Poor Man's Electronic Data Interchange (EDI)

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Problem/Opportunity

A myth exists that traditional electronic data interchange is too expensive and technically complex. The popular belief is that it only makes sense for large companies to implement EDI solutions. As the cost of technology has decreased over the years the cost of implementing EDI solutions has also decreased and is now affordable for even small companies.

Description

EDI is the interchange of structured data according to agreed message standards between computer systems, by electronic means. Structured data is a method of presenting the data content of a document, a purchase order, an invoice or payment instructions in an unambiguous way. It is not a new concept but has been in existence for over twenty years.

The profile of EDI has been gaining notoriety lately with the advent of new methods for creating structured data formats such as the Extensible Mark-up Language (XML). A number of new factors including drastically reduced costs of computing hardware, software and telecommunications and a desire for businesses to automate tedious, manual paper processes has brought EDI to center stage.

There is confusion in the marketplaces between the standards and technical conveyance methods. EDI involves five main processes:

- Extracting data from a sending computer application (e.g. Accounts Payable)
- Translating the data into a standard format
- Transmitting the message
- Translating the message at the receiving end
- Downloading the data into a receiving computer application (e.g. Accounts Receivable)

Traditional EDI

There is more than one standard or syntax used for EDI messaging. The syntax consists of the rules to define how a message is composed for exchange. Two syntaxes are most prevalent in the traditional use of EDI: American National Standards ASC X.121. (a.k.a. ANSI X12) which is dominant in North America, and United Nations EDIFACT which is

dominant in Europe but is also very popular with large U.S. multinational corporations. A sample purchase order in ANSI X.12 format is listed below:

ANSI X12 Purchase Order

```
BEG*00*NE*654321**20010215~
N1*ST*JOHN SMITH*1*6147937221~
N3*111 MIDDLESEX AVE~
N4*OAKDALE*NY*11769~
N1*BT*EDI ENTERPRISES*1*8580828442~
N3*450 WEST 33 STREET ~
N4*NEW YORK*NY*10001~
PO1**1*EA*3299.99**UP*987654321*VC*123456789~
PID***DELL LAPTOP COMPUTER~
CTT*1~
```

XML Based EDI

The Extensible Mark-up Language (XML) is another syntax that can be used to standardize documents. Syntax is a very small part of the equation; the critical component is developing the standards that will be used by industry to facilitate the electronic exchange of documents. The objective with XML is not to replace traditional EDI but to define new standards and practices that combine XML and EDI to create an environment where businesses of all sizes can take advantage of the efficiencies created by automating paper processes. One of the main differences between XML and traditional EDI syntaxes is the ability to read XML documents by humans as well as computers. The ability to read and understand the message without translation is an important XML benefit. Unfortunately, the goal is automation, not continuing manual processes. Traditional EDI is designed solely for interpretation by computer and the data must be formatted into a report before it can be used to facilitate processes, such as the manual posting of account receivable.

XML Purchase Order

```
<order >
<order-no >654321 </order-no >
<order-date >20010115 </order-date >
<ship-to >
<DUNS="6147937221">
<address >
<address:name >John Smith </address:name >
<address:address1 >111 Middlesex Avenue </address:address1 >
<address:city >Oakdale</address:city >
<address:state >NY </address:state >
<address:zip>11769</address:zip>
</address >
</ship-to >
<bill-to >
```

<DUNS="8580828442">
<address >
<address:name >EDI Enterprises </address:name >
<address:address1 >450 West 33rd Street.</address:address1 >
<address:city >New York</address:city >
<address:state >NY </address:state >
<address:zipcode >10001 </address:zipcode >
</address >
</bill-to >
<item >
<item:identifier >
<item:SKU >123456789 </item:SKU >
<item:UPC >987654321 </item:UPC >
<item:name >Dell Laptop Computer </item:name >
</item:identifier >
<item:quantity >1 </item:quantity >
<item:unit >EA </item:unit >
<item:price >3299.99 </item:price >
</item >
</order >

The size of the XML purchase order message is considerably larger than the X12 purchase order message while both convey exactly the same information. XML is more verbose and is less efficient than traditional EDI formats.

It is also important to note that XML standards to replace existing EDI standards have not been completely developed and accepted. However, the existing standards bodies (American National Standards Institute, International Standards Organization, United Nations and SWIFT) are actively working on XML standards for various industries, as these standards are published, businesses will be able to begin adoption and placing them into document exchanges.

Solution/Recommendation

Whether you implement traditional EDI or XML based EDI you will find solutions in the marketplace for as low as $5000. The software will run on standard PC platforms creating a very low cost of entry into the world of automating manual and costly paper processes. Electronic data interchange can provide significant benefits to companies of all sizes. As more and more businesses continue to automate the supply chain, this topic will be more important to your organization.