Editor's note: *This article was contributed by the experts at Paragon Consulting.*

EDI in the Era of Cloud Computing

The bandwidth that enables virtualized cloud computing may finally make business-to-business electronic commerce a reality for all.

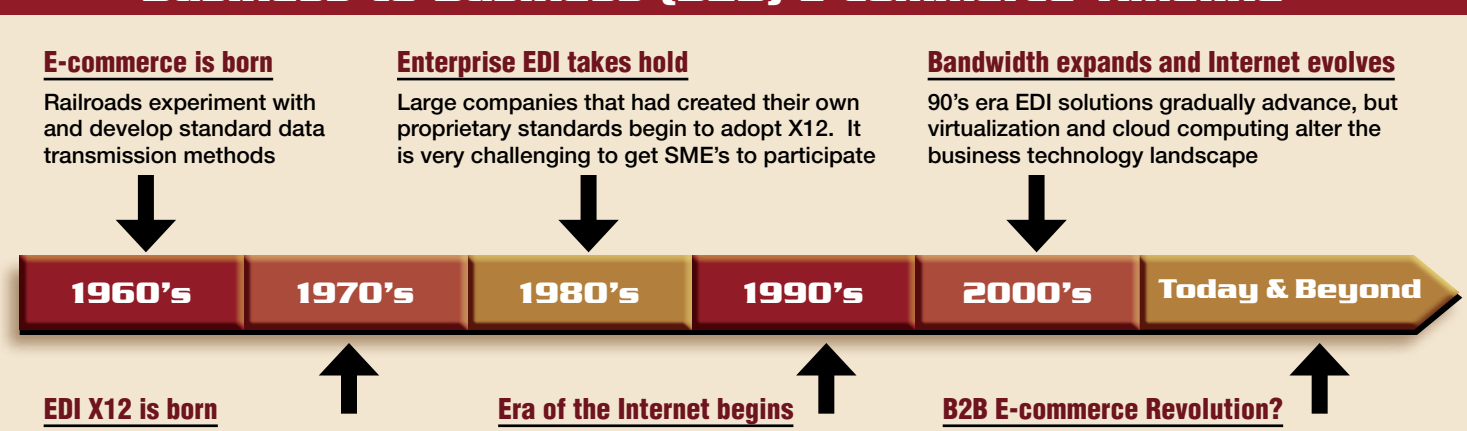
Since the dawn of the computer age, solving the puzzle of how to enable computers to communicate with each other has been a priority—and a challenge. Over the past several decades, improvements in technology and computing power have generated new options, but none has been successful at simplifying business-to-business electronic commerce to the point it could become ubiquitous. There have been advancements, but always leaving room for improvement.

Electronic data interchange or EDI was borne out of a desire by companies in the transportation industry to enable cross-business electronic communications. In 1978, this effort evolved into a standard that could be used in any industry, called ANSI X12. This is the standard that powers much of what we call EDI today. Early on, some companies created their own proprietary e-commerce standards such as COMPORD, but thankfully those efforts gave way to X12. It is far easier to participate if everyone is playing by roughly the same rules.

While X12 provided a framework, most small and medium-sized businesses found that conducting EDI was cumbersome and costly. Even though this technology promoted efficiency, the costs often outweighed the benefits. This is especially true of the steel industry. There are great gains to be enjoyed by electronically sending and receiving shipping notices, material test reports, invoices and purchase orders. However, showing a high enough return on investment was challenging for most companies in the well-established and largely pragmatic steel processing industry.

This challenge was not unique to steel processors. The investment in EDI software, expertise and maintenance was simply too high for most companies, regardless of the industry. Several complementary technologies tried to answer this challenge. As the Internet became a viable tool for business, industry started to see low-cost PC-based software that relied on the Internet as its backbone, as opposed to the proprietary Value Added Networks that were common with traditional EDI. These tools were helpful in bringing low-cost software to the masses, but still required an investment in tools and to some degree expertise.

Business to Business (B2B) E-Commerce Timeline



Web-based forms don't require nearly as much investment. This is a system where Company A provides a portal for Company B to log in to retrieve information or enter transactions. In this scenario, little or no monetary investment is required of Company B, but B gains little efficiency as a result. In fact, often Company B becomes less efficient as they need to log into one or more systems to gather and submit information. Company B has successfully met the requirements of key trading partners, but essentially has done so by acting as their data entry department. Understandably, this method helped some companies participate in business-to-business e-commerce, but did not alter the landscape of business communications.

At about the same time, some so-called experts were declaring EDI dead and XML the new savior for business-to-business commerce. XML, or extensible markup language, is simply a different way of formatting the business transactions. In some ways it is easier to read, and it is intended to be more flexible, but over time it proved to be just another way to format data and not the game changer that some predicted. Companies still had to invest in tools and expertise to get things running smoothly.

> **"Cloud-based" computing creates options for electronic commerce that would not have been possible a few short years ago."**

The "early Internet" era of EDI certainly created some interesting new options, but did not provide the value that would be necessary to make business-to-business electronic commerce commonplace.

The next phase of e-commerce

In the past few years, enterprise IT has been introduced to a handful of new concepts that are becoming the foundation for new ways to facilitate business-to-business e-commerce. As the Internet has matured, bandwidth has become much broader and less costly. This development, and the advent of powerful virtual computing environments, have combined to create a scenario where the actual computing power of an organization no longer needs to reside within the four walls that house the staff and equipment. "Cloud-based" computing creates options that would not have been possible a few short years ago. The bandwidth and computing power required for a system to operate seamlessly and fluidly, while actually residing offsite, was simply not feasible until recently.

What does this mean to the world of business-to-business e-commerce, and particularly to those in the metals processing industry? EDI is catching on and starting to use these new technologies. That means the value associated with streamlined electronic commerce—such as shipping notices that facilitate just-in-time inventory, automated receiving and powerful cross-company production reporting—can be achieved without the cost of installing and maintaining software. Functions like EDI can be seamlessly integrated into the existing IT environment while the heavy lifting is handled by the outsourced, cloud-based processing system and team.

The world of business-to-business electronic commerce has had its share of unkept technology promises and false starts. The true impact of the latest tools remains to be seen, but no doubt creates new opportunities to make electronic commerce truly practical for all. ■

Paragon Consulting Services Inc., Baltimore, Md., provides integrated software solutions to the metals industry, including Metalware, Metalware Express, MetalNet and Metalweb. For more information, visit www.paragon-csi.com.