The Benefits of an Integrated Supply Chain

Today's supply chains are rife with issues, causing a multitude of pain points for participants. Poor or no visibility, labor shortages, limited equipment availability, bottlenecks at critical points, and centralized inventory are just a few of the issues which intersect to create a challenging environment for shippers, receivers, and everyone in between.

Limited Visibility and Data Silos

Limited supply chain visibility can cause reactive management and siloed or out-of-date information and systems. Instead of preventing losses or late shipment arrivals, shippers succumb to uncertainty. The inability to see every custodian and transaction along the supply chain makes proactive supply chain management extremely difficult. When information such as product origin is unavailable, recalls are a challenge to expedite. The overall result of poor visibility is poor supply chain decisions. Better supply chain visibility sets the stage for more effective supply chain management.

A lack of visibility is often the cause of data silos. These are data repositories that are controlled by single business units or organizations - and isolated from others. As most data sets are siloed in single solutions, addressing supply chain pain points has historically required the utilization of multiple systems. No siloed solution offers the ability to aggregate and analyze various data types. Not only is it time-consuming and expensive to extract data from multiple sources, but it is also extremely inefficient. Siloed data provide few benefits and cannot yield the insights, patterns, and dependencies necessary to create massive supply chain improvement.

CoC – A Chain of Custody Platform

Dapicon CoC makes it easy to utilize new and existing data sets between both buyers and sellers, as well as data coming from third party companies. Using our patented Middle Layer technology, when viewed in its aggregate, the resulting whole chain analytics provides better visibility and information to make smarter and faster supply chain decisions.

Data Inputs

What can be aggregated?

One of the keys to aggregating data is to ensure there is a link between different data sets. Once a link is established (e.g., Purchase Order # or Invoice #), then data can be adjoined and analyzed in its aggregate. For example, the following data sets to can be linked to create additional insights and benefits:

- **Transactional Data**
- **Quality Data**
- **Location Data**
- **FSMA Compliance Key Data Elements (KDE)**

TRANSACTIONAL DATA

Transactional data includes business transactions typically between a buyer and a seller. It could include anything from a purchase order, invoice, ship notice, load tender, booking confirmation, bill of lading, or any other business document exchanged between one entity and another. These transactions typically come from a variety of different systems, including OMS (Order Management Systems), ERP (Enterprise Resource Planning) systems, or WMS (Warehouse Management Systems). The method used to share transactional data is typically EDI (Electronic Data Interchange) or API (Application Program Interface).

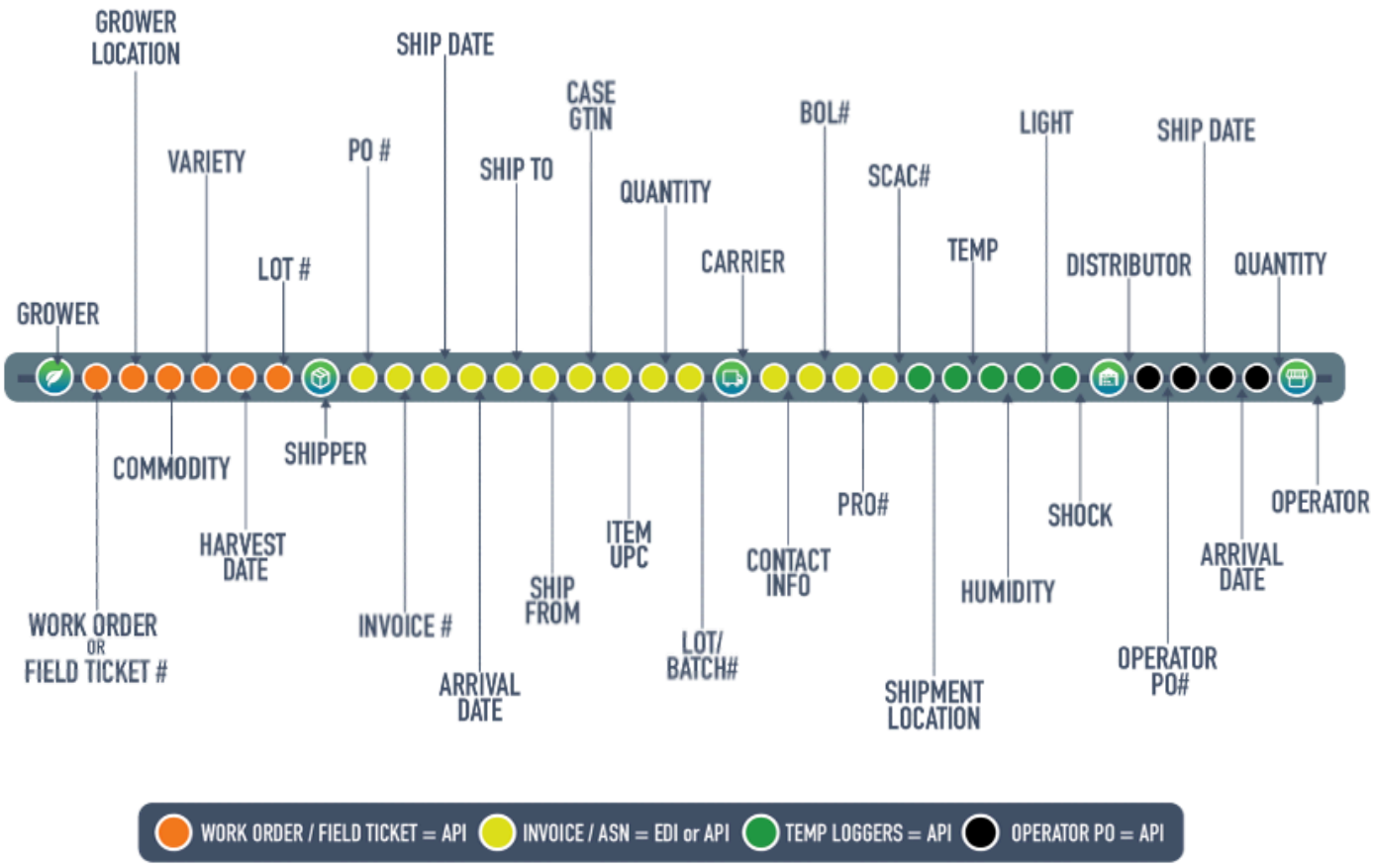
There are critical pieces of information in each of these transactions, including but not limited to the following:

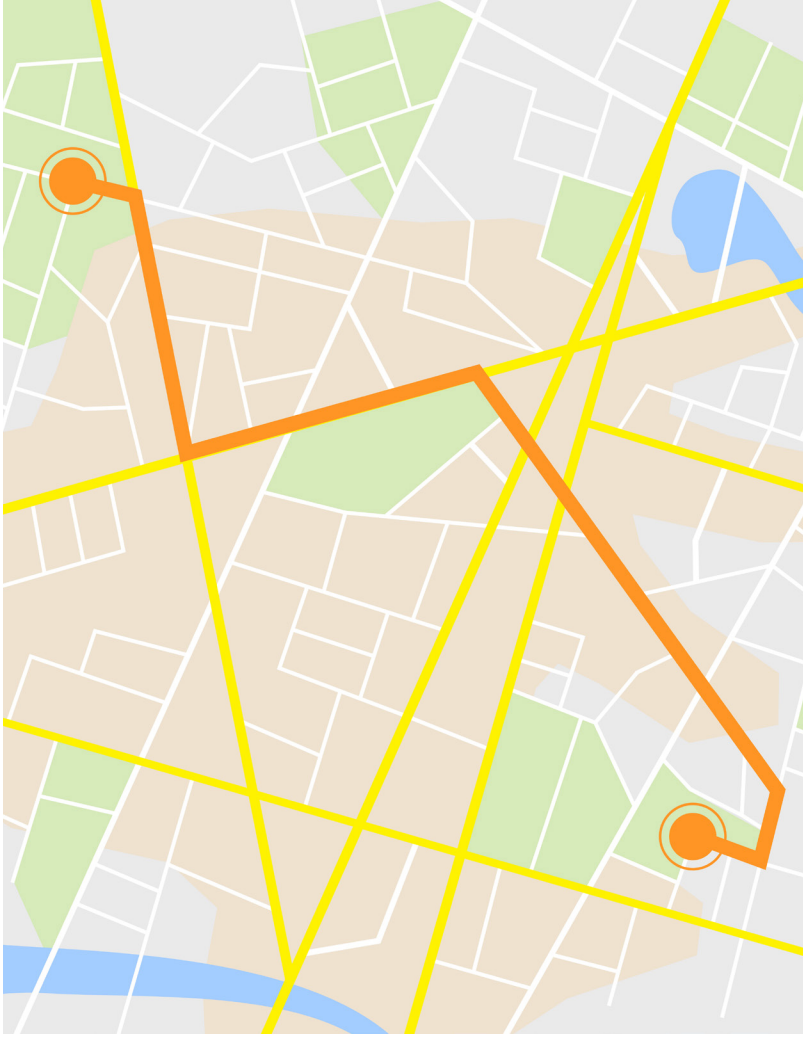
- **Purchase Order #**
- **Purchase Order Date**
- **Invoice #**
- **Invoice Date**
- **Quantity**
- **Unit of Measure**
- **Item ID (UPC for the item)**
- **Case ID (GTIN for the case)**
- **Ship-From Location**
- **Ship-To Location**
- **Ship Date**
- **Arrival Date**
- **Lot #**
- **Batch #**
- **Carrier information**
- **Vessel information**

This information is needed to create a traceable product path consisting of who, when, where, how long, and how much. With this knowledge, users can quickly track and trace product, as well as isolate product implicated in a recall.

QUALITY DATA

Quality data can come from multiple sources. When shipping temperature sensitive products, for example, data loggers are used as a means of preventing quality issues. The data retrieved from data loggers, particularly when it is in real time, is especially useful. Real-time loggers may utilize multiple sensors to capture information about product quality, such as temperature, humidity, light and shock.





LOCATION DATA

Real time loggers can incorporate location services, producing in-transit location data for domestic and international shipments. This data enables users to determine estimated time of arrival (ETA), useful for supply chain/cold chain management purposes.

Data Outputs

What value can we derive from the data?

TRACEABILITY

As previously mentioned, transactional data can be used to provide a wealth of information about a product's supply chain. An API connects the shipper to the grower using a corresponding work order/field ticket. An API also connects the distribution center to the individual store via the store purchase order. Full traceability is now provided from the grower to the retail store.

OPTIMIZED ROUTING

With the utilization of transactional data coupled with the location services from real-time loggers and satellite data for ocean shipments, users can see where shipments are, but also where shipments were. This offers the ability to monitor shipments for ETA (Estimated Time of Arrival), while also allowing users to analyze different routes. With this history, a determination can be made as to which routes took longer than others, which routes to avoid, which routes to pursue for faster delivery. Users can also scorecard carrier performance. Dapicon CoC utilizes Power BI analytics to help isolate metrics such as carrier performance, dwell times, trip lengths, and other indicators, to help get the most out of the data captured.

SHELF LIFE ASSESSMENTS

Utilizing data from real-time loggers, Dapicon CoC applies our patented algorithm called the ANQC (Alpha Numeric Quality Code). This algorithm uses temperature data and duration at that temperature, along with various commodity profiles, to calculate the amount of shelf life lost due to in-transit temperature excursions. This information will help determine the remaining product shelf life.

VISIBILITY TO THE GROWER / VISIBILITY TO THE STORE:

Whole chain traceability, as the name suggests, includes the entire supply chain. Currently with EDI data alone, visibility only happens between the supplier and the buyer's distribution center. With CoC, traceability is elevated to include not only suppliers, but growers as well, and beyond the buyer to also include the retail store.

FSMA 204 COMPLIANCE:

Not only will Dapicon CoC provide the KDEs required by the FSMA 204 Traceability Rule, but the document management feature sends notifications and alerts in the event that appropriate documents are missing.

Many solutions exist which make supply chain information available - in a vacuum. Supply chain issues have taken center stage. Exacerbating these problems with insufficient data, slow access to data, and the limited ability to identify patterns and/or comprehensive solutions creates challenges for every supply chain participant. Now, there is one supply chain platform offering users the benefit of independent solutions and the power of analyzing aggregated data. Dapicon helps connect the dots by providing the information needed to make decisions now, not after-the-fact.

For a demo of our patented middle layer platform, please contact info@dapicon.com
or call 208-619-1200 x201.

ABOUT Dapicon, Inc:

Dapicon is an ecosystem of data consortium members and industry participants that create a comprehensive view of the supply chain and the condition of the product as it moves through the supply chain. Powered by its patented Middle Layer technology, Dapicon provides you with the data you need to make meaningful and timely decisions.

Dapicon®

For more information regarding Dapicon services, please call our customer service team at 208-619-1200 extension 220.
927 E Polston Ave, Suite 203, Post Falls, ID 83854