

No compromises for secure SCADA Communications – even over 3rd Party Networks

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SUBMISSION TYPE

30 minute presentation

KEYWORDS

SCADA, ICS, security, third party networks, critical infrastructure, connectivity

ABSTRACT

The use of public and private 3rd party ISP and cellular networks presents a dilemma for critical infrastructure asset owners, whether the industry is finance, energy, utilities, manufacturing, health care, transportation, etc. Leveraging 3rd party networks brings a substantial set of risks and challenges, but the promise of reduced costs and rapid deployment are attractive. Some enterprises have made the decision to use 3rd party backhaul networks for SCADA, remote monitoring, remote access, and alarm systems. This alternative presents a myriad of integration options with the service providers. Other enterprises view these 3rd party networks as a non-starter, and instead opt to deploy and manage an independent network infrastructure for these functions. This talk will explore the tradeoffs between these two approaches, particularly with respect to operational integrity, availability, and security. We will discuss the points of contention and best-practice approaches towards achieving the right balance in these network provider partnerships.

ABOUT THE AUTHORS



Norman Anderson, P.E. is currently the SCADA Manager at Polk County Utilities where he manages the current SCADA system and planned upgrades for over 40 water and wastewater facilities and over 300 liftstations. Before Polk County Utilities, Norman was an Instrumentation and Controls system Operations Lead for CH2M HILL and spent 7 years with CH2M HILL in the design and commissioning of Industrial Process Control Systems and Security Systems for the Water Sector. Norman has provided secure and reliable PLC, SCADA, and Network hardware and software architecture designs and provided control system automation solutions for a range of facilities. Norman has an M.S. degree in Electrical Engineering from Iowa State University and an M.S. degree in Physics from the University of Florida. Contact: normananderson@polk-county.net.

David Mattes, Co-Founder and CTO, Tempered Networks, co-founded Tempered Networks (formerly named Asguard Networks) in 2012 to create standards-based products that address the challenge of

managing connectivity and information security for industrial control systems (ICS). Prior to Tempered Networks, Mattes spent 13 years in Boeing's R&D organization. At Boeing, he focused on ICS security issues and solved the challenge of segmenting connectivity for ICS devices into private overlay networks, while ensuring secure connectivity to and through Boeing's enterprise networks. Mattes was the co-creator and technical and implementation lead on the architecture that not only addressed Boeing's stringent InfoSec governance and security requirements, but also satisfied the needs of end users. Mattes has patents pending in distributed network configuration and orchestration. He holds an M.S. degree in electrical engineering from the University of Washington and a B.S. degree in electrical engineering from the University of New Mexico. Contact: d.mattes@temperednetworks.com.