DEX – The EDI Standard for Direct Store Delivery

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WHAT IS DEX?

EDI

When talking about DEX is often helpful to back up and quickly touch on EDI. EDI is the acronym for Electronic Data Interchange. The term does not refer to any specific standard of electronic commerce, but rather encompasses a host of different standards and technical specifications for passing information electronically between suppliers and retailers. In today's supply chain, when product moves, some EDI standard has probably been utilized.

DIRECT STORE DELIVERY

Many items that are date sensitive, or have limited shelf lives are delivered directly to the retailer store locations, by the supplier, as opposed to being shipped through the retailer's warehouse. This method of delivery is often referred to as Direct Store Delivery or DSD. Some suppliers who use this method are companies that deliver bread, chips, soda, and coffee.

SO WHAT ABOUT DEX?

Now that the foundation is in place, we can finally talk about DEX. Specifically, DEX is the standard used by many grocery retailers when receiving products directly into the end retail location via the backdoor receiving system. The supplier will transmit the electronic invoice, usually with a handheld computer, into the retailers system. The supplier's system and retailer's system can then exchange information electronically if there are discrepancies in quantity or price. They then reconcile electronically and ultimately the receiver and supplier have matching electronic delivery records.

WHY DEX?

Retailers and suppliers both benefit from the DEX standard by communicating electronically and eliminating paper invoices and the handling of these invoices by multiple parties within their respective companies.

The supplier may also have advantages such as being given priority at the backdoor receiving area over other suppliers that do not DEX. In some situations it may even be mandatory for the supplier to use the retailer's DEX system.

WHO CAN DEX?

If a supplier is servicing any national retail grocery chain, they can probably use DEX with these retailers. Many local and regional chains also have backdoor receiving systems with DEX capabilities. When it comes down to it there are probably more grocery chains than accept DEX communication that those that do not.

WHO CONTROLS THIS STANDARD?

The DEX standard is defined, maintained and updated by the GS1 Corporation. GS1 was formally known as the Uniform Code Council. Some of GS1's other initiatives include numerous other electronic standards for commerce as well as the management of barcodes assigned to retail products.

Occasionally new versions of the DEX standard will emerge and require adoption. New versions may incorporate the use of new types of product identifies, or solve larger issues like mandating 4 digit years back before Y2K.

THE MESSY TECHNICAL STUFF

RECORD TYPES AND ELEMENTS

When boiled down, the basics of a DEX session are really pretty simple. The supplier transmits an 894 record with the products, quantities prices and promotions into the retailers system. The retailer then makes any necessary modification and then sends acknowledgements or adjustments back to the supplier in an 895 record. The 895 record can be sent back and forth between the supplier and retailer multiple times if multiple adjustments are necessary

The DEX 894 and 895 records each have elements that define everything about the transaction. There are high level elements that identify the supplier and the retailer, so everybody knows who they are communicating with. There are identifying elements for the beginning and the end of invoices. And of course there are detail level elements that define the products, quantities being delivered, prices and promotions. The details of all of these elements that comprise the DEX information is not within the scope of this paper, but just know that each element is comprised of multiple fields that may be mandatory, optional, or conditional on other elements or fields.

SAMPLE

One of the good things about a DEX transmission is that it is in a human readable format. It is not encoded in a binary file or encrypted. So if someone knows what they are looking at, you can read the DEX file and pick out each element.

The block shown below is a transmission by the supplier into the retailers system.

```
DXS*1234560000*DX*004010UCS*1**P
ST*894*0002
G82*D*26158359*123479788*228*999929477*LOC1*20080904
LS*0100
G83*1*1*EA*001414150212****35.18**PRODUCT 1
G83*2*1*EA*001414100937****35.18**PRODUCT 2
G83*3*3*EA*001414100572****5.87**PRODUCT 3
G83*4*3*EA*001414100578****5.87**PRODUCT 4
G83*5*6*EA*001414100581****5.87**PRODUCT 5
G83*6*12*EA*001414100677****1.03**PRODUCT 6
G83*7*12*EA*001414100971****1.03**PRODUCT 7
LE*0100
G84*38*16552
G86*1D78
G85*2022
SE*15*0002
DXE*1*1
```

The block below shows the retailers response to the transmission. In this case no adjustments were necessary.

DXS*9254110029*DX*004010UCS*11250*9264650000*P
ST*895*13704
G87*R*D*26158359*2022*1
G86*C575
G85*26D4
SE*5*13704
DXE*11250*1

Although these blocks of text may look cryptic at first, after a quick study it becomes clearer which elements represent headings and which elements represent products.

COMMUNICATION

The DEX standard is not new, and the communication method for transmitting this information back and forth is not new either. In today's world of wireless networks and Bluetooth communication devices you may expect the transfer to utilize one of these, now ubiquitous, communication avenues.

The communication between the supplier and receiver is done through a serial interface on each system. The supplier's system will incorporate a line ending with a ¼" stereo plug. The receivers system will have a receptacle for the ¼" plug. It sounds ancient, but it does provide a very simple and standard interface for all users.

FIGURE 1: SUPPLIER'S 1/4" CONNECTION

FIGURE 2: RECEIVER'S 1/4" RECEPTACLE

GET GOING WITH DEX

There are relatively few barriers to entry if a supplier wants to DEX with a retailer, and with a bit of planning a DEX implementation can go quite smoothly.

SETUP

One of the most important aspects in a DEX implementation for a supplier may be in the communication channel that is set up with the retailers. Different retailers have different processes that suppliers must adhere to before the supplier will be allowed to DEX. At the product level, this might mean an audit of the product and price list that the supplier and retailer have to insure that they match. At the software level it can mean a host of things. Many of the large chains have pre-defined technical specifications for what information must be included in a DEX transmission. Sometime, even though the DEX standard may list a certain piece of information as optional the retailer will require it. Certification of the software may be necessary at some retailers. This usually involves a trip to the retailer's headquarters to run the software through a variety of scenarios that may happen in the DEX process.

SOFTWARE

The retailer's solutions, although customized for their needs, may come with much of the DEX functionality built into certain modules that they must install and activate.

The supplier's solution may come with the route accounting software that is being used, but at times this software is not DEX capable. This may necessitate some customization of the software to make it DEX capable. Making the software DEX capable will require that the invoice be translated into the proper DEX format, and translated back out of the DEX format for reconciliation. The DEX software will also have to transfer identifying information and perform communications handshakes with the retailer's system.

INTEGRATION

When the route accounting software is in place and DEX capable, it is important that the proper integration takes place with the suppliers system. Because the DEX process, is the proof of delivery,, it is important to record some of the information such as the digital signature from the transmission for later usage.

SHAMELESS SELF PROMOTION

Enterprise Mobility has a wealth of experience with DEX software implementations on a variety of handheld computing device. Let Enterprise Mobility provide your company with DEX capable software, or help you to make your current solution DEX capable.

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