

NIST Smart Grid and CPS Newsletter

July/August 2016

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Upcoming Meeting: NIST Workshop on “Dimensions of Trustworthiness,” August 30-31, 2016

“Trustworthiness” is a critical concern for stakeholders working with Cyber-Physical Systems (CPS) and the Internet of Things (IoT). In the recently published [CPS Framework](#) from NIST’s Smart Grid and CPS Program Office, “trustworthiness” is described as the integration of safety, security, resilience, reliability, and privacy in these systems.

To examine this concept more closely, NIST is hosting a workshop—“Exploring the Dimensions of Trustworthiness: Challenges and Opportunities” (August 30-31, 2016, at the NIST campus in Gaithersburg, MD). This workshop will convene thought leaders from industry, academia, and government with expertise in engineering, physical, and information sciences.

Presentations and discussion sessions will focus on the integration of approaches from engineering to the conceptualization, realization, and assurance of safe, secure, and effective CPS and IoT systems. The workshop is open to all those with an interest in trustworthy solutions linking the digital and physical worlds.

For the draft agenda and to register for the workshop, visit the [workshop’s webpage](#). **Please note that the registration deadline is Tuesday, August 23, 2016.**

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Upcoming Meeting: Transactive Energy Challenge Phase I Capstone Program, September 20-21, 2016

The NIST Transactive Energy Challenge Phase I Capstone Program—to be held in Gaithersburg, Maryland, September 20-21, 2016—is the culmination of the first year of team activities for the Transactive Energy Challenge (TE Challenge). This face-to-face meeting will provide an opportunity for team members and others interested in TE to review what’s been accomplished in the first year of the challenge (Phase I). It will also serve as a planning session and look ahead for Phase II.

The Capstone Program on September 20-21 is open to all those with an interest in transactive energy, including those who might be interested in joining the TE Challenge for Phase II. For the draft agenda and to register for the event, please visit the [Capstone Program's webpage](#).

The TE Challenge—more formally called the [NIST Transactive Energy Modeling and Simulation Challenge for the Smart Grid](#)—brings researchers and companies with simulation tools together with utilities, product developers, and other grid stakeholders to create and demonstrate modeling and simulation platforms while applying TE approaches to real grid problems. The products of the challenge will help the industry better understand the potential for TE and create a path for real-world trial implementations.

During Phase I, [seven teams were formed](#) and have been working on various aspects of the issue. Each of those teams will report on their progress at the Capstone Program. Other presentations will discuss TE opportunities and challenges from a variety of key perspectives—utility, regulator, vendor, and other stakeholders. Also reporting at the meeting will be the Tiger Team that has been working on a co-simulation reference architecture design.

Looking ahead to Phase II, two outreach meetings are being planned for this fall (Silicon Valley in October and New York City in November) to connect with the companies advancing new business models built on more transactive concepts, along with utilities and regulators. Following those meetings, in the winter, Phase II of the challenge will be formally launched.

If you would like to learn more about the TE Challenge, please visit the [TE Challenge Collaboration Site](#). Further details about the Challenge are also outlined in "[Transactive Energy Getting Real? Progress with the TE Challenge](#)," a February 2016 webinar.

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Upcoming Meeting: Grid Modernization Interoperability Strategic Vision Meeting, September 27-28, 2016

The Grid Modernization Laboratory Consortium (GMLC)—launched by the Department of Energy (see more information [here](#) and [here](#))—is inviting stakeholders to a meeting to help develop a strategic vision for interoperability. The day-and-a-half meeting will be held September 27-28, 2016, in Chicago, IL.

This initial stakeholder meeting is part of a three-year project by four national laboratories to advance the adoption of interoperable products and services in the energy sector. Key preliminary objectives are to align stakeholders on a strategic vision and to develop measures and tools to support interoperability.

As described in the meeting announcement: "If you have an appreciation of the role of systems integration in grid connectivity, a working knowledge of interoperability and the principles behind it, and strong connections with other industry stakeholders seeking to improve the integration of distributed energy resources and to advance grid modernization, we encourage you to please SAVE THE DATE – September 27-28, 2016. Follow-up information about the venue, agenda, and meeting objectives will be available soon."

As a partner in DoE's Grid Modernization Initiative, NIST is pleased to support this effort.

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Upcoming Meeting: NIST/IEEE Workshop on Timing Challenges in the Smart Grid, October 26, 2016

In the North American power grid, where each interconnection stretches over a large spatial expanse, achieving correct timing can be challenging. Timing needs include one microsecond synchronization to a traceable time and frequency reference for data fusion. Issues include, but are not limited to, GPS and communication infrastructure as well as concerns for reliability and resilience.

To address these subjects, NIST and IEEE have organized a workshop on Timing Challenges in the Smart Grid (Gaithersburg, Maryland, October 26, 2016). The goals of the workshop are to clearly identify and analyze:

- the practical challenges that are currently being experienced in wide-area time synchronization in current measurement and control deployments; and
- timing-related barriers that prevent the power industry from realizing future measurement and control technologies.

[Registration](#) is open for the workshop, and a [full list of speakers and abstracts](#) and an [updated agenda](#) are available online.

Doug Arnold, the IEEE 1588 Precision Time Protocol co-chair, will be chairing the event. Utilities planning to provide their perspectives on application precision timing requirements, experiences, and challenges include Bonneville Power Administration, Dominion Virginia Power, Pacific Gas and Electric, and Southern California Edison. Workshop organizers plan to initiate discussion on potential solutions and evaluate the need for standard and metrology enhancements. The outcomes of the workshop will inform a NIST report summarizing the challenges and potential solutions for wide-area clock synchronization.

For additional details about the workshop and its organizers, please visit [the workshop webpage](#).

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Upcoming Meeting: Smart Grid Interoperability Panel's Annual Conference, November 7-10, 2016

[Registration is now open for SGIP's 2016 Annual Conference](#), which will be held November 7-10, 2016, at the Capital Hilton in Washington, D.C. Billed as the 2016 Grid Modernization Summit, the theme is "Accelerating Transformation." The program will include utility, vendor, and industry senior executives, FERC, government, regulators, national labs, and consultants. NIST staff members continue to participate actively in SGIP technical sessions and will be contributing to the conference.

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