Monitoring, Communication and Control Infrastructure for Power System Modernization

SDGE

A Sempra Energy utility®

SDG&E EPIC-2 (2015-17)

Objective

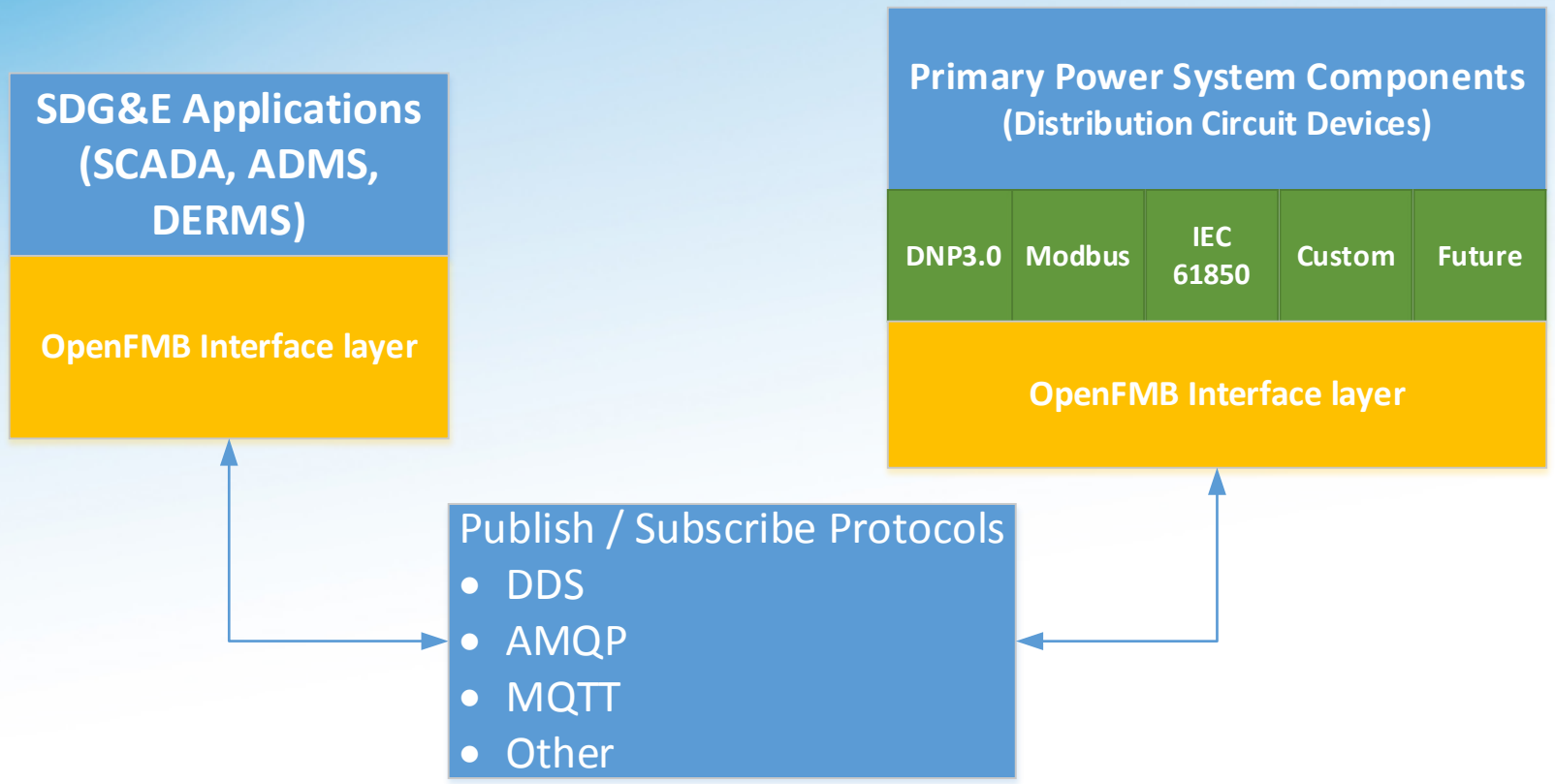
- This project will demonstrate advanced monitoring, communication and control infrastructure needed to operate an increasingly complex power system infrastructure.
- It will test system controls to “sort” data and use what is helpful and useful

Principal State Policy and Problems Addressed

- Grid modernization is required, but it poses challenges to the existing infrastructure
- Monitoring, Control and Communication Infrastructure is the backbone of power system modernization and automation
- "System of systems" approach for monitoring and control is required
- Meet the goals of SB17 to modernize electric utility power system infrastructure
  - SB17, codified at Cal. Pub. Util. Code sec. 8360 et seq., requires that standards be adopted for California that comply with standards from the National Institute of Standards and Technology ("NIST"), the Gridwise Architecture Council, the International Electrical and Electronics Engineers, the North America Electric Reliability Cooperation, and the Federal Energy Regulatory Commission ("FERC"). Cal. Pub. Util. Code §8362(a).

Project Concept

Open Field Message Bus Demonstration



Project Approach

Phase 1 - Develop Framework for SDG&E Demonstration

- Task #1 – Framework Approach
- Task #2 - Reference Architecture
- Task #3 – Demonstration Architecture

Phase 2 – Develop OpenFMB Demonstration System

- Task #4 - Design Test System
- Task #5 - Develop Test System

Phase 3 – Demonstration, Analysis and Reporting

- Task #6 – Conduct Demonstration (lab/field)
- Task #7 – Analysis and Reporting

Tentative Project Schedule

Project Stakeholders

SDG&E Internal Stakeholders

- Electric Transmission and Distribution Engineering Department
- Electric Distribution Operations
- Electric Distribution Planning
- System Protection and Control Engineering
- Information Technology and Security

External Stakeholders

- California IOU ratepayers
- Other EPIC Administrators
- Prospective users of results

Contact

- For questions or interest in the project, please contact:
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