Interview with the Orchestra

An Orchestrator Panel Discussion
Quest InFocus 2019
Session JDE-105590

Moderator: AJ Schifano, Product Manager, Oracle JD Edwards

Panelists:
Riesa Case
Director of Global ERP
Stanley Engineered Fastening

Leo Gould
Information System Manager
Lutron Electronics

Michael Mattu
Technical Analyst / Developer
Ledcor Industries, Inc.
Program Agenda

1. Panelist Introductions
   - Riesa Case, Stanley Engineered Fastening
   - Leo Gould, Lutron
   - Michael Mattu, Ledcor Industries, Inc.

2. Open Q & A
Meet Our Panelists

<table>
<thead>
<tr>
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<td>Lutron Electronics</td>
<td>Ledcor Industries, Inc.</td>
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![Stanley Engineered Fastening](image1.png)
![Lutron Electronics](image2.png)
![Ledcor Industries](image3.png)
Stanley Black & Decker

A Diversified Global Leader

We are proud to be part of the Stanley Black & Decker organisation.

Security
- Commercial Electronic Security

Industrial
- STANLEY Engineered Fastening
- Infrastructure

Tools & Storage
- Power Tools & Equipment
- Hand Tools, Accessories & Storage

JD Edwards customer since 2000
10 plants located in North America
900+ Named users, 300+ concurrent
Currently EnterpriseOne 9.1
Update 2 - Tools 9.2.3.4
Our Mission: Fastening Solutions & Asset Control Leader

Sales & Technical Expertise
✓ Committed To Supporting And Enhancing Our Customers Capabilities
✓ Extensive Knowledge Of Industry Trends
✓ Deep Application Engineering Expertise
✓ Solution Alternative Provider
✓ Risk Mitigator
✓ Educate On Issues And Outcomes

Fastening Technology
✓ Broadest Range Of Fastener Solutions
✓ Extensive Tooling & Assembly Technologies

Most Valued Brands

STANLEY Engineered Fastening
COMPLETE ASSEMBLY SOLUTION
✓ Low Installed Cost
✓ Improved Quality
✓ Reduced Inventory
✓ Increased Output
✓ All Market Segments

The Global Leader In Technology-Based Fasteners, Assembly & Asset Management Systems

Ongoing Engineering Support

Supporting Our Customers With Precision Fastening Solutions
Where are we on our Digital Journey?

- 2016 - Project teams formed from Business and IT to brainstorm what Digital Transformation means to Stanley Black & Decker
  - Purchasing/Manufacturing/Finance/Quality/Warehouse/Sales/Customer Service
  - IT Applications, Infrastructure, Site Support, Oracle, and ERP Suites
  - Everything from Star Wars suggestions to just need two screens on my desktop
  - Reviewed all suggestions and categorized by ROI, time to implement, and cost

- Stanley Black & Decker now has 3 teams dedicated to these areas:
  - Industry 4.0 team
  - Finance Robotic Process Automation team
  - Digital Analytics and Data Lake
What have we delivered:

- Auto update of Work orders to MES system and production reporting from Plastic Machines to JDE – Orchestrations and Plantstar
- Honda requirement to print labels for our partial pack inventory per carton and auto transfer from partial pack area to racks for shipment – Orchestrations and .Net
- Honda requirement to print carton labels in manual pack area – Orchestration and .Net
- Power BI JDE connections to enable business to produce dashboards – Orchestrations and Advanced Queries
- Accounting BOTs for G/L Entry and Post – Orchesturations
- Connection to CDI Customer Portal using Orchestration for real time Inventory
- Auto update of Work Orders to PTC ThingWorx Industrial IoT Platform – Orchestrations and Advanced Queries
- More than 30 Cafe1 forms, 100s of Grids, 100s of Advanced Queries, several personal forms
- In Testing
  - Esker (SO Automation) – Connection to Master data and Sales Order Creation – Orchestrations, Grids, and Advanced Queries
  - Population of Data Lake with JDE data for Data Analytics teams – Orchestrations
  - Service Now to JDE – Orchestrations, Grids, Advanced Queries
  - Auto Display PDF to Screen for Paperless Factory and Dashboards
- Proof of Concepts
  - Track bins between Plastic Manufacturing and Weighpack area via RFID and Beacons
  - AGV(Automated guided vehicles)/AMR(Autonomous mobile robots) in Warehouse connection to JDE
  - Voice Picking in warehouse
## Shop floor Logistics Overview

<table>
<thead>
<tr>
<th>Category</th>
<th>Manual</th>
<th>Manual + Tugger</th>
<th>AGV</th>
<th>AMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path</td>
<td>Flexible</td>
<td>Fixed Route</td>
<td>Fixed Route</td>
<td>Flexible</td>
</tr>
<tr>
<td>Frequency</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Variable</td>
</tr>
<tr>
<td>Volume</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>JIT</td>
</tr>
<tr>
<td>Operator</td>
<td>Ad Hoc</td>
<td>Dedicated</td>
<td>N /A</td>
<td>N / A</td>
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**AGV:** Automated Guided Vehicle
Follow tape / wire guides on the floor

**AMR:** Autonomous Mobile Robot
Uses sensors to “see” environment and can re-route autonomously

### Impacts

- Safety
- Ergonomics
- Automated Kanban
- WIP Reduction
- Labor Efficiency
- Upskilling
- Autonomous Operation
2019 and Beyond
Smart Factory Projects

2018- Priority Projects

- Applications
- Live Gemba / Control Center
- Automation

Other Projects
- Collaborative Robotics
- Real Time Location Tracking of Product
- I-Maint for Tooling
- Supply Chain Portal
- Sensor Analytics
- Autonomous Intelligent Vehicles
- Standardize Procurement Process
- Smart Quality Gages
- Energy Monitoring
- Applications
- Connection of systems
- Up Stream Connections – Engineering, Purchasing, PD, HR
  - Dedicated roadmaps established for all plants
Lutron Electronics

Company Overview

• From dimmers to lighting management systems for entire buildings, Lutron offers more than 15,000 energy-saving products, sold in more than 100 countries.

• In the US alone, Lutron products save an estimated 10 billion kWh of electricity per year.

Key E1 Initiatives Over the Last Year

• Back on Oracle support
• Upgrade of our E1 enterprise/DB server
• Upgrade of all ERP 3rd party applications and Infrastructure
• E1 Tools Upgrade

Our JD Edwards Footprint

Running EnterpriseOne

• Application 9.0
• Tools 9.225

Database, Enterprise and Web Server

• IBM i – Power System
• V7R3 Operating System
• WebSphere on Windows

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“How Orchestrator Saved the Day”

What Happened?

• When working on the Tools upgrade from 8.98 to 9.2.2.5 a new version of Java was required
• The new version was installed and caused our ESB used for integrations to E1 to fail

What was affected?

• 11 integrations to E1 would not function

What did we do?

• The solution was right in front of us – REST API through Orchestrator
• We were able to rewrite all 11 integrations in less then 2 months instead of 4 to 5
Our Sales Price Integration

JD Edwards EnterpriseOne
- Item Master & Branch
- Price adjustment tables
- Sales order tables

Calculate Sales Price by Branch

Third-Party Web Portals
What’s done with Automation?
The automation of new Entity setup in E1 based on Company Model

What is our goal?

• To reduce the overall system configuration time, less people dependent, more accurate and IT driven.

• What have we done so far?

• Partnered with Circular Edge to identify and create a Solution
  – Reusable templates by company model
  – Orchestrations to automate setup done by Finance and Operations for every new entity
    • Company Setup, Create Company Business Unit, Chart of Accounts, Branch Plant Creation, Item Branch, etc.
  – Dashboard to easily launch the automations utilizing E1 Pages

• Proof of Concept complete – Final Development and testing in process
Ledcor Industries, Inc. Who Are We...

Company Overview
• Diverse Operations mainly in North America (focused on Canada)
• Safety is key to everything we do

Our JD Edwards Footprint
• Apps 9.1 / Tools 9.2.1
• Number of users: 1600
• Orchestrator Studio: 5.1
• Windows and Oracle Database (Managed)
Our Health and Safety Incident App
App Architecture

JD Edwards EnterpriseOne
Oracle Mobile Hub
Xamarin Mobile App
Example Orchestration

Get Safety Incidents

JD Edwards EnterpriseOne
Health and Safety Manage Incidents P54HS00
Incident Master F54HS01
What’s next?

• More Web Apps in JDE!
• Integrations
• Upgrade!

See our session for the full story:
InFocus Session JDE-101750
Extending JDE with Single Page Web Applications
Q & A with Our Panelists

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JD Edwards EnterpriseOne Orchestrator

The Orchestrator transforms how you use your entire JD Edwards system. Your business data is a digital twin of your enterprise. It is important to keep that data accurate and up-to-date to make business decisions and exchange that data in the ever-broadening digital economy. Orchestrator automates the collection, processing, and exchange of data, putting you on the path to Autonomous ERP.

Key Benefits and Quick Tour

Oracle By Example Tutorials / Videos

Get Started
- Orchestrator Overview
- Presentation: Discover the Awesome Power of JD Edwards Orchestrator
- Understanding the JD Edwards EnterpriseOne Orchestrator
- Data Sheet: JD Edwards EnterpriseOne Orchestrator

Implement
- What's New in the Orchestrator Studio 6.1.0
- Installation of Orchestrator Components
- Setting Up the Orchestrator Studio
- Launching Orchestrations from EnterpriseOne Events Performance Characterization
- Oracle JD Edwards EnterpriseOne Application Interface Services (AIS) Server - Performance Characterization Using ADF Application and IoT Orchestrations

Use
- Creating Your First Orchestrations
- Expanding Your Orchestrator Skills
- Orchestrations for Developers
- Translations
- Extending EnterpriseOne Business Processes with Oracle JET Pages and Orchestrations
- Associate Orchestrations with Events from EnterpriseOne Applications
- Associating Orchestrations with Events from Interactive Applications
- Extending JD Edwards EnterpriseOne Business Processes with Oracle JET Pages and EnterpriseOne Orchestrations
- Translations
- Administering Your Orchestrations
- Tools Orchestrator Guide
- REST API for AIS Server Guide
- AIS Server Reference Guide
JD Edwards EnterpriseOne Orchestrator

The Orchestrator transforms how you use your entire JD Edwards system. Your business data is a digital twin of your enterprise. It is important to keep that data accurate and up-to-date to make business decisions and exchange that data in the ever-broadening digital economy. Orchestrator automates the collection, processing, and exchange of data, putting you on the path to Autonomous ERP.

Timeline of Enhancements

New!

Tools Release 9.2.3.1

November 2018

- Orchestrator Monitor and Health Monitor
- Message Center
- Input form CVI

Tools Release 9.2.3.2

January 2019

- Orchestrator framework
- Orchestration variable
- Application links to perform forms and generate multiple JRT certificates

Tools Release 9.2.3.3

April 2019

- Call orchestrations from form extension
- Orchestrations, URL, and inputs as actions in messages
- Subscription categories

Tools Release 9.2.3.4

July 2019

- Map orchestration output to fields on a form extension
- Orchestration for system administration
- Enhanced Schedule MIs
- Object as an orchestration input

Use Cases

Automated Manufacturing Operations

Mobile Application

Automated Meter Readings

Business Problem

The customer takes daily meter readings of 300 pieces of equipment across 10 locations. The customer had been doing this by walking the floor with a clipboard, recording the meter readings, and then manually entering them into the JD Edwards EnterpriseOne Meter Readings application.

New!
Integrated Cloud
Applications & Platform Services