



Crop Nutrient Collaborative Project – Case Study

Crop Nutrient Connectivity Project a Catalyst in the Segment

Overview

Electronic connectivity has revolutionized “doing business.” Electronic data collection, analysis and utilization are key elements of sales, marketing, distribution, warehousing, finance and human resources. Largely designed for internal use, connectivity between trading partners is often constrained by a lack of common standards, data formats and other business tools.

Just as agricultural companies have recognized the advantages of internal electronic connectivity, they have also recognized the difficulties inherent in external connectivity. Company systems developed around different software platforms require customized Electronic Data Interchange (EDI) or manual information transfer between trading partners. Changes to a field or data source or upgrade in software or systems by a company requires trading partners to make corresponding changes, delaying electronic transmissions, increasing the potential for error and placing additional demands on internal IT resources. In a marketplace increasingly accustomed to instantaneous information exchange and confirmation, time delays in the ordering process negatively impact customer satisfaction and operating efficiency.

In an effort to make connectivity among trading partners more efficient and less challenging, members of the crop protection, seed and crop nutrient industry formed an agricultural industry eBusiness standards organization. Initially working through RAPID and then transitioning to

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AgGateway Corporation, the industry leaders produced a common set of tools* for eBusiness solutions. Progressive members of the crop protection industry segment used these tools to initiate the Accelerated Electronic Connectivity Project (AEC Project). Participants worked together to identify barriers to electronic connectivity within their industry segment and successfully devised a common strategy for overcoming them.

Increased efficiencies and enhanced productivity achieved by those participants encouraged members of the AgGateway crop nutrient segment to emulate that effort.

Challenge

Create a template for electronic connectivity and eBusiness solutions that builds on past AEC Project success, yet meets the unique needs of the crop nutrient industry.

Barriers

The rapidly evolving crop nutrient industry is in transition with many members moving to a formal, contract-based environment that includes product, quantity, pricing, sourcing and time frame.

Individual segment members have substantial investments in existing proprietary systems, customized to best meet sales, marketing and other corporate and customer needs. Clearly defined benefits to a standardized approach are needed before existing systems will be modified.

Adopting standardized systems and standards for electronic connectivity requires dedicating internal resources from IT and other departments that may

interfere with or delay other project or program development.

Strategies

Recruit representative sample of industry segment members, including manufacturers and distributors, to join the Crop Nutrient Council (CN Council) sponsored Crop Nutrient Connectivity Project (CNC Project).

Establish a timeline with subsequent phases of design and implementation.

Evaluate and promote CNC Project benefits to the wider crop nutrient segment.

Results

A total of nine crop nutrient segment members, including Growmark, Helena Chemicals, CF Industries, Mosaic, Tessenderlo Kerley and others, responded to the invitation to take part in Phase I design with implementation in Phase II. While several companies chose not to move forward with implementation, most continue to support project objectives. Participating in Phase I gave them a role in defining the standards they may well implement in coming years.

Phase I:

Design work included identifying the data requirements needed with each process and establishing standards for how data would be formatted, transmitted and tracked.** Standardized messages for use throughout the supply chain were modified or developed for eight different transactions common to the crop nutrient industry. Business rules as to how to implement the messages were also collaboratively established. Once established, the Phase I process remains available as other message and business process needs develop. A new business process is now being developed for a remittance

message, which would provide more efficiencies from buyer to seller.

Phase II:

Once design was complete, continuing participants moved on to Phase II and began implementing the new standards and messages in their businesses. This included continued message testing and adapting trading partners' internal systems and business practices to accommodate the messages and make the processes more efficient. CF Industries and Growmark were among the first to complete implementation and to benefit from the CNC Project. Other participants are beginning to see similar benefits. In one case, a participating company with no existing EDI system developed an eBusiness process around the tools and standards developed under Phase I.

Benefits

Customer satisfaction is enhanced, and operating efficiencies of CNC Project participants and their trading partners are improved through near "real time" transactions of as little as five seconds.

Many of the companies in this project are finding they can redirect employees' time from order management to more valuable customer satisfaction, sales fulfillment and business expansion. Placement and confirmation call e-mails and faxes are being replaced with standardized messages with no human intervention.

Automated order placement 24/7 eliminates multiple data entry and intra system conversions, thereby also eliminating potential for errors.

Simplified business processes lead to expanded business opportunities with satisfied customers, providing a competitive incentive to those who adapt more quickly.

Flexibility built into the project design allows business partners to adopt CNC Project systems as internal resources dictate and seasonal time pressures allow.

System standardization required of CNC Project participants and use of CNC Project tools, such as the Ag Industry Identification System (AGIIS) database rather than proprietary codes, has improved operating efficiency and reduced error potential with trading partners. Most companies, whether or not participating in the CNC Project, have recognized the value and efficiencies using the AGIIS database to synchronize their data for products and entities.

Participants in the CNC Project included competitors and current and potential trading partners in an arena of cooperation and expertise sharing that has benefited all.

Opportunities

Increased operational efficiencies and enhanced customer relationships achieved through the CNC Project are now available to other members of the crop nutrient segment. The knowledge base, standards and systems created through CNC Project efforts make adoption of electronic connectivity among trading partners simpler and less costly than otherwise possible. Conversely, those who do not adopt these tools will find themselves competing at an ever increasing economic and customer satisfaction disadvantage.

***eBusiness Solutions Tools**

EDI transaction standards were established for structuring data to allow transfer and handling. Internationally recognized XML messaging standards were adopted for formatting data. A business messaging engine, bar code standards, and common industry database (AGIIS) of locations, entities and products used in agriculture were also developed and adopted.

****Data Management Requirements**

- Standardize order-to-invoice transaction information passed between trading partners
- Develop standardized contract information exchange
- Automate the contract-to-invoice business process
- Eliminate dual contract-to-invoice entry among trading partners and reduce errors
- Improve notification response time among trading partners
- Streamline the above business processes by implementing XML-based messaging

CF Industries Testimonial

For CF Industries (CFI), one of the largest makers and distributors of nitrogen and phosphate fertilizers, the CNC Project has been a source of enhanced customer satisfaction and growing efficiency. Prior to the CNC Project, CFI had automated and streamlined the business process with EDI for a handful of major customers. However, order creation often varied by customer and involved codes proprietary to the entities involved. Phase I involvement enabled the company to retain efficiencies gained through its existing EDI process by ensuring CNC Project implementation flexibility, while still converting CFI systems to standardized codes and messaging.

While not all trading partners of CFI were willing or able to make the transition to the CNC Project way of doing things, benefits accrued immediately for those who did, as well as to CFI. Benefits included automated customer orders from the beginning of the supply chain to the end,

with immediate confirmations back through the system, as well as automated invoicing. Single orders now only take from five to 15 seconds to process. A CFI trading partner that has adopted the CNC Project system can be on the phone taking an order from a customer and have a confirmation back from CFI in five seconds (while they are still on the phone with their customer). Shipping notification went from an approximately two hour process to now approximately 15 minutes on average with even greater improvement projected.

Freed up from managing orders, the CFI sales force can be more proactive in exploring customer needs, finding optimum freight rates and filling orders. Because data is entered only once, opportunity for error is reduced significantly. Thanks to the extensive discussions that took place in Phase I, order message design includes fields that directly enhance customer service. CFI quickly discovered that implementing the CNC Project system made it easier for participating trading partners to do business with CFI, which led to capturing more orders from their customers.

“When making sales, when prices are relatively the same between CF and competitors, customers want to do business with CF because of the ease of doing business and for the service we are able to offer to support their business, thanks to electronic connectivity,” says Becky Porter, senior business analyst, CFI. “We largely deal in commodity products, but we can differentiate ourselves through our business process and how we support our customers.”

As customers begin to utilize or, in some cases, adopt systems to utilize CNC Project standards and tools (especially the AGIIS database), CFI sales support no longer has to maintain and update data records when locations change or mergers take place. Instead, participating trading partners maintain the industry database, making changes internally as they occur with changes shared automatically through the AGIIS database. Similarly, with the elimination of CFI

proprietary codes in messaging and using the AGIIS identifiers, changes made at CFI are automatically recognized by trading partners who are also synchronized with AGIIS.

CFI representatives to the CNC Project credit senior CFI management, including the CEO, for approving involvement and committing adequate resources for the time consuming and multi-year development process. They also credit the process for introducing CFI to new options and opportunities in electronic connectivity.

“Minimizing dual entry and improving accuracy between trading partners was our primary goal, followed by adopting standards and business processes. We also saw a lot of ancillary benefits by participating in the project. We’ve processed over 10,000 new messages since implementation this year,” says Jeff Baader, Project Manager, CFI. “Among other improvements to our system, we implemented a transaction log so that internal users can review transmission activity between CFI and our trading partners and follow-up on rejected messages as necessary. We also improved response time processing order messages to near real-time, which was originally a batch-intensive process taking as long as 15 minutes to receive and process an order. Fast response time is vital when the distributor may be sending a truck to pick up the order while almost simultaneously placing the order.”

“We can acquire new trading partners with minimal IT efforts, just the flick of a switch,” adds Porter. “Our business side promotes connectivity with new customers and maintains all the different partner entities in the order message, such as ship to locations, customer broker, sold-to-customers and third parties, using a direct connection to the AGIIS data base of locations. We’ve also been able to eliminate time consuming manual tracking reports for barge and rail shipments with participating customers. Electronic messaging on shipment status has replaced them.”

Porter emphasizes that as successful as the project has been with participating trading partners, the key to success is continued growth in participation. To date CFI has electronic communication in place with four trading partners and expects to add a fifth. Two had participated in the previous EDI process put in place by CFI. Two are new to electronic communication.

“In a project like this, you can have one on one electronically connected, but it is not as efficient unless you get the entire group of distributors and manufacturers handling transactions the same way,” she says. “We are promoting XML to our existing EDI based customers and suggesting to new trading partners that they use the XML standards and eventually reach full connectivity. It is easier to promote now that it is a proven success.”

Growmark Testimonial

As an organization, Growmark was familiar with the benefits and the barriers to electronic connectivity with trading partners. Participating in the AEC Project carried out with trading partners in the crop protection industry produced improvements in operating efficiencies and enhanced working relationships. Growmark was anxious to achieve similar benefits with trading partners in the crop nutrient industry by adapting and adopting many of the standardized tools and systems put in place through the AEC Project. It is one of the reasons they actively encouraged CF Industries and other trading partners to join them in the CNC Project coordinated by AgGateway Corporation. The goal was a good mix of crop nutrient manufacturers and distributors who could agree on a common set of tools and standards for electronic connectivity.

“There are always benefits in speed and accuracy with electronic connectivity between trading partners,” suggests Gary Garrett, project planning manager, Growmark. “However, with AgGateway and a project like

this, you are working together for the benefit of all, not just one trading partner to another.”

With the AEC Project, Garrett had seen the benefits of sitting down and defining standards for the crop protection industry segment. With them in place, he said, everything moved more smoothly and seamlessly. “It allowed us to automate processes we had been unable to do previously,” he explains. “While we didn’t track dollar savings, we did see improved customer service. For example, orders could go directly to the manufacture and back to the customer in a matter of seconds, acknowledging the order was valid and when product would be shipped.”

Participation in the CNC Project was much more limited than in the AEC Project where 80 to 90% of all trading partners were involved in the program. Another difference was complexity, with the participants attempting to standardize eight transactions, much more than had been the case with the AEC Project. Also, due to the complexity of the project, some participants were unable to maintain dedicated resources from IT and other sectors to the project. As a result, the effort took more time than planned and thus a greater investment in resources from participants. For Growmark, the investment has been a good one.

“We had four major trading partners participate in the project with good results for some, while others are struggling to get the final transactions completed,” says Garrett. “We are already seeing benefits in customer service and efficiencies that are allowing us to repurpose resources from order taking to order tracking.”

Garrett sees several benefits to being involved in the project from the beginning. Participants had a say in setting industry standards that everyone will eventually want to adopt as efficiencies continue to be demonstrated. There is now a system and a knowledge base in place to help trading partners make the conversion from existing systems to full electronic connectivity.

“We can help them adapt their systems to match ours based on the industry standards,” says Garrett. “Once they do, they will be able to easily connect with a significant number of other trading partners already using the same standards and tools to communicate electronically.”

Undoubtedly, the greatest benefit to taking part in the process is competitive advantage. “It has let us be among the first to take advantage of the efficiencies and capabilities we were building with this project,” says Garrett. “We are already getting calls, e-mails and letters from customers indicating they are happy with the process. They like getting information back more quickly and being able to place orders 24/7 on our Web site versus calling someone to place an order. We can see it was a good business thing to do.”

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