Microsoft: Supply Chain and the Automation of Business Process Integration

Integration is crucial in effective Supply Chain Management business applications, and, even more importantly, business processes. The Internet revolution of the past decade has brought real-time integrated business processes within reach of forward-thinking organizations. To this end, streamlining and simplifying the supply chain must occur. Businesses now have fundamentally new computing demands, such as the need to maintain systems (or more systems than before) that are designed from the beginning to run non-stop – 24 hours a day, 365 days a year. One such solution is Microsoft's "BizTalk" XML-enabled business integration process.

Effective Supply Chain Management requires integrated processes. The last 10 years have seen a technological revolution that has offered automated solutions that make Supply Chain Management even more streamlined and efficient than it has ever been. And one key component of Supply Chain Management is integrated business applications.

The integration of applications is extremely difficult. It always has been. But integrating applications is just a means to an end – the real end is integrating business processes. Organizations that wish to thrive in the twenty-first century must do a better job of integrating their processes, not only within their organization, but also between themselves, their partners, and their key customers.

In this new century, the race will go to the swiftest and most efficient. Businesses who have not effectively integrated their processes with applications will find themselves losing competitive steam. The supply chain – including businesses, partners, and customers – must be streamlined.

And it's still not that simple. Business processes need to be automated and integrated more effectively, but that must be within the context of other more tangible business objectives. Organizations must embrace the global marketplace in order to expand the market for their goods and services. While that indeed expands their possible reach, it also introduces fundamentally new computing demands for many – the need to maintain systems (or more systems than before) that are designed from the beginning to run non-stop – 24 hours a day, 365 days a year.

Furthermore, organizations need to reduce cycle times across the board, for physical as well as virtual processes, in order to reduce time to market and deliver against higher customer and partner expectations. Organizations need to make better decisions – and make them faster than before – to outsmart their competitors. They need to create, maintain, and share knowledge more effectively, to identify and capitalize on new business opportunities as well as simply avoid making mistakes that might be avoided. They need to establish and maintain "dynamic business relationships" to streamline producing and providing goods and services to customers.

All of these challenges are about integration and interoperability, making different entities work together.

But guess what? All of your competitors are trying to achieve these same objectives. The distributed computing platform and associated integration services you choose therefore become critical. The goal then is to realize these objectives as cost effectively as possible in the short and long term, with the fastest time to market, because the new market is all about speed. If you don't adapt your business to meet

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The BizTalk Framework

Microsoft has developed and sponsored BizTalk, an industry initiative supported by a wide range of organizations, from technology vendors like SAP and CommerceOne, to technology users like Boeing and BP/Amoco. BizTalk is not a standards body. Instead, it is a community of standards users, with the goal of driving the rapid, consistent adoption of XML to enable e-commerce and application integration.

The BizTalk Framework™, is a set of guidelines for how to publish schemas in XML and how to use XML messages to easily integrate software programs to build rich new solutions. Its design emphasis is to leverage what you have today – existing data models, solutions, and application infrastructure – and adapt it for e-commerce through the use of XML.

Enabled B2B and e-commerce process automation businesses can use BizTalk-Server as a platform on which to build their Business-to-Business e-commerce solutions for:

- Trading partner integration: Web-based or traditional Internet-based electronic data interchange (EDI), supply chain integration, order management, invoicing, and shipping coordination

- Automated procurement: maintenance repair and operations (MRO) pricing and purchasing, order tracking, and government procurement

- Business-to-business portals: trading communities, electronic catalog management, content syndication, post-sale customer management

- Business process integration or exchanges: commerce site-to-enterprise resource planning (ERP), commerce site to legacy, and ERP to ERP integration

For any company engaged in any level of business-to-business integration,

these challenges "on Internet time," you will see yourself lose your customers and key partners to those that do.

What Will It Take?

To make it fundamentally easier to integrate business processes within and between organizations, and to do so in a manner that allows you to accomplish your business objectives at the lowest cost and with the fastest time to market, a number of challenging issues need to be addressed:

- Open standards must exist for business document formats as well as the means for routing these documents between disparate systems.
- Automated and standard transformation and routing services must be available to convert and route data in varying formats.
- A business-oriented tool is needed for creating and managing distributed business processes, as well as specifying business document exchange within them.
- Security must be built-in, allowing communication to be encrypted and digitally signed.
- Simple mechanisms must exist for existing applications as well as new applications to take advantage of these integration services.
- The services must leverage standard Internet transport protocols as well as open data formats in order to work easily between organizations as well as within them.
- The services must be cost effective and accessible to small and medium organizations, as well as large organizations, in order to effectively enable mass market B2B interaction and trading.
- The services must work with the operating systems, transports, and business document formats that you already have in place, in order to minimize the time to market and maximize ROI.

BizTalk Framework

The BizTalk Framework is a set of implementation guidelines that anyone can use, from governments, industry groups, and large international corporations to the smallest of businesses, to define business

data using XML. XML allows the creation of arbitrarily complex tag sets representing any object or idea imaginable. Some very basic conventions are needed in order to promote the use of Extensible Markup Language (XML) in a consistent, interoperable way.

The BizTalk Framework implementation guidelines are documented and available for anyone to use at www.biztalk.org. Since the BizTalk Framework is 100% compliant with the World Wide Web Consortium (W3C) XML 1.0 recommendation, it is operating system, programming model, and programming language-independent; many different applications and platforms are generating and consuming BizTalk documents.

The BizTalk Steering Committee (composed of industry standards organizations, software companies, and multinational corporations) drives the BizTalk Framework; committee members share the collective interest of promoting the open use of XML to provide better interoperability between applications and business processes.

Microsoft also employs industry experts to work closely with relevant standards groups across various industries in order to promote this framework. They work with these industry organizations in order to provide them the tools and framework that allow them to move into the XML world more quickly to the benefit of their constituents. The overall goal of this effort is simply to promote the adoption of XML in various industries for intra-organization and inter-organization application and process integration.

Cross-Industry Investments

The second set of investments represent cross-industry efforts in the form of a community, a globally accessible document library, and many third party products, tools, portals, and services that will support BizTalk.

First, www.BizTalk.org provides a community that allows organizations to learn about XML, access pointers to training, as well as collaborate through newsgroups and other public forums.

The BizTalk Framework is a set of implementation guidelines that anyone can use, from governments, industry groups, and large international corporations to the smallest of businesses, to define business data using XML.

The second tangible investment is for public libraries to store BizTalk document schemas, allowing organizations to find and reuse these valuable schemas; they may also register themselves as interested parties or users of those schemas so that they may be automatically notified when an update occurs. Furthermore, organizations can also upload their own schemas for use across a set of partners or trading community, or in order to promote a given XML grammar as a tool for solving a specific business challenge.

The third cross-industry effort is to work with partners so that organizations have many choices for products, tools, services, and portals that use BizTalk technology. Many sites promote goods and services online and participate in collaborative or trading communities. For example, there are standard schemas associated with the http://eShop.msn.com shopping portal that allows manufacturers to upload product information in various product categories for consumer comparison and research. In addition, there is a standard schema that merchants can use to represent an offer they wish to extend online for a good or service that they sell. This allows open automation of the promotion efforts by these global merchants by providing a mechanism to promote their goods and services online using open, standard data formats and transports.

Tangible Products

The third set of investments is in tangible products: XML-enabled platforms, development tools, and industrial-strength server applications.

All of the versions of Windows 2000 have full XML support built in. Not only does Windows 2000 support the core XML standard, but it also supports other key XML technologies, such as XML Namespaces, the XML Document Object Model (DOM), XSL, and XML Schema. Internet Explorer 5.0 provides XML support as well.

Development tools build new applications, and adapt existing ones, to provide and consume XML. Tools create valid schemas for use internally or between you and your trading partners. Tools map between various data formats, whether between two XML document formats, or between an XML and non-XML document format, such as EDI or a flat file.

In addition, Microsoft also provides a server product called BizTalk Server 2000. BizTalk Server 2000 will provide the industrial-strength, reliable environment for document transformation and routing in order to facilitate trading partner integration, electronic procurement, B2B portals and extranets, as well as automating value chain processes.

Summary

Integrating distributed business processes is hard work within an organization, and integration is often prohibitively expensive. There are many things that need to be done in order to deliver on the goal of making it fundamentally easier to integrate business processes within and between companies. The BizTalk Initiative is a collective set of investments that Microsoft is making in order to achieve the goal of business process automation independent of operating system, programming model, or programming language.

BizTalk Server provides the right combination of document interchange and transformation capabilities coupled with enhanced trading partner management tools.

Product Features
Microsoft BizTalk Server enables companies to integrate and manage business processes by providing the following infrastructure features:

- Support of complex business process definition, automation, and integration

- Document interchange, business rules-based routing and reliable delivery services

- Application integration adapters for major ERP applications

- Security by means of digital signature and encryption

- Support for existing industry data formats (including XML, HTML, Flat Files, EDI X12, EDIFACT).

- Support for existing industry transport protocols (including HTTP, SMTP, SMIME, FTP, DCOM, MSMQ, SNA, EDI-INT)

The future belongs to organizations that can reach the farthest. Globalization and improved communications have reduced barriers to communication to almost nil. However, only the adoption of common and uniform standards will provide businesses with the cutting edge they need to surpass their competition. BizTalk, and cross-platform standards such as XML, will help make this possible.