

Addressing Issues & Opportunities for Connecting the Consumer

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Mr. Gale R. Horst

Electric Power Research Institute (EPRI)

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Abstract

In the development of grid modernization technology, interactions with the consumer and consumer-owned devices can be viewed as a key opportunity. In addition to the technology aspect of connecting the consumer and their devices, various issues remain that will benefit from appropriate architecture. These opportunities involve customer-facing technology, consumer engagement, acceptance, and interactions with the consumer through their devices. Once these issues are resolved, the opportunities for the connected consumer can become a new market that is able to move ahead independent from the utility industry, yet provide the benefits needed in grid modernization.

Attendees in this session will gain understanding of how virtual end nodes (products and devices) can be developed to interact with a grid system in a standard format to enable faster development of grid modernization programs and technology. The opportunities gained from enabling the connected consumer must be understood from the perspective of the consumer, product manufactures, and the utility.

Consumers purchase devices or products to perform a particular function to meet their needs. External to the premise, it could be difficult and assumptive to attempt to make decisions regarding the operation of intricate processes invoked by the consumer. Moving decision making outside of the premise also carries with it the responsibility and liability for the successful and safe completion of the process undertaken by the device. Detailed knowledge of the device operation and operational state would need to be known. In addition, development of new products or enhancements to existing products would become difficult since external knowledge must be shared and understood.

This session will discuss how consumer engagement can be enabled by shifting from command and control methodology and toward the ability to communicate information to enabled devices and systems. This type of a shift in architecture and methodology will engage the customer and motivate product manufacturers of grid-enabled products. New products can be developed, modified, and enhanced independently to interact and respond to grid conditions while responsibility for maintaining safety, process completion, and customer satisfaction remains with the product manufacturers.

Examples will be referenced from several EPRI whitepapers:

- “*Concepts to Enable Advancement of Distributed Energy Resources*” EPRI report number 1020432
- “*Communication Modularity A Practical Approach to Enabling Residential Demand Response*” EPRI report number 1023245.