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Business-to business solutions

The new e-economy

The secrets to winning and keeping business with the latest electronic-commerce technologies



By Lisa L. Sweet

Although electronic data interchange (EDI) has been the traditional means of transmitting data between businesses and trading partners, business-to-business electronic commerce is growing in popularity. Used alone or in conjunction with existing implementations of EDI, business-to-business products and technologies can lower operating expenses and streamline infrastructure by reducing human intervention.

One of the most daunting challenges companies face is expanding trading partner options by installing a business-to-business solution to work in conjunction with a current EDI system. Companies that do not have EDI in place are not likely to go to the expense of implementing it. Instead the company will probably bypass EDI completely and implement a business-to-business solution that uses a technology such as Extensible Markup Language (XML).

What's all the hype about XML?

What HTML did for information publishing three years ago, XML will do for information exchange between applications and trading partners.

Because XML is an open standard, it offers flexibility. For example, if a manufacturer needs

a specific part from a trading partner by a certain date and the delivery date is not met, the company can use XML to add an information field to its purchase order to reflect its use of an alternate supplier -- an option not available with EDI. An XML parser, which is capable of determining whether an extra data field has been added to a document, can then identify the appended field and store it correctly in the manufacturer's database. (For more information about XML, see "[XML bridges the gap.](#)")

Implementation with XML

Any business-to-business software you choose to implement will require customization to fit your environment. However, by using XML and underlying EDI standards, you can speed up this process.

To create, send, and store XML documents, you will need tools capable of writing and editing XML documents; an application server that can read XML and parse it; and a database in which the documents can be stored, searched, indexed, and queried. Because XML is in its infancy, you may have to purchase products from multiple vendors until complete vendor XML business-to-business suites or products mature.

There are several possible implementations to consider. First is the traditional business model, in which a company purchasing manufacturing materials from a partner then sells the product to resellers or distributors. There are also internal procurement installations, whereby business-to-business technology is deployed as a means for employees to requisition equipment and supplies from approved suppliers.

Building on business-to-business

We are going to focus on the traditional business model outlined above by using a furniture manufacturer's business-to-business solution as an example.

The first place a typical furniture manufacturer can benefit from a business-to-business solution is inside its organization by integrating applications that were impossible to integrate in the past. For instance, XML can be used to integrate an enterprise resource planning (ERP) system that runs on one platform, a manufacturing-plant operations application on a second, and a supply-chain application on a third platform.

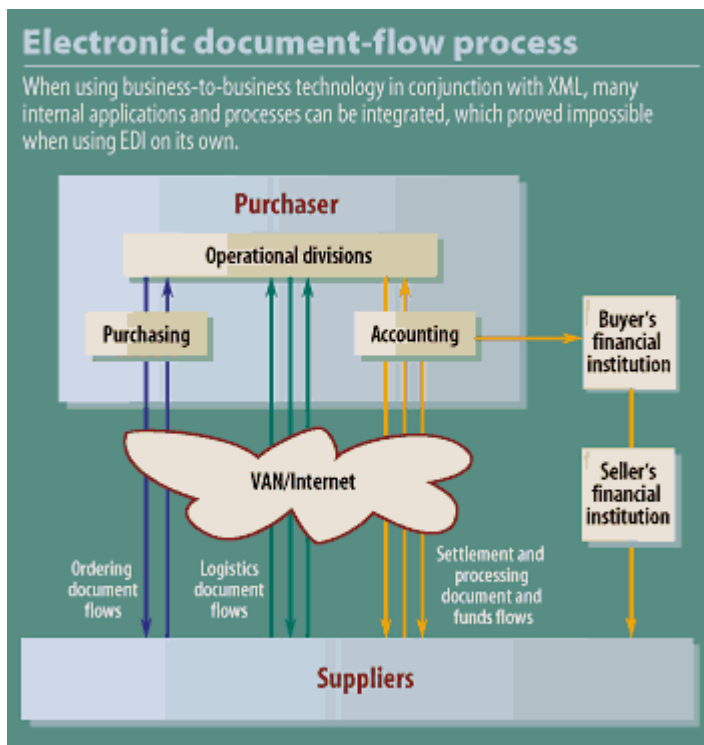
Externally, the manufacturer can use XML to look back to the raw-material supplier and forward to the reseller. By using XML, a classic EDI transaction can be accomplished over a value-added network (VAN), or documents can be transported via Internet protocols such as HTTP Secure, Secure Sockets Layer (SSL), or FTP, which is more economical.

You can easily move beyond classic EDI by adding XML capabilities. For example, forecasting was never served well by EDI. With XML, you can share forecast information with your suppliers. To start this process, your resellers place forecast information into an XML document and pass it on to your business-to-business system. For example, this information could inform you that a particular chair is a hot seller. With this information, you can forecast that you will need to produce 10,000 chairs. You could then integrate that forecast information into your planning system and send it to your production system.

Ultimately, you can use this information to pass an XML document back to your raw-material suppliers, which can then forecast production needs.

In essence, these are the areas where EDI falls short and Internet technology such as XML shines as the new era of business-to-business commerce begins.

If you have EDI, you will still want to consider a business-to-business solution. This will let you communicate with EDI-enabled trading partners while expanding options with those that don't have EDI installed. You'll also reap the benefits of the additional information you'll gain by using XML.



The 411 on XML

To make business-to-business solutions easier to implement, several consortiums, standards bodies, organizations, and steering committees are focusing on providing information to companies that choose to use XML. One such group is headed by Microsoft, with its BizTalk Framework (www.biztalk.org).

By using XML, BizTalk technology lets those implementing business-to-business solutions be more innovative than they could be if they were only using EDI. In essence, the BizTalk Framework provides a platform for migrating an existing set of industry interchange standards

to XML. One of the key factors in making this transition run smoothly is that BizTalk focuses on data interchange instead of infrastructure compatibility.

The BizTalk steering committee is working with software vendors, industry standards groups, developers, and customers to create a framework for defining XML schemas that serve as the basis for information interchange between applications. For instance, BizTalk members include the big four ERP vendors: SAP, PeopleSoft, Baan, and J.D. Edwards. This gives companies using ERP systems a big advantage.

Also included in BizTalk's list of members are organizations such as the Data Interchange Standards Association, or DISA (www.disa.org), which was established in 1987 to support the development of EDI standards in e-commerce, and the Open Applications Group, or OAG (www.openapplications.org), which was chartered to specify the content of enterprise business application software interoperability. OAG's specifications currently include financial, human resources, manufacturing, and logistics interoperability. Other BizTalk participants include companies that are currently implementing or evaluating BizTalk XML schema, including Boeing, Merrill Lynch, and United Parcel Service.

Product choices

There are many business-to-business products to choose from, including those from three vendors that have integrated XML into their product lines.

IBM continues to keep Net.Commerce up to snuff with new enhancements. Although XML-based business-to-business functions can be accomplished with Net.Commerce, you will also need to implement a few more of IBM's products. First, consider downloading IBM's XML tools from www.alphaworks.ibm.com/tech/xml4j. Scroll down the left side of the site, and you will find the link to XML tools. You will also need IBM's WebSphere application server, which enables applications to read business-to-business transmissions and to parse them appropriately. Future versions of Net.Commerce will include the parsing technology found in WebSphere. You will also need MQSeries and Commerce Integrator software, which send documents and messages back and forth and intelligently route them to the appropriate application.

Although IBM has a strong business-to-business solution, if you're interested in XML, we suggest waiting until all the parts are more tightly integrated before choosing this product line. See our Test Center [review](#) of Net.Commerce. For more information about the Net.Commerce product line, see www.software.ibm.com/commerce/net.commerce.

Microsoft's current business-to-business commerce product is Site Server 3.0 Commerce Edition. However, Microsoft projects the release date of its new BizTalk Server following the release of Windows 2000. BizTalk Server will ship with everything needed to implement a full business-to-business environment using XML technology, including modules for editing, mapping, and managing XML documents. Because it bundles everything in one package and uses the XML schema found on the BizTalk site, BizTalk Server should prove to be a powerful solution for those who plan to use Windows 2000. For more information about BizTalk Server, see www.microsoft.com/industry/biztalk/developers/whitepapers/whitepapers.stm.

If you want to implement XML technology but only want to run on open standards, we suggest that you look at WebMethods' product line. (See our Test Center [review](#) of these products.)

Whatever product you choose, be sure to stay on top of the current offerings and solutions, because XML and business-to-business e-commerce are growing rapidly.

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Good ol' EDI

Electronic data interchange (EDI) has been around for a while. In fact, it was developed more than 30 years ago and was first used by the U.S. government. According to the Data Interchange Standards Association, some 100,000 U.S. organizations now use EDI to conduct business.

EDI standardizes the process of trading and tracks business documents, such as purchase orders, invoices, payments, shipping manifests, and delivery schedules. EDI translates these documents into a globally understood business language and transmits them between trading partners via secure telecommunications links.

One of EDI's benefits is that it reduces administrative costs because it does away with the rekeying of data and eliminates conventional paper processing. Companies can rely on improved inventory control and more accurate, rapid information processing. EDI also provides an advantage because some larger companies deal only with vendors that have EDI in place.

Despite the transformation of business due to the rise of the Internet, users still heavily rely on EDI for conducting trading and financial transactions with partners.

The crux of EDI is the standard, which contains a predefined format, called a transaction set, for each document. It also contains a predetermined location for each piece of data that is necessary to conduct business. For instance, the transaction set for a purchase order, EDI 850, contains supplier information, a part number, and a quantity required for a given part, among other things.

EDI comes in a few flavors. Although most American companies use ANSI X-12, many European companies rely on UN/EDIFACT. Both contain the same data, but the data definitions vary in certain cases. Therefore, if you have international trading partners, you'll need to have a translation system in place.

Adopters of EDI can rely on data encryption, security, an audit trail, and knowledge of the speed of transmission. In comparison, you cannot guarantee time of transaction delivery when using Open EDI or business-to-business technologies because of the uncertainty of the Internet. However, as business-to-business electronic-commerce solutions mature, you can expect to see stricter audit trail modules.

Companies that have already implemented EDI will continue to rely on it because it works. However, due to the amount of time and money it takes to implement EDI, there should not be much growth in EDI's installed base.

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