

## **Introduction**

Today, the pace, cost -competitiveness and global scale of manufacturing operations in nearly all industries demands the use of some form of electronic supply chain management to manage day-to-day transactions and communications with suppliers. These transactions include tracking shipments, maintaining inventory, producing material transmitting orders, exchanging delivery plans and generating invoices. Enterprise resource planning (ERP) and electronic data interface (EDI) are two components of electronic supply chain management. ERP systems are used by industries to manage their core business while an EDI system is used to transmit information electronically. Companies need to determine a cost-effective method to set up this type of electronic supply chain management system that allows them to compete effectively within the industry. This document explores some of the considerations each company must evaluate when implementing EDI.

## **EDI Considerations**

EDI, which is an efficient way to communicate with business partners, has become a requirement in order to compete in today's business climate. Each company must find the best way to integrate EDI into daily business practices by choosing a solution that fits the company's needs. The following should be considered:

**In-house EDI vs. Outsourced EDI** –when deciding if you are going to invest in an in-house EDI system versus outsourcing EDI you need to ask yourself:

- Do I have the time and budget to invest in an in-house EDI system or do I outsource?
- What hardware, software, mapping tools and translator software do I need to purchase versus what will be provided if I outsource?
- Do I have the budget to hire additional IT staff to develop and support an EDI system 24x7 and do all of the upgrades and patches or, if outsourced, are support, upgrades and patches part of the service provided?
- What type of system security do I need to put into place to prevent data breach versus having the responsibility and liability being on the company I outsource to?

### **EDI service speed and accuracy**

Data that is transmitted via EDI is sent and received automatically with a higher degree of accuracy and speed than data that is transmitted manually.

### **Understanding of EDI or simple EDI translation**

It is important to have IT professionals with an expert understanding of EDI formats and mapping in order to translate transactions to many document types.

**Type and level of integration between systems**

The company must select an EDI system that can both integrate with the company's existing systems as well as business partners' systems and meet the company's current data requirements. These requirements could include EDI mapping, interfacing programs, extracting data, transforming data and loading data.

**Management of EDI Operations**

The company should review current staffing levels to determine if they are sufficient to maintain the EDI system infrastructure and business partner queries.

**Data security and availability**

It is critical that EDI data is secure for both the company and company's business partners. Information should be available in real-time for optimal communication with internal organizations and business partners

**EDI Data**

One of the benefits of EDI is the real-time speed of delivery and ability to respond in real-time.

EDI data that has been received can be processed in EDI formats such as X12, XML, EDIFACT, proprietary flat files and interface queuing tools. While mapping has established rules, the interface between EDI and ERP systems does not have established rules. It is critical to have a deep understanding of the ability to interface with simple to sophisticated systems using files, tables, queues, application program interfaces (APIs) or web services. The lack of this understanding can be very costly to a company.

A valuable EDI partner should simplify the automatic EDI data send and receive functions and provide system, data, database and server support 24 hours a day, 7 days a week. The data needs to be simplified so the data can be read.

**Solution**

Northrop Grumman's Business-to-Business (B2B) EDI Translation Partnering Services provide real-time EDI capabilities for companies that need to have an EDI solution, but may not have the full-time, dedicated staff or the budget for capital expenditures to set up and maintain an EDI solution.

Northrop Grumman uses secure socket layer (SSL) virtual private network (VPN) with two-factor authentication for enhanced security.

Northrop Grumman B2B EDI Translation Services provide a range of integration methods from simple EDI to sophisticated EDI based on the company's needs. Simple EDI is a flat file converted to EDI while sophisticated EDI is integrated directly to application databases.

Routing for communications from the sender to the receiver can be based on a Dun and Bradstreet number or a unique ID. A company that has multiple lines of business or divisions may need multiple IDs

to handle the complexity of their business. Northrop Grumman is an e-commerce expert that has extensive experience in setting up even the most complex EDI environments.

Northrop Grumman uses Software as a Service (SaaS) to host and manage software and hardware for companies that require an EDI partner that can develop customized solutions such as:

**File System and Data Flow**

Northrop Grumman will work with your company to set up the file system that controls the data flow from your company to your business partners. Your company will own its information and be responsible for delivering data to Northrop Grumman.

**System Monitoring and Storage**

Northrop Grumman will monitor your company’s data 24 hours a day, 7 days a week. Your company can work with Northrop Grumman to determine the length of time that the company’s data should be stored.

**Data Translation**

Northrop Grumman will work with your company to develop a single comprehensive format unique for each EDI transaction, both inbound and outbound.

*The Figure below conveys the direction and X12 EDI transaction nomenclature used in the metals supply-chain*



## Summary

Northrop Grumman wants you to be able to focus on your core business. A company should be able to focus on growth while partnering with a company that can manage and maintain EDI.

If your company is looking to implement EDI or enhance your company's existing EDI, Northrop Grumman has the expertise to meet your company's needs. Exchanging real-time information gives your company a competitive advantage by offering greater efficiency. Your company is seen as an increasingly valuable business partner and a formidable competitor.