

GridWise Architecture Council

Overview

Mission

The mission of the Architecture Council is to establish broad industry consensus in support of the technical principles that enable the vast scale of interoperability necessary to transform electric power operations into a system that integrates markets and technology to enhance our socio-economic well-being and security.

The Transformed Energy Infrastructure

Competitive Distributed Resources

- Bi-directional power & monetary flow network
- opens door for other distributed resources

Advanced Information Technology

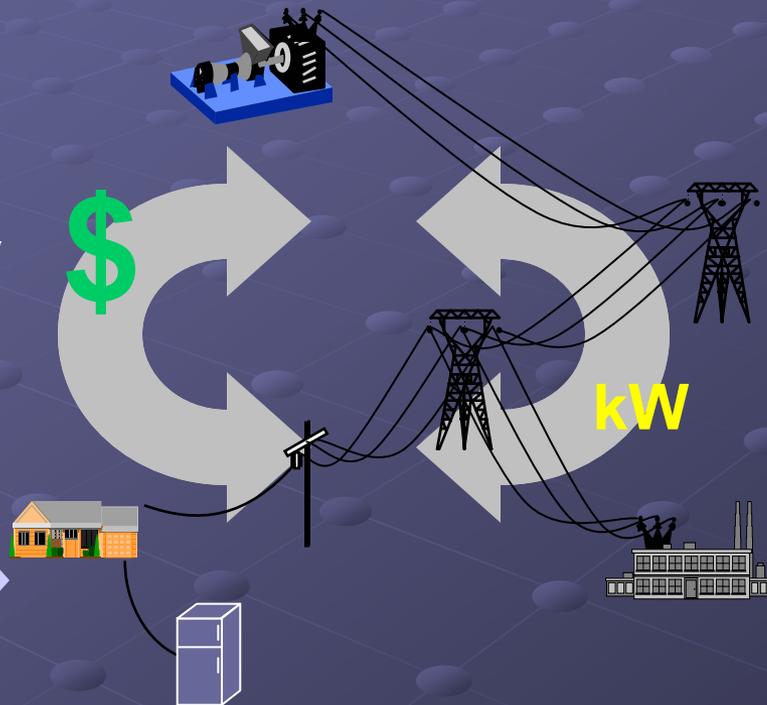
- Collaborative control and operations
- Diagnostics & prognostics
- Market operations & monitoring
- Security and privacy

Utility Restructuring

- Markets provide opportunity and incentive for collaboration & new value streams

Ubiquitous Communications

- Collaborative links cross enterprise boundaries



Goals

- Define a compelling technical vision and clear value story that engenders directed, cross-industry buy-in and action.
- Establish a flexible interoperability framework for large scale integration of intelligent equipment and human interactions.
- Support and promote an electric power industry that's engaged in transforming electric power operations through new cross-industry partnerships, and is open to viable regulatory-supported change.
- Ensure that the framework: (1) supports energy transactions, and (2) enables monitoring of conformance and system health (economic and operational), to alleviate regulatory concerns (both political and societal) in the technology associated with GridWise vision.
- Assure an ample labor pool of properly trained system engineers and business professionals by engaging with the academic and industry communities to define innovative curriculums that combine aspects of power engineering, information technology, economics, and autonomous control sciences.

Vision

- *Transformational*
- *Efficiency through economic transparency*
- *Collaborative environment*
- *Distributed participation and control*
- *Evolvable and extensible*
- *Sustainable*
- *Information security and privacy*
- *Enhanced system reliability and resilience*
- *Safe operation*

Immediate focus items

- Establish a guiding *Constitution*
- Identify current state of the art and future trends
 - Best practices and standards
 - New technologies
- Initiate On-Going Activities
 - Establish key liaisons and collaboration
 - Establish a continual education process
 - Develop an *Activity Roadmap*
- Initiate Staged Activities

Constitution

- ❶ Develop and maintain a common *vision*
- ❷ Develop wide-scale *buy-in* from stakeholders
- ❸ Establish the key *requirements* of the electric system components and supporting IT networks
- ❹ Develop the *governance* of the Constitution and the interoperability architecture for 30 years

Liaisons and Collaboration

- Develop relationships with others to reflect their needs in the deliverables, and enhance the group's influence and mindshare.
- Define projects that illustrate and demonstrate important concepts and principles of the Vision and Goals
- Establish liaisons with related technical groups and standards organizations (CEIDS, oBIX, OASIS...)
- Establish liaisons with industry organizations (GridWise Alliance, ITC, other power, buildings, industrial controls, trading, ...)
- Develop relationships with regulators (FERC, NARUC, states, related industry regulators)
- Establish liaisons with consumers organizations (CECA)

Proposed Staged Activities

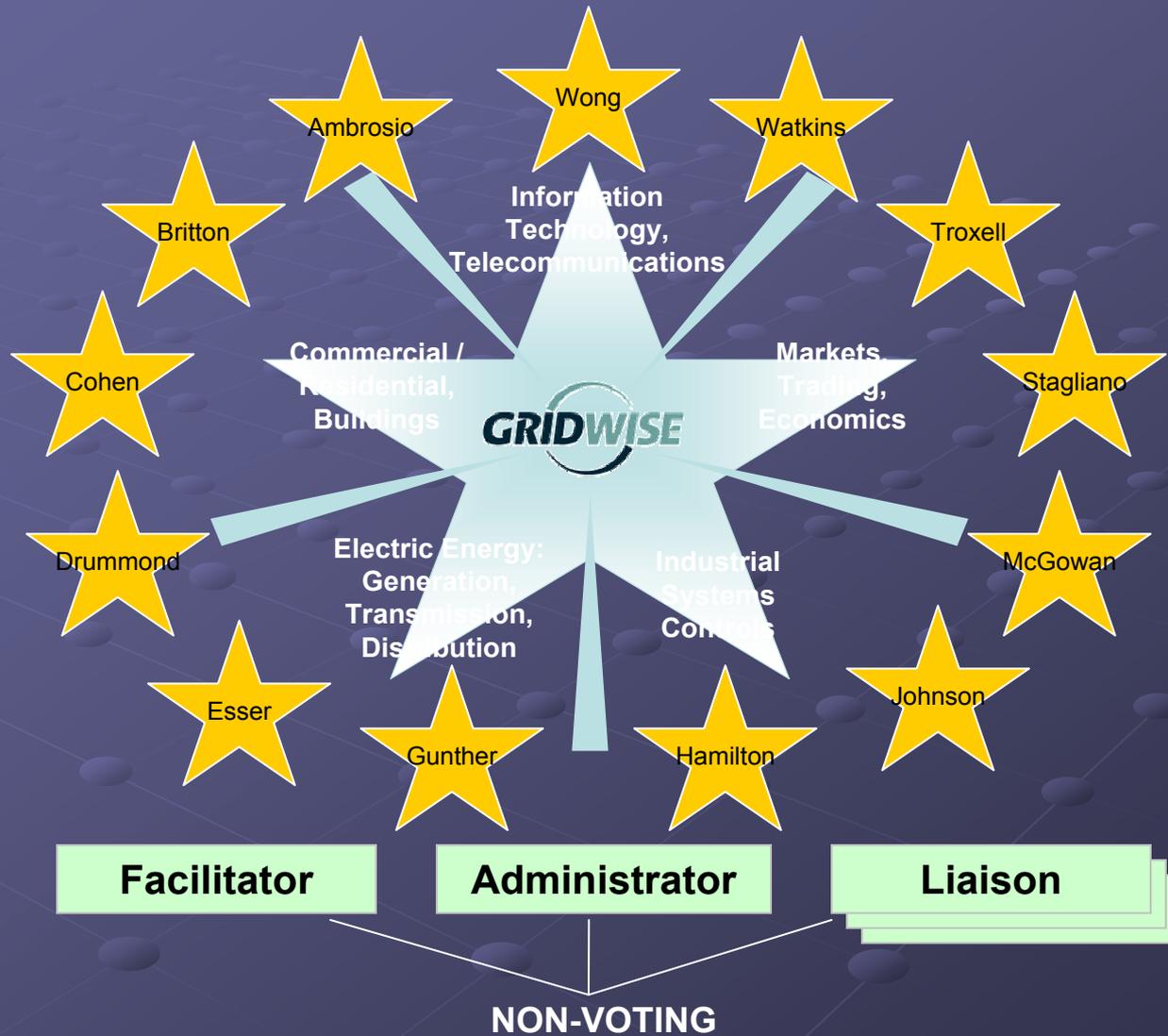
- ❶ Scoping and Familiarization
- ❷ Illustrative Scenario
- ❸ Interoperability Status in Related Fields
- ❹ Refine Stakeholders and Audiences
- ❺ Technical Strategy Requirements
- ❻ Technical Strategy Proposals
- ❼ Technical Strategy Recommendation
- ❽ Adoption

Established Liaisons

(As of November 2005)

- Department of Energy
- GridWise Alliance
- IntelliGrid
- (next ... ITC)

Architecture Council Structure



From 2004-12-04 (v1.0)

Architecture Council Members

- Ron Ambrosio, Manager, Internet-scale Control Systems, IBM T.J. Watson Research Center
- Jay Britton, Principal Architect, AREVA-T&D Corporation
- David Cohen, acting CEO and Chief Technical Officer, Infotility
- Rik Drummond, CEO and Chief Scientist, Drummond Group Inc.
- Albert Esser, Chief Technology Officer, Vice President Technology, Emerson Network Power
- Erich Gunther, Chief Technology Officer, EnerNex Corporation
- Stephanie Hamilton, Distributed Energy Resources Manager, Southern California Edison (SCE)
- Larsh Johnson, President, CTO, eMeter Corporations
- Jack McGowan, President, Energy Control Inc.
- Vito Stagliano, Vice President: Transmission Policy, Calpine Corporation
- Wade Troxell, Associate Dean, College of Engineering, Colorado State University
- Don Watkins, Manager, Operating and Scheduling Practices, Bonneville Power Administration
- Eric Wong, Manager, Business Development & Government Relations, Cummins Inc.