Just Say No to Transient Computers

ERIC OH, P. ENG

MARCH 3, 2020
About AltaLink

Largest TFO in Alberta, Canada

- Own half of Alberta’s transmission grid and serve 85% of population
- 13,000 km (~8000 miles) of transmission lines, 300 substations
- North America’s second largest fully investor-owned utility
Field Work Model

![Diagram showing a field work model with an external switch, LAN ports, and a laptop connected to an IED and a switch.](image)
The Problem: Transient Device

- User Management
- Patch Management
- Software Management
- Port Management
- Malware Control
- Event logging and monitoring
A Solution: Substation Computer

- User Management
  - Managed OT active directory
- Patch Management
  - Patches managed by central services on OT network
- Software Management
  - Software managed by central services on OT network
- Port Management
  - Logical & Physical ports manages on a device level
- Malware Control
  - Corporately managed controls
- Event logging and monitoring
  - Managed OT syslog and SNMP servers
Substation Computer

- Hardened device
  - Fanless
  - No moving parts
  - DC power supplies (130VDC)

- Substation lifecycles
  - 10+ years

- Server grade
  - Expandability
  - Future capacity

- Compatibility
  - Work with corporate/OT PC deployment architecture
Eric Oh
Senior SCADA Engineer, Technical Lead
AltaLink Management Ltd.
Calgary, Alberta, Canada
Eric.Oh@Altalink.ca