62443 A Force Bringing IT and OT Together

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In the beginning there was Modbus
And then we added Ethernet

- Modbus • 1979
- TCP • 1996
- Millions of endpoints
  - Modbus
  - EtherNet/IP
  - PROFINET
  - BACnet
  - OPC DA

- AWS
- Microsoft Azure
...In the beginning there was also the Internet
Enter 62443

IT to OT’s rescue

- Secure Coding
- Code authenticity
- Secure Protocols
- System level view of data
- Centralized Management
- Secure onboarding
OT adapting IT tech

First steps of process
OT adapting IT tech

Protocols and Data

[Images of various technology logos: OPC UA, Entrust Datacard, Modbus, Industrial Internet Consortium]
OT adapting IT tech
Recognizing reality

Alcoa aluminum refinery

Glen Canyon Dam, Arizona, USA
OT poised to solve tough IT problems

Taming the data geyser

Cities need to become smarter
Urban efficiency delivers liveability and sustainability

- Increasing competitiveness
- Delivering clean, connected growth
- Improving attractiveness for residents, citizens and visitors
- Improving the efficiency of the city's underlying urban infrastructures
- Becoming a better place to live, work and play
- Improving public services: schools, safety, transportation...
IT/OT convergence, not just hardware & software

What we're learning

• IT and OT are equals
• Attack surface can be smaller through collaboration and understanding
• Still learning techniques
  – DevSecOps approaches are still new in IT, should be considered by IT
  – Multi-factor authentication coming into its own in IT, OT can learn much
  – Authentication & Authorization such as OAuth 2.0 and OpenID Connect are being adopted
ISASecure and IT/OT Convergence

- ISASecure Conformance Certification is a broad team effort!
- IT teams should be aware of ISASecure conformance requirements and part of the effort
  - Component Security Assurance (CSA)
  - System Security Assurance (SSA)
  - Security Development Lifecycle Assurance (SDLA)
- ISA/IEC 62443 offers excellent guidance that can be used by IT organizations as well

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