



Technical news

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Doing business globally: ebXML

Many of the large companies worldwide are currently using a technology called 'electronic data interchange' or EDI to communicate electronically with each other, reducing their reliance on paper and increasing the automated exchange of information. Yet medium and small companies do not use EDI at all. Kotok and Webber (2002) states: 'Among the top 10000 companies in the world (the Fortune 1000 in the top 10 countries), almost all are using EDI, 98%, to be exact. However for the rest of the world only 5% of the companies are EDI users. In other words millions of companies are still using fax and paper documents instead of e-business. Why? The answer is well known: startup cost. EDI saves a lot of money, but only over time.'

The way that businesses operate has changed. Competition has increased between businesses, inventory handling has changed to become 'just-in-time' and the turnaround from inception to delivery of new products and services are increasing. The need to efficiently communicate between businesses as well as to change business processes rapidly is becoming more and more important.

It will never happen that every single business worldwide will agree on the message content that it will send and receive with another business. There will always be differences to suit the specific business or industry that the business is involved in. What is needed though, is a standard way for such messages to be transmitted between business and for the information within the message to be held in a neutral way that can be easily interpreted by a business. This will reduce the associated costs and technology challenges for a business to automate its electronic communication and information exchange with other businesses.

Extended markup language (XML) is a natural for defining the content of a message in a neutral way. But it is when it comes to the interchange of such a message that a gap exists – and it is this gap that Electronic Business XML (ebXML) addresses. ebXML is defined by ebxml.org (2002) as:

A set of specifications that together enables a modular electronic business framework. The vision of ebXML is to enable a global electronic marketplace where enterprises of any size and in any geographical location can meet and conduct business with each other through the exchange of XML based messages. ebXML is a joint initiative of the United Nations (UN/CEFACT) and OASIS, developed with global participation for global usage.

It therefore provides a set of standards – a framework, if you will – for businesses to exchange information through the use of messages. The following aspects of e-business communication are covered in the ebXML specifications:

Messages

While ebXML does not define the content of messages that will be passed between different businesses, it does define the layout of a message – the message template if you will. This template is based on a simple object access protocol (Soap) message layout. A Soap message uses XML to define the message envelope, header and body. Soap is a standard within the XML messaging world and has been discussed in previous columns; it is an integral part of the Web services arena.

Process flow

ebXML also focuses on the processes that business will follow, allowing for the modelling thereof and the translating of the processes into a tangible flow of electronic messages. This knowledge with regard to business process flows can be captured in a neutral, technology-independent fashion that will aid in increasing the interactions between businesses.

Profiles and agreements

ebXML makes provision for the definition of business capabilities, processes, messages, technologies and even legal or other business information in a neutral fashion – again using XML documents as the basis for the various profiles and agreements.

Registries and repositories

Registries and repositories are defined to contain the various messages, vocabularies and the profiles and agreements, defining a standard interface into such repositories and registries. Therefore businesses looking for potential partners can use the registries to possibly find and even establish agreements and contacts with such partners.

Core components

ebXML also aims to provide a number of core components that can be used to facilitate communication between businesses in different industries. A core component will be defined for any items within a specific industry that is generic to that industry, thus ensuring standard terminology.

This was a very high level look at an exciting standard that focuses on businesses and giving them the ability to conduct business on a truly global scale.

For more information consult the following Web sites:

- <http://www.ebxml.org> for main information pages about ebXML
- <http://www.rosettanet.org> for an example of an industry defining the message content (i.e. the layout of the messages). The industry in question is electronics. The initial implementation of RosettaNet defined their own process flow, but they have now standardized on ebXML for the dynamic functionality, and are concentrating on defining the contents of the messages that will be transferred between businesses
- <http://www.opentravel.org> for an example of the travel industry defining message content for information exchange
- <http://openebxml.sourceforge.net/> which is a site that aims to provide an open source implementation of the ebXML framework.

References

ebXML. Enabling a global electronic market. 2002. Homepage. {Online}. Available WWW: <http://www.ebxml.org>

Kotok, A. and Webber, D.R.R. 2002. ebXML: *The new global standard for doing business over the Internet*. Indiana: New Riders.

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