THE CONDUCTOR
SGIP NEWS UPDATES

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SGIP Members and the Smart Grid Community

Last week SGIP attended **DistribuTECH**, the largest Smart Grid event in the U.S. In San Antonio, SGIP unveiled the case study for **Implementing the CIM**, the first in a series of papers to come out of the Interoperability Implementation Experiences (IIE) developed by SGIP's **Smart Grid Implementation Methods Committee** (SGIMC). A synopsis of the paper is included below. Also featured, was the work of the Smart Grid Cybersecurity Committee (SGCC) and the Smart Grid Testing and Certification Committee (SGTCC). Patrick Gannon, Erich Gunther and John McDonald met with media and industry influencers at the show to discuss interoperability trends for 2014 and SGIP's planned activities for the year.

The **American National Standards Institute** (ANSI) **Energy Efficiency Standardization Coordination Collaborative** (EESCC) has released for a 45-day public comment period the **EESCC Standardization Roadmap V1.0** draft, which outlines 116 recommendations to advance energy efficiency in the built environment through standards and conformance activities. U.S. experts on energy efficiency-related issues, members of the standardization community and other affected stakeholders are **invited to submit input on the EESCC Roadmap V1.0** by March 15, 2014.

Upcoming Events

Feb. 11-12: U.S. – **Colombia Smart Grid Workshop: Partnering to Power the Future** – Bogotá, Colombia

Feb. 9-12: **NARUC Winter Meeting** – Washington, D.C.

Feb. 17-19: **Smart Energy Summit: Engaging the Consumer** – Austin, Texas

Feb. 18: **U.S. Energy Association, The "Smarter" Grid: Today vs. Yesterday** – Washington, D.C.

Feb. 21: **IEEE ISGT Conference** – Washington, D.C.

Feb. 28: **Trade Talk: Smart Grid - Linking U.S. Businesses to Global Smart Grid Opportunities** – Arlington, VA

Mar. 13-14: **Workshop on Measurement Challenges & Opportunities in Developing Smart Grid Testbeds** – NIST, Gaithersburg, Maryland

Regulators and SGIP Work Together for an Interoperable Smart Grid

Smart Grid technologies have the potential to transform the electrical grid, but the correct regulatory framework must be put in place. To advance the regulatory framework, SGIP is working closely with regulatory bodies such as National Association of Regulatory Utility Commissioners (NARUC) and many state utility commissions on establishing best practices and guidelines. SGIP is expanding services to further support regulatory commissions' participation. Activities such as educational webinars, case studies and whitepapers created at the request of regulators, including the recently published ***Broadcast-based H2G Communication Solutions***, provide great ways for commissioners and staff to stay educated, informed and well-connected.

On July 20, 2011, NARUC's Board of Directors adopted **The Resolution on Smart Grid Principles**. The resolution identified 12 principles relating to advanced metering and smart grid deployments, and was adopted for the purpose of promoting the education of NARUC members and identifying issues of concern and interest to state regulators, the Federal government and others.

"Interoperability Standards" was one of these 12 principles. The principle stated that when evaluating Smart Grid investments, state commissions should consider how certified Smart Grid interoperability standards may reduce the cost and improve the performance of Smart Grid projects and encourage participation in SGIP. At present, Ohio Public Utility Commission (OPUC), Michigan Public Service Commission (MPSC), California Public Utility Commission (CPUC), New York State Department of Public Service (NYDPS), Public Utility Commission of Texas (PUCT), Virginia State Corporation Commission (VSCC) and NARUC are participating and observing **members of SGIP**. In January, SGIP hosted a webinar featuring presentations from the Ohio, Michigan and California agencies about how state commissions are using their membership to gain benefits and add value for their constituencies. An archived copy of the webinar may be accessed on **SGIP's website**.

SGIP also offers **Stakeholder Category 19** for "State and Local Regulators." Category 19, led by Commissioner Nick Wagner, has engaged in a number of activities that support the specific needs of

regulators. This includes a **webinar** held on Jan. 23, 2014, sponsorship of the **NARUC Winter Meeting** (Feb. 9-12, 2014), and special outreach events that inform the regulatory community of the opportunities SGIP offers. Regulators are also collaborating with SGIP to help address Smart Grid concerns through initiatives that include:

• The **Smart Grid Cybersecurity Committee** (SGCC) identifies the potential security and reliability impact of standards that affects utilities and consumers in the case of a cybersecurity attack.
• The **SGCC Privacy Subgroup** works to protect consumers' privacy to prevent "snooping" and unnecessarily high rates or unfair pricing practices.
• The **Smart Grid Implementation Methods Committee** develops and shares best practices, lessons learned and implementation experience case studies, and provides an online tool to help navigate the hundreds of standards used in Smart Grid deployments.
• The **Business & Policy Domain Expert Working Group** assists business decision-makers and legislative/regulatory policy makers in implementing Smart Grid policies sensitive to interoperability.
• **Green Button (PAP-20)** is promoting a common data interface standard to enable consumers to have access to their own energy usage information in a downloadable, easy-to-use electronic format, offered by their utility or retail energy service provider.

SGIMC's IIE Program Series: DTE Energy Case Study on Implementing IEC's Common Interface Model

SGIP's Implementation Methods Committee (SGIMC) launched the Interoperability Implementation Experiences (IIE) program series in late 2013 to address the question of how interoperability actually happens. The program recognizes that interoperability will happen in practice rather than in theory, and that no single deployment will be "optimized" for industry-wide circumstances. The emphasis is on real-world experience with an effort to extract 'lessons learned" (both good and bad) for the benefit of others.

First Case Study Published

The first case study has been completed and **posted on the SGIP website**. It presents DTE Energy's implementation of the International Electrotechnical Commission (IEC) Common Information Model (CIM). Starting in 2005, DTE Energy sought to address the limitations of utilizing point-to-point integrations. DTE Energy confirmed that installing Advanced Metering Infrastructure (AMI) was necessary to meet their business and regulatory requirements. It would be done in a way that was scalable, maintainable, secure and able to evolve with technology change.

Critical Success Factors

The success realized by DTE Energy as described in this case study is built incrementally from three distinct but related concepts that build on the aforementioned guiding principles:

1. Adoption of Service Oriented Architecture (SOA) using an Enterprise Service Bus (ESB)
2. Development and pervasive use of an Enterprise Semantic Model (ESM) – standard names for standard things
3. Utilization of the IEC CIM as the basis for their ESM

Value Created

There has been significant value added in the use of the CIM and the ESB by lowering the distance to integrate:

1. Time to delivery – cost savings
2. Staffing agility – schedule impacts
3. Potential external interoperability

The enterprise has seen the time to delivery of services using the CIM and the ESM decrease – in many cases by a ratio of four or five to one.

SOA and the use of a common model reduce costs. However, there were few business cases that one could point to validate this claim. The DTE Energy experience is one such case. The overall experience was valuable, provided cost savings, lowered time to delivery and lowered cost of ownership. The use of the CIM within the SOA facilitated the creation of a framework and a foundation for greater integration agility and the ability to leverage reusable integration patterns. The full paper is available for download **here**.

SGIP in the News

Linux Foundation takes one giant step forward with the All Seen Alliance and the Internet of Things
Opensource.com
By Andy Updegrove
Jan. 21, 2014

So now let's look at what it takes to make an Internet of Things possible, comprising the wares and services of many different vendors, and types of vendors. It represents roughly the same goal—to create another type of local area network—but this time, there's no router. Each thing is its own router, and for every other neighboring thing as well, passing along messages from device to device, and perhaps

eventually back out to the Internet. That requires more than just a single interoperable communication standard, and more than just devices that can send and receive signals. It also requires all sorts of different types of companies, and not just laptop vendors, to make the investment and take the risk to enable their respective products.

Granted, it's a pretty cool concept—creating another, more low level, more intimate Internet to the one we already have. But it takes more than a cool concept to make all this happen.

The old way would be to create a framework of standards that would describe use cases allowing different types of vendors to find the standards they would need in order to achieve the common goal (for an example of this approach, check out another one of my clients, SGIP.org, which is creating the standards to support the Smart Grid).

Read more **here**.

Lessons learned from DTE's interoperability experience
FierceEnergy
By Barbara Lundin
Jan. 27, 2014

The Smart Grid Interoperability Panel's (SGIP) Implementation Methods Committee (IMC) has released the first case study in its Interoperability Implementation Experiences (IIE) series in conjunction with DistribuTECH. The case study addresses the question of "how is interoperability actually happening?" and focuses on the real-world experience of DTE Energy and the lessons they have learned.

To answer this question, IMC launched the Interoperability Implementation Experiences (IIE) program series, which recognizes that interoperability will happen in practice rather than in theory, and that no single deployment will be "optimized" for industry-wide circumstances.

Read more **here**.

Laying the foundation for a 21st century grid
Interoperability remains the focus for SGIP 2.0, Inc.
Electric Energy T&D
By John McDonald
Jan. 27, 2014

It is difficult to overstate the importance of interoperability. It lies at the heart of complex systems with many components, all of which must work together. The greater the complexity, the greater the importance of interoperability. Need I mention interoperability’s role in forward and backward compatibility? Small wonder it’s critical to the emerging smart grid and the nascent Internet of Things.

That’s the functional, technological side. On the commercialization and market side, of course, interoperability produces economies of scale, spreading benefits and reducing prices. In contrast, custom solutions are expensive fixes without much of a future.

Anyone not directly involved in the heavy lifting needed to achieve interoperability might be lulled into thinking about the topic like that old saw about the weather – everyone's talking about it, but nobody's doing anything about it.

Rest assured that the most pressing needs for interoperability are being addressed as you read this article, orchestrated by the Smart Grid Interoperability Panel 2.0, Inc. (SGIP 2.0). Because it is part of SGIP 2.0's core mission to keep the power industry informed of its progress, and as current board chair of this nonprofit effort, I'd like to provide an update as we begin a new year. Even as we delve into the arcana of smart grid standards in order to achieve interoperability, so we must explain our work in lay terms to our members and the broader power industry to garner support for our shared goals.

Read more **here**.

SGIP 2.0 and the near future
Intelligent Utility
By John D. McDonald
Jan. 31, 2014

At this key juncture in its brief history, SGIP 2.0, Inc., has become fully operational as a private entity focused on critical power industry issues most relevant to our stakeholders, which include utilities, regulators, equipment vendors and integrators.

The challenges we're addressing are familiar to everyone involved in grid modernization: cyber security, the integration of renewable energy resources, gaps in standards, harmonization of global standards, consumer engagement and transactive energy—to name just a few.

SGIP 2.0, Inc. doesn't need a crystal ball, however, to see 2014 with a degree of clarity. We've developed a strategy and structure to make tangible progress on power industry challenges—progress that will plant the seeds of value creation.

Read more **here.**