
AREVA

Update on Smart Grid Interoperability Panel (SGIP)

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Committee Structure

- **SGIP Governing Board**
  - **Elected one member per stakeholder group.**
- **SGIP Plenary**
    - **Chair: Steve Widergren**
    - **Technical work happens here.**
  - **Standing Committees**
    - **SGAC – Architecture Committee**
      - **Chair: Ron Ambrosio**
      - **Semantic Model Subcommittee**
        - Chair: Jay Britton
    - **SRTCC – Testing & Compliance Committee**
      - **Chair: Rick Drummond**
  - **DEWGs – Domain Expert Working Groups**
    - **Transmission and distribution**
    - **Home-to-grid, Building-to-grid, etc.**
  - **PAPs – Priority Action Plans**
    - **These are projects with deliverables and end dates.**
    - **Urgent needs are addressed through PAPs.**
    - **There is a process for proposing new PAPs.**

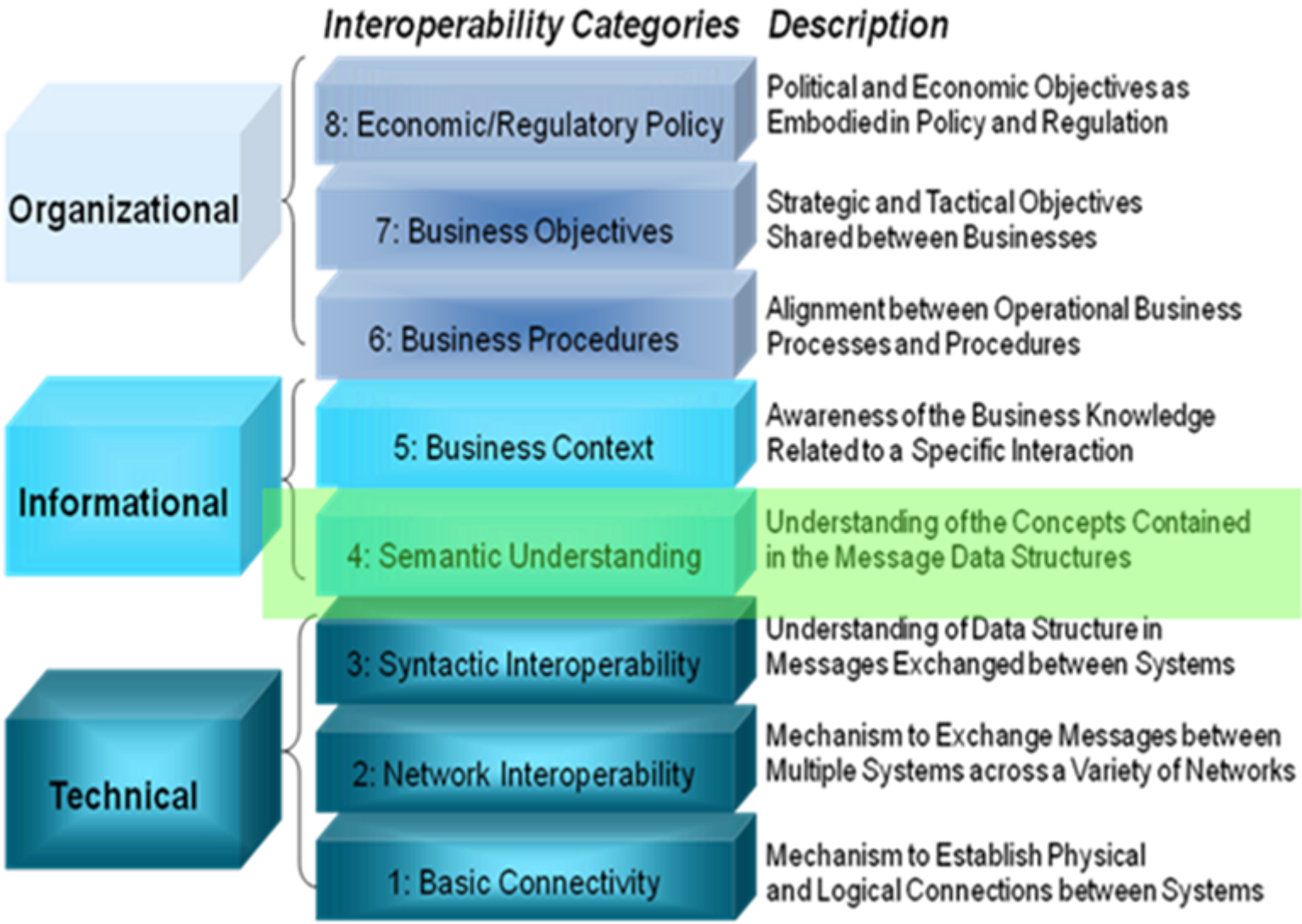
Current Priority Action Plans

- **TC57 PAPs**
  - 7 Electric Storage Interconnection Guidelines
  - 8 CIM for Distribution Grid Management
  - 11 Common Object Models for Electric Transportation
  - 12 IEC 61850 Objects / DNP3 Mapping
  - 13 Time Synchronization, IEC 61850 Objects / IEEE C37.118 Harmonization
  - 14 Transmission and Distribution Power Systems Model Mapping
  - 16 Wind Plant Communications
- **Other PAPs**
  - 0 Meter Upgradeability Standard
  - 1 Role of IP in the Smart Grid
  - 2 Wireless Communications for the Smart Grid
  - 3 Common Price Communication Model
  - 4 Common Scheduling Mechanism
  - 5 Standard Meter Data Profiles
  - 6 Common Semantic Model for Meter Data Tables
  - 9 Standard DR and DER Signals
  - 10 Standard Energy Usage Information
  - 15 Harmonize Power Line Carrier Standards for Appliance Communications in the Home

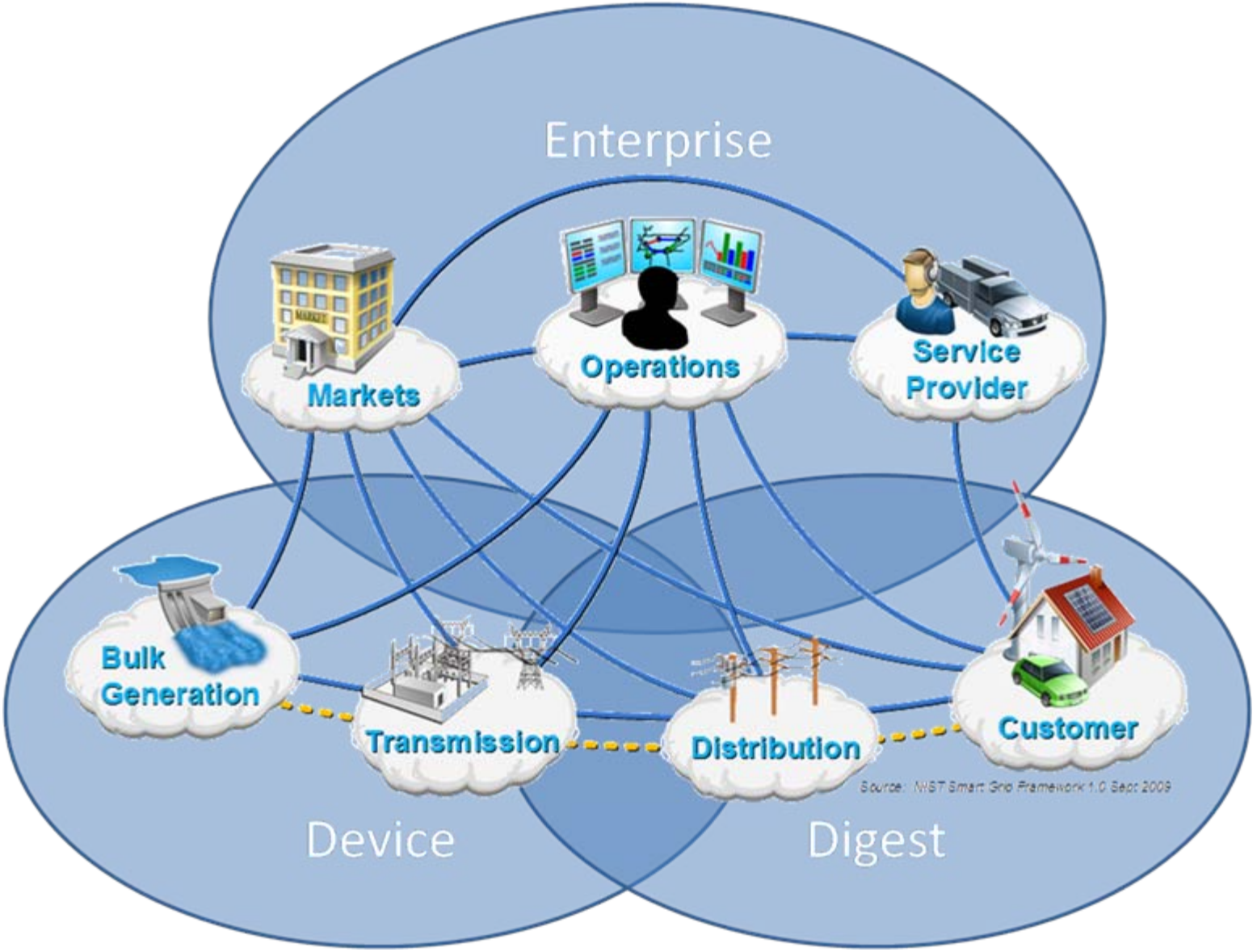
Semantic Model Subgroup
Roadmap from Statement of Purpose

- **Short-Term**
  - Identify existing cdms and their SDOs.
  - Establish a working relationship between the SGAC and each SDO owner of a Smart Grid cdm to assure that standards produced by SDOs collectively are going to achieve the semantic vision.
  - Create a concept paper explaining the benefit *canonical data models* to Smart Grid.
- **Mid-Term**
  - Produce a map that defines the Smart Grid cdms that should govern each interface identified in the conceptual model.
    - One cdm and one SDO should govern a given interface.
    - This should add to the overall SGAC effort to identify, characterize, verify and validate the interfaces broadly described in the conceptual model.
  - Produce an overview of GWAC level 4 and cross-cutting issue “Shared Meaning of Content” that defines how different cdms relate to one another, and how the interfaces between them are managed.
  - Identify and prioritize key data sets.
  - Where appropriate, create PAPs to push Smart Grid objectives.
- **Long-Term**
  - Work with SDOs to create and maintain a consolidated plan and assess progress.
  - Work with the SDOs to evolve versions of the conceptual model that identify data mastership and data flow for key sets of business data.

GWAC Stack


Interoperability Categories
Description
Organizational
8: Economic/Regulatory Policy
Political and Economic Objectives as Embodied in Policy and Regulation
7: Business Objectives
Strategic and Tactical Objectives Shared between Businesses
6: Business Procedures
Alignment between Operational Business Processes and Procedures
Informational
5: Business Context
Awareness of the Business Knowledge Related to a Specific Interaction
4: Semantic Understanding
Understanding of the Concepts Contained in the Message Data Structures
Technical
3: Syntactic Interoperability
Understanding of Data Structure in Messages Exchanged between Systems
2: Network Interoperability
Mechanism to Exchange Messages between Multiple Systems across a Variety of Networks
1: Basic Connectivity
Mechanism to Establish Physical and Logical Connections between Systems

Smart Grid Top Level Conceptual Model



- **In the works…**
  - **Meeting between PAPs and TC57 WGs.**
  - **Focus on semantic standards.**