INL/CON-22-67638-Revision-0

Presentation slides for OmniTap at TechConnect Expo

June 2022

Keith D Mecham

Changing the World's Energy Future

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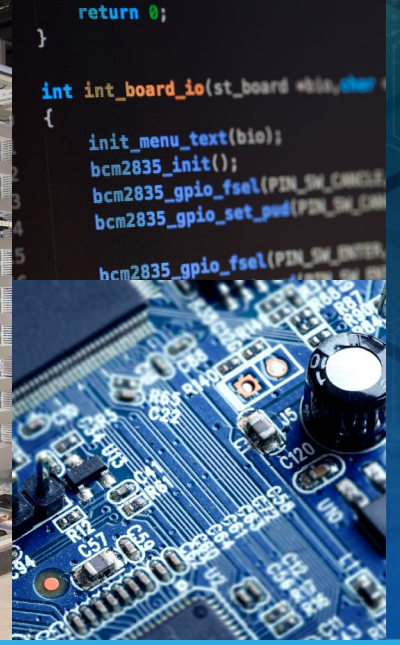

June 14, 2022

Keith Mecham
Critical Infrastructure Cybersecurity Engineer

OmniTap

Universal Capture and Translation of ICS Communication

LRS: INL/CON-22-67638

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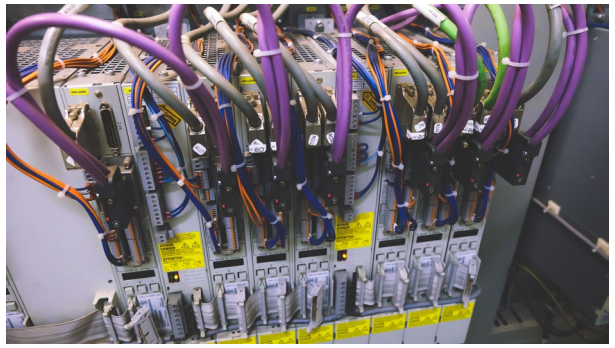
ICS Networks are *Still* Vulnerable to Cyber Attack

Current OT cybersecurity tools cannot monitor or protect most ICS networks

- Electrically incompatible or unable to interpret many ICS protocols
- Partially compatible but unable to capture real-time control packets



R&D efforts focus on IT networks:

- More standardized
- Offer better ROI
- Large, stable market

ICS networks are a harder sell:

- Fragmented market,
- Little standardization
- Poor ROI

Unique ICS cybersecurity challenges further discourage investment:

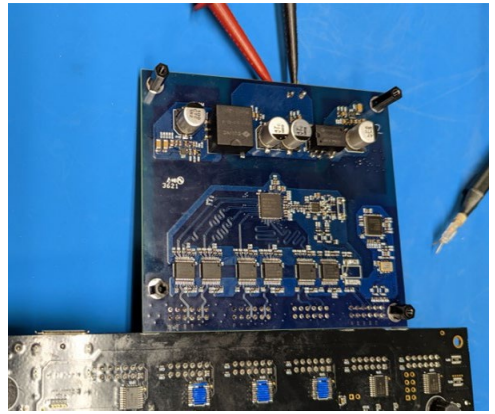
- Mix of serial & industrial Ethernet communication
- Proprietary operating systems and 'closed' ecosystems restrict accessibility
- Performance degradation/disruption are unacceptable

We need to prioritize cyber defense of ICS because the consequences of an attack are extremely severe:

- Loss of life
- Infrastructure damage
- Long-term disruption of energy supply
- Mass starvation
- Environmental contamination

OmniTap Bridges the *Communication* Gap

Today's cybersecurity tools can be leveraged to protect ICS networks… if provided access to network traffic



OmniTap is capable of interfacing with any ICS network:

- Connects to copper network media and captures signals
- Decodes and interprets signals *(up to 1Gbps)*
- Translates data and forwards it to cybersecurity tool/platform in TCP/IP packets

Extend the coverage of existing tools and platforms:

- Universal device simplifies procurement and deployment
- Forward data into your current SIEM, No proprietary platform or 'back-end' required
- OmniTap technology could be 'baked-in' to future cybersecurity tools and sensors

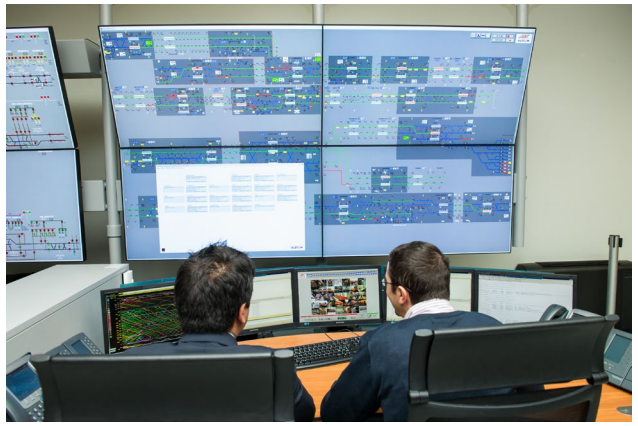
ICS cybersecurity paradigm shift:

- Enable existing cybersecurity tools to monitor and protect ICS networks
- Go beyond 'Defense in Depth' toward comprehensive ICS cyber-defense
- Align IT, OT, and ICS best security practices
- Mitigate ICS market fragmentation, encourage development of next-generation ICS cybersecurity tools

Get OmniTap to Market

The OmniTap technology is nearly ready for commercialization

- Currently at TRL 4, patent pending
- Will achieve TRL 5 upon completion of prototype testing fall 2022
- R&D effort concludes in October 2022



INL seeks partnerships and collaborative opportunities to enhance and accelerate the commercialization of this technology

- Federal and commercial partners involved in Critical Infrastructure cybersecurity
- ICS device, cybersecurity platform, and SIEM developers/vendors
- Incident response & cybersecurity providers/consultants
- CI asset owner/operators

Licensing & commercialization partnership

- INL and GoldenWolf LLC are working to formulate a collaborative commercialization plan to bring OmniTap to market.
- GoldenWolf recognizes the importance of monitoring control system networks in order to defend ICS, building automation, and other control systems against cyber threats.

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