

Smart Grid Development, Interoperability and Coordination

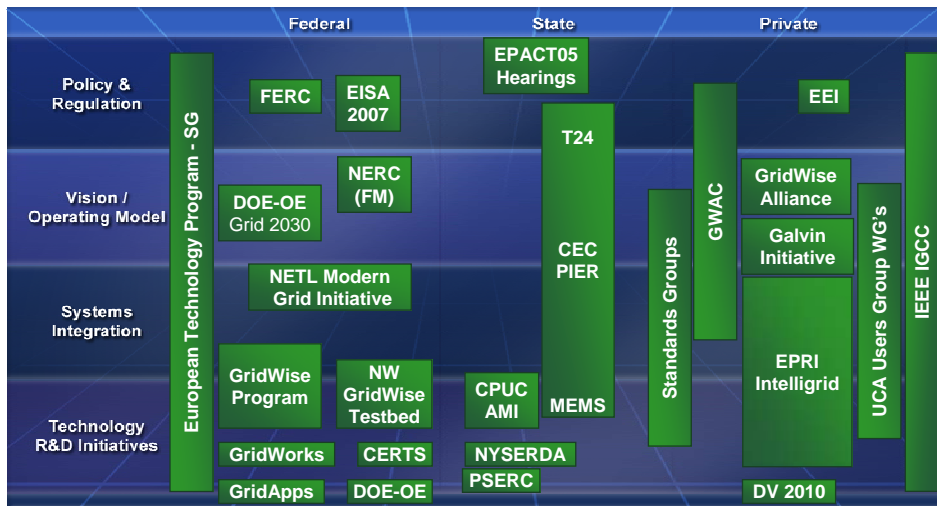
IEEE 2008 T&D Show
 Smart Grid Super Session – SS02
 April 23, 2008

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Vice-chair – IEEE PES Intelligent Grid Coordinating Committee
 Member – DOE GridWise Architecture Council



Developers of the Smart Grid



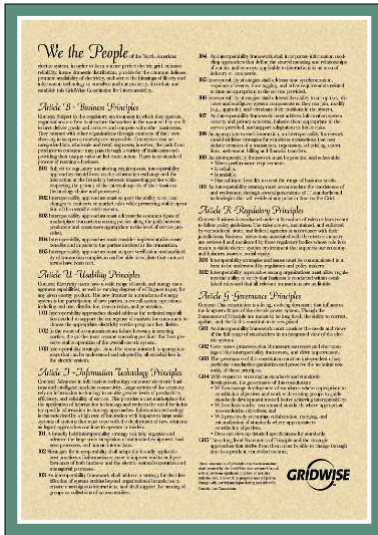
Who's on first?

There is compatibility between the players in Smart Grid space:

- DOE GWAC -- working at 30,000' to develop common principles and an interoperability framework spanning the entire electricity food chain
- EPRI IntelliGrid -- working at 5,000-15,000' to develop utility-centric, technical project frameworks and implementations
- Modern Grid Initiative – Taxpayer funded effort to enable & accelerate grid modernization including providing analytic support to DOE OE supported demonstration programs.
- GridWise Alliance -- coalition of utilities, technology vendors, and others. Active lobbying effort to influence legislation.
- UCA International Users Group – several working groups and task forces working at the application level to develop common requirements and influence the vendor community
- DOE and industry participation in all of these efforts
- IEEE Intelligent Grid Coordinating Committee – new group to act as a clearing house for information and assist in coordinating information exchange among all of the above groups



GWAC Constitution: Interoperability Statements of Principle

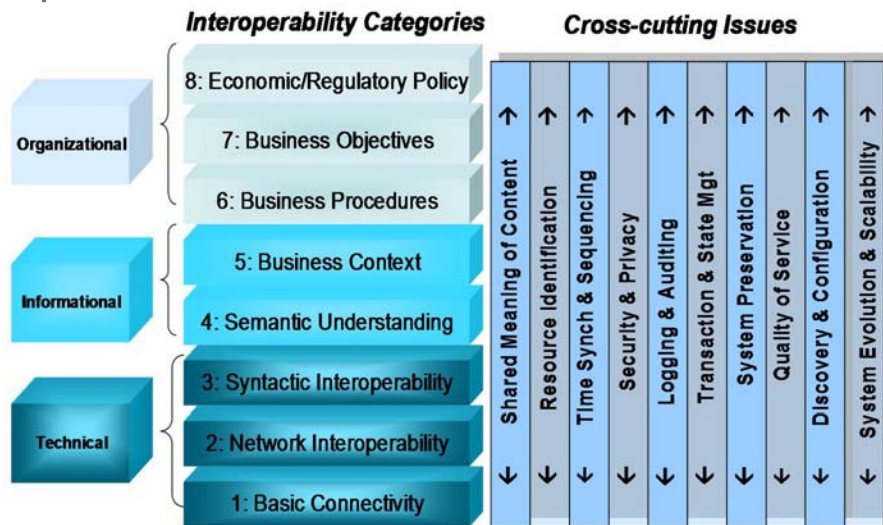


Interoperability Categories



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Cross Cutting Issues



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EPRI Report on Grid Programs

Profiling and Mapping of Intelligent Grid R&D Programs

1014600

Final Report, December 2006

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EDF-R&D
1 avenue du General de Gaulle
92141 Clamart Cedex, France

Principal Investigator
J. Maire

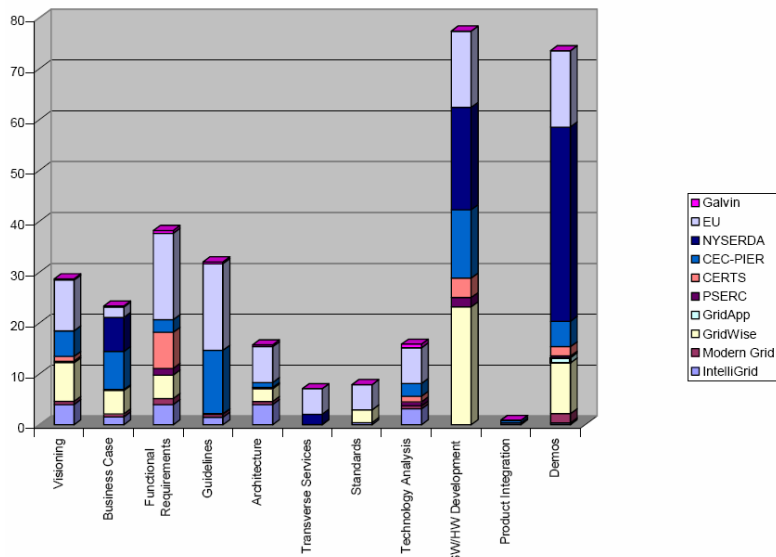
EPRI Project Manager
D. Von Dollen

Updated version in
final review and
editing stage

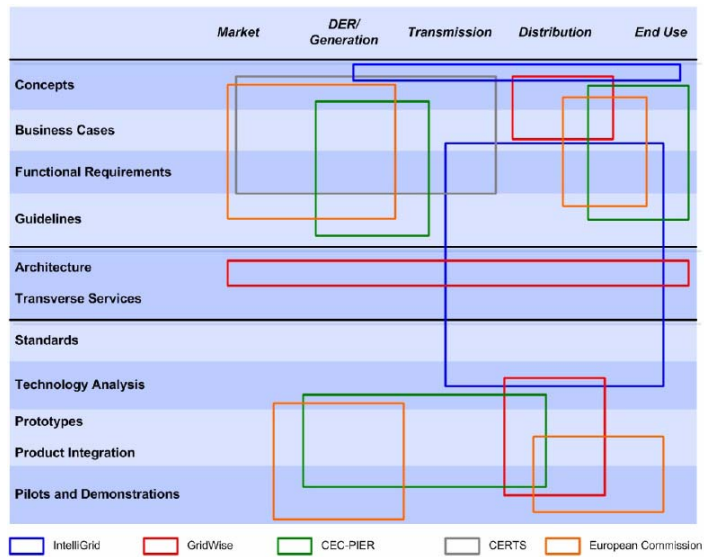
dvondoll@epri.com



Application Sector Funding

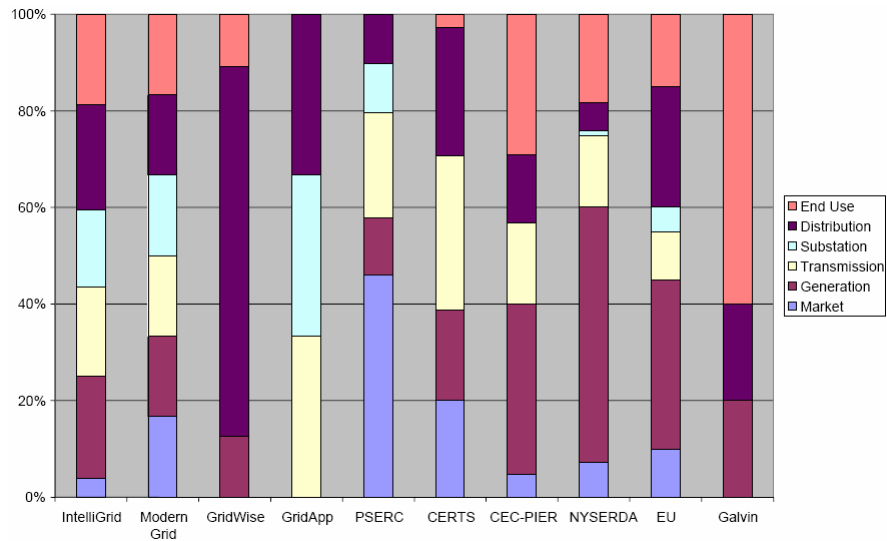


Interrelationships of Grid R&D Programs

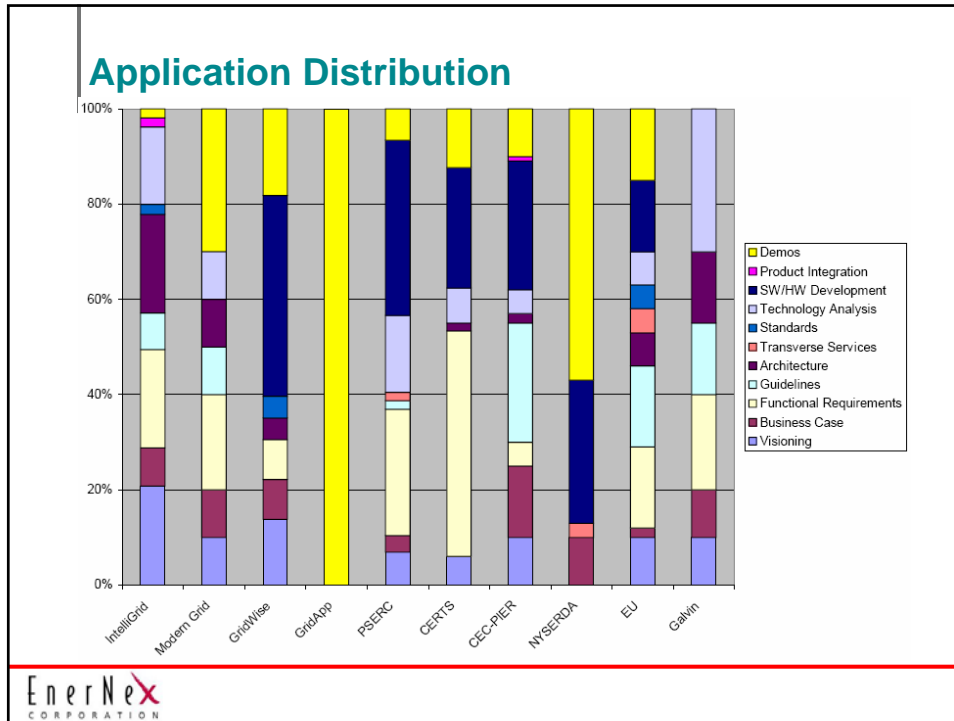


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Utility Sector Concentrations



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- ### Developers of the Smart Grid
- Grid Modernization: a **Non-Trivial** Task
 - Each organization has a constituency, but:
 - Visions are Aligned
 - Goals are Remarkably Consistent
 - Tactics are Complimentary
 - Smart Grid Architecture Concepts are Being *Developed, Adopted, and Applied*
 - Collaboration is Occurring
 - Utilities that **implement** these concepts are the true developers of the Smart Grid
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Speaking of Coordination: IEEE Intelligent Grid Coordinating Committee

- This IEEE PES coordinating committee will identify gaps in the standards and technologies necessary to implement smart grid applications and work toward filling those gaps.
- Rather than duplicate existing smart grid related efforts, the IG CC will facilitate information exchange among all IEEE PES committees, other IEEE societies, and other organizations to find the appropriate venue to perform the actual work.
- The IG CC will also be a key point of coordination with NIST for the purpose of fulfilling the IEEE's role in providing input to the DOE as required in the 2007 Energy Independence and Security Act (EISA 2007)



IEEE IG CC – Work Plan

1. Develop a web based repository of links and summaries of standards and best practices (IEEE, IEC, IETF, etc.) that are key to grid modernization
2. Categorize and analyze the existing work identified above to facilitate mapping smart grid functions to technologies and standards and perform a gap analysis
3. Interact with other organizations or groups that are doing grid modernization research, technology development, standards development, and early implementations, to get their input as to what standards are needed
4. Provide input to DOE to support grid modernization and the Energy Independence Act of 2007 [Sec 1305. (a)(2)]
5. Technical Conference – bring together organizations developing information models for metering and demand response to facilitate coordination



IEEE IG Coordinating Committee Officers

- Chairman:
Don von Dollen, EPRI, Palo Alto, CA,
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- Vice Chairman:
Erich W. Gunther, EnerNex, Knoxville, TN,
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- Secretary :
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Questions



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