

Smarter, safer Pharmaceuticals

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Supply Chain Visibility and Optimization for a smarter planet



The Business Drivers for Supply Chain Visibility of Pharmaceuticals



8-10% of worldwide drug supply is counterfeit → \$7.5 billion lost per year by 2010



Industry participants carry significant excess inventory due to lack of downstream visibility



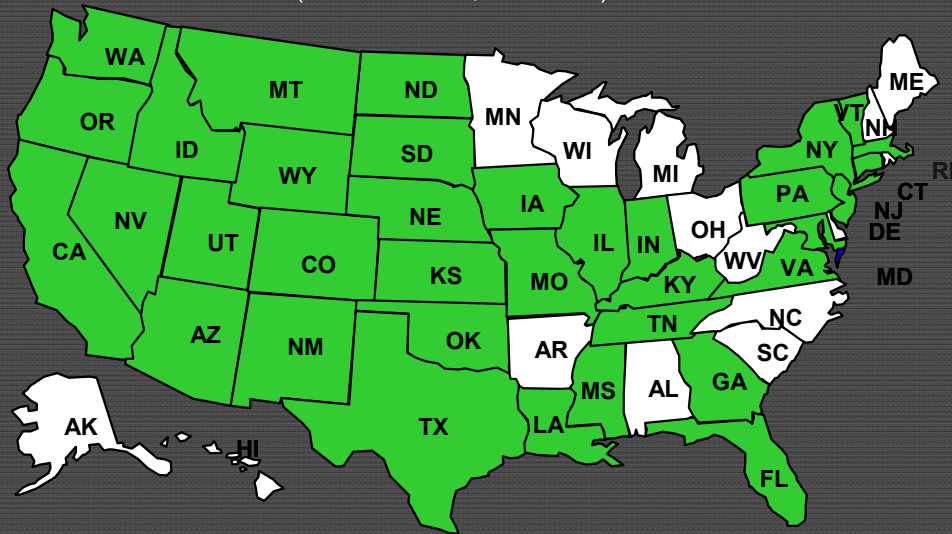
4.5% of revenue is lost due to supply chain inefficiencies.

Governments & Industry are concerned for patient safety

Legislation mandating serialization is emerging worldwide

States with pedigree requirements

(Source HDMA, Dec 2007)



Unique pack identification (mass serialisation)

3 countries (Belgium, Italy, Greece) are already requesting for each pack a serial number (in addition to the national product code) .

Each pack is identified uniquely.

(the ABP Code, the Bollino and the EOF code all include a serial number)

3 countries (Spain, Turkey and Serbia) are currently working on new legislation mandating the use of a serial number



Who's next ?

This broad array of emerging regulation requires a Global Compliance Strategy and serves as a catalyst Supply Chain modernization.

Technology Components

Serialization Standard Data Capture

RFID



2D Barcode Data Matrix

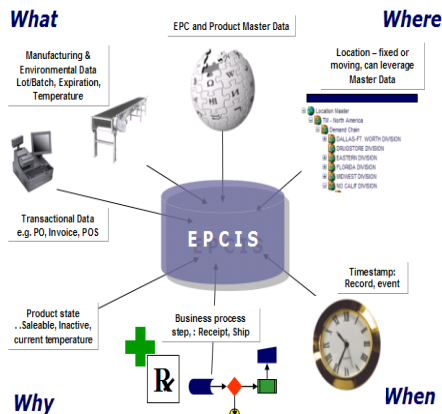


WebSphere Sensor Events

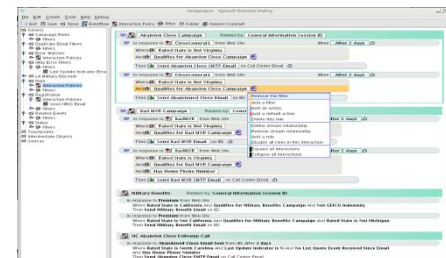
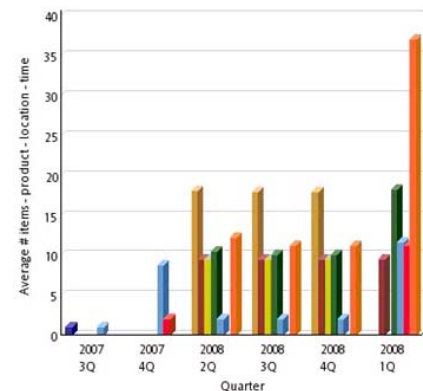
Sensor Device Controller
Data Capture

RTLS Location Message
External Adapter

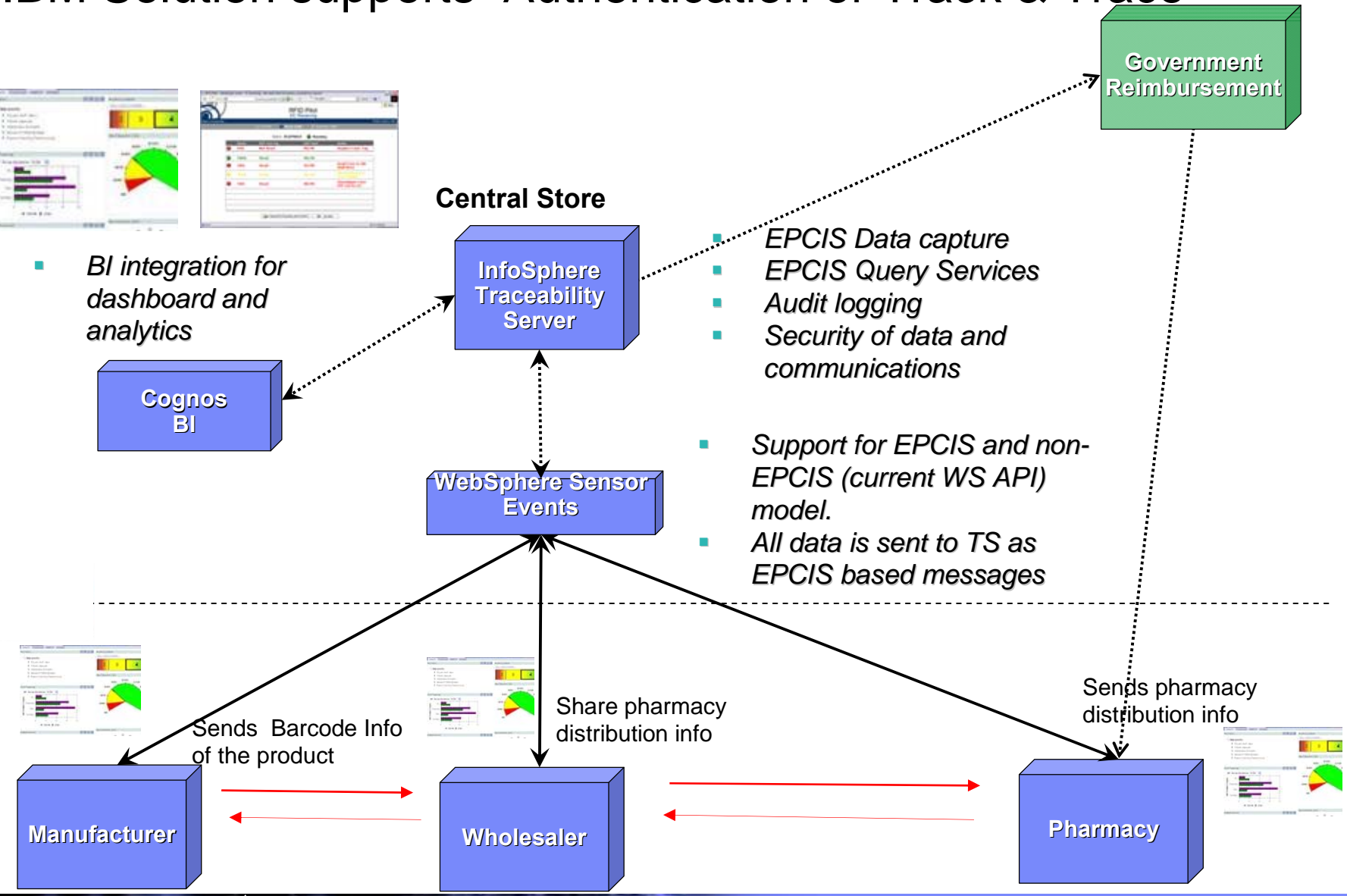
InfoSphere Traceability Server



Reports/Alerts & Event Notification



IBM Solution supports Authentication or Track & Trace



Expected Business Benefits from Track and Trace



IBM's Solution for Pharmaceutical Track & Trace can address multiple business use cases

Supply Chain Visibility

- **Cold Chain Management**
- **Shipment Verification**
- **Sales Information**
- **Inventory Management**

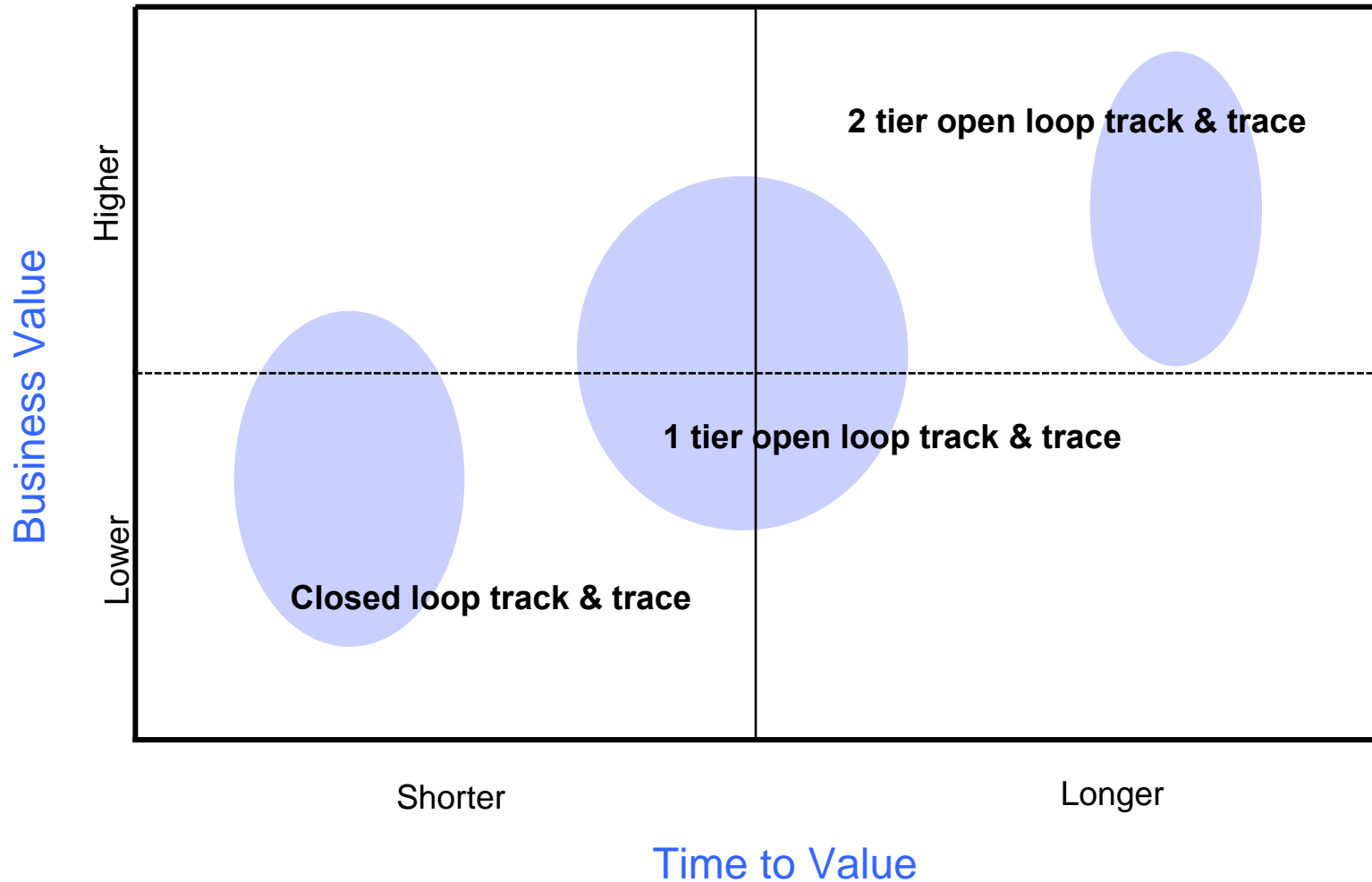
Reverse Logistics

- **Returns verification**
- **Targeted Recall**
- **Chargeback Resolution**

Supply Chain Integrity

- **Diversion Detection**
- **Electronic Pedigree**
- **Product Authentication**

Open Loop vs. Closed Loop in Use Case Selection Criteria

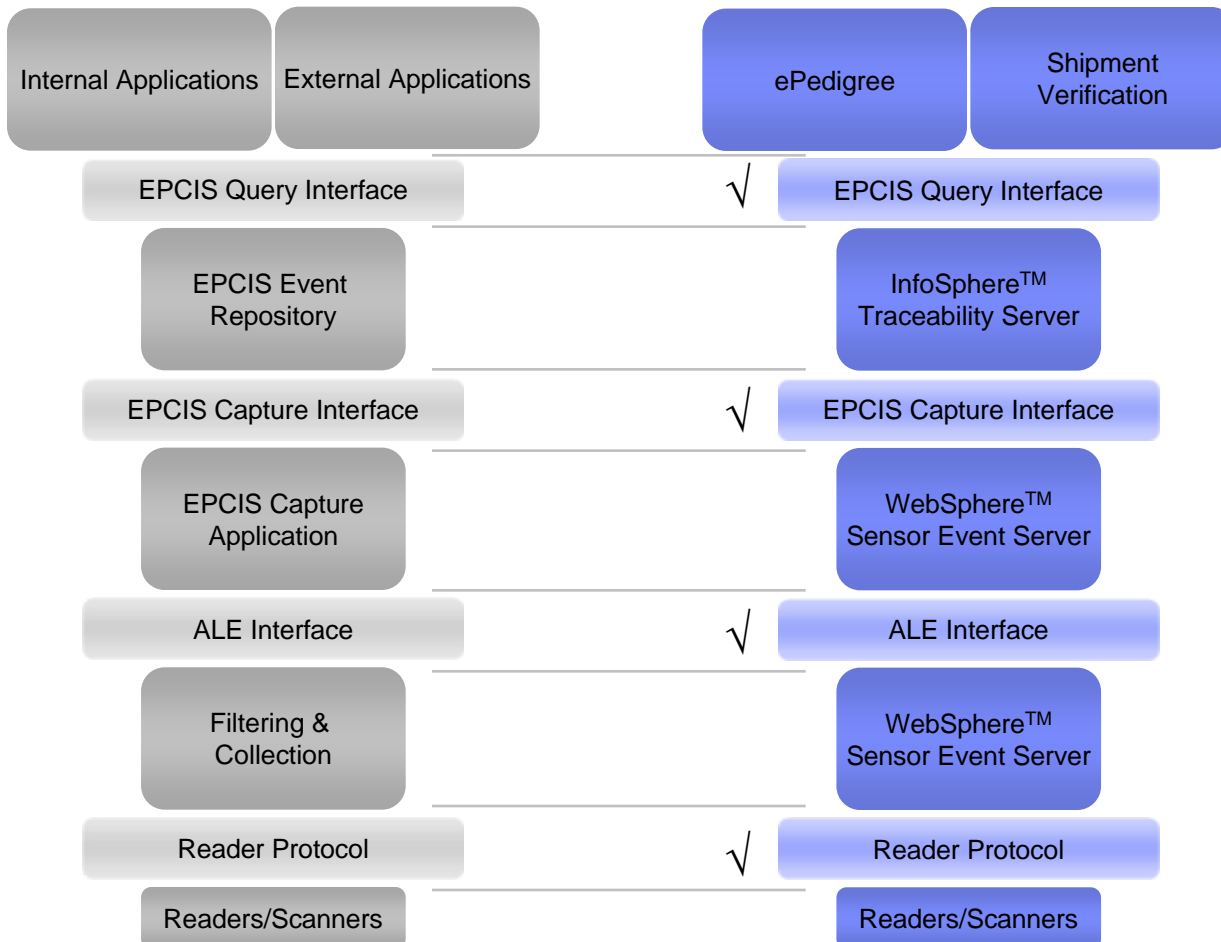


IBM Solution for Pharmaceutical Track & Trace



Standard Network Architecture

Solution Architecture



InfoSphere™ Traceability Server

WebSphere™ Sensor Event Server

√ GS1/EPCglobal Certification
http://www.epcglobalinc.org/certification/sw_cert

Summary

- *Serialization mandates have emerged globally as an important means to protect patient safety.*
 - **Item Level Serialization is here to stay.**
- *Industry leaders are leveraging their serialization infrastructure to drive competitive advantage.*
 - **New analytics and business eventing capabilities help customers drive significant value**
- *IBM's Track and Trace solution can help achieve both of these objectives based on industry standards*