PTC / Kepware
IOT/OPC Use Cases
• PTC / Kepware Intro and Value Propositions
• IOT/OPC Use Cases
• OPC UA Roadmap
INDUSTRIAL CONNECTIVITY - PRODUCT PORTFOLIO

**Kepware® KepServer®**

Provides a single source of industrial automation data to all of your applications

**Kepware® RedundancyMaster®**

Configures multiple OPC servers into redundant pairs

**Kepware® ClientAce®**

Streamlines OPC connectivity through the Microsoft .NET API

**Kepware® LinkMaster®**

Easily exchanges data between OPC DA servers
INDUSTRIES SERVED

• Industries
  – Discrete Manufacturing
  – Automotive
  – Food and Beverage
  – Pulp and Paper
  – Machinery
  – Water and Waste Water
  – Energy – Wind, Solar, Power Plants
  – Oil and Gas
  – Metals and Mining
  – Chemicals
  – Etc.
- from OPC Server to IOT Industrial Connectivity Platform

1995: Founded, focused on developing a low-cost HMI
1997: Released KEPServer
1999: Shifted focus to developing drivers to communicate with Programmable Logic Controllers (PLCs)
2001: Released LinkMaster for OPC Bridging
2004: Released RedundancyMaster® for OPC Redundancy
2007: Released ClientAce®, an OPC Client Toolkit
2009: Released the KEPServerEX® Connectivity Platform
2010: Released OPC UA Server & Client
2014: Released the IoT Gateway
2015: Formed IoT Alliances
2016: Acquired by PTC
2017: Released KEPServerEX Version 6
2018: Release 4x new 6.x versions
      TW Integration - TWIC
      Release 3x new 6.x versions

Expanded product portfolio and industry reach

Expanded Internet of Things (IoT) offering
• Consolidates data and information from many sources into one industrial connectivity platform

• Offers a library of more than 150 device drivers, client drivers, and advanced plug-ins—supporting thousands of devices and other data sources

• Provides industrial operations data to:
  – Traditional Industrial Automation clients, via OPC and proprietary protocols
  – IOT Solutions, via MQTT, REST, ThingWorx AlwaysOn™, and IT-centric protocols

• Seamlessly integrates with ThingWorx and ThingWorx Manufacturing Apps, enabling quick time-to-value with industrial IoT solutions
WHY KEPWARE?

Adding values as;
- Best in class Industrial Connectivity Platform
- Connectivity for the future and vendor independence
- Security & protecting your operational data
- Scalability – from SW/HW OEM to Enterprise
- Advantages and cost reductions by easy maintenance (single platform for all connectivity)
WHY KEPWARE?

Adding values cont’;
• Continued updates and enhancement to meet market requirement
• Quality & reliability
• Seamless integration with ThingWorx Innovation Platform
• PTC / Kepware Intro and Value Propositions
• IOT/OPC Use Cases
• OPC UA Roadmap
A few of many Kepware Use Cases leveraging OPC/OPC UA and/or Pub/Sub data exchange technology

Challenge to share Enterprise customer Use Cases due to NDA restrictions!

Practically we have 50+ Enterprise Customer implementations over the last 24 month where both OPC UA and IOT GW MQTT Pub/Sub functionality were key requirements!
GENERAL MOTORS

About

Organization
General Motors is one of the big automotive manufactures. They have 50 vehicle assembly and 30 powertrain assembly operations worldwide.

Each plant includes 100's of Programmable Logic Controllers (PLC) controlling unique distributed production cell operations.

Industry
Automotive

Solutions
KEPServerEX®
• OPC UA Server
Device Connectivity
• Allen-Bradley
• Modbus
• Siemens
Client Connectivity
• Business Enterprise Systems
• Local SCADA Servers

Challenge

Implementing the IoT Gateway for KEPServerEX enabled Faurecia to:
• New custom MES system.
• Common integration methods for all plant floor client communications.
• Improve availability.
• Maximize investment in existing plant floor devices and communications.
• Minimize changes to PLC logic.
• Improve communications performance.

Results

• Streamlined technical architecture by leveraging an OPC platform with a single user interface.
• Enabled remote login and shutdown via VNC monitors.
• Improved operational insight through analysis of production data.
• Bridged legacy equipment with modern technology.
• Provided scalability for future growth and acquisitions.
• Increased production quality and OEE.
About

Organization
Teel Plastics, Inc. specializes in custom extruded plastic tubing and profiles. With highly-skilled employees and unique extrusion manufacturing techniques, Teel Plastics has built a reputation of exceptional made-to-order plastic tubing, cores, and profiles.

Industry
Manufacturing

Solutions
• IoT Gateway for KEPServerEX®
• Manufacturing Suite incl. OPC UA Client

Learn More
Teel Plastics Reduces Human Error with IoT strategy
Powered by Kepware

Challenge

Teel Plastics has ten manufacturing lines at its facility in Baraboo, Wisconsin that produce different products at various times throughout the day. Each line requires a custom recipe for every product. These recipes include different material inputs, equipment, heating components, and other variables, and can change several times in one day. All these variables quickly caused instances where human error deviated the recipes. These deviations inspired Teel Plastics to find a solution that would allow operators to control all pieces electronically and reduce human error.

Results

Implementing the IoT Gateway for KEPServerEX enabled Teel Plastics to:
• Increase visibility into the granular details of the manufacturing process
• Increase product output and quality through more informed decision making and reduced downtime
• Remove the risk of human error in manual tasks
• Gain a future-ready manufacturing system with a scalable solution for evolving processes/challenges
• Reduce stress and improve ease of mind for operators
• Provide data that proved customers’ requests were being met

“By incorporating the IoT throughout our shop floor, we’ve been able to take something that previously required memorization and 30 to 40 clicks and bring it down to a single click of a button. Working with the IoT Gateway is seamless. We’re able to trust that as our recipes evolve, KEPServerEX will be able to take on anything and everything that we throw at it.”

Owen Gwynne, Senior Programmer, Teel Plastics
About

Organization
HIROTEC AMERICA is part of the HIROTEC Group Companies that have worldwide sales in excess of 1.6 billion dollars and 26 facilities across 9 countries. For over 30 years, HIROTEC AMERICA has been providing innovative and highly flexible closure manufacturing solutions.

Industry
Manufacturing - Automotive

Solutions
KEPServerEX®
• IoT Gateway Advanced Plug-In
• Manufacturing Suite incl. OPC UA Client
ThingWorx® IoT Platform

Learn More
Automotive Parts Supplier Launches IoT Initiative in Six-Week Sprints Powered by Industrial Data from Kepware

Challenge

HIROTEC had volumes of industrial data from a diverse set of sensors and machines stored across multiple sources that was inaccessible to collective and systematic analysis. In order to improve quality, reduce downtime, and optimize production schedules, HIROTEC needed to implement a modern, automated solution that could gather maintenance and operational information into one source and offer actionable recommendations to its quality professionals.

Results

• Gained better visibility into the processes of the CNC shop and deeper insight into operations
• Added the ability to leverage real-time data from the shop floor and tie it to the scheduling ERP system, optimizing the scheduling of parts to CNC modules
• Increased productivity and ROI by gaining greater insight into asset and resource allocation
• Improved collaboration between Operations and Information Technology, reducing downtime and enabling efficient responses to IT jobs
• Reduced costs, effort, and development time by selecting proven, interoperable technologies
• Provided quick proof-of-concept into the value of IoT via short, six-week Agile sprints

“When first embarking on our IoT journey, HIROTEC’s core objective was to remain flexible in our ability to connect things. The offerings and expertise by Kepware and PTC have enabled us to stay true to our goal by effortlessly adapting to our business processes and developing the right IoT strategy for our teams. The IoT Gateway’s ability to seamlessly put data into ThingWorx to generate real-time insight into operations fuels our sprint framework and allows us to stay nimble in our decision making.”

Justin Hester, Senior Researcher, HIROTEC

End User
About

Organization
Faurecia is one of the world’s largest automotive equipment suppliers in Automotive Seating, Emissions Control Technologies, Interior Systems, and Automotive Exteriors. At December 31, 2014, Faurecia employed 100,000 people in 34 countries at 330 sites and 30 R&D centers. Faurecia is listed on the NYSE Euronext Paris stock exchange and trades in the U.S. over-the-counter (OTC) market.

Challenge

A preferred partner of the world’s largest automakers, Faurecia needed to provide its customers traceability for the parts it was producing. The automotive OEMs expected Faurecia to be able to both track the process of operations and production and to make that information available on demand.

Results

Implementing the IoT Gateway for KEPServerEX enabled Faurecia to:
• Improve parts traceability throughout the entire manufacturing process, satisfying internal Faurecia stakeholders and the company’s customers
• Improve connectivity and speed of communication between factory floor machines and IJ Core
• Improve parts production quality
• Reduce development time, effort, and training
• Enable smarter, more nimble decision making across the organization

“We’re seeing benefits from this implementation from the boardroom down to the shop floor, and only expect them to increase as more locations utilize it. We’re able to be smarter and more nimble in our decision making, which leads to better products and services for our customers.”

Rafael Unruh, Competence Center Manager, Faurecia

Learn More
Kepware’s IoT Gateway Provides Faurecia with Data to Improve Traceability for Top Automotive Customers
AGENDA

• Kepware Intro and Values
• PTC/Kepware strategy
• OPC UA Roadmap
OPC UA ROADMAP

Market demands? – We are Use Case driven!

Additional OPC UA functionality;
- OPC UA over HTTPS
- OPC UA Complex data
- OPC UA PubSub
- OPC UA HA
- OPC UA AC
- OPC UA Collaborations IMs

Contains forward-looking information subject to change without notice. Does not imply future commitment.
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THANK YOU!

Thanks to;

OPC Foundation
Finnish Society of Automation
Valmet
&

NOVOTEK Improving your performance

our regional Kepware Preferred Distributor
that we could join this event!