

Developing and Deploying Web Services

with Borland Solutions* on Intel® Architecture

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Simon Thornhill

*Vice-president and general manager
RAD development solutions for Borland*



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Imagine a world in which different companies' computers are able to speak directly to each other, thereby allowing information technology (IT) developers to provide higher value services at unprecedented rates, while maximizing their return on investment (ROI). This is the underlying principle behind Web services, a fast-growing concept that is revolutionizing the e-Business industry.

As the e-Business arena evolves, the companies competing for that business must keep pace by incorporating dynamic Web services technology into their business plans. In a recent survey conducted by Jupiter Media Metrix* (an Internet market research firm), 44 percent of CEOs surveyed stated they plan to use Web services software for new revenue opportunities. In addition, 40 percent of those surveyed believed that Web services technology would cut integration costs.

Web services provides an environment that streamlines delivery of new business solutions and lowers overall application costs. It manages this by exchanging functionality over the Web through the sharing of an application's components between businesses.

Sharing an application's components between businesses requires a solution that successfully integrates disparate technologies. The complexity of integrating multiple operating systems, programming languages, scripting languages, middleware and databases can impact the performance, reliability and scalability of Web services. The combination of Intel® architecture (IA) based platforms and Borland Web Service Solutions* addresses these issues by providing the necessary building blocks on which Web services can be successfully developed and deployed.

"Intel and Borland are committed to providing best-in-class solutions for global customers. By collaborating, we provide a comprehensive offering for Web services creation and deployment," said Simon Thornhill, vice-president and general manager of RAD solutions for Borland. "Borland's software technology solutions for Linux*, Windows* and Java* combined with Intel's robust architecture provide an ideal, cost-effective development and deployment environment for enterprises of all sizes."

Intel Benefits for Web Services

Borland Web services solutions and Intel® microprocessor-based systems provide a great combination to IT and Linux, Windows and Java developers. Borland's support for industry standards Java 2 Enterprise Edition* (J2EE), .NET*

and Linux adds to the overall value of an Intel technology-based solution by taking full advantage of IA potential while providing the flexibility to create a solution that works for you.

IA-based platforms provide the flexibility to support a broad range of needs throughout the enterprise, such as:

- desktop systems
- departmental servers
- application servers
- data center business-critical systems

Regardless of the environment, IA-based platforms enable solution providers to create and deploy reliable, scalable and high-performing Web services. To assist with this effort, Intel Solution Services® offers an array of services to developers creating the next-generation of Web services on IA.

Intel Solution Services brings Intel's expertise on the critical issues of Web service design and e-Business infrastructure. Intel Solution Services works with solution providers to develop end-to-end e-Business solutions that complement their design and integration strengths. These services include assistance with decisions relating to architecture, design, deployment, management and migration. Intel Solution Services maximizes software performance and portability by implementing cutting-edge application optimization techniques and porting services. For more information visit Intel Solution Services on the Web at <http://www.intel.com/solutions/index.htm>.

Intel Architecture Advantage

Running Web services on Intel® Xeon™ processor-based servers optimizes your solution because the Intel Xeon processor is specifically designed for server and workstation environments. The Intel® NetBurst™ microarchitecture powering Intel Xeon processor-based platforms enables new levels of performance, reliability and scalability for Web services.

Intel Xeon processor-based platforms support the use of multiple processors operating at frequencies up to 2.2-GHz, providing maximum performance and scalability. Operating systems that support multiple processors, such as Linux 2.4.X, Windows XP* and Windows 2000, will be able to take full advantage of symmetric multi-processing. Intel Xeon processors are available with a variety of

cache sizes and speed options to meet your specific needs.

Providing a reliable Web service is a business critical requirement for companies. The Intel Xeon processor, coupled with the Intel® 860 chipset, reduces hardware failure through the support of technologies such as:

- Processor Thermal Management
- RAID (Redundant Array of Independent Disks)
- ECC (Error Checking and Correction) memory
- hot-swappable hard drives, power supplies and PCI devices

To ensure maximum performance of your Web service solution on IA, Intel offers the Intel® VTune™ Performance Analyzer, the Intel® C/C++ Compiler and the Intel® Integrated Performance Primitives. These tools take the performance of your Intel processor-based solution to the next level, while achieving the highest return on investment (ROI).

With Intel technology, high-performance Web service solutions are both achievable and affordable. Intel Xeon processor-based platforms provide the scalability, price/performance and reliability you need for e-Business success. For more information, visit Intel's Web services on the Web at <http://www.intel.com/ids/webservices>.

Borland Web Services Strategy

Borland provides the foundation for building and deploying rapid e-Business solutions with Web services for the Linux, Windows and Java platforms. By adopting a Web services strategy that supports open systems, Borland enables customers to move into the future without abandoning past investments. Borland sees Web services as a crucial technology to integrate the industry adopted .NET and Java platforms. In addition, Borland solutions offer the power of cross-platform development, allowing developers to create single-source, enterprise-level Web services applications that can be ported to Linux or Windows by simply recompiling on the target platform.

The Web Services Advantage

Borland is responding to the needs of businesses that seek increased flexibility, productivity and a greater ROI by offering a choice of development environments that support Web services. Whether your business is committed to Linux, Windows and/or Java, Borland enables you to move into the future without abandoning your past. By integrating Borland Web Services solution, corporations, individuals and packaged/custom software developers can gain a significant competitive advantage and a faster time-to-market at minimal resource and financial cost.

Borland Web Services Solutions

Borland provides customers with a choice by offering e-Business development and deployment solutions with Web services on a wide variety of platforms.

*Web Services Development on Linux**

As Linux continues to make in-roads as one of the fastest-growing operating systems for servers, the benefits of Web services and the Apache* Web server will help to accelerate the adoption of Linux as an e-Business server. Borland supports this shift in the Linux market by providing an innovative solution that will help drive it into the mainstream with Kylix*, one of the first RAD development tools for Linux with Web services.

Kylix allows you to easily create Web services that seamlessly integrate your business with the applications of your customers and suppliers. Transform Apache Web servers into powerful enterprise-class, database-driven Web application servers. And deliver high-performance, Web services-enabled middleware solutions that integrate with many business applications. In addition, combining Kylix with Borland Delphi*, enables you to develop cross-platform enterprise level Web services applications that can be ported to Windows or Linux by simply recompiling on the target platform.

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*Web Services Development on Windows**

As one of the first RAD tools to help developers easily create and use industry standard Web services, Delphi enables the rapid development and deployment of e-Business applications using Simple Object Access Protocol (SOAP) and XML-based Web services technologies. Delphi Web services and Extensible Mark-up Language (XML) technologies speed e-Business by allowing companies to share and exchange application data, such as information about a business, transaction or supplier, over the Internet with minimal human intervention.

Delphi fully supports major emerging industry standards, such as SOAP, XML, Web services Description Language (WSDL) and Extensible Stylesheet Language (XSL). In addition, Delphi supports emerging Web services based vendor platforms, such as .NET* and BizTalk* from Microsoft, while providing the scalability and reliability that enterprise and Web developers require. Combined, Delphi with Borland Kylix enables you to develop cross-platform

enterprise level Web services applications that can be ported to Linux or Windows by simply recompiling on the target platform.

*Web Services Development on Java**

The Borland Web Services Kit for Java provides support to deploy and consume Web services with the Java language and Borland JBuilder*. The kit handles the SOAP, Universal Description, Discovery and Integration (UDDI) and WSDL implementations so that developers can concentrate on Java development.

The kit includes wizards to generate Java code from WSDL and to generate WSDL from Java code, a UDDI Explorer, and deployment through Borland Web Edition to expose Web services using Tomcat* and the Apache Axis* implementation of the SOAP standard. The UDDI Explorer allows developers to browse UDDI servers to find appropriate Web services to consume. The Web services kit does not require a separate runtime environment, and is currently freely available as a preview release download which is compatible with JBuilder.

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*Web Services Development
on Borland Enterprise
Server, AppServer Edition
and Web Edition*

The AppServer and Web Editions provide the capabilities to Web-enable existing software services or to build complete Web services from scratch

by providing a foundation that supports current and future Web services standards.

This foundation includes the Borland XML tool kit, enhanced versions of Apache SOAP technology and a “pluggable” architecture that allows for the integration of Borland development product runtime libraries. These libraries support the full Web services life cycle, covering the development, deployment, publishing, and utilization of Web services. Further, these libraries are based on such industry standards as WSDL and UDDI.

This combination of features, along with its extensible architecture, makes the AppServer Edition or Web Edition an ideal platform to connect and host newly developed Web services.

Integrating Web services into your business is an innovative way to connect and communicate with your customers and partners. For more information on Borland Web services, visit www.borland.com.

The Future is Now

The next-generation concept of Web services may seem years away to many, but e-Businesses need to start planning for the future now. In the Jupiter Media Metrix survey,¹ 60 percent of CEOs surveyed stated that they plan to use Web services for internal business operations by the end of 2002. In addition, 53 percent stated they will use Web services to interact with external business partners.

Together, Intel and Borland provide the necessary building blocks for e-Businesses to move into that next stage of Web services deployment and development. Borland’s complete Web services solutions powered by Intel architecture-based technology will allow any developer to take their companies into the future of e-Business evolution.

¹http://www.jmm.com/xp/jmm/press/2001/pr_083001.xml
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