Have 'the talk' about IIoT with your SI

By Bob Vavra, *CFE Media*

When system integrators work with customers on technology adoption, the first step is to examine the current state of the plant's information system. That's especially important when looking at adopting the Industrial Internet of Things (IIoT) as a plant-wide strategy.

"Typically, an IIoT initiative starts with an infrastructure talk. In some cases, the "things" are already securely connected to a plantwide network, in which case we can jump directly to an information discussion," said Dan Malyszko, director of operations at Malisko Engineering. "But often, the data they are after is not easily accessible. Some of these networks are in fact sub-networks that were designed to be inherently isolated to limit the scope of what can talk to what."

A challenge for Malisko Engineering's team is helping customers understand the opportunities around IIoT—including that IIoT is more evolutionary than revolutionary. "We've been connecting devices and harvesting data for decades in the industrial automation field long before the concept of the IIoT came along," Malyszko said. "Any controls engineer can attest to the fact that we've always connected smart things to perform a function with the valuable byproduct being a wealth of data. Where the IIoT is different lies in how we collect, compute, and move the data and to where.

"In a true IIoT deployment, the cloud (public or private) is the ultimate destination for the data where it coalesces with other disparate data to provide context and create actionable information," he added.

Part of any successful IIoT deployment is focused less on the technology and more on the ability of the information technology (IT) and operations technology (OT) departments to work with the data—and each other. "Facilitating IT/OT convergence from the people perspective is challenging, but very rewarding when we can help bridge that gap," Malyszko said.

That strategy applies not just to manufacturers, but also to integrators. "We decided many years ago to undergo our own version of IT/OT convergence as automated controls began relying more heavily on common IT infrastructure," Malyszko said. "We saw very clearly that the performance of our systems depended directly on this infrastructure, so we made a business decision to bring IT professionals on staff with strong backgrounds in data centers, security, switching, routing, virtualization, and more broadly the Internet of Things. "These experts give our OT organization unique IT credibility when working with IT departments. This helps break down barriers," he added.

A recent Malisko Engineering project demonstrates the importance of breaking down these barriers. "One of the more challenging IT/OT convergence experiences dealt with a large national manufacturer with dozens of plants across the country," Malyszko said. "The challenge was corporate IT had their own vision for IoT enablement through data sharing between the enterprise and manufacturing, but the plants over time had adopted their own methods, some being quite unorthodox and convoluted."

The solution was to deploy a best-practices Industrial "demilitarized zone" at one plant, which is one of the key elements of the Industrial Internet of Things in a manufacturing setting.

"This was a project that started on the OT side, but ultimately had to cross into the IT realm to create a hardened DMZ between the office network and the plant floor network," Malyszko said. "We started with 'the talk' regarding secure and scalable infrastructure and had to broker many conversations with corporate IT and manufacturing OT on how the firewalls and DMZ server resources would be setup. There was a lot of education that had to occur on both sides, but what we ended up with was a mutually agreed upon design that ultimately became the Corporate IT standard for data access.

"It was the best outcome possible because the design had valuable input from both sides and has started them on the right path in their digitization journey," he added.

Malisko Engineering, Inc.

Malisko is a CSIA Certified manufacturing automation integrator with capabilities in Plant Floor Control, Process Automation Solutions, Manufacturing Intelligence, Power Quality & Energy Management (PQ&EM), Industrial IT, and Validation. Its team of engineers, designers, programmers, and automation/validation specialists help clients safely increase production speed, reduce cost and maintain product quality.

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