System Integrator CHASCO supports key customers with **secure remote connectivity**

CHASCO partnered with Siemens to continue and grow business in times of limited access
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When border restrictions suddenly shut down access to a Canadian asphalt customer during a critical systems upgrade, process control systems integrator CHASCO Automation, Inc. used Siemens SINEMA Remote Connect and SCALANCE industrial routers to ensure a fast and reliable commissioning. Yet it was soon clear that the secure remote connectivity was more than just a fast-fix, as it unlocked greater visibility, operability and cost-savings for the customer and CHASCO alike.

Many companies on a fast-track for growth find themselves caught in a dilemma as the driving factors of their growth become the very bottleneck to their expansion. At least this was the case for CHASCO, a small yet growing process control systems integrator located in Chattanooga, Tennessee.

> "Our ethos has always been that 'good enough' is never good enough for our customers. We strive to go above and beyond no matter what. Our customers have come to rely on us not only for our quality work but for our honesty and transparency in the process as well" says President and CEO Charlie Stoll.

An experienced process controls engineer himself, Stoll has built a strong rapport with all his clients, personally traveling to their locations to oversee installations, commissioning, operations and trouble-shooting when issues occur. When the 2020 pandemic shut down international travel with border restrictions that prevented him from visiting one of his most important customers – a Canadian asphalt plant in the middle of a critical upgrade on its asphalt loading terminal – Stoll knew he needed to set up remote access and do it fast.

Challenge: Set up a remote commissioning environment for a new SCADA system in less than a month, remotely

The ten-year-old asphalt plant's loading terminal had been running on outdated Windows XP computers that were failing regularly simply due to the age of the operating system, which Microsoft stopped supporting in 2014. CHASCO upgraded the terminal's machines with new hardware and migrated the supervisory control and data acquisition (SCADA) runtime to Siemens SIMATIC WinCC Professional, connecting the terminal network via an updated and ruggedized industrial-grade PC, the Siemens SIMATIC Field PG with Microsoft Windows 10 Enterprise and numerous other Siemens applications pre-installed.

However, the project hit its snag when it came time to commission the upgrades. "The U.S.-Canadian border closed just as we were getting ready to commission," says Stoll. "But closure or not, my customer was only 30 days away from the start of construction season, when he would need to be running the plant's loading terminal at full capacity."

Stoll realized he would have to commission the asphalt terminal's brand-new control system without being onsite. "In the beginning, the assumption was the border would just be closed for a few weeks," says Stoll. "But even a few weeks would have negatively impacted my customer's business, so I wasn't about to risk the chance that the travel restrictions stretched on. All I can say looking back: 'thank goodness I went with my gut on that one.'"

CHASCO Automation

Challenge: Set up a remote commissioning environment for a new SCADA system in less than a month, remotely

Solution: Siemens SINEMA Remote Connect and SCALANCE S615 industrial routers.

Results: A successfully commissioned upgrade, plus unlocked growth potential through increased visibility, reduced costs and enhanced operability overall.

> "When I thought about how secure and available I needed this network to be, I knew I needed something hardware based and industrial. And I knew if I was going to go industrial, I was going with a name that I trust, which was Siemens." *Charlie Stoll*

Solution: Siemens SINEMA Remote Connect and SCALANCE S615 secure industrial routers

CHASCO had used secure, industrial VPNs in the past for small projects, but Stoll wanted something that wouldn't be affected by an operating system running above it or cost his customer expensive engineering software licenses that would add more maintenance to the machines.

Instead, he opted for Siemens SINEMA Remote Connect (RC), a management platform for remote networks that enables secure management of VPN connections between CHASCO and the terminal.

Stoll had worked with Siemens Totally Integrated Automation (TIA) Portal before and knew that with SIMATIC WinCC already in place at the asphalt terminal, he just needed to get access to the control system to patch in. The TIA Portal, a common engineering framework for fully integrated automation engineering, would enable Stoll to commission the upgrade and allow further updates and changes to be made.

"As I learned about SINEMA RC, I realized this package would be a strategic business investment when combined with the TIA Portal and WinCC. I saw a lot of potential in using the combination with other customers as well," says Stoll.

With help from Siemens support, CHASCO configured the SINEMA RC server and SCALANCE S615 Industrial Security Appliances at home before shipping the equipment to the asphalt plant, where a local electrician finished the installation. Using a web-based server and tools included in the SRC package on his computer, Stoll successfully established the needed connection to the control system and SCADA network. "I was giving instructions over the phone to the electrician, who mounted and labeled everything in the control room and then tested the set up," he says. "The whole thing took just a few hours with testing taking longer than the installation itself."
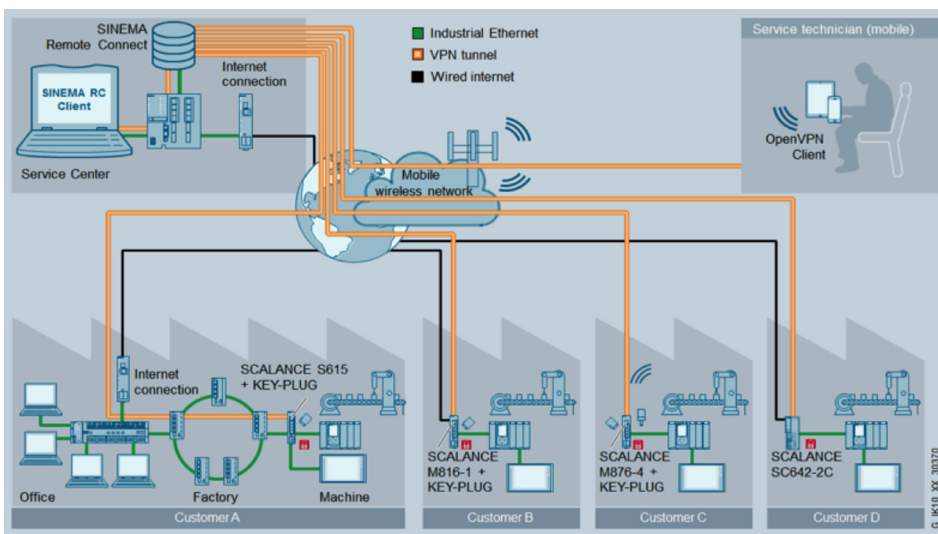

Figure 1. Schematic of VPN-secured Siemens SINEMA Remote Connect configuration used by CHASCO to communicate remotely with the Canadian asphalt plant's loading terminal's new controls
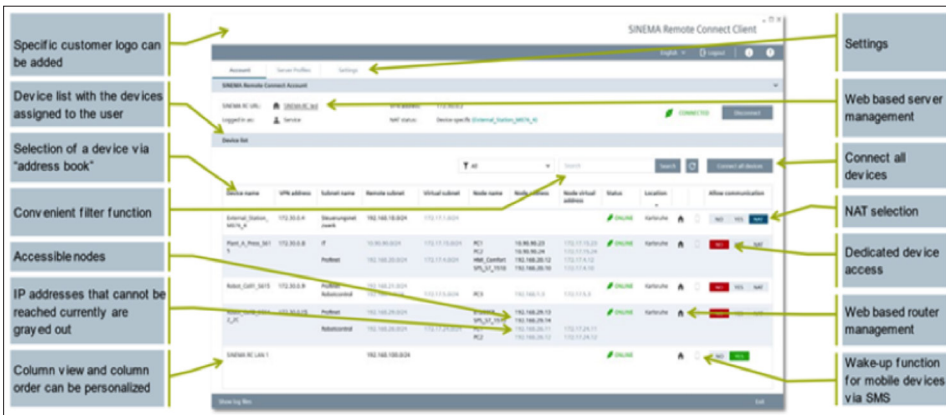
Figure 2. Explanatory view of the SINEMA RC client interface, as typical of what CHASCO deployed. The SINEMA RC client can establish a Teleservice connection for the SIMATIC TIA Portal, STEP 7 V5.x, and commissioning and diagnostics tool for PROFINET networks.

Results: A successfully commissioned upgrade, plus unlocked growth potential through increased visibility, reduced costs and enhanced operability overall

Once the remote access was established, commissioning of the new controls for the asphalt plant's loading terminal got a green light, enabling CHASCO to finish the control system upgrade on schedule and without any additional effort from the customer.

Yet as the pandemic stretched on, CHASCO kept using the remote connection for maintenance, troubleshooting, and additional upgrades to the system. In fact, the remote connectivity revealed new digitalization opportunities for the asphalt plant overall.

"We realized there was potential to automate some of the terminal's manual processes with these new, secure communication channels," says Stoll. "In doing so, we increase the overall safety and accuracy of the terminal's loading application."

"Siemens always provided the same attentive level of care and support, no matter how big or small the business was. As our company grows, we know we have Siemens customer service behind us to support that growth."

Improving safety, reducing manual operations. In the plant's asphalt terminal, the loading area is a mezzanine-style structure where truck drivers drive onto a scale, park, and exit to a distant waiting area to wait for operators to load with the help of safety controls from a Siemens SIMATIC S7-317 safety PLC.

CHASCO also installed a Siemens SIMATIC RFID system that has helped to further automate the asphalt loading process. With this setup, truck drivers can verify load amounts by observing the loading as it occurs and approving the load amount on the system's 15-inch Siemens SIMATIC HMI TP1500 Comfort Panel, a touch-screen display. "Taking the manual steps out of the process eliminates the risk of overloading the trucks, which has happened in the past and is extremely dangerous," says Stoll.

Eventually, each asphalt plant in the company will have its own SCALANCE S615 module connected via the SINEMA RC to allow for production data and reporting to be monitored at both the individual and enterprise level. "Currently, we collect and send the plan process data back to the customer which acts as a bit of a bottleneck both to their decision-making and to our growth," says Stoll. "Connecting the modules to share data over the same infrastructure does not only give them enterprise-level visibility into the plants, but it greatly empowers the stakeholders to make faster, data-driven decisions."

Huge travel savings add up. For CHASCO, the remote connectivity brings new growth opportunities for the company as a whole. "Before, we would personally travel to each site we worked on which limited us to working on a single project at a time and could get into the tens of thousands of dollars in travel expenses depending on the project's complexity and schedule," says Stoll. "Now, we are able to work remotely on multiple projects, which significantly expands our capacity to support current customers while taking on new ones. Frankly, I don't know who is more pleased, my family who I can finally see regularly or my customers who are no longer billed those steep travel expenses."

As CHASCO grows, Stoll sees the SINEMA RC package as a fundamental tool for maintaining the customer service and commitment to excellence that the company's reputation is staked on. "What makes CHASCO different from its competitors is that we truly care about our customers' success. One of the primary reasons I'm such a big Siemens fan is because we get that same feeling from the teams at Siemens as well," says Stoll. "Even before CHASCO, when I was working for other companies, Siemens always provided the same attentive level of care and support, no matter how big or small the business was. As our company grows, we know we have Siemens customer service behind us to support that growth."

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