Industry 4.0 in Action with Eagle

2018 Fall Conference
QAD West Coast User Group
Objectives

- Industry 4.0 basics
- Eagle Transaction Foundation/Evolution
- Eagle Automation/Integration-Transaction Processor
- Eagle Web Services Integration
- Eagle Real-time data/notification
- Eagle Hardware/Software Connectivity/Convergence
- Specific customer applications-license plate, serial

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Objectives (cont’d)

- CTP capability/demonstration
- What’s next
- Summary/Q & A
Industry 4.0-basics

• According to Gartner, “The underlying concept of [Industry] 4.0 is to connect embedded systems and smart production facilities to generate a digital convergence between industry, business and internal functions and processes.”
• Gartner adds “Industry 4.0 encompasses many technologies and business designs, including the Internet of Things and digital business, but is not synonymous with, or a replacement for, any one specific technology”
Industry 4.0-basics (cont’d)

- Increased use of real-time data
- Enhanced connectivity/IIoT
- Convergence of technologies
- Digital factory/business
• A strategic QAD partner since 1992
• Eagle’s product, RF Express™ for QAD Enterprise Applications, provides online, real-time automated data collection, RFID, bar coding, shop floor equipment integration and label printing exclusively to QAD customers
• Eagle has been providing real-time and wireless since ”before these items were cool”
## Eagle Transaction Foundation/Evolution (cont’d)

### Manufacturing

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<th>Product Data Management</th>
<th>Manufacturing Planning</th>
<th>Manufacturing Execution</th>
<th>Quality Management</th>
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<td>Lean</td>
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<td>Planner</td>
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<td>Automated Data Collection</td>
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<td>Product Lifecycle Management</td>
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### Supply Chain

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<th>Purchasing</th>
<th>Supplier Performance</th>
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<td>Warehousing</td>
<td>Release Management</td>
<td>Consignment Inventory</td>
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<td>Transportation Management</td>
<td>Data Synchronization Interface</td>
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**QAD West Coast User Group**

**QAD SOLUTION PARTNER**
• Provide a flexible, highly configurable data input tool-Eagle CTP-Continuous Transaction Processor
• Eliminate middleware
• Perform key inventory visibility transactions
• Reduce data collection effort
• Generate label for shop floor “earn-a-label” type transactions
• While maintaining the existing Eagle enhanced functionality/error-proofing
• Expanding Transaction Library for Direct Machine Integration

- BKF Backflush
- BKN Kanban Backflush
- BKS Backflush Scrap
- BK* Other Backflush variations
- CCR Container Create
- UNR Unplanned Receipt
- DCT Delete Container
- LNK+ Create Own Container
- UNI Unplanned Issue
- TRN Transfer
- PMV Pallet Move
- CMV Container Move
- PDL Pallet Unlink
- WRB WO Receipt Backflush
- PDL Pallet Unlink
- WOR WO Receipt
- RNL Rep Non-Productive Labor
- MVE Repetitive Move
• Expanding inputs for automation
• Net result—automatic data input; transaction posted in QAD; label generated where applicable
Web Services Integration

- Increased interoperability of CTP integration
- SOAP XML & JSON message formats
- Web service protocols such as HTTP on all O/S
• Connects different operating systems (Windows>LINUX/UNIX)
• Two-way datacomm
• Trigger events
Real-time data/notification

• CTP will automatically notify if transaction issue (example-item not defined on Prod Line) via email
• CTP/Web Services can send a machine message, turn on an indicator light, etc.
• IIoT/connectivity enhancements augment traditional data collection
• Inventory transactions are automated while maintaining operator based transactions where applicable
Connectivity/Convergence (cont’d)

- Enhanced wireless options (WLAN/WWAN); input devices; technologies (RFID), sensors; scoreboards converge to meet Industry 4.0 objectives
Specific applications-license plate, serial

- Demand for traceability from your customer drives automation need (license plate, container id, serialization, labeling, EDI)
- Additional data attribute tracking can be achieved
CTP demonstration

- Shop Floor (Process Control equipment) > backflush (parent/component) with label
What’s next?

• Less infrastructure
• Smaller, cheaper, faster ...
• Extending the digital factory outside the four walls
• Industry 4.0 - a collection of existing & new technologies
• Q & A
Thank you.

Please visit the Eagle booth to see these tools in action.

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