ConnectivityWeek

Standards Collaboration and the SmartGrid

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Invensys Process Systems

GridWise Architecture Council

EISA2007, Title XIII – What is the Smart Grid?

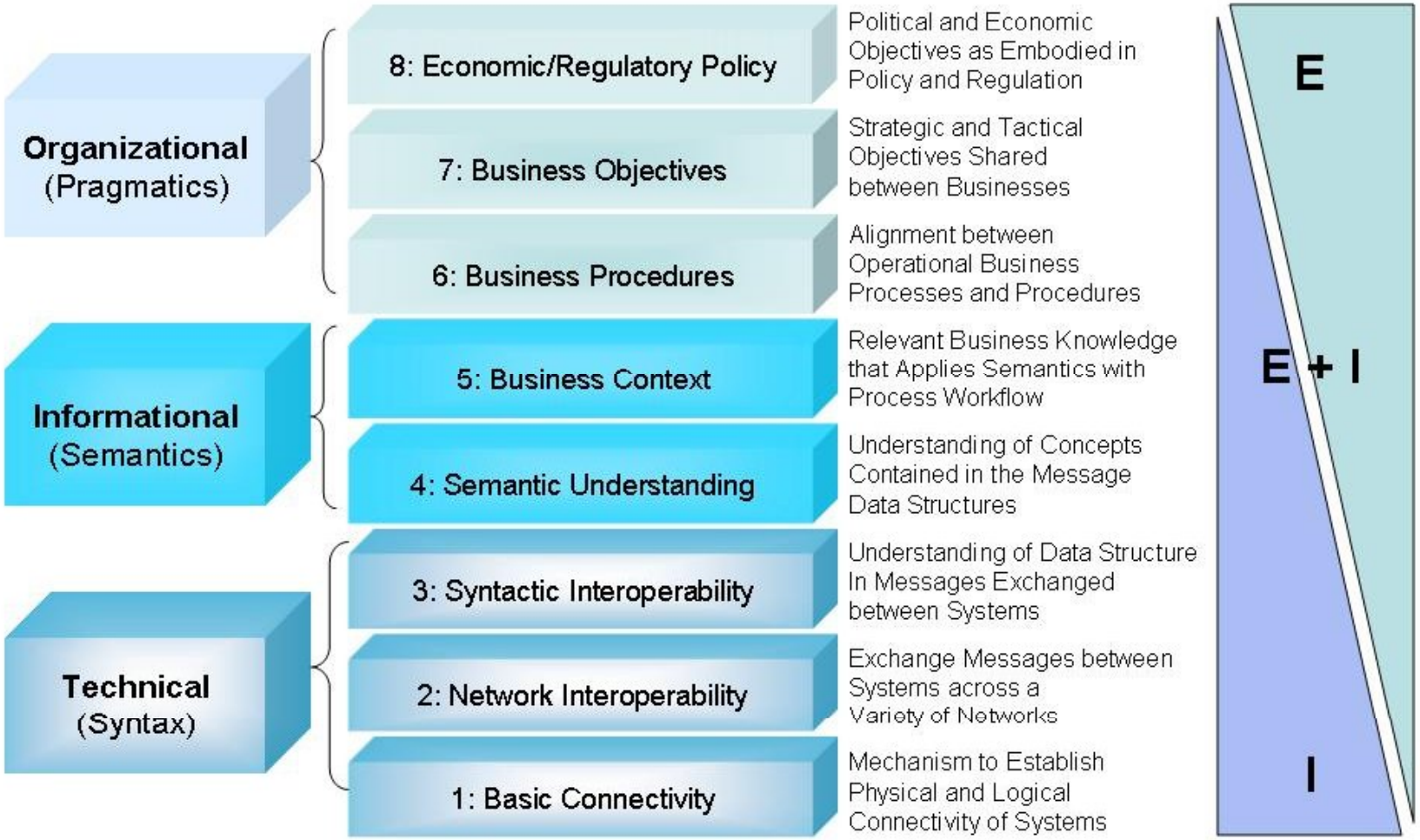
Establish a National policy to support the modernization of the nation's electricity T&D system … that can … achieve each of the following, which together characterize a smart grid:

1. Digital information and controls
2. Dynamic optimization with cyber-security
3. Deployment and integration of distributed resources and generation, including renewables
4. Use of demand response, demand-side resources and energy efficiency
5. Smart technologies for metering, grid communications and distribution automation
6. Integration of smart appliances and consumer devices
7. Advanced storage and peak-shaving technologies, including PHEVs and thermal-storage A/C
8. Give consumers timely information and control options
9. Develop standards for communication and interoperability of appliances and equipment connected to the grid, including grid infrastructure
10. Identify and lower barriers to adoption of smart grid technologies, practices and services

Some Smart Grid Stakeholders

- Central Generation
- Distributed Generation and Renewables
- Transmission monitoring and automation
- Distribution monitoring and automation
- Residential metering and control systems
- Commercial metering and control systems
- Industrial metering and control systems

Smart Grid Interop Categories



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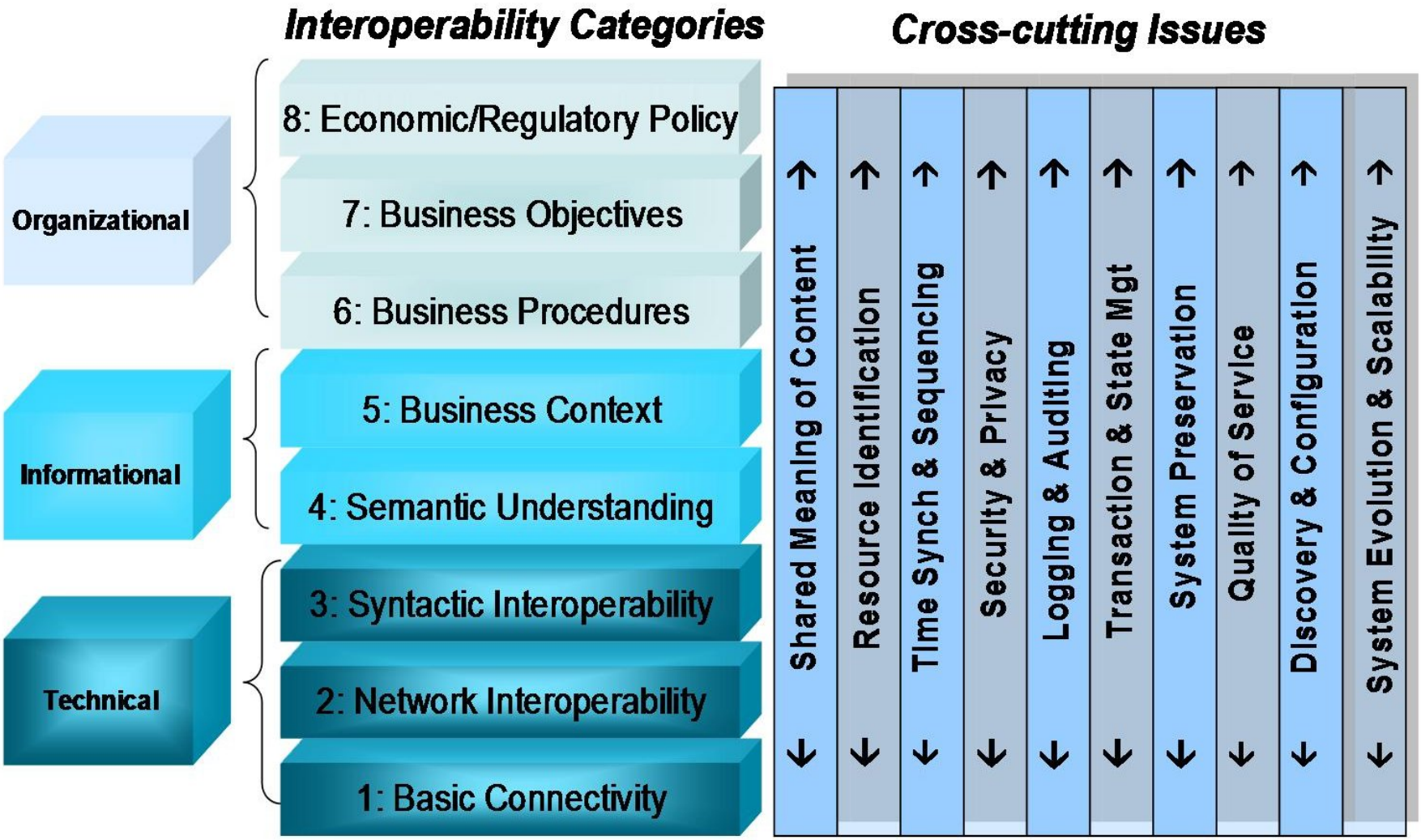
Smart Grid Interop Stacks

Central Generation	Distributed Generation	Transmission	Distribution	Residential	Commercial	Industrial
Business Objectives	Business Objectives	Business Objectives	Business Objectives	Business Objectives	Business Objectives	Business Objectives
Business Procedures	Business Procedures	Business Procedures	Business Procedures	Business Procedures	Business Procedures	Business Procedures
Business Context	Business Context	Business Context	Business Context	Business Context	Business Context	Business Context
Semantic Interop	Semantic Interop	Semantic Interop	Semantic Interop	Semantic Interop	Semantic Interop	Semantic Interop
Syntactic Interop	Syntactic Interop	Syntactic Interop	Syntactic Interop	Syntactic Interop	Syntactic Interop	Syntactic Interop
Network Interop	Network Interop	Network Interop	Network Interop	Network Interop	Network Interop	Network Interop
Basic Connectivity	Basic Connectivity	Basic Connectivity	Basic Connectivity	Basic Connectivity	Basic Connectivity	Basic Connectivity

Add Cross-cutting Issues



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Summary

- The Smart Grid is bringing together stakeholders that have traditionally been isolated
- Interoperability standards have evolved independently.
- The Smart Grid requires that these domains interoperate with a minimum of complexity.
- Collaboration between standards organizations is not a nice-to-have, it's required!