The Value of AGIIS to the Ag Industry

Executive Summary

There is no doubt that electronic business has become a key to all business operations throughout the world. The purpose of this paper is to document the value of the Ag Industry Identification System database to Ag Industry e-business initiatives.

An industry initiative to join agricultural industry segments under one umbrella organization to implement standards for e-business is underway. E-business is not done in a vacuum; industries need standards to be successful.

Over time, various industry segments have established transactions standards and are ready to implement their respective e-business initiatives. Without common standard codes, their efforts will be much more challenging. If common product codes are not in use, how will a customer order? If trading partner data is not standardized, will the delivery be made to the right place? Without standard identifiers for consumers, can we determine who our end customer really is?

Clearly, for e-business to be successful, standard data elements, capable of being shared across the segments, are foundational. Thus, an important part of the groundwork for the e-business success of agriculture companies is the Ag Industry Identification System -- AGIIS -- a place to house common, standard identifiers for trading partners, locations, products, and consumers and all of the associated e-business identifiers that are required. Conducting electronic business is made more efficient and effective through the use of AGIIS.

E-business in Agriculture

The world of e-business is changing daily. As it becomes more and more an integral part of how companies do business, the success or failure of a company's strategic approach to e-business will have a major impact on the bottom line. E-business continues to promise increased speed, flexibility, and savings throughout the supply chain. From all indications, the application of technology to business operations will continue to increase. As e-business evolves, it's important for a company to have a solid e-business technology infrastructure.

Agriculture has been slower than some other industries in adopting e-business methodologies. Only a few short years ago e-business (or e-commerce) was defined as participating in an Electronic Data Interchange (EDI) initiative. But that's no longer true. According to Steve Scala, the Vice President of GE Global eXchange Services, "Today e-commerce means much more than just EDI: it means supporting interactive Web sites; it means using XML and the Internet to conduct interactive business-to-business (B2B) communications; it means enabling communications…."

For over ten years, companies focused on crop protection products took part in defining document standards for exchanging information throughout the supply chain. Working through their industry e-business organization, the member companies created tools, standards, and databases to facilitate e-business in their specific vertical agricultural segment. Several other agricultural segments also participated in EDI initiatives with their own industry orientation and standards development. The result has been that today we find ourselves with overlapping data structures across multiple agricultural industry segments with some, but less than desirable, interoperability among the standards and data requirements.

Newer technologies have arisen and the Internet has now become the platform for e-commerce. XML (eXtensible Markup Language) has begun to replace EDI because it is easier to work with, reduces cost, and because data streams can now be interpreted and presented to both humans and machines. Additionally, data structures can now be readily modified or improved upon at a significantly lower cost and faster pace than has been true in the past. These facts allow agriculture, in fact all industries, to take another look at and improve upon the e-business standards and data structures that were created in the "old" EDI world.

With the Ag Industry initiative, a significant number of the vertical-industry segments have come together to leverage these new capabilities and technologies for the benefit of all of agriculture.

A Brief History of E-business

A wise man once said: "To know where you're going, it's important to know where you've been." To plan your e-business future it's important to understand e-business past. To fully appreciate the role AGIIS plays in e-business, a fundamental understanding of e-business history is helpful. The following paragraphs summarize the evolution of e-business activities.[1]

Phase One: Point-to-Point Direct Connections

Early computer-to-computer data exchange between businesses moved data via primitive computer protocols. At that time, numerous communication protocols could be used, some of which are still found in vertical-industry implementations, such as the BiSync 2780/3780 no-logon protocol of the Uniform Communications Standard for the U.S. grocery industry. Other such early protocols still in use include ANSI Clear and X, Y and Z Modems.

Phase Two: Value-Added Networks (VANs)

To communicate across a supply chain with different suppliers, an early EDI user needed to manage a variety of protocols. Implementing and supporting the myriad of communications protocols that were proliferating had a cost: companies often needed to buy multiple products. These products, in turn, required their own operational assistance with scheduling transmissions, executing the JCL (Job Control Language), and setting up audit and error-handling procedures. Soon users migrated to Value Added Networks (VANs) to resolve this issue.

The VAN became popular because it could insulate the protocol of a given trading partner from the protocols used by all the others. The VAN not only offered protocol conversion; it also insulated one company from the other so neither company logged onto the other's system. This insulation provided security and eliminated the need to build an operational communications infrastructure capable of supporting communications sessions with multiple concurrent users. The VAN also insulated users from having to synchronize communications. Companies were free to bring down their systems and perform maintenance without coordinating their activities with multiple trading partners.

Phase Three: Internet

In the 1990s the Internet became the primary vehicle for conducting e-commerce. The prevailing view was that the Internet would replace the VAN as a network intermediary. Leaving the VANs, early Internet adopters hoped that it would become the universal protocol and would offer unlimited, inexpensive reach. Unfortunately, these early adopters are facing a familiar situation: again they have had to learn how

---

[1] Background history by Steve Scala of GE Global eXchange Services

to deal with differing format protocols, such as File Transfer Protocol (FTP), Hyper Text Transfer Protocol (HTTP), and Simple Mail Transfer Protocol (SMTP). "Pioneers" have also had to learn how to deal with securing the data during transport. Security concerns have led to the management of certificates for using encryption methodologies such as Secure Sockets Layer (SSL) and Secure/Multipurpose Internet Mail Extensions (S/MIME).

Achieving E-business Integration

So much for the history, what basics does your company need to establish an e-business presence? To participate in business-to-business integration, your company needs to make several provisions:

1. Your IT infrastructure must allow your company to make the information contained within your company's internal information systems available to trading partners. (Programming Tools)

2. You must be able to take information in from a trading partner and integrate it into your computer system so it can be processed seamlessly. (Programming Tools)

3. Your data formats must be defined and understood by your trading partners' computer systems. (Transaction Standards)

4. Your data elements and codes must be understandable to your trading partners and easily interpreted by your trading partners' computer systems. (Data Coding Standards)

5. Finally, your company must be able to participate in these activities without compromising your organization's security. (Security Hardware and Software Tools)

Companies that create an integrated e-business infrastructure can reduce both their costs and the cost to their trading partners. They can effectively manage inventory and enhance the speed with which their products move from their warehouses and factories to the consumer. In today's business environment, failure to do so will result in a competitive disadvantage.

The Internet provides a single conduit to reach any supplier of any product, anywhere in the world. The only requirements are that consumers know which suppliers they should be interested in, how to contact them, and that they use a standard method to exchange business data.

The process by which buying organizations work with their suppliers to exchange business documents electronically is a proven e-business value initiative. Well-structured programs yield dramatic reductions in transaction costs, fewer errors per transaction, and shorter cycle times for document processing.

The standards and tools that have been developed in the Crop Protection segment provides buyers with the ability to dynamically access information from all relevant suppliers and to provide the suppliers with accurate information that allows them to precisely meet the buyers' needs within an agricultural industry setting. Specifically, AGIIS provides buyer, supplier, consumer, and product information in a standard format that is readily accessible to the subscribers. Use of these standard codes and standardized information is one of the keys to enabling companies to achieve their desired economic goals with e-business.

The Benefits of Using AGIIS

AGIIS provides significant benefits to companies using electronic means to conduct business. Companies engaged in e-business today will recognize the issues listed below. See how AGIIS can help resolve those issues. Companies who are planning to start an e-business initiative can use this enabling technology to avoid the high cost of "going it alone" and "reinventing the wheel".

Issue: Identification of customers and suppliers. You refer to your suppliers and customers with your own proprietary code. The name and address that you enter in your system differs slightly from the company with whom you exchange electronic transactions. Your trading partner's computer has a difficult time matching up your information with the information in their own database.

Resolution: AGIIS provides a unique code that both you and your trading partner can use to communicate electronically. Customers and suppliers are cross-referenced to your proprietary code to allow the match to be easily automated and seamless. AGIIS handles company trading partners, consumers (farmers, growers, and other end users), and locations. Names and addresses are also standardized. If you want to import the standard names into your database, you can easily get a download of that information.

Issue: Product Identification. As with customers and suppliers, you have assigned your own SKU for products that you purchase from your suppliers. Currently, you must maintain supplier codes for these products to be able to send an e-order; that's a costly and error-prone process. When product information changes, you must manually update your computer system.

Resolution: AGIIS allows you to access your suppliers' product information on the Web and/or with an e-business transaction. Use of AGIIS will allow you to simply cross-reference the products that you buy from a supplier with your SKU in the directory, and product changes and updates will be sent to you automatically on a schedule of your own choosing.

Issue: Identification of locations, products, and crops in Precision Ag data. Precision Ag has become commonplace and will continue to expand. Unfortunately

much of the data that is collected and transmitted is unusable due to differences in the coding schemes that are used.

Resolution: AGIIS creates industry standard codes for locations (including latitude and longitude, rail sidings, etc.), crops, products such as crop protection products, fertilizer, and seed, and for the farmers, growers, and farm businesses associated with them. Standardizing these data elements opens the data to analysis that has not been possible until now.

Issue: Vendor Managed Inventory. Your computer system has the capability of managing inventory levels for your customers if they provide you with an electronic inventory status transaction. Identification of each of the products and their locations is nearly impossible without standard product and location codes.

Resolution: AGIIS makes it possible for you and your customer to engage in this valuable e-business transaction. Your customer simply identifies their locations to the directory and a standard code is assigned that you can access in real-time, over the Internet! Similarly, your customer has the same access to your standard product numbers and can use them to cross-reference to internal proprietary codes.

Issue: The High Cost of Distributing Printed Information. It's expensive to print and mail or fax pages and pages of product information to hundreds of customers. It's also expensive for them to read and key the information into their systems and is prone to error. You may have updated the information in your computer but they haven't; in that case your e-business transaction is worthless. At best the transaction will go into an error condition and someone will have to make a phone call and process the transaction manually; at worst you ship a truckload of the wrong product to your customer.

Resolution: When you update your information in AGIIS, your customers have access to the information immediately! You enter it one time, in one place, and save money. Information downloaded to your customer can be loaded into their system automatically and your order and shipping errors are reduced to near zero.

An Industry Solution

Certainly, there is benefit if you and a few of your trading partners make use of AGIIS. However, in today's marketplace it's seldom the case that your electronic trading is only with a few companies. Looking at the issues and resolutions that were presented in the previous section makes it pretty clear: to achieve the greatest benefit from the directories, an entire industry segment should participate.

E-business systems, like most other systems, are not inexpensive to build and operate. If some of your trading partners are still in the manual world or aren't using standards, in effect, you must maintain two systems and that's costly! The same is true if only a few are using AGIIS.

In a Nutshell

Industry standards and tools provide buyers with the ability to dynamically access information from all relevant suppliers and to provide the suppliers with accurate information that allows them to precisely meet the buyers' needs within an agricultural industry setting. Specifically, AGIIS provides buyer, supplier, consumer, and product information in a standard format that is readily accessible to the subscribers.

To achieve e-business success, AGIIS should be an integral part of your

e-business infrastructure.