

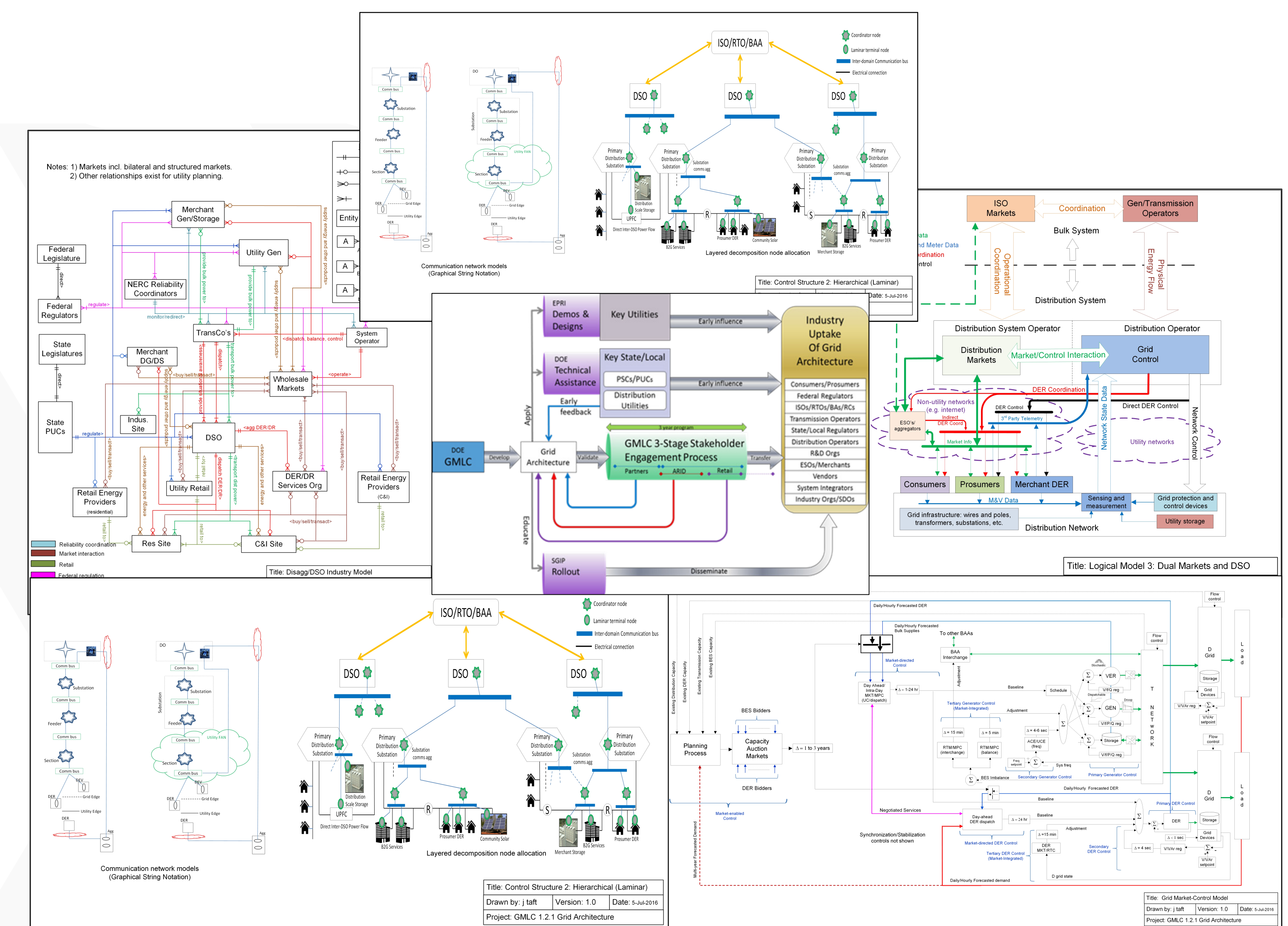
Project Description

Grid Architecture is the application of system architecture, network theory, and related disciplines to the whole grid, seen as a network of structures. This project is building a new stakeholder-driven grid architecture reference set, providing it to industry along with the tools and methods to adapt it to their needs, and coordinating with other GMLC projects.

Expected Outcomes

- Build stakeholder consensus around a DOE-convened vision of grid modernization, expressed as a new set of grid reference architectures.
- Enable superior stakeholder decision-making to reduce risk of poor functionality and stranded investments.
- Provide a used and useful framework for GMLC projects,
- Establish and win industry acceptance for the use of Grid Architecture work products and methodologies for grid modernization.
- Develop tools, architectural depictions, and skills to help the electric industry and extended stakeholders achieve a national consensus for grid modernization.
- Supply a common basis for roadmaps, investments, technology and platform developments, and new services and products for the modernized grid.

Significant Milestones	Date
Architecture Initialization	10/2016
Reference Model Development	10/2016
Component/Interface Model Development	4/2017
Architecture Development	10/2017
Architecture Validation	4/2018
Architecture Completion	10/2018



The Grid Architecture project is providing methods and tools to the electric industry, such as architectural views containing structure drawings, specifications, and component models, that describe the future design of the power grid.

Progress to Date

- Completed lists of emerging trends and systemic issues, and created architectural views list containing structure drawings, specifications, and component models that describe forward-looking design of grid.
- Set priorities for architectural scenarios with external partners.
- Established initial collaboration with 11 other GMLC programs to ensure consistency across programs.
- Developed reference models, structure diagrams for market control mechanisms, and industry structure models for high distributed energy resource grids.
- Created six component/interface models needed to support development of complete architectures.
- Conducted training for SGIP, carried extensive outreach via webinars, presentations, and direct meetings; applied Grid Architecture in the DSPx project and elsewhere; and delivered architecture package to GMLC control theory team.