



Insight into a Major Building Block of Data Sharing – EPCIS

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EPCIS (Electronic Product Code Information Services) is a ratified EPCglobal standard specification that has the potential to allow the healthcare supply chain to achieve several key objectives, including further enhanced patient safety, supply chain security and business efficiencies.

Specifically written to gain movement visibility at the item-level, EPCIS provides a standard way to represent “event” information by documenting the:

- What - Information about the product, including product name, lot number, expiration date, etc.
- When – The timestamps for specific business events, including time of shipment and time of receipt
- Where - Location information documenting where the product has been and where it is now
- Why - The business process steps, including shipping and receiving

By documenting and communicating this granular event information, EPCIS provides a cost efficient way to track-and-trace individual items from the beginning to the end of the supply chain. The standard specification offers a means for global communication regarding an item and its path, in real time, throughout the supply chain.

EPCIS offers the healthcare supply chain valued features of interoperability, bi-directional communication and data security. It is adaptable to a variety of operating systems, programming languages and data base management systems. It is also data carrier neutral, i.e. it facilitates visibility regardless if the EPC data is carried on an RFID tag or any barcode. The construction of the EPCIS standard enables it to serve as a bridge, thus facilitating straightforward interoperability of data exchange between trading partners.

Bi-directional communication is a key feature. EPCIS offers a means to document events through the EPCIS Event Capture Interface and a means to request information through the EPCIS Query Interface. These two interfaces provide a standard way for internal and external systems to gain event visibility of an item, i.e. the saleable unit. However, the ability to access item event data is protected.

The recently ratified specification provides for enhanced data security. Trading partners maintain the ownership of their own data. EPCIS-captured events are stored in a data repository within the firewalls of each organization and data is moved or shared on demand with trading partners through self-defined business protocols. For example, a trading partner may be offered the right to define its own standing queries or may have the option to subscribing to a predefined query. The degree to which information is



shared and the content of that information is determined by the individual trading partners.

The EPCIS standard provides the healthcare supply chain with a cost efficient means to track and trace individual items. EPCIS is the building block for data management and data sharing. Once the EPCIS specification is established, each event in the life-cycle of an individual item becomes visible and accessible through the support of EPCIS-compliant software applications, including pedigree software, supply chain management software and transportation management software. Thus, through the implementation of EPCIS, trading partners with disparate databases and information systems can exchange data to verify item authenticity, item location or item delivery, for example. Internally, the coupling of EPCIS specific item-level data with warehouse management software or customer relationship management software may drive in-house efficiencies.

EPCIS with its what, where, when and why item-level documentation and its lack of dedication to a specific operating system or programming language is poised as the answer to achieving supply chain efficiency and safety in a global marketplace.

In summary, the EPCIS specification provides an open, interoperable data structure that is needed by the healthcare supply chain to manage and share data. In doing so, the supply chain is in a better position to further protect against diversion and other criminal activities. Visibility into what, where, when and why for individual items, coupled with communication ease, has the promise to provide a long-term solution needed to make the supply chain as secure and efficient as it can possibly be.