BWH News Letter
Volume 1 Number 2c

Data Synchronization

Background

Data Synchronization is like "motherhood and apple pie". Everyone knows it will improve B2B Processes. Why has something which seems so obvious been so difficult to accomplish? Why is it so difficult for suppliers, distributors and retailers to agree on a single version of the truth? The key to accurate invoice matching is an accurate PO. If all the item, dimension, cost, and discount data are agreed upon up front, then the only dispute on invoices should be quantity or quality discrepancies detected during receiving. Data synchronization is the first step to getting 100% accuracy on PO's.

UCC refers to the "Foundational Four" of Data Synchronization as; the EAN.UCC Identification Keys and their Rules (GTIN Global Trade Item Number and GLN Global Location Number), the Master Data defining an item or location, the Global Product Classification (GPC) for an item, and the Global Data Synchronization infrastructure of UCCNet and Data Pools.

What are the important requirements for Data Synchronization? First, there needs to exist a "single authority" that defines the basic data associated with a logistics unit. Anyone with a question can go to the authority with the ID of a unit to find out what it contains, how much it contains, and how it is packaged. The authority also maintains data that meets international standards such as Global Product Classification and Hazardous Materials Classifications. This authority is UCCNet and the ID is the GTIN. UCCNet also recognizes that there might be specific supplier (GLN) or trading market (TM) variations for the same product, so the full key necessary to identify the master attributes includes the GTIN, GLN of the source, and TM.

Next, we need somewhere to go when questions arise about data that are "relationship dependent". How much will this unit cost from a particular supplier, delivered to a certain market area, and what discounts are available? This role is played by the "Data Pools" that surround the UCCNet registry. These are independent data repositories that are hired by the manufacturer to act as the "data repository of record" for relationship dependent values. The data pools must share their information with each other and UCCNet. Price Lists, Deals, and specific agreements are kept in the Data Pools.

UCCNet provides the central registry, Data Pools provide the market area and relationship specific data, and governmental data (sales taxes, etc.) is either in the data pool or added by the retailer. Distributors maintain their own data for warehousing or offering the unit to their customers, and retailers maintain their own data on how they want to present the units in their stores.

Three factors make Data Synchronization a challenge.

Timing

Timing comes into play in two ways, first when new versions of a product are introduced, and secondly when the effective dates of costs and deals are considered.

If product is produced in multiple plants or shipped to retailer locations from different stock piles it is possible that one area of the country will still be receiving old versions of the product for quite a while. Distributors or Retailers that serve a disperse area must be able to handle multiple versions of a product simultaneously.

When a new version is posted to UCCNet, all the distributor and retailer applications should begin "looking for" its arrival. When the new version of a warehoused product is received, the inventory should immediately go on "strict rotation" so that any existing pallets of the old version are shipped first. The manufacturer must also assure that once the retailer is sent a new version, subsequent shipments do not revert to the old version.

When the store receives the new version of a product, a new shelf tag with the updated product size must be posted. It would be nice if the warehouse kept a "first case slot" where pre-labeled cases of a new version would be stored.

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This special label would serve as a temporary shelf tag. Order selectors would be directed to this slot for the first case of a new version to be shipped to a particular store.

Timing also becomes a consideration for costs. Cost changes and Deal Effective Dates can be based on three criteria; Order Date, Ship Date, or Receipt Date. This must be worked out with the supplier ahead of time. If necessary, supplier specific overrides must be implemented to translate these dates to the internal format used by the distributor or retailer.

Physical World vs Logical World

UCCNet, the GTIN, and the UPC all deal with the "Physical World". Other than the Physical Hierarchy, they do not concern themselves with the various perspectives that other departments need of item data.

For replenishment and shelf allocation, the regular label, cents off, pre-priced, and downsized versions of an item are logically the same. If I have enough inventory comprised of the various physical items, I do not need to reorder. This forces the distributor or retailer to establish substitution rules that can be used by forecasting, replenishment, and shelf allocation applications.

For merchandising analysis, reporting for the same merchandising item should show how it sells in its various physical configurations (cases, inners, eaches). Merchandising is also interested in "Ad Items". Advertised Items can represent associations of products based on brand, size, category, packaging (cans vs bottles), etc. For some promotions the association may be completely arbitrary.

"Same retail items" are all the physical units that share the same retail. This is often accomplished through "mix and match" codes that associate all the items that are priced equally.

Other types of "item associations" can probably be thought of, but there are basically two types. There are the pure associations that just relate multiple physical items together and there are associations that define some attributes dependent on the association (advertised item description, retail value, etc.).

Business Practices

Down sizing of products describes the practice whereby the manufacturer reduces the net contents of a package but does not change the price point. It has been common practice to keep the UPC (GTIN) the same even though all the UCC Guidelines say any change in net contents require a change in the Unit UPC and any change in the Unit UPC require a change to the Container GTIN. Some retailers have a business practice that requires "slotting fees" on any new UPC. This "disincentive" discourages manufacturers from being faithful to the guidelines.

While we're being honest, let's recognize that buyers "push the envelope". Since there is usually no direct impact on them, they go for the lowest cost (bracket) and biggest discount (regardless of date or performance) until they are told "no". Only when the vendor challenges them do they agree to the higher cost. Even when the exceptions are agreed upon, the vendor's sales representative must be diligent about entering them into the vendor's system.

Transfers between distributor facilities can cause reversion to previous versions of an item.

Even companies that attempt to be faithful to the published standards can find differences in business practices that make it difficult to comply. There needs to be a facility to translate attributes before any of the recipient's decision logic is executed. This allows things like transaction or reason codes to be translated before they are used by the recipient to make processing decisions. The translation process should be in the hands of the affected departments. For instance, the AP Department should be able to override the "Discount Reason Code" and the Merchandising Department should be able to override the Item Classifcation coming from a particular manufacturer before it is used to set the recipient's internal codes.

These are the major hurdles that must be addressed in any Data Synchronization solution.