SCHWEITZER ENGINEERING LABORATORIES

Alliance Project

Cybersecurity for Energy Delivery Systems Peer Review

August 5-6, 2014

Alliance Project
Convergence of Physical and Cyber Access Controls

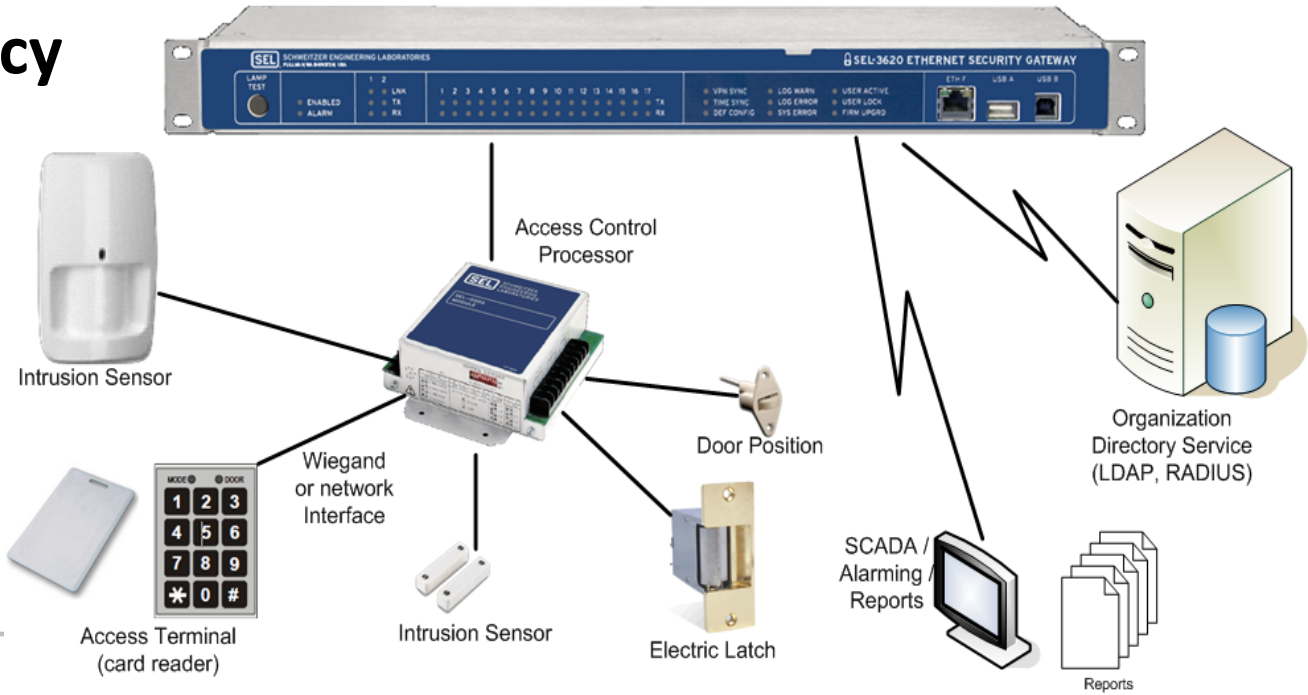
- **Improving Energy sector security controls and operations**
  - Situational awareness
  - Ease compliance
- **Schedule** 2013-2016
- **Performer:** SEL
- **Partners:** Sandia and TVA

Collaboration

- **Sandia**
  - Threat modeling
  - Negative testing
- **TVA**
  - Functional scope
  - Commercial product testing
- **SEL**
  - Technology development
  - Energy sector quality testing

Advancing the State of the Art

- **Convergence of Physical and Cyber Access Controls**
- **Single central trust management**
- **Scalable privilege management**
- **Single log management**
- **Track occupancy**
- **Scalable PSPs**
- **Scalable ESPs**



Physical Access Control Systems

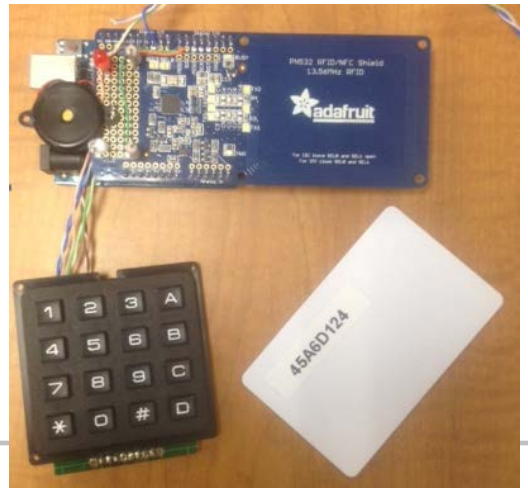
- **Provide methods to control access, generate logs and enable monitoring**
  - Merge in with existing SEIM
- **Supports 2-factor authentication with card and pin**
- **Merge authentication and authorization with existing directory services**
  - LDAP and RADIUS
  - Privilege management is centralized and immediate
- **Tracking occupancy and alerts on unmanned facility events**
- **Validation to FIPS 140-2 Level 2 for PACS monitoring**
- **Programmatic method for escorted access**
  - Date, time, visitor name and escort name in and out
- **Self tests confirming operations**

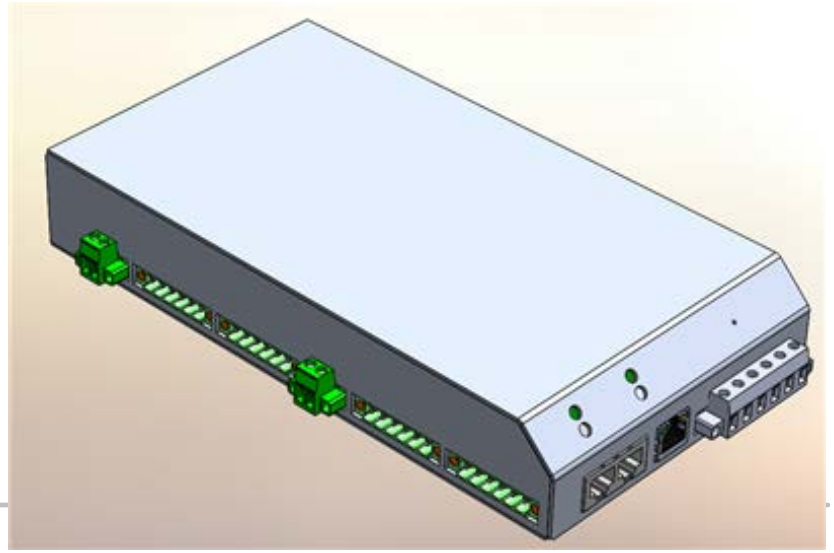
Challenges to Success

- **Card enrollment to the directory service**
  - Identify attribute in central directory
  - Must provide automation tool
- **Physical installation**
  - Construction at the control house
- **Training and incident response**
  - New capabilities comes new processes
- **Equipment rack retrofits**
- **Hardware development schedule**

Accomplishments

- **Major Accomplishments**
  - Use Cases and Specifications complete
  - Mechanical making good progress
  - Firmware in development
  - Hardware in design
- **Trust Management Prototype**





Next Steps

- **Develop and commercially release the SEL-3800 proximity card reader**
- **Develop and commercially release the SEL-3801 door controller**
- **Develop and commercially release a firmware upgrade to the cybersecurity gateways to support both cyber and physical access controls in the SEL-3620 and SEL-3622**