Micro Focus and IBM WebSphere

For over 25 years, Micro Focus has created a range of analysis and development environments around COBOL. These environments have enabled organizations to develop and deploy COBOL applications on PC and UNIX environments, and to offload the development of IBM mainframe COBOL applications to desktops for deployment on IBM OS/390 running IBM CICS/ESA, IBM IMS/ESA and IBM DB2 Universal Database.

For those with interest in or those who are considering investing in Micro Focus technology and IBM WebSphere technology, this document briefly covers some of the basics of WebSphere and our current product support for WebSphere.

What is WebSphere?

The IBM WebSphere software platform is a family of products and offerings built on open standards and J2EE designed specifically for business systems. This family of products provides the middleware and development tools and an application server that companies require for growth and expansion of their businesses. WebSphere allows users to develop, deploy, maintain and publish their business systems to an application server that is expandable, scalable and secure. For developers this means they can learn WebSphere technology, which IBM claims they will use throughout their careers. For companies this offers a platform on which they can integrate the application server into a broad infrastructure of servers, web applications, data, and business processes. Being Java based, it can be thought of as the direct competitor to the proprietary .NET system supported by Microsoft. WebSphere fundamentally provides a platform to accomplish three things:

- Access information across a spectrum of users and devices
- Integrate and automate business processes
- Build, connect, and manage multiple applications

The WebSphere Software Platform incorporates over 50 products including the Application Server, a transaction processor (TXSeries,) and message queuing (MQSeries) to name just a few. At the heart of the WebSphere Software Platform is the WebSphere Application Server, which comes in three basic packages:

Enterprise Edition: A Java application server for highly transactional, high volume e-business
Advanced Edition: An enterprise JavaBean server for complex distributed environments
Standard Edition: A web server for sites with Java Servlets, Java Server Pages, and XML
A single Java™ engine powers them all, so you can easily port your applications across editions when your needs change. The WebSphere software platform includes the following:

IBM WebSphere® Studio

This product family is a single, comprehensive development environment designed to meet development needs - from web interfaces to server-side applications, from individual development to advanced team environments, from Java™ component development to application integration. WebSphere Studio enables developers to use a single development environment that is designed to meet their specific development needs.

IBM WebSphere® Application Server

IBM WebSphere Application Server Version 4.0 is a Java technology-based web application server, integrating enterprise data and transactions with the e-business world. It provides a rich, e-business application deployment environment with a complete set of application services including capabilities for transaction management, security, clustering, performance, availability, connectivity and scalability. The IBM WebSphere Application Server runs on AIX, HP-UX, Linux, NetWare, OS/2, OS/390, OS/400, Solaris, Windows 2000, Windows NT and z/OS. IBM places an emphasis on the architecture of WebSphere as an integration platform of both front-end technologies and back-end services. WebSphere does not replace, but extends the traditional IBM mainframe software

platforms. WebSphere helps combine and extend existing CICS, IMS, and DB2 transactional applications to web applications.

See http://www-4.ibm.com/software/webservers/appserv/

Support for WebSphere within Micro Focus Products

Micro Focus' direction is to supplement the development and deployment facilities provided by IBM for the WebSphere foundation products (WebSphere Application Server, TXSeries and MQSeries) with our own world-class development environments. This strategy is consistent with how we have supplemented the development and deployment facilities provided by IBM with their COBOL, CICS, IMS and DB2 products. Micro Focus has already implemented support for the WebSphere software platform in a number of key areas. Examples of this are:

WebSphere Application Server for Windows NT support in Micro Focus Net Express® was added to support the deployment of COBOL server programs under WebSphere on machines running Windows. For more information, reference the white paper From COBOL to Enterprise JavaBeans with Net Express.

WebSphere Application Server for AIX support in Micro Focus Server Express™ was added to support the deployment of COBOL server programs under WebSphere on machines running AIX.

WebSphere Application Server support within Micro Focus EnterpriseLink® to enable access to existing CICS transactions through Java, JavaBeans or Enterprise JavaBeans running on WebSphere, on servers running Windows, AIX or z/OS.

MQ Series and TX Series support is in the following Micro Focus products:

Mainframe Express® - enables the development and testing of applications utilizing MQ Series and Transaction Server on MVS and z/OS on Windows workstations.
Net Express - enable the development and testing of applications utilizing MQ Series and TX Series on Windows.
Server Express - enable the development and testing of applications utilizing MQ Series and TX Series on AIX.
EnterpriseLink with Component Generator - enable scalable and robust connectivity to CICS transactions wrapped as JavaBeans and Web services in WebSphere Application Server.
See Micro Focus to provide COBOL support for IBM Eserver Zseries offering for Linux

See See http://www.microfocus.com/whitepapers/index.asp

The Future of COBOL with WebSphere

COBOL is the original 'write once - run anywhere' programming language. Micro Focus customers have a 25-year history building large-scale business applications in COBOL to run across a wide range of hardware and software platforms.

Java is also a 'write once - run anywhere' programming language, but by adopting an open approach to standards development, Java has rapidly become much more than a language. Java 2 Enterprise Edition (J2EE) provides comprehensive 'architectural' features normally associated with proprietary operating systems and hardware vendors. Java also provides direct access to a wealth of new technology opportunities on the Internet.

COBOL's ability to process business data safely and at high speed (for example, performing decimal arithmetic calculations) and its very clear and logical procedures is second to none. Coupled with high performance databases and Transaction Processing Monitors (TPMs), COBOL provides the proven and highly scalable platform for processing business transactions.

Many development organizations now wish to standardize on the Java platform. It is an attractive alternative to traditional mainframe infrastructure; not only because it standardizes application

management functions (transactions, sessions, security, etc.) but also because a growing community of vendors and developers support development of the platform itself.

A key question, which many customers now face, is: "How do we embrace Java and the J2EE platform given that our principal business processing software assets are written in COBOL?" The answer to this question lies in the integration of the IBM WebSphere J2EE platform and the COBOL, CICS, IMS and DB2 platforms. It is then not a question of COBOL or Java, but a question of the possibilities opened with a mix of COBOL and Java. This provides a lower cost and certainly a lower risk to re-writing applications in the Java language and migrating COBOL data to relational databases. COBOL and the Java platform provide a powerful combination of proven industrial-strength business transactions fully integrated with standard Application Server and Web Server Java features without compromising the value of either programming language.

IBM is building scaleable and secure integration points between these platforms using industry-standard protocols. These integration points ensure that traditional Quality of Service features (transactions, security, scalability, etc.) apply to the composite application model. By using COBOL and the Java platform, customers will be able to choose the pace at which they exploit new Java features to enhance, upgrade, supplement or replace existing applications.

Micro Focus believes that the IBM approach to combining the power of COBOL and Java is the right approach. We have a number of new initiatives in place to ensure that investment in Micro Focus COBOL tools represents an investment in the future of Java and the WebSphere software platform. For example, we are extending our Mainframe Express product suite to facilitate easy development and testing of new WebSphere composite applications that combine and extend existing CICS, IMS and DB2 transactional applications.

Micro Focus

Micro Focus is the industry leader in COBOL development solutions ranging from traditional maintenance and program understanding to business rule mining, Web-enablement and user interface transformation. Over 70,000 licensed users at more than 7,000 sites around the world use Micro Focus' unsurpassed breadth of platform support, performance and scalability. Micro Focus offers the most comprehensive suite of development and integration environments to help customers succeed in taking full advantage of the power of their legacy systems. Founded in 1976, Micro Focus is a global company that employs more than 450 people worldwide with principal offices in the United Kingdom and North America. For more information, visit www.microfocus.com .