

B2B, EDI, XML, Web Services and UCCNet

The purpose of this document is to briefly describe the common B2B techniques that companies use and explain why the flooring industry chose the technique it did.

It begins with EDI

It has been around for a long idea, this idea that companies could use computers to eliminate paper and phone-based business transactions. The most generally accepted technique for doing this was (and still is): EDI (Electronic Data Interchange). Many large companies have successfully implemented business-to-business electronic transactions based on this widely accepted standard, formally approved by the US (ANSI X12) and internationally (EDIFACT).

Although EDI implementations are often worth the effort, it is a challenging path for a company to take. To begin with, EDI was designed to flexibly address the very diverse needs of companies in very different industries. As a result, the standard has become large, complex and yet still open-ended and ambiguous. This means that companies must have EDI experts able to successfully navigate their way through the standard and EDI software tools in order to successfully customize and implement EDI transactions with other companies. Despite the existence of a standard, there are many varying options in the standard that companies will implement differently (often with excellent reasons). This means every pair of trading partner companies must negotiate and agree on how to use these optional fields of information. As a result of this, and the work needed to integrate these electronic transactions into the company's business automation systems, the process of implementing EDI with each new trading partner can go slowly and sequentially.

Because EDI was invented prior to widespread adoption of the Internet and real-time systems, many EDI implementations have some notable limitations. One of the most cited is the need for companies to use expensive VANs (Value Added Networks), third party companies that operate like mail carriers, charging a fee to forward electronic transactions between companies. Most EDI implementations are also "batch"-oriented, rather than real-time. As a result, there can be multi-hour delays in processing transactions, which may be unacceptable to companies that require and are used to instant response over the phone.

These requirements and limitations have kept EDI mostly limited to large companies who are better able to make the investment and live with the shortcomings.

The Internet Inspires Alternatives to EDI

The widespread adoption of the Internet has inspired several alternative approaches to traditional EDI. Some approaches are evolutionary in nature, customizing EDI to use Internet features to overcome some of EDI's limitations. The most promising of these changes is eliminating the use of a third party VAN, and exchanging electronic documents directly between trading partners. There are three common techniques for doing this: FTP (an easy-to-implement technique for sharing files), AS1 (using e-mail to exchange documents) and AS2 (using the same interactive file exchange technique that web sites use). Many large companies, such as Wal-Mart, are increasingly shifting from VAN to Internet-based EDI, and requiring the ability to process transactions in real-time.

A number of companies, however, are pursuing a revolutionary alternative to EDI, based on a very different set of standards. This approach uses a different grammar to structure electronic documents: XML (extensible markup language) rather than EDI's X12. However, unlike EDI, there is no single universal library of business transaction documents based on XML that are generally accepted by all companies and standard bodies. In fact, there are several growing and maturing collections, each endorsed by different industries. It will take time for these to sort out and truly become standardized and universally accepted.

In addition, a number of technology companies have invented a Web Services standard to facilitate the exchange of XML documents. Web Services uses a similar Internet web-based technique as AS2, but also provides a standard envelope (SOAP) and services directory capability (UDDI). There is a lot of excitement and a growing collection of software tools to support Web Services, but intercompany implementations of Web Services are still pretty rare.

UCCNet, however, is one very promising use of XML and Web Services for the retail industry. UCC (Universal Commerce Code) is the non-profit organization that standardizes the use of UPC barcodes on items that we buy in stores. With the advent of the Internet, UCC created a UCCNet subsidiary to build and offer a rich electronic repository of information about these UPC-labelled products. Vendors would populate the product information in this centralized repository, which would then be retrieved by all retailers that needed the product information. UCCNet has adopted XML and Web Services as the mechanism for populating and retrieving electronic information about products. UCCNet is vigorously embraced and supported by a number of large retailers, such as Wal-Mart, Home Depot, Lowes and many others.

What does all this have to do with the Flooring Industry B2B Initiative?

From the beginning, the Flooring Industry B2B group has wanted to keep it simple and easy to use, so that B2B adoption would more affordable and attractive than traditional EDI. Most companies in the flooring industry are small, and do not have the money or time to wrestle with technology. So after considerable discussion and research, the group picked the safest possible path between a number of options: 1) leverage the only universally accepted standard (EDI X12) for structuring electronic documents, 2) Simplify the standard to the minimum information required by flooring industry companies, 3) Use the simplest Internet technique - FTP, rather than VANs, to lower the cost and make it easier to exchange documents, 4) encourage flooring industry vendors to provide rapid response (in seconds) to purchase orders documents, and 5) encourage flooring industry software vendors to incorporate B2B support as a turnkey, easy-to-operate option for the thousands of dealers in our industry. This approach has been widely accepted by all key stakeholders within the flooring industry, and is on the verge of widespread adoption and use.

Over time, as worldwide investments in XML and Web Services mature, the B2B standards group may well transition the flooring industry standard to exploit these alternative techniques. However, we believe this is still several years in the future.

We also expect that most flooring industry manufacturers will continue to use traditional EDI and will increasingly implement UCCNet-based capabilities to support the requirements of their large retail customers (such as Wal-Mart, Home Depot and Lowes) whose needs extend well beyond the flooring industry.