



# Consolidate .NET Assets onto Open Systems

## Enterprise Challenges

- High-cost & complexities of a mixed .NET/Java production and development environment.
- Dual licensing, management costs.
- Complex disaster recovery planning in a mixed production environment.

## Mainsoft, Enterprise Edition

- Develop and maintain Web and server applications using C#, Visual Basic 2.0, and the Visual Studio 2005 IDE.
- Port existing server and ASP.NET 1.1 and 2.0 applications and deploy them on Java EE 1.4 or 1.5 compliant application servers.
- Runtime certified by Sun as Java Powered for the Enterprise.

## Enterprise Benefits

- Preserve existing code and developer skill sets.
- Extend the security, reliability, scalability, and performance of Java EE servers to .NET applications.
- Eliminate dual licensing and management costs.

*“Using Mainsoft, we’re developing a Web interface for a Solaris-based Telekurs PayNET electronic invoicing system just as we would develop a typical IIS application; we don’t even consider it’s running on UNIX...Mainsoft did such a good job with its cross-compilation product that developers don’t really have to know anything about Java to successfully complete a project.”*

**Gerry Gucher, President**  
Tachyon Software Engineering



For organizations that have selected Microsoft® .NET for application development, the choice of server platform has, until recently, been limited to Microsoft’s Windows Server. However, many organizations are now looking to decouple production decisions from application development investments, primarily to enhance business flexibility and operational security as well as minimize the cost of service delivery.

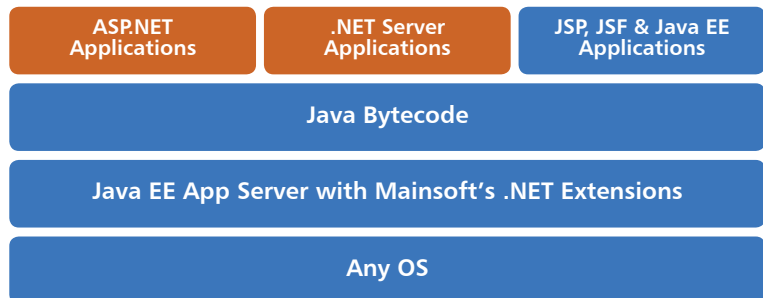
Since 1993, Mainsoft Corporation, a leading provider of .NET-Java™ EE interoperability solutions, has given businesses the flexibility to run applications developed using Microsoft’s Visual Studio® development environment on Java EE application servers and portal servers. Unlike with bridging solutions or emulation technologies, customers deploy .NET applications natively on the Java EE platform, without having to retrain .NET developers or reengineer the .NET code.

## The Best of .NET and Java EE

With .NET developers well established in many enterprises, the freedom to deploy applications on open Java platforms such as IBM System z9 servers means the best of both worlds. Enterprises can tap into the high productivity of Visual Studio® development and enjoy extremely high availability and unparalleled security of the IBM mainframe. In addition, customers can add new workloads onto the mainframe, thereby enhancing the overall utilization of the platform and optimizing the cost of ownership of both the mainframe and the .NET applications.

Mainsoft empowers enterprises to:

- Standardize on an enterprise Java EE infrastructure using in-house .NET development teams.
- Move to a unified Java EE security model, eliminating the liabilities of a mixed security model.
- Simplify disaster recovery planning.
- Boost scalability and performance for distributed enterprise applications.
- Eliminate dual management and licensing costs.



ASP.NET and server applications deployed on a Java EE application server.

## Simplify Application Development Across .NET and Java

Mainsoft enables enterprise IT to deploy enterprise .NET and Java applications on the Java EE platform while fully preserving existing skill sets. C# and Visual Basic® developers continue working closely with business analysts to understand and refine the business requirements, and they continue using the latest Visual Studio development technologies, including Visual Studio 2005 and ASP.NET 2.0 features and controls, to develop and maintain their enterprise .NET applications. The main difference is the .NET applications are now running on the Java EE platform.

Mainsoft, Enterprise Edition, introduces the ability to reference and consume Java components including Java APIs within the Visual Studio IDE, compile the .NET application to Java EE, and deploy the entire application on Java EE servers such as WebSphere® Application Server and Tomcat.

## Productivity

- Supports Visual Studio 2005. Support for Visual Studio 2003 available in version 1.8.
- C # and Visual Basic 2.0 languages support, including generics, partial classes, and nullable types.
- .NET Framework 2.0 support, including support for the ASP.NET 2.0 Web development Framework.
  - ASP.NET out-of-the-box authentication and role-based security, login controls, and a redistributable pure Java Web site administration tool.
  - ASP.NET Web application personalization support using a pure Java embedded database - Apache Derby.
  - Master pages to define common structure and interface elements to your Java EE Web applications.
  - Data controls that enable declarative data access to any database using a JDBC driver or using JNDI DataSources.
  - Navigation controls for navigating between pages in your Web application using tree view, menu, and sitemap path.
  - Localization using Visual Studio's built-in tools to dynamically generate resource files and localization references.
- ADO.NET 2.0 classes for both disconnected mode and connected mode classes, except for the new classes specific to Microsoft SQL Server 2005.
- ASP.NET Web Services 2.0, including SOAP 1.2 and WS-I Basic Profile 1.1.
- Added support for 2.0 APIs in all other .NET Framework libraries, specifically in core, System XML, and Web.services libraries. For details, see *Leveraging the Mainsoft Framework* in the product documentation.

## Integrated Debugger

- Preserve the Visual Studio debugging experience, including generics type visualization.
- Integrated build, run, and debugging capabilities for Java-enabled applications from within the Visual Studio IDE.
- Debug across Visual Basic, C#, and Java.

## Robust ASP.NET Porting Capabilities

- Built-in support for single source code development for .NET and Java EE.
- Integrated Java EE project generation wizard.
- Platform-specific conditional code compilation.
- Broad support for .NET 2.0 Framework assemblies, including, mscorlib, System, Configuration System.XML, System.Data, System.Web, System.Web.Services, System.Drawing, System.Runtime.Remoting, System.Runtime.Serialization.Formatter.SSoap, System.DirectoryServices, Microsoft.VisualBasic.jar.

## Java Support

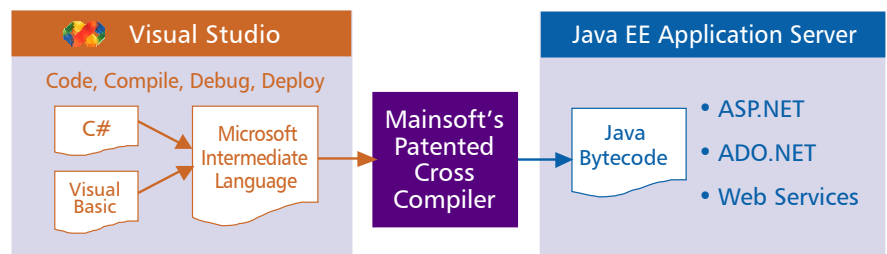
- Generated Java bytecode is fully compatible with 1.4 specifications.
- IBM WebSphere Application Server 6.0.2, 6.1.0.3, and higher.
- Apache Tomcat 5.5.
- Mainsoft's Portal Edition supports IBM WebSphere Portal 5.1 and 6.

## Customer Success Story

Opal Future Technologies provides IT infrastructure for eight pension funds that are regulated by the Israeli government. To reduce operating costs, the government tasked Opal with consolidating the pension funds' information management systems – including customer relationship management, data mining, investments management, help desk, suppliers' management, and a few dozen other services – into unified system services, together with a central pension fund calculation engine and more than 30 terabytes of data. Opal had less than four months to integrate dozens of .NET and Java support services into an Intranet site running on WebSphere Portal 6 that would enable pension fund managers to administer the funds. Rather than rewrite the .NET services in Java, the company's enterprise .NET developers used Mainsoft, Portal Edition, to deploy its existing .NET services natively on the WebSphere Portal, changing less than one-half of one percent of its .NET code base in the process. Opal delivered the Intranet site on schedule. The next phase will open the portal to more than three million pensioners via the Internet.

## Enabling Technology

Mainsoft is a cross-platform product suite that integrates seamlessly into the Visual Studio development environment and takes the Microsoft Intermediate Language (MSIL), compiled from C# or Visual Basic, into Java bytecode, which runs on Java EE servers. Validated by IBM as Ready for WebSphere® Software, Mainsoft's Portal Edition can be used to portalize applications for IBM WebSphere Portal Server 6.



*Mainsoft introduces a patented technology enabling the cross compilation of the Microsoft Intermediate Language (MSIL) into Java bytecode. Developers can write programs in either C# or Visual Basic and transparently compile their source code directly into Java bytecode. The runtime has been certified by Sun as Java Powered for the Enterprise. Mainsoft then packs the generated class files in a standard WAR file and deploys it on the Java EE application server. Mainsoft also includes a robust Java runtime implementation of ASP.NET, ADO.NET, and of the most common .NET namespaces, allowing you to run .NET code on the Java EE platform. Mainsoft's .NET Framework sources were developed in partnership with the Mono community.*

## Turnkey Porting Services to Java EE

Over the past decade, Mainsoft's Professional Services team has developed a proven, systematic porting methodology that addresses the most common and most problematic challenges of complex porting projects. Mainsoft will port .NET Web and server applications to Java EE on a fixed-time, fixed-cost basis, porting an average 10,000 lines of code per day. Mainsoft also provides troubleshooting support for Visual Basic and C# applications running on Java EE servers.

## About Mainsoft Corporation

Founded in 1993, Mainsoft Corporation is a leading provider of .NET/Java EE interoperability solutions. The company's product suite and services enable businesses to deliver a complete front-end Service Oriented Architecture (SOA), with secure, role-based access to .NET and Java services. Currently, Mainsoft is helping more than 150 businesses deploy Windows applications natively on open systems, including WebSphere Portal and WebSphere Application Server as well as on the UNIX and Linux operating systems.

For more information about Mainsoft, visit [www.mainsoft.com](http://www.mainsoft.com).

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11/07