Leading Meat Supplier Drives Productivity with Cirrus Tech and Kepware

The Customer
A warehouse system management company, Cirrus Tech (Cirrus), Inc. provides automated warehouse solutions and services to help customers optimize their warehouse and distribution processes. With more than 15 years of experience, the company delivers a range of services—from warehouse automation, control, and management, to professional services and supply chain consulting. Cirrus customizes integrated warehouse management solutions for customers across a range of industries including healthcare, retail, manufacturing, food service, consumer goods, and electronics.

“In our business, there’s no room for error. Any misstep in our automation system means lost revenue. That’s why companies consistently turn to us to drive their business-critical processes,” said Bob Harris, Founder of Cirrus Tech.

The Challenge
Cirrus works with customers on extremely tight deadlines. Many customers require data transmission to and from Programmable Logic Controllers (PLCs) within seconds. Some customers find data flow challenging, and as a result experience inefficient warehousing and product routing. These issues can slow response time and degrade customer relations.

Case-in-point: A top beef producer and Cirrus customer located in Dodge City, Kansas ships several thousand boxes of meat per hour. The company requires a system that can read 20,000 tags from 10 PLCs every three seconds—reading, processing and returning the data—to ensure smooth routing of boxes for delivery. From the warehouse to the retail location, the system requires complete automation with no human intervention. Cirrus needed to offer an automation solution that could provide routing direction within seconds. Any miscommunication could cause significant delays in routing—overloading and slowing conveyor belts.

Originally, the beef producer based its automation system on RSLinx drivers from Rockwell Automation with data collected from Allen-Bradley PLCs. However, the performance was not meeting the company’s needs.

“The drivers were slowing down the process—draining 80 percent of CPU space to read and respond to the more than 20,000 tags each second. The system just wasn’t getting it done,” Harris said.

Organization:
Cirrus Tech, Inc. provides automated warehouse solutions and services to help customers across a range of industries optimize their warehouse and distribution processes.

Industry:
Industrial Automation

Solution:
KEPServerEX®
Allen-Bradley OPC Server Suite
The application required a technology that could meet the company's performance requirements based on its large tag count. Cirrus knew it was time for the customer to change its automation processes, and turned to Kepware for the proper solution.

The Approach

After extensive research aimed at replacing its legacy communication server, RSLinx, Cirrus found the solution it needed in Kepware. "When compared to Rockwell's RSLinx server, KEPServerEX provided Cirrus improved interoperability, increased simplicity and intuitive usability, all at a lower price," said Harris. "When considering all these factors, making the switch to Kepware just made sense."

Specifically engineered to connect disparate devices and applications—from plant control systems to enterprise information systems—KEPServerEX provides a single communications platform, eliminating the burden of learning new communications and applications.

Harris elaborates: "Anytime we introduced a new piece of hardware, it required an entirely new PLC. Honestly, we don't have the time to write a new driver, which could easily take eight weeks in development and testing. Since Kepware has such broad support and flexibility, it took the responsibility off of our shoulders."

KEPServerEX pulls data from multiple PLCs and quickly analyzes the details. In the case of the Kansas beef provider, that equates to 20,000 tags every three seconds. Kepware helps filter the data and provide direction within 2 seconds, while also pinpointing any line or equipment issues in real-time. KEPServerEX provides information about how to best route packages, ensuring that they hit the right conveyor belts, storage areas, cranes, and trucks. The response times are critical to allow for proper routing as each package reaches its appointed destination.

Organization Impact & Benefits

- Improved processing efficiency to 6,000 boxes each hour
- Reduced response time to less than two seconds
- Added ability to efficiently analyze 20,000 tags every three seconds
- Decreased CPU usage
The Results
Upon installation, Cirrus and its customer noticed immediate results. Central Processing Unit (CPU) usage declined dramatically, enabling the automation system to read data and respond more efficiently.

“Kepware exceeded our goals. The real benefit is KEPServerEx’s ability to handle a broad range of protocols. In terms of speed, flexibility and performance, no other company can match Kepware,” said Harris.

Currently, Kepware helps Cirrus successfully automate the warehousing and transportation processes from the beef producer’s three dispersed plants, which process 6,000 boxes each hour. Navigating the producer’s complex systems, Kepware and Cirrus have cut communications and decision-making response times to less than 2 seconds. This success encouraged Cirrus to expand its Kepware implementation across service processes for all of its customers.

“Now that I’ve experienced Kepware, I wouldn’t go anywhere else,” Harris concluded.

About Kepware Technologies
Kepware Technologies, established in 1995, develops a wide range of communication and interoperability software solutions for the Automation industry. Our flexible and scalable solutions help connect, manage, monitor, and control diverse automation devices and software applications. Our industry-endorsed software solutions improve operations and decision-making throughout all levels of an organization. Kepware Technologies’ mission is to be your standard for connectivity by developing Advanced Communications for Automation.