FUJITSU

GlobeRanger
Food & Cold Chain Traceability Solution

GlobeRanger's real-time RFID track and trace solution can help protect the perishable supply chain, enabling growers to monitor the complete harvest to market process, take action to prioritise shipment, and remove products from the food supply chain based on real world events.

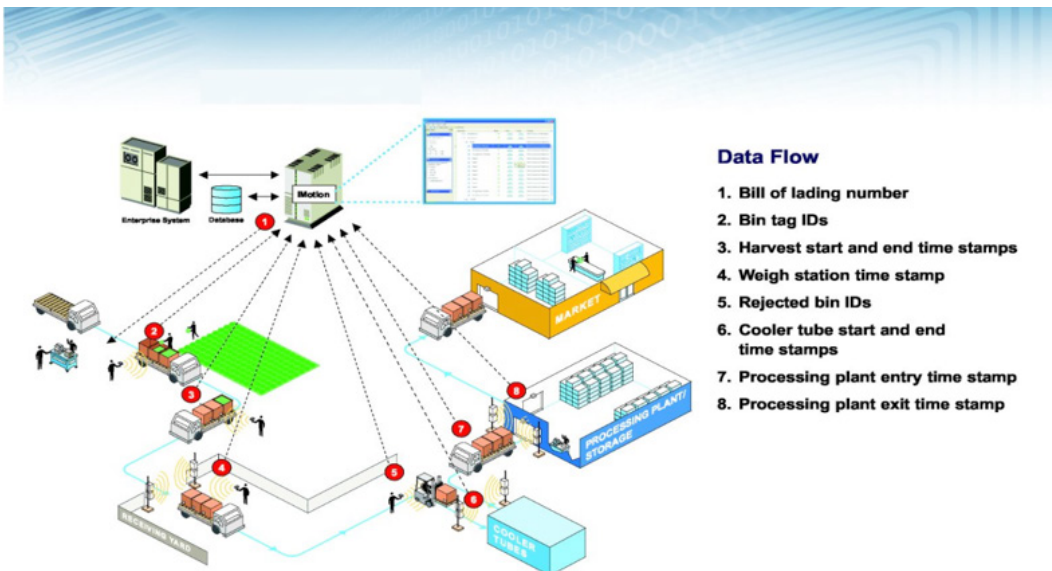### Protecting the nation's perishable supply chain

Recently, the produce and perishable products industry has witnessed an alarming amount of contamination or spoilage. The resulting recalls and consumer health issues are fostering the requirements for accountability and control. While the cause of these outbreaks varies in degree and source, public confidence demands an effective tracking system to prevent illness and provide prompt visibility of the source of a problem. Coupled with a potential threat of bioterrorism in the food chain, the immediate need for a technology system to provide the tracking safety net to keep everyone secure is clear.

GlobeRanger's iMotion Edgeware Platform

GlobeRanger's iMotion Edgeware RFID and sensor-based platform is responsible for collecting, aggregating, and transforming data collected at the edge of the enterprise from a myriad of sensor devices into actionable business events.

Enterprise applications are not architected to consume data that lacks business context or to provide feedback or output through these devices. The iMotion Edgeware Platform is architected to include the necessary functional layers required to appropriately transfigure edge data and orchestrate input and output through these devices.

Acting as the foundation to allow a vast array of RFID, bar code and sensor data to be shared and connected to disparate growers systems, the food & cold chain traceability solution provides the building blocks and subsystems needed to quickly define, develop and deploy RFID-based solutions. Depicted below is an overview of the robust, field proven GlobeRanger Food and Cold Chain Traceability Solution.

Data Flow

1. **Bill of lading number**
2. **Bin tag IDs**
3. **Harvest start and end time stamps**
4. **Weigh station time stamp**
5. **Rejected bin IDs**
6. **Cooler tube start and end time stamps**
7. **Processing plant entry time stamp**
8. **Processing plant exit time stamp**

GlobeRanger Food and Cold Chain Traceability Solution

shaping tomorrow with you
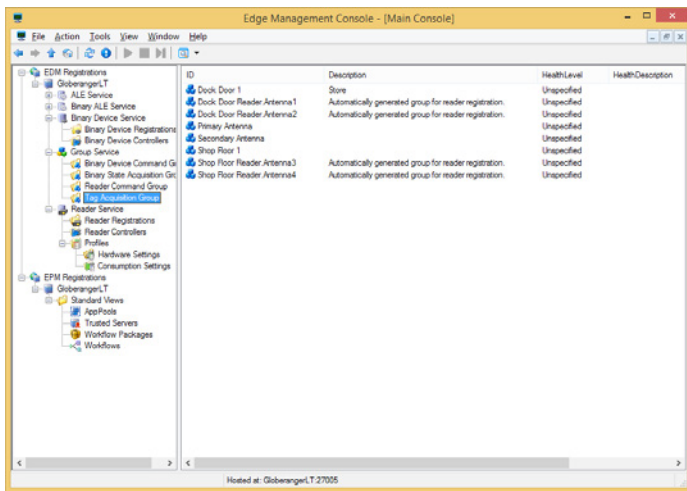
GlobeRanger
a Fujitsu company

Enterprise Edge Software Platform

For GlobeRanger partners and customers, iMotion serves as the foundation for edge solutions such as Food and Cold Chain Traceability, providing a platform runtime for managing devices and Edge processes, a software development kit (SDK) for easy extensibility, pre-built process components for rapid implementation, and comprehensive tools for rapid solution development, production deployment and ongoing operation. Based on Microsoft's .NET Framework, iMotion enables business consultants, application developers, and systems engineers to easily create, configure and manage RFID solutions.

Production Ready End-To-End

Edge Device Management – Comprehensive device management capabilities for the efficient control of RFID, mobile and sensor-based devices.

- **Device Control and Configuration** – Centrally manages networks of RFID devices, automatically filtering the data to provide clean, accurate information for upstream processing and integration.

- **iMotion's Edge Management Console (EMC)** – iMotion Edge Management Console (EMC) provides graphical real-time monitoring and control of device networks and allows edge processes to be executed, both locally and on a global basis, from a single management console.
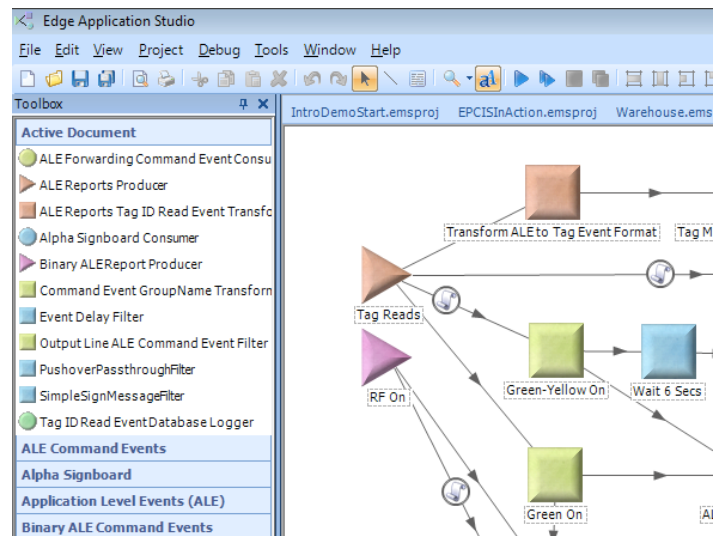

Edge Management Console (EMC)

- **Leverage One Infrastructure for Multiple Applications** – iMotion abstracts the physical device layer, isolating applications from device configuration details. This capability enables the sharing of RFID and sensor infrastructure across multiple applications, maximizing ROI.

- **Network Monitoring** – Operation and performance information for devices is available through industry-standard SNMP and WMI interfaces, allowing for integrated monitoring of RFID solutions through standard network- and system-management systems.

- **RFID Reader Adapters** – Standard support is available for major HF and UHF RFID readers – Class 0, 0+, 1 and Gen 2. New readers are easily supported by downloading new reader adapters.

Edge Process Management – RFID data must be combined with business context to create actionable events for consumption by upstream systems. iMotion's powerful and user friendly functions enable rapid development and deployment of edge process workflows.

- **Edge Application Studio** – Graphically and intuitively constructs business logic flows through simple drag-n-drop of process components, minimizing the cost and time required for updates and business rule changes. The Edge Application Studio includes:
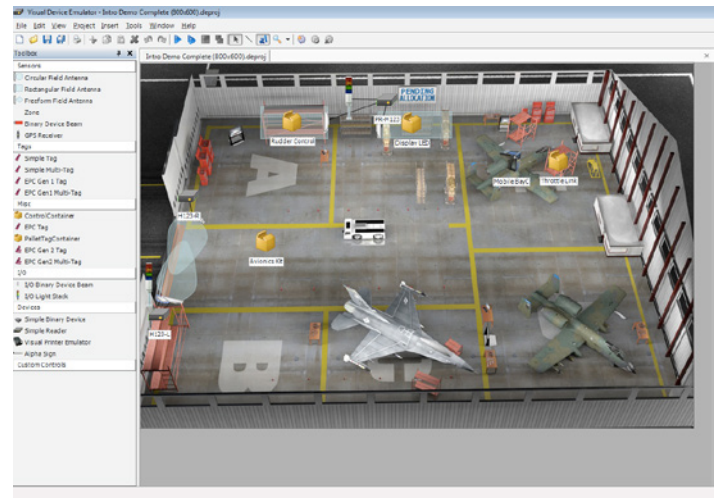

Edge Application Studio (EAS)

- **ALE Subscriber Components** – The iMotion platform includes components that enable connection to RFID and sensor data streams through the industry-standard ALE 1.0 interface.

- **Component Libraries** – Bundled, pre-built workflow components enable rapid solution development. Components for standard notification methods such as e-mail, file and database logging, HTTP POST, audio alerts, and visual displays are provided. Adapters to other data sources and upstream systems can easily be developed using iMotion's software development kit.

- **Edge Process Runtime and Management** – Provides reliable and controllable execution of edge processes, fully distributable to enable scaling across a site or an entire enterprise.

Comprehensive Edge Development & Deployment Tools – iMotion's powerful visual tools address all stages of solution development and delivery, maximizing productivity and ROI.

- **Visual Device Emulator** – Emulates real-world behaviour of RFID readers, printers, tags and other sensor devices, providing solution developers with the ability to model physical deployment scenarios prior to actual equipment purchase and iMotion's Visual Device Emulator eliminates the dependence on physical hardware for development, testing and integration of RFID systems.

- **Event Monitor** – Displays an accurate, real-time view of RFID tags being read. The Event Monitor captures history and analysis of tag-read events for application tuning and optimization.

- **Software Development Kit (SDK)** – A comprehensive set of .NET classes and APIs enables rapid development of custom workflow components. These components drop into the Event Workflow Editor (EWE), providing the same drag, drop and connect configuration as built-in components. The SDK is fully integrated with Visual Studio .NET. Sample components and applications are included to jumpstart development efforts.

Visual Device Emulator (VDE)

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