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Improving the Repeatability and Resiliency of Industrial Automation Deployments with Cisco HyperFlex

Wunderlich-Malec Engineering · Industry: Industrial engineering · Size: 500 employees · Location: Eden Prairie, MN

With more than 36 technology, software, and engineering offices and nearly 500 professionals on staff, Wunderlich-Malec (WM) is one of the largest and most well-established engineering companies in the United States. WM was ranked 181st on the *Engineering News Record* (ENR) Top 500 Design Firms in 2021 and 3rd in *Control Engineering's* System Integrator Giants in 2021. For more information, visit Wunderlich-Malec's website.

Challenges

- Bring IT innovation to OT environments
- Reduce the time and cost of industrial automation deployments
- Improve the performance and resiliency of production systems

Solutions

- Cisco® HyperFlex™ Hyperconverged Infrastructure (HCI)

Results

- Accelerated infrastructure deployments from months to weeks
- Reduced the cost and overhead of industrial automation
- Improved the repeatability, scalability, and reliability of OT deployments
- Aligned new industrial engineering platform with existing IT standards and hardware expectations
- Leveraged industry best practices for compute, storage, and network

For more information

- Cisco HyperFlex

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Challenge: Enhance the speed, repeatability, and reliability of OT deployments

Industrial automation systems must be highly stable and always-on, especially in the pharmaceutical and manufacturing industries. When those systems go down, human health and safety, product quality, production, revenue, and company reputation can all be placed at risk.

"In many industrial environments, any amount of downtime can result in a seven-figure loss," says Andrew Michalets, senior consultant for WM, which helps life sciences, manufacturing, wastewater, and other industry clients integrate and automate their production systems. "That's why automation and unwavering uptime are so important."

For these reasons and more, operational technology (OT) systems have historically been on their own proverbial island, he explains. Many of them are "air-gapped," meaning they are disconnected from corporate networks as well as the internet. And some are more than two decades old.

With industrial automation software like Emerson DeltaV becoming increasingly virtualized and cloud-connected, bare metal OT systems are becoming increasingly untenable.

"These are mission-critical, revenue-dependent workloads, and in many cases they're running on severely outdated infrastructure," says Mark Riehm, foundation specialist for automation at WM. "Our customers and prospects need modern, foundational platforms that can provide exceptional reliability, availability, and performance in a production setting."

WM is addressing these needs with Cisco HyperFlex, which extends the simplicity of hyperconvergence from core to edge and multicloud environments. As the underpinning of WM's new Industrial Foundation Network (IFN), Cisco HyperFlex provides stable performance, the ability to upgrade and scale the infrastructure without taking it offline, and high availability even in the face of component failure.

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>
> **Mark Riehm**
> Foundation Specialist for Automation, Wunderlich-Malec

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A world-class, fully integrated platform

While other engineering companies continue to build OT systems in ad-hoc, one-off fashion, WM is leveraging a standardized foundation that supports best-in-class automation software and can be easily adapted for any production setting.

“Systems built from scratch are harder to assemble, optimize, and manage, and they’re impossible to update and scale without taking them offline,” Riehm says. “Cisco HyperFlex is a world-class platform that is already integrated and fully supported. From design to validation to testing, it’s all pre-baked, which removes a ton of overhead.”

Infrastructure deployments that used to take months are now expected to take weeks, he explains, providing time and cost savings that can be passed on to WM customers.

“Depending on scale, it can take two engineers a couple of months to design a platform with virtualization, network, and security,” Michalets says. “Now we have it at the ready, and the cost of hardware is roughly the same.”

While CapEx remains comparable, it’s the OpEx savings of the hyperconverged platform that really pique WM customers’ interest. Cisco HyperFlex can be managed by generalists instead of specialists. Pre-validation and built-in security help with regulatory compliance and audits. And most importantly, the platform can be updated and scaled without downtime.

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"There's never a need to shut the system down, which has a massive impact on our customers' bottom line," Riehm says. "And because it's connected, there are other opportunities to reduce costs and improve efficiency, like putting older data in a cloud so it's still accessible but no longer tying up onsite storage."

WM is in the process of deploying Cisco HyperFlex for a pair of clients in the pharmaceutical and manufacturing industries, and several others have expressed interest.

"We're now offering a complete foundation for production environments instead of a series of parts that need to be integrated and then managed, updated, and scaled independently," Michalets says. "We believe this is a key building block for the future of industrial automation."

Learn more about Cisco data center computing and networking customer deployments.

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