

# Reference Models for Grid Architecture



# Reference Model Definition and Purpose

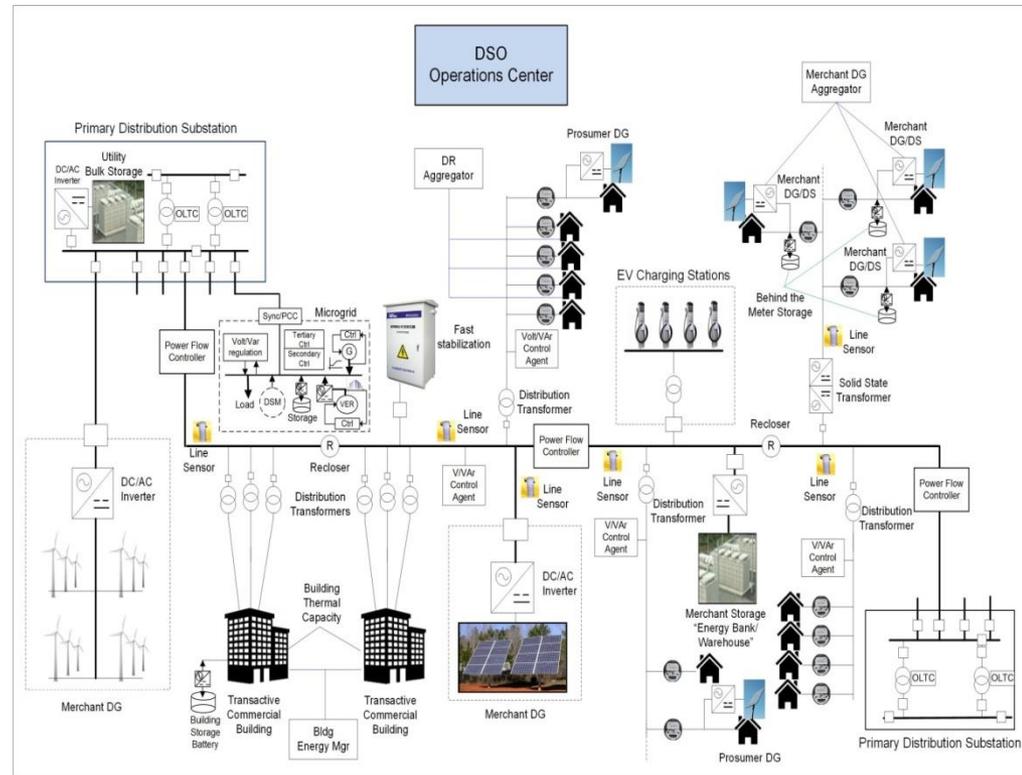
- Reference models are used to depict problem domains from various points of view
- Reference models are not architectures and are not solution designs
- Reference models are used to:
  - Focus problem definitions and requirements
  - Help identify systemic issues
  - Frame stakeholder inputs

# Reference Model Types

- Reference models may be contemporary or future-facing
  - Contemporary – backward-looking model depicting an as-is aspect of the grid; frequently used as the starting point for transition plans
  - Future-facing – depicts a potential to-be state based on emerging trends and stakeholder expectations
- The future-facing model must clearly state assumptions and avoid presumptions about architectural elements yet to be specified

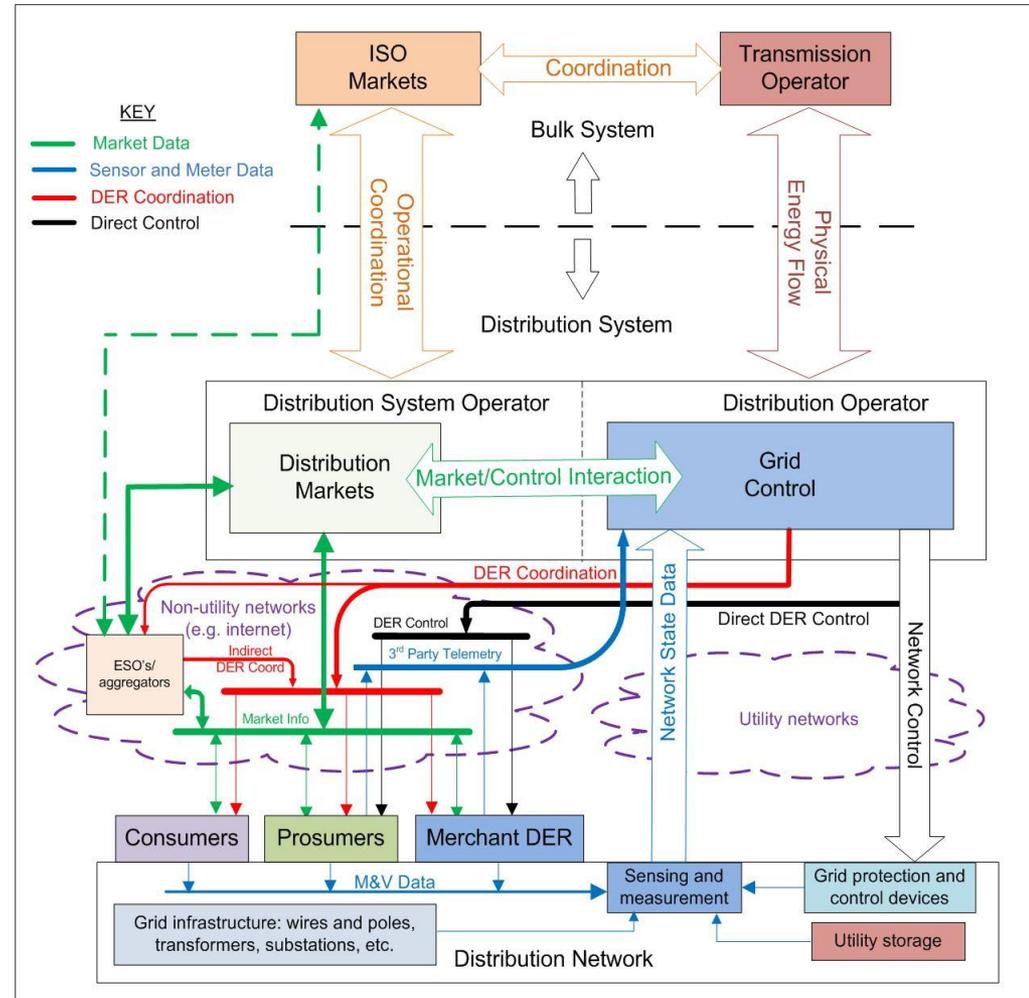
# Example Ref Model Diagram: Physical

- The mixture of schematic and iconic elements helps a variety of stakeholders understand the model
- Uses a mixture of existing state and emerging trend elements



# Example Ref Model Diagram: Logical

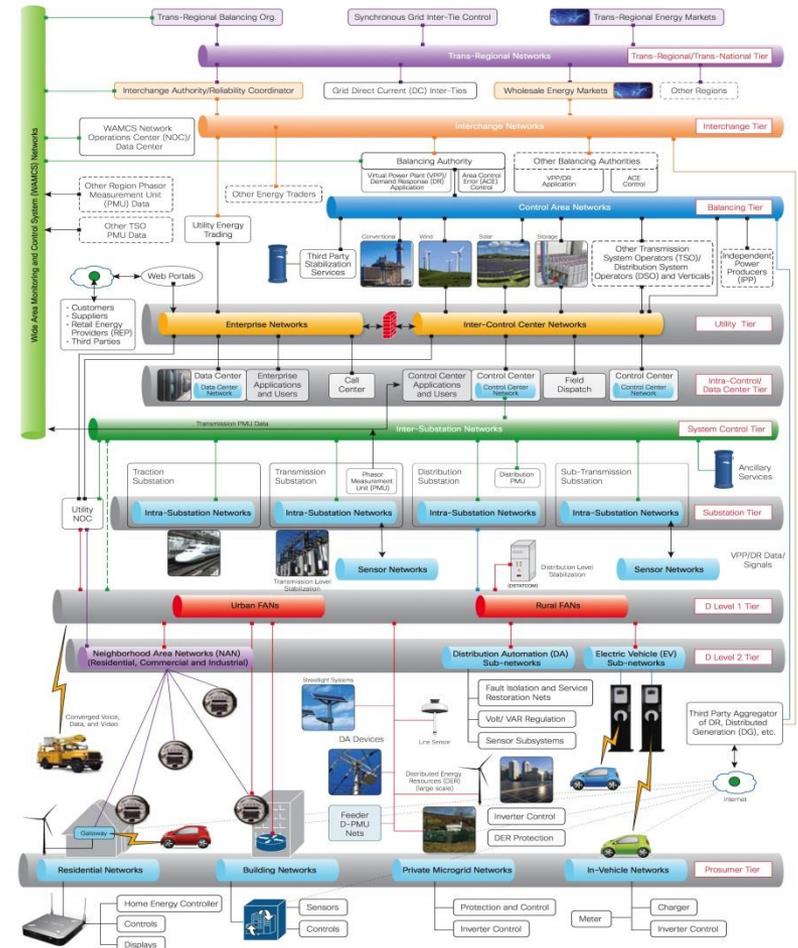
- A combination of industry structure, measurement data flows, and control/coordination flows
- Reflects forward-looking elements
  - Document the sources for those new elements



# Example Ref Model Diagram: Communications

- Model depicts a networking point of view
- Defines networking tiers but does not indicate how any networking is to be implemented
- This work used 53 systemic issues and dozens of use cases in conjunction with this model to develop an architecture

Cisco GridBlocks™ Reference Model



For more information, please visit [www.cisco.com/go/smartgrid](http://www.cisco.com/go/smartgrid)

# Reference Model Detail

- Documents the model and underlying assumptions and applied emerging trends
- Explains the implications inherent in the model
- Provides context for stakeholder input gathering processes
- Details the systemic issues deriving from the model that become inputs to the architecture process