

Platform Technology Working Group
Draft Outline
May 14, 2014

Overall objective: Identify infrastructure needed to enable the DSPP to integrate, monitor and control DER in real time while ensuring system reliability, increasing system resilience, maintaining system security, maximizing energy efficiency, promoting fuel diversity, and empowering customer choice and third party participation in newly-formed markets.

Guiding Principles:

- Promote greater use of DER
- Ensure continued system reliability, resilience, and security
- Encourage open system architectures to maximize customer and third party participation
- Promote platform standardization across utility service areas
- Achieve desired functionality while minimizing costs
- Minimize “stranding” of costs, while recognizing that new platforms and approaches may offer significant system and efficiency benefits
- Employ scalable and flexible technologies

Identify Functionalities Needed:

- Bi-directional power flows
- Real time communications and control
- Real time balancing of DER
- Maximize efficiencies and participation
- Preserve system reliability
- Preserve system security against cyber threats
- Increase system resiliency
- Data management

Survey Existing Utility Distribution Systems and Capabilities

- Identify existing utility distribution systems and capabilities.
- Describe what current systems and methods are being employed to handle increases in DER.

Survey of standards/protocols

- Identify relevant industry standards and protocols applicable to distribution systems, including efforts related to increased DER penetration.

Survey of technologies available to achieve needed functionalities

- Identify technologies, both hardware and software, available to achieve functionalities needed for DSPP.

- Identify characteristics of technologies including (1) cost; (2) ability to achieve desired functionalities; (3) compatibility with existing infrastructure; (4) flexibility/upgradability; (5) interoperability; (6) security.

Topic Areas:

Commonality and/or interoperability among service territories and DSPPs

- What, if any, standard protocols and/or requirements should be considered to enable customer and third party access to multiple DSPPs platforms?

Communications Infrastructure

- What communications infrastructure and approaches are needed for the DSPP to balance supply with load in real time, and forecast load and dispatch resources in near-real time?
- What communications networks are needed to support the integrated grid?
- How will the DSPP protect cyber security of the integrated distribution system?

Distribution Management Systems

- What system infrastructure and approaches will be needed for the DSPP to:
 - serve as the local balancing authority?
 - forecast load and dispatch resources in real time to meet customer needs?
 - balance supply with load in real time to maintain reliability?
- What system infrastructure and approaches will be needed to allow the DSPP to model and control customer-sited DER?
- Should the planning and development of advanced distribution management systems be completed in phases?

Data Management

- What data will be necessary to enable new markets and facilitate customer engagement and third-party participation?
- What infrastructure and approaches will be necessary to capture and disseminate data to market participants?

Implementation

- How could the implementation of the functionalities of the DSPP be staged?
- What is a reasonable and realistic sequence?