Solving Real-Time Secure Data Transmission of EDI using the Applicability Statement 2 (AS2) Standard

By Thomas J. Burk, Consultant
Information Data exchange, frequently referred to as Electronic Data Interchange (EDI), is commonplace amongst savvy businesses desiring to maintain a competitive edge. Simply put, EDI is the process of using computers to exchange business documents between companies. As more companies have been able to achieve implementing EDI systems to automate trading partner data transacting, now the focus becomes how can that data be transferred faster and more securely?

Business needs faster data communication
National and International businesses have found that establishing a rapid and secure method of data communication with trading partners has many benefits. In a world where acquisitions are becoming more common, a standard data transmission method would allow acquired businesses to integrate business processes with parent companies quicker, allowing them to remain competitive in the dynamically changing corporate environment.

The companies unable to break from traditional batch data transmission and are slow to adopt a common, simple communication solution could risk the possibility of being perceived, by the customer or investor, as being unable to compete on the same level field as their direct competitors.

Previous Communications Options
EDI standards are developed by the Accredited Standards Committee (ASC) X12 group, and there was no design specification dictating a method of transmitting the EDI data. Dial-up
transmissions were the main method of sending/receiving EDI data files reliably and securely before High Speed Internet existed. Components of this type of solution typically were a Value Added Network (VAN), a commercial EDI translator (sometimes provided by the VAN), FTP, a modem, a phone line or sometimes a dedicated T1 line. These systems sometimes connected applications such as a Bulletin Board Service (BBS), or other proprietary or third party software interfaces which required either human interaction or very custom programming to navigate remote menus. Even though the VAN could add a considerable amount of value as in proprietary-to-X12 mapping translation and guaranteed delivery, and providing custom communication software, the expense and effort to start up this process would prove to be the unavoidable barrier of entry which some small businesses were unable to overcome. Although not the rule, most of these dial-up transmissions could be automated and were performed in batch mode usually at the rate of one transmission per day.

Another method of EDI data transmission came into popularity when data files were PGP encrypted and sent to trading partners using SMTP or other email clients. Although this method was cheaper to implement it came with less reliability and due to the introduction of corporate email policies the email attachment size limitations quickly rendered this method unfeasible as email security policies frowned on email attachments altogether. The email method of data transfer still did not eliminate the need for human interaction, and prevented real time transacting.

<edi int as2 transport>
EDI over the Internet, (EDI INT), AS2, or AS2, is a data transmission standard that uses HTTP or HTTPS protocol and is not payload specific but offers a secure, near real-time, reliable method of transmitting data and receiving receipt acknowledgments in the format of Message Disposition Notifications (MDN) stating that a file was received and its payload status. EDI INT AS2 communication structure is offered by many commercial EDI integration solutions today, some recognizable names are Microsoft BizTalk Server, Gentran, GIS, CLEO, and others. Several notable companies who conduct EDI and have embraced the EDI INT AS2 data transmission standard include Wal-Mart, Home Depot, and the Departments of Defense and Human Services.

AS2 components already exist in most companies
The building blocks of the AS2 communication standard are more widely used now in today’s business than ever before. The AS2 standard consists of an Internet connection, a Web Server, an EDI translator and message broker, and a digital certificate generator. The chances of most
companies having 3 or more of these components already in their production environments today are very high.

**Quicker access to better data results in better decision making**

Another immediate benefit of near real-time transacting is that the businesses get access to information that can be immediately used for making intelligent business decisions benefiting the end customers, and providing the internal departments a chance to make better inventory or logistics decisions.

**File Acceptance status response**

The AS2 MDN is the message delivery response, or acknowledgment, received for all AS2 transmissions except for the MDN message itself. Nonrepudiation makes it impossible for the intended recipient of a message to deny having received it. Once the MDN is received by the original message sender, the existence and contents of that MDN message describe the receiver’s indisputable possession of that data and its state.

**Direct receipt into partner application**

The AS2 standard transmits data using the HTTP or HTTPS protocol over the internet allowing it to direct the message to a partner’s specific web application. This enables the sending entity to deposit the data directly into the receiver’s application process as opposed to being dropped onto an FTP file share, for example, where the file would wait for a polling application to recognize it and then begin processing.

**AS2 Implementation**

Implementation of an effective EDI INT AS2 system will require the coordination of several resources. The components needed are the EDI translator, an Internet connection, a Web server, and a system capable of managing and reconciling the inbound/outbound data messages and their corresponding MDN’s. There are many EAI and ERP applications existing today that have the out-of-box ability to handle the managing and reporting of the AS2 data transmissions, so a careful analysis of your intended industry use is recommended before buying as these applications tend to provide specific industry capabilities.

**Summary**

Business process systems today require more accurate data to generate useful end-user information. EDI allows exchange of standard business transactional data that can be automatically imported into these systems; being able to share EDI with trading partners in near real-time is an advantage that can set competitors apart. EDI INT AS2 is a standard data transmission format that enables trading partners to deposit data, near real-time, into one another’s systems for immediate use.
There are many EAI systems available today that offer EDI INT AS2 as a transfer protocol and which offer visibility into the message / MDN responses making AS2 implementation and management easier than ever.

**About the Author**

Tom is a consultant with EAI systems architect and developer experience. He has worked on a wide variety of projects in the Healthcare, Warehousing, and Transportation industries and has a solid EDI background using BizTalk Server, Visual Studio C# and other Microsoft technologies.