



CIGRE Study Committee D2

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP (1)

WG* N° D2.37	Name of Convenor : Annabelle Lee (US) E-mail address: alee@epri.com
Technical Issues # (2): 2	Strategic Directions # (3): 1
The WG applies to distribution networks (4): Yes	
Title of the Group: Guidelines for outsourcing managed security services using Cloud Technologies	
Scope, deliverables and proposed time schedule of the Group : <p>Background : CIGRE Study Committee D2 has over the past several years actively examined the cybersecurity issues facing electric power utilities (EPUs). Lately, Study Committee B5 has also joined this activity for cybersecurity issues within the substation controls and protection systems. Consequently, these are a number of IT and operational subject matter experts to address the security issues. EPUs need to effectively manage security services outsourced to a third party. This need is becoming more urgent because of the strong business case for virtualization using “cloud” technologies.</p> <p>Gardner reported in November 2011 that managed security services grew from \$2B (USD) to \$2.8B (USD) between 2009 and 2011. Global Industry Analysts, Inc. projected growth acceleration to \$8.4B (USD) by 2015. EPU executives have become interested in this growth and the use of cloud-based technologies because of efficiencies and significant operational cost savings.</p> <p>The National Institute of Standards and Technology (NIST) published in May 2012 Special Publication 800-146 “Cloud Computing Synopsis and Recommendations.” Another valuable source prepared for the European Commission is “The Cloud, Understanding the Security Privacy and Trust Challenges” by the Rand Corporation. These documents and many others provide excellent technical data for the proposed work.</p> <p>Because cloud-based technologies require significant trust in remote services for processing and storing EPU data, and software, guidelines are needed to securely manage these services.</p> <p>Scope : Overall the scope of this working group is to produce guidelines for an EPU to tailor outsourced managed security services using cloud technologies for Smart Grid applications. Specific components include ;</p> <ol style="list-style-type: none">1. A global survey of EPU activities related to outsourcing managed security services.2. Definition of a virtualized cloud-based security threat environment applicable to EPU operations. This threat environment should describe the security issues emerging from mobility everywhere, rapid use of bring your own device (BYOD), and increasing security regulations associated with Smart Grid technologies	

3. Research and analysis of the best cloud security enablers that address cloud management and secure remote implementations for communication, encrypted storage, and “always-up-to-date” protection controls. The objective is to describe the credibility of managed security providers in terms of proven experience including depth of expertise, reputation, strength of service level agreements, capitalization required for stability of service, use of EPU-specific certifications, etc.
4. Comparison of EPU managed and outsourced managed security delivery alternatives in terms of control, time to implement, EPU infrastructure impact, cost, quality of expertise required, service availability, scalability, 24/7 support, etc.
5. Definition of a reference architecture for implementing managed security services that can be appropriately tailored by an EPU. This should include features such as storage scalability, onsite and off-site backup and recovery to prevent data loss, resourced procedure to install new release updates, and detailed reporting. It should also include a comparison of the advantages and disadvantages for an EPU to use a proxy firewall versus deep inspection firewall.

Deliverables : Technical brochure with summary in Electra

Time Schedule : start : April 2013

Final report : 2015

Comments from Chairmen of SCs concerned :

Approval by Technical Committee Chairman :
Date : 25/03/2013



- (1) Joint Working Group (JWG) - (2) See attached table 1 – (3) See attached table 2
(4) Delete as appropriate

Table 1: Technical Issues of the TC project “Network of the Future” (cf. Electra 256 June 2011)

1	Active Distribution Networks resulting in bidirectional flows within distribution level and to the upstream network.
2	The application of advanced metering and resulting massive need for exchange of information.
3	The growth in the application of HVDC and power electronics at all voltage levels and its impact on power quality, system control, and system security, and standardisation.
4	The need for the development and massive installation of energy storage systems, and the impact this can have on the power system development and operation.
5	New concepts for system operation and control to take account of active customer interactions and different generation types.
6	New concepts for protection to respond to the developing grid and different characteristics of generation.
7	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
9	Increase of right of way capacity and use of overhead, underground and subsea infrastructure, and its consequence on the technical performance and reliability of the network.
10	An increasing need for keeping Stakeholders aware of the technical and commercial consequences and keeping them engaged during the development of the network of the future.

Table 2: Strategic directions of the TC (cf. Electra 249 April 2010)

1	The electrical power system of the future
2	Making the best use of the existing system
3	Focus on the environment and sustainability
4	Preparation of material readable for non technical audience