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Secure Policy-Based Configuration Framework (PBCONF)

Cybersecurity for Energy Delivery Systems Peer Review
August 5-6, 2014
Objective

- The project will develop an extensible, open-source, policy-based configuration framework to support the secure configuration and remote access of modern and legacy devices from a variety of vendors.

Schedule

- 10/2013 – 9/2016
- Final PBCONF Detailed Design Completed – Month 9
- Alpha version of PBFCNF – month 21
- Beta version of PBCONF – month 28
- Open source version 1.0 of PBCONF released – month 36
- Capability: open-source remote access security configuration toolkit

Total Value of Award: $2,054,343

% Funds expended to date: 4%

Performers: EPRI

Partners: University of Illinois, Ameren, SEL
Incorrect or inconsistent security configuration of the multitude of energy sector devices in the field is a large potential attack vector.

Approach: apply uniform security policies across devices.

Why: both utilities and vendors have indicated the need for security configuration through remote access methods.

- Uniform approach rather than through isolated applications (stovepipes).
• **Benefits**: the framework will have the necessary flexibility and adaptability for both legacy and new devices.
  – This is particularly important for the electric sector, which features legacy devices that may be 40 years old

• **Advancement**: the distributed architecture will enable both centralized and peer-based configuration of the devices to support scalability and resiliency
  – Provides a model for implementation and deployment that is cost-effective
Challenges to Success

- **Challenge 1: ensuring the design addresses the electric sector’s needs**
  
  **Response** - Work with the utility partner to define the scope. Coordinate with utilities as the project progresses.

- **Challenge 2: identifying the applicable security requirements and use cases**
  
  **Response** - Assess existing use case repositories, applicable guidelines, and standards.

- **Challenge 3: addressing potential performance and scalability issues**
  
  **Response** - Ensure the design addresses electric sector constraints.
Progress to Date

- **Major Accomplishments**
  - Selection of use case repositories and security requirements specifications
    - Used to develop security and application use cases for the PBCONF
  - Development of the design document
    - Conducted a review meeting with the entire team
Collaboration/Technology Transfer

• **Plans to transfer technology/knowledge to end users**
  – The end users for this technology are utilities and vendors
    • Includes utilities of all sizes – from small to large
    • Vendors will develop the translation modules
  – What are your plans to gain industry acceptance?
    • EPRI will conduct an outreach workshop near the end of the project for all interested utilities and vendors
    • One of the team members is a utility – and they will be used to test the alpha and beta versions of the technology
    • As the project continues, other utilities will be briefed on the technology
Next Steps for this Project

- **Approach for the next year or to the end of project**
  - Continue to refine the design document and develop applicable use cases
  - Develop a test plan
  - Key Milestone 2: Alpha version of PBFCONF – month 21
  - Key Milestone 3: Beta version of PBCONF – month 28
  - Develop a transition plan
  - Key Milestone 4: Open source version 1.0 of PBCONF released – month 36
Composed PBCONF System Overview