

Industry Discussion Paper

Meat Industry Traceability and Electronic Commerce – The need for identification key validators

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What is the problem we are trying to solve?

The dream of improved efficiency, accuracy and timeliness that electronic commerce has promised for more than 20 years has not truly been delivered. We had an expectation that this technology would allow supply chain information to move seamlessly along the supply chain giving us instant traceability, product authenticity and faster payments. It seems every week we hear of some new technology that promises to fix the problem of the past, but the shiny new technology soon loses its shine. As businesses, we seem to spend more and more every year on information technology because we are told we must spend more, and yet we don't really see a return on this investment. Why has the dream not been delivered?

To understand some of the causes of these failures we need to look at the current state of supply chain data flows and their limitations, as well as looking at what has been lost when industries moved from paper-based systems to digital platforms.

One area that has been lost is the way humans can see and fix the day to day mistakes that occur in paperwork.

In paper-based systems, information is passed between trading partners along the supply chain as paper records. These paper records, such as delivery dockets, National Vendor Declarations (for livestock), transport dockets, purchase orders and other declarations (in supply chain terms these are called Critical Tracking Events [CTEs]) were manually entered into company systems. These paper records would be a combination of identification keys (commonly call Key Data Elements [KDEs]) such as company names, addresses, locations, contacts, transporters, as well as all the information about the livestock or products. People who entered the paper records into systems usually understood the information within the paper records, so if something did not look correct, they would call the person that created the paper form and sort out the issues and make corrections. This workflow was common across the industry and helped to ensure that data inconsistencies were resolved by manual intervention. In our digital world, increasingly, we are removing manual intervention processes, which results in an increasing level of data inconsistencies in our digital systems. In simple terms we are not talking a common language, each of our systems use their own terms, definitions and code sets that are incompatible between each system. However, traceability and regulatory compliance requires 100% accurate supply chain data in our digital platforms. The industry's access to global markets is based on the premise that supply chain data held in each company system is accurate for the purpose of traceability, audit and product authenticity.

In our new age of electronic commerce, we are using tools like the Internet and APIs (Application Programming Interface) to pass data between different companies' computer systems. The world of APIs connecting systems together can provide us with improved efficiency, faster communications, lower costs, faster payments, and to some extent, can reduce errors associated with manual data entry. However, the technologies, and traceability, require 100% accurate Key Data Elements (Company identifiers, ABNs, PICs, MSA numbers, NFAS numbers, establishment numbers, etc) to correctly identify the supply chain participants, locations, transactions, products and livestock related to supply chain transactions or Critical Tracking Events. If we do not have accurate Key Data Elements, then we are just automating the processing of errors in the data through our APIs. The supply chain participants end up recording data against the wrong businesses and the wrong transactions. There are now tens of millions of electronic records held in many industry systems. When detailed analysis has been conducted on the data captured through the various industry programs, large volumes of errors are uncovered. These errors create false traceability records, if these errors became public there is a potential to damage the meat and livestock industry's integrity reputation.

Again historically, one of the ways that industry managed the critical identification keys or Key Data Elements was the use of paper lists that were published on a regular basis. Often called a register. These paper lists or registries moved to website published lists and today are often searchable webpages. AUS-MEAT, Integrity Systems Company, and the Department of Agriculture, Water and Environment operates a number of these lists as

searchable webpages. However, these webpages are not generally computer to computer (e.g., API) based models with high speed, dynamically searchable solutions with change list notifications. Companies manually search these webpages and manually maintain local copies of lists in their respective systems to try and create local registries. The work practice of manually updating lists is not reliable nor scalable for automation along the supply chain.

What is the answer to this industry problem?

A primary area that needs to be resolved at an industry level to overcome many of the identified issues above, is the need for publicly accessible API Key Data Element validators or searchable registries. These APIs can be used to make sure all the supply chain movement related identification keys and related data are being recorded accurately.

For the meat and livestock industry the identification keys registries include supply chain sections such as Producers, Saleyard PICs, Processing Establishments, NFAS registrations, Non-NFAS feedlots, MSA member numbers, GS1 company numbers, EUCAS and NVD serial numbers. These registries are managed by the various organisations that issue and manage the identification keys based on regulation and authority as they are in the best position to ensure that data is correct. These identification keys registry validators need to be a publicly searchable API model. The identification Key Data Elements that are used and passed along the supply chain would be programmatically searched, checked, and verified. The system vendors to the meat and livestock industry have requested access on many occasions to Key Data Element validators to try and improve on the high level of data inconsistency that is identified at each stage of the supply chain.

Other industries do run publicly accessible key validators. Many organisations use these for identification key and data validation:

1. ABN lookup to check the ABN details are valid and current against the company details.
2. Legal Entity Identifier (LEI) lookup for company detail on a global basis. www.gleif.org/
3. GS1 company lookup which is used to check the validity of company registration details for commercial transactions related to retail products.
4. AUSPOST (and other service providers) to do address validation.

Publicly accessible API identification key validators or searchable registries are critical industry infrastructure for ensuring consistency and accuracy of supply chain information. If the meat and livestock industry implement the API identification key validators or searchable registries, the industry will have the foundations to build on to meet the growing need of demonstrating regulatory compliance and whole supply chain product traceability.

The dream of improved efficiency, lowers costs, improved accuracy, instant traceability, product authenticity and faster payments may one day come to pass. However, it can only be achieved by solid foundation where the whole industry agrees to talk a common language with accurate and reliable sources of identification keys.