

Case Study for Oskaloosa Engineering & Manufacturing

Company profile

Founded in 1959, Oskaloosa Engineering & Manufacturing is a 68,000 sq. ft. state-of-the-art machine shop that specializes in the machining of iron castings. OE&M utilizes computer-controlled machining centers to produce precision components for customers. OE&M also machines and assembles heavy-duty, custom gearboxes for use on various agricultural implements.

OE&M expertise and capabilities allow them to offer a wide range of services such as tooling, broaching, horizontal and vertical machining, lathe work, and CAD modeling. OE&M takes great pride in being able to run both large production volume and small sample orders.

For over 50 years OE&M has been committed to meeting its customers' needs by producing high quality machined parts and assemblies by:

- Striving for excellence and continual improvement in the effectiveness of our quality system processes
- Developing lasting relationships with our customers by improving the quality of our products and exceeding expectations
- Promoting employee competence through effective training and communication

Oskaloosa Engineering & Manufacturing is proud of its reputation, retaining business by delivering on expectations in a timely manner.

Business situation

One of Oskaloosa Engineering & Manufacturing's largest customers required OE&M to implement a traditional EDI (Electronic Data Interchange) system to support order management, product delivery, receivables, payments, and bar code labeling in order to retain their business.

Technical situation

Due to the high volume of orders, deliveries, invoices and payments traded with their customer, Oskaloosa Engineering & Manufacturing needed to be able to integrate their EDI system with their existing internal business management system. A separate system requiring additional data entry would have been far too cumbersome, with huge opportunity for data entry errors.

OE&M uses M1 management software for manufacturing by ECI Solutions in a Windows Server 2008 networked environment with a local network domain. M1 management software features the ability to support custom programming, and stores data in Microsoft SQL Server database tables.

EDI transaction communication with Sterling VAN (Value-Added-Network) services was mandatory for this project.

The new EDI system needed to be able to send and receive EDI transactions, i.e. documents, on both an automated, regularly scheduled basis, and as needed (on demand). In some cases, it was important that EDI transactions be reviewed, validated, and edited before sending to the customer, or importing into the M1 management system.

OE&M also required the ability to print bar-code labels for shipment containers for customers that were not using EDI to communicate orders, etc.

Solution

Mahaska Data Technologies, L.L.C. professionals analyzed OE&M's network, M1 management software and database, PC workstations, and business processes. MDT researched commercial EDI solutions, ultimately finding that there was no existing product on the market that provided integration with M1 management software. MDT performed cost/benefit analysis on VAN (Value-Added Network) service providers to determine the best provider for OE&M's situation. Finally, MDT developed a brand new, complete software application and integrated processing system to manage traditional EDI transaction processing.

The resulting solution included the following elements:

- EDI communication with Sterling VAN (Value Added Network) services provided by iConnect
- An intermediate EDI transaction controller application, built with Microsoft Access 2007 on top of a Microsoft SQL Server database containing stored procedures, triggers, and email capabilities for handling data processing and operator notifications. This application included features:
 - Supported EDI transaction types
 - Invoices (810)
 - Remittances (820)
 - Invoice and ASN errors (824)
 - Shipment Forecasts (830)
 - Purchase Orders (850)
 - Advance Shipment Notice (856)
 - Shipment Delivery Advice (861)
 - Shipment Releases/Triggers (862)
 - Inquiry
 - Shipment Forecasts
 - Shipment Releases/Triggers
 - Summary and detail reports for all supported EDI transaction types
 - Ability to edit EDI transactions before exporting or importing
 - Ability to export EDI Shipping forecast data directly into M1
 - Ability to generate ASNs (Advance Ship Notices) directly from M1 shipments
 - Ability to print bar code labels for shipments
 - Email notifications for data verification issues

The application was installed on all operator machines after being compiled and packaged for deployment, to run under Microsoft Access 2007 Run Time.

- An application that would transfer EDI information to and from Microsoft SQL Server tables, built with Altova MapForce Enterprise and Microsoft Visual Studio 2008
- Regularly scheduled processing set up in Microsoft Windows Server 2008 scheduler
- Crystal Reports bar-code labels that could be printed from M1 for customers not using EDI transaction processing
- VBScript programming and table modifications in the M1 management software

Benefits

- Time required to input shipping forecast information for the customer was reduced from an average of three hours per day to about forty minutes per day, including verification and minor manual adjustments

- Shipment processing evened out the number of shipments required to be sent each day
- Non-EDI customers continued to be supported
- Streamlined Advance Ship Notice processing
- Automated bar code label printing for shipment containers reduced label preparation time each day by approximately one hour
- Customer business was retained, and their level of satisfaction was increased
- Implementing the EDI system provided more opportunity for expansion and automation

Products and Services used to build the Solution

- Microsoft Windows Server 2008
- Microsoft Windows 7 Professional, 32 and 64-bit
- iConnect VAN services
- Altova MapForce Enterprise
- Microsoft SQL Server 2008
- Microsoft Visual Studio 2008
- Microsoft Access 2007
- Business Objects Crystal Reports
- Eci Solutions M1 Management Software
- Customer-specific EDI specifications documents