

# EDI: What do we need?

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In today's business environment, everyone is talking about EDI. We all know we must have it, however, we need to know the components which make up EDI.

Electronic Data Interchange (EDI) is the inter-corporate exchange of business information in a structured machine-readable form. EDI is designed to permit computers on both the sending and receiving end to communicate with one another without human intervention.

Imagine that two business executives from foreign countries meet on a plane. They sense each has something to offer, but neither can speak the other's language. They try to discuss business, but without a common language, the effort becomes futile. Frustrated, the pair turn to their own newspapers, unable to communicate.

A simple scenario, but one that illustrates the problems of companies trying to work together using EDI with common standards. The standards are the same as languages, and without languages, it's nearly impossible to do business.

A clerk can read two completely different purchase orders and obtain the pertinent information from both, whereas a computer cannot. The computer must be told in advance where to expect certain information. EDI standards provide the structure in which two computers are able to process information between them. It is the computer's language.

## **EDI Standards**

EDI standards are, in essence, agreements between users of EDI on how data is to be formatted and communicated between them. If corporations can't do business universally using EDI, then the technology will be useless. Today, X12 is the standard for North American EDI Usage. On the international front, EDIFACT is evolving as the key standard. Eventually, many believe, a merger between X12 and EDIFACT will create one common EDI international standard.

EDI standards will continue to evolve with the addition of new transaction sets. The key is to evolve with the standards without letting the standards limit the EDI opportunity. When trading partners agree to support the standard syntax and usage rules, the receiving computer application can interpret incoming data and process information. Two computers must have a common language, just like the two businessmen in the airplane.

Standards will continue to serve as a guideline for EDI. If a worldwide standard is chosen, and companies rally around it, everyone wins. More businesses with EDI capability means a future with two methods of doing business: manually and electronically.

### ***Why do we need EDI standards?***

Many times two potential EDI trading partners will meet to discuss an electronic linkage between them and decide to use a simple file transfer to accomplish it.

The reasons EDI was not used include:

1. The possibility of using EDI was not even considered.
2. They thought that EDI standards were too cumbersome and they did not fully understand published EDI standards.
3. The use of a file transfer was much simpler.

Some of this reasoning is valid; however it should be noted that in most cases, the use of EDI standards will enhance the usefulness of the system. Let's review each point individually.

#### ***The possibility of using EDI was not even considered***

Many times it is viewed that the communication between these two trading partners is a one-time transfer. If the people who are put in charge of making this transfer don't understand the usage of EDI standards, they may choose to use the simplest method without considering the long-term implications.

#### ***They thought that EDI standards were too cumbersome and they did not fully understand published EDI standards***

Many times it is believed that using EDI standards is an overkill for the type of data being transferred. Once EDI is understood, it becomes apparent that certain pieces of information are mandatory, while much of the data is optional unless the specification between the trading partners requires its use.

#### ***The use of a file-transfer was much simpler***

The use of a file transfer may be the simplest today; however, as the needs expand, problems will arise. EDI standards are designed to be as flexible as possible and permit modification as business needs change over time.

For the beginner, the idea of using these new EDI standards is usually the hardest to understand and makes the start somewhat difficult; however, the more you are involved with the standards, the easier future implementations and usages become. EDI standards permit us to handle transactions in a more efficient manner and give us the ability to include additional information should it be needed.

EDI standards are designed to ensure that all who wish to use them can do so in the same manner.

## **EDI Software and Hardware**

As discussed earlier, there is a common structure and standards for data being exchanged in the EDI format. However, since no organization has its data files set up in these predefined EDI formats, we must have a way to transform incoming and outgoing data into the required format. EDI software performs this function.

### **EDI Software**

EDI software consists of code to translate information into and translate information out of the EDI standards agreed to between two trading partners.

EDI software can also create bridges between applications. Just as EDI eliminates the need to rekey data between two trading partners, bridging software eliminates the need to rekey between applications within the same firm. For example, the data used from an incoming EDI purchase order could create the sales order as well as create an invoice automatically if the situation warranted it. Since bridge software is specific to each company, it is usually custom code.

Training and education are key to the success of the EDI software. Training relates to how EDI works and how transaction sets are created, exchanged and processed. Education, on the other hand, explains why EDI is important to the user and the company. Skilled users make EDI powerful.

EDI software has never saved money for a company. The software is merely a tool and by itself will not increase profits. EDI software will not help your company reach goals, but people, who know how to use it, will.

### **EDI Hardware**

In today's business environment, EDI is run on all levels of computers, including mainframes, minicomputers and PCs. In some cases, the PCs are put in front of the minis or mainframes to act as a preprocessor. There are certain advantages in doing this:

- PCs are significantly cheaper than mainframe or midrange systems
- EDI translation software for a PC can be less costly than a mainframe
- PC packages are often easier to use
- Processing of EDI files can be done on your PC, thus saving your main system resources.

In addition to the computer, EDI users must decide on the communications method to be used. Communications between users is performed by a modem. A modem is a device that converts computer signals to audio tones, which can be sent over telephone lines.

## **Third Party Networks**

For EDI to take place between two trading partners, there must be a link of some kind between them. Linkage can occur in two ways: direct and indirect.

### ***Direct Link***

In the direct link concept, the two trading partners are connected directly. This is usually accomplished by telephone lines and a modem or by hard-wiring a line between the two partners. One of the trading partners simply dials into the other partner's computer.

In order for this to work, both organizations must have compatibility from a communications standpoint. In other words, the two partners must use the same protocols.

While this sort of communication may appear simple, it has a major drawback. It requires both parties to dedicate the telephone line and port on their computer to this operation alone. They must agree upon the time for each to dial into the other's system.

The direct link is feasible when only a few trading partners are communicating. As the number of partners increase, this method quickly becomes unwieldy, and other methods must be found.

### ***Indirect Links***

The indirect link takes the form of Value-Added Networks (VAN). A VAN is a system where a network leases lines from a common carrier and allows users to use these lines to communicate to one another. Recent EDI experience indicates that most companies consider a VAN necessary when they reach four or more trading partners.

A VAN works using the concept of a Mailbox. When you set up an account with a VAN, they will set aside a particular place on their system for you, called a Mailbox. When one of your trading partners wishes to send you something, they will merely connect to the VAN and send the file. The VAN's computer will read the first line of the message which contains your address and place it into your mailbox. When you are ready, your system will connect with the VAN and download all the various files from your trading partners. You also have the ability to upload your messages to other trading partners at the same time you are downloading. Most VANs allow 24 hours a day, 7 days a week access to the electronic mailbox.

Advantages of this concept include the elimination of the need to dedicate equipment to one trading partner as well as eliminate communication compatibility problems. Another key service provided by these networks is an audit of all traffic on the network. This can be very useful when trading partners dispute whether an EDI message was sent.

The VANs can also provide other services which can be provided on an à la carte basis. Additional services may include automatic backup and archiving of

mailboxes, EDI consulting, status reports on EDI activity, security for your EDI, conversion between various formats, etc.

The use of EDI VANs can be the best solution for the communication needs of most EDI systems. It will allow the most flexibility, and make the system available to the most trading partners. The use of a VAN is also the simplest and easiest to administrate.

## **Summary**

EDI is a business issue which require a number of technical components to make it work. In this paper, we have gotten acquainted with the Standards required of EDI, the hardware and software used in EDI and the communication options available in EDI. There are many solutions to these issues. The best solution is to use the collective wisdom of the people in your organization, who will use the system, to define the solution which best fits you. A company entering the world of EDI should look beyond its current needs and remember that implementing EDI is a *long-term* business decision.