COBOL Server. This major reworking of the COBOL platform simplifies installation and reduces memory footprint. A standalone COBOL Server is available for deploying applications developed with Visual COBOL. A test license version of the Runtime is provided with Visual COBOL for system testing.

### PLATFORMS

- Windows Vista
- Windows XP
- Windows 7
- Windows 8
- Windows Server 2003
- Windows Server 2008
- Windows Server 2012

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