



Exclusive industry report

Smart Grid Today's Authoritative Guide to US Interoperability Standards

The industry's only precise, plain-English report on exactly how the process works, what has been decided, what is next on the agenda, how to have your say now and how to keep up with future developments

The smart grid is built on the idea that everything -- a smorgasbord of hardware and software -- will be able to talk to each other, to interact and to efficiently and securely operate together. Without interoperability, the smart grid and every company that seeks to use it or make money from it will struggle, at best, and fail at worst. Without uniform standards and the testing and certification of standards and products, interoperability does not exist and the potential of the smart grid is jeopardized.

Utilities are delaying grid modernization because they cannot afford to be stuck with obsolete technology once standards are set, according to Rik Drummond, CEO of Austin, Texas-based interop testing lab Drummond Group and a Smart Grid Interoperability Panel (SGIP) governing board member. Utility executives shudder at the possibility of what is sometimes called a "forklift upgrade," where the only manufacturer of a proprietary device being used in a deployment goes out of business and the only way to replace faulty units is to remove all the devices and start over with another company's wares. IOUs have reminded us over the years that theirs is a highly dangerous product that they have been delivering with utmost safety for 100 years. In general, experimenting with fancy new technology is often not the most appealing endeavor for these very serious engineers and executives. Add to utilities' concerns the unique visions and sometimes very difficult decisions of their regulators, pushback from ratepayer advocates and last, but not least, having to answer to shareholders for their multimillion dollar spending decisions.

Manufacturers and network developers are postponing full-scale entrance into smart grid product creation for fear their devices or software might fail to meet standards once they are established, thus becoming unsalable. Investors are hesitating to put money into technology that could become obsolete. Add to that the fact that each US state has its own electric industry regulatory body and without the adoption of national smart grid standards, the US could someday see 50 different rules for building smart-grid-enabled appliances, says Brian Markwalter, Consumer Electronics Assn's senior VP of research and standards and a SGIP governing board member.

While the critical importance of interoperability standards is evident, the process that exists today in the US looks at times like a topsy-turvy mess. Hundreds of organizations as diverse as the Institute of Electrical & Electronics Engineers (IEEE) and the Society of Automotive Engineers (SAE) issue

“ An accessible, easy-to-follow and very practical guide. It makes sense of the hundreds of current and potential standards affecting the smart grid. ... Explains how standards are a process and an opportunity -- not must-build mandates.”

Chris King
Chief Technology Officer
EMeter



standards are involved. New standards covering different aspects of the smart grid are being written and promoted nearly every day by one organization or another. They may or may not conflict. They may or may not lead to the creation of equipment and processes that are actually interoperable. An organization trying to pull everything together in the US is the SGIP, created and funded by NIST, a federal agency, under the Energy Independence & Security Act of 2007.

The purpose of the “Smart Grid Today’s Authoritative Guide to US Interoperability Standards” is to provide a guide for the busy and perhaps even confused executive who must make business decisions about the smart grid. In this exclusive industry report, *Smart Grid Today* makes clear and simple a process that is inherently complex. *Smart Grid Today*, the independent journal of the digital energy industry, has devoted hundreds of hours to researching the standards-setting process. We have reviewed thousands of pages of documents, mixed and matched new information with daily reporting on interoperability standards over the last 30 months and conducted interviews with many key players. In “Smart Grid Today’s Authoritative Guide to US Interoperability Standards” you will find the tools you need to navigate the standards-setting process, exactly what is going on, how the process and potential outcomes could affect your business, how you can keep up with future developments and how you can get involved if you decide to jump into standards debates and negotiations.

“ Provides a useful overview on [NIST’s and SGIP’s] roles, relevant working groups and key leadership. A valuable baseline of information.”

Tim Healy
Chief Executive Officer
EnerNOC

Letter from the publisher

Dear Colleague:

At *Smart Grid Today*, we are convinced that every electric utility on earth will eventually deploy smart grid at some point in time -- and today the details of that future are being chipped away at, bit by bit, in standards-setting efforts and processes.

The utilities and other stakeholders will live with the outcomes of the myriad decisions being made and that is why they need to know all they can about the processes underway. Stakeholders should try to take part in the process and make sure their best thinking, their concerns and needs are heard and acted upon. This report, full of surprises and highly actionable information, will bring stakeholders up to speed on exactly what has been done, how the process works, what is at stake and how to get started.

Utilities should know that just their presence at the table will help focus the effort and make for the best possible results. This report is their guide to what to do and what is at stake.

Best regards,

Sam Spencer
Publisher and former editor of Smart Grid Today and long-time editor and reporter of trade news covering smart grid issues



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Key questions addressed in the report:

- Who is involved in the smart grid standards setting process?
- How are smart grid standards set?
- How can I get involved in the standard setting process and how can my business benefit from playing a role?
- What standards have been voted in, why, who owns them and what do they do?
- What standards have the best chance of passing next?
- How can I make business decisions based on interoperability standards?
- What is the SGIP, its structure, procedures and processes?
- What are the current standards, testing and certification system challenges and what can and is being done to overcome them?
- How is conformity different from certification and how do I protect my company from the perils that fall between them?

Who needs this report?

- Utilities
- Energy service providers
- Product designers
- System integrators
- Consultants
- Vendors
- Investors
- Standards development organizations
- Government agencies

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