

Data Diode Cybersecurity Implementation Protects SCADA Network and Facilitates Transfer of Operations Information to Business Users

Ron Mraz*

Owl Computing Technologies, 38a Grove Street Ridgefield CT 06877

(*Email: rmraz@owlcti.com and Phone: 203-894-9342)

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6-12 page paper plus 30-minute presentation

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ABSTRACT

Put 200-300 word abstract here.

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This session describes the use case of the integration of one-way data diode technology as part of a water utilities' cybersecurity solution for their operations technology (OT) network.

The client, a water utility serving over 1 million customers, needed to protect their operations facilities (pumps, generators, SCADA system) from cyber threats. Initially, the utility decided to protect their OT network by physically segmenting and isolating the plant from their IT network and the Internet. This provided the cybersecurity protection they needed but prevented reporting and monitoring data from reaching locations outside of the plant without having to physically transport it from one location to another. This created a significant barrier to efficient operations

They addressed this problem and restored operational efficiency, by implementing a data diode solution that maintains a secure perimeter around the OT network but allows critical reporting information and plant monitoring data to reach resources (business users, support personnel) outside of the plant. Their solution includes both the ability to transfer data from the Operations Center to the business network and to do remote HMI screen sharing so remote engineers can "see" into the plant remotely while maintaining a secure, one-way only outbound data flow.

ABOUT THE AUTHORS

Ron Mraz, Ph.D., CEO

As CEO and founder of Owl Computing Technologies, Ron has been directing the advanced development of cybersecurity systems for 17 years. Prior to that, Ron worked at major R&D facilities for Westinghouse and IBM and participated in projects that developed microprocessor controls, high performance vector and supercomputing systems and analytical metrics for real time applications.

Dr. Mraz received his Doctorate in Electrical and Computer Engineering from Carnegie Mellon University in 1992. He holds a Master's of Science Degree in Electrical Engineering from Syracuse University and a Bachelor of Science degree in Electrical Engineering from Drexel University. He is a Senior Member of the IEEE and holds 12 patents. *Contact: rmraz@owlcti.com*