Welcome and Overview of Smart Grid Interoperability Framework 4.0

Avi Gopstein

Engineering Laboratory
NIST Smart Grid & Cyber-Physical Systems Office

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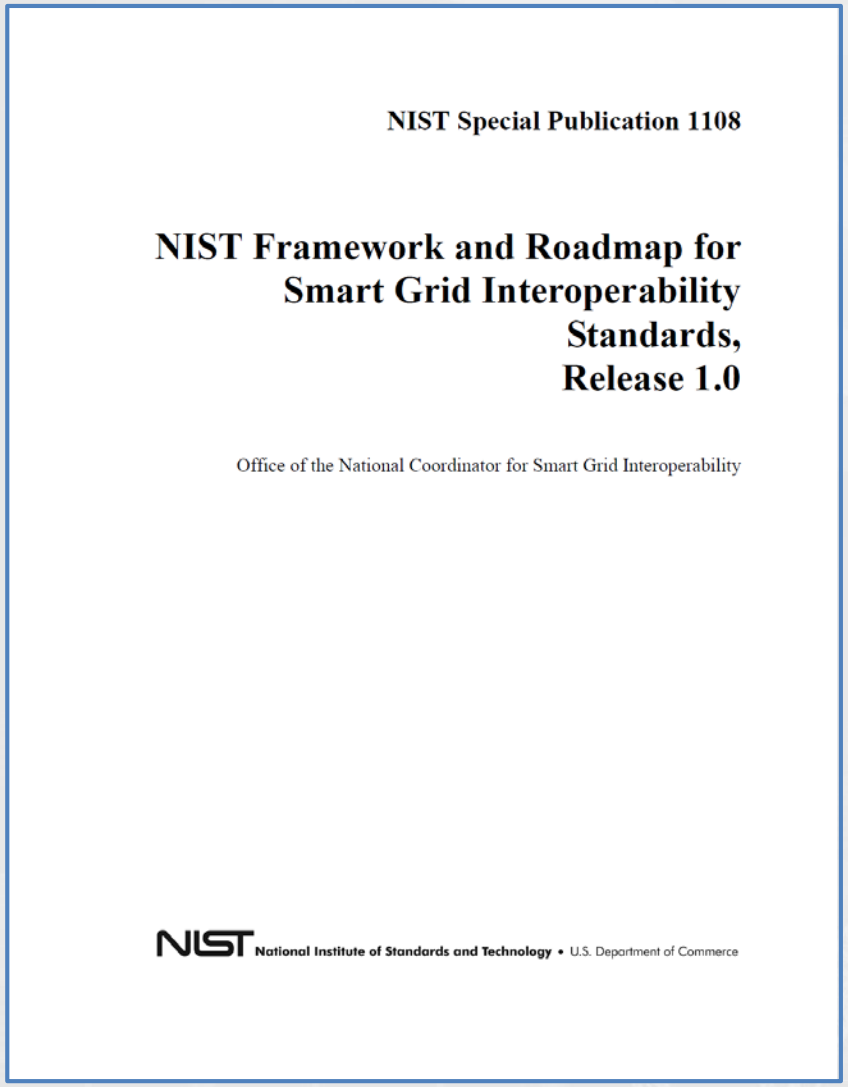
Energy Independence and Security Act

NIST has *"primary responsibility to **coordinate** development of a **framework** that includes protocols and model standards for information management to achieve **interoperability** of smart grid devices and systems…"*

Interoperability Frameworks to date


NIST Special Publication 1108

NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 1.0

Office of the National Coordinator for Smart Grid Interoperability

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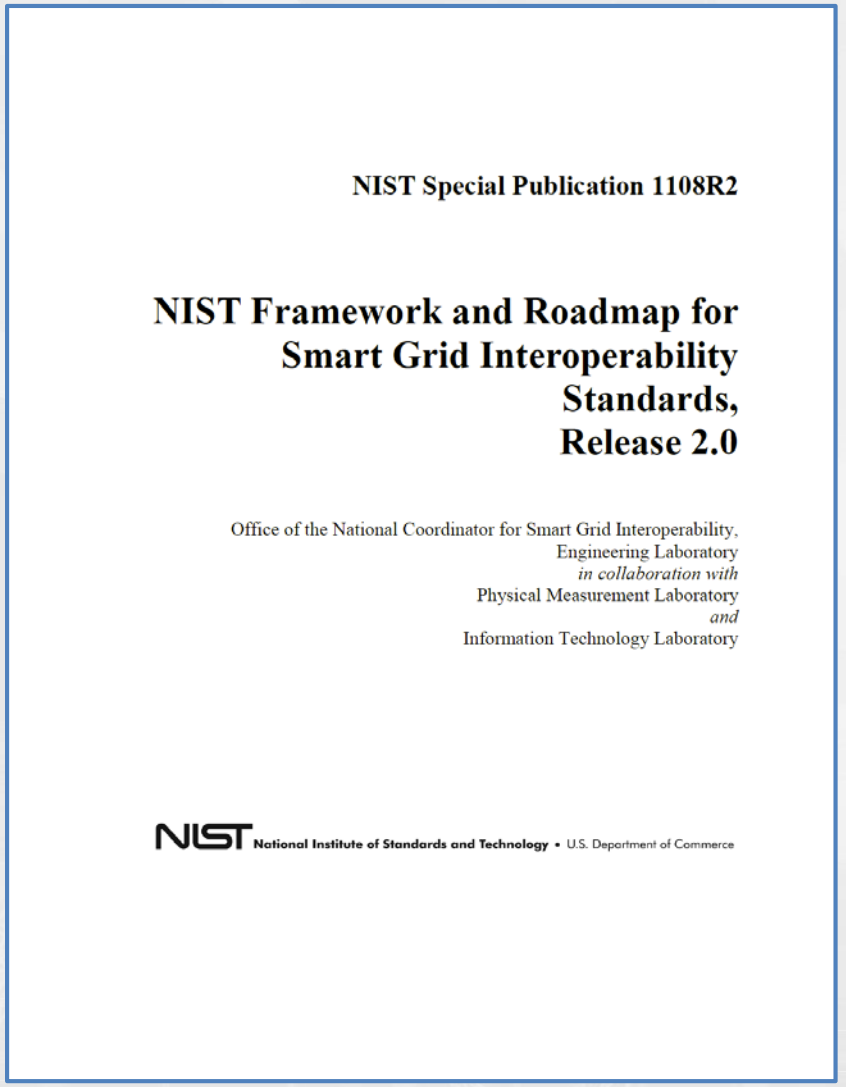
2010


NIST Special Publication 1108R2

NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 2.0

Office of the National Coordinator for Smart Grid Interoperability,
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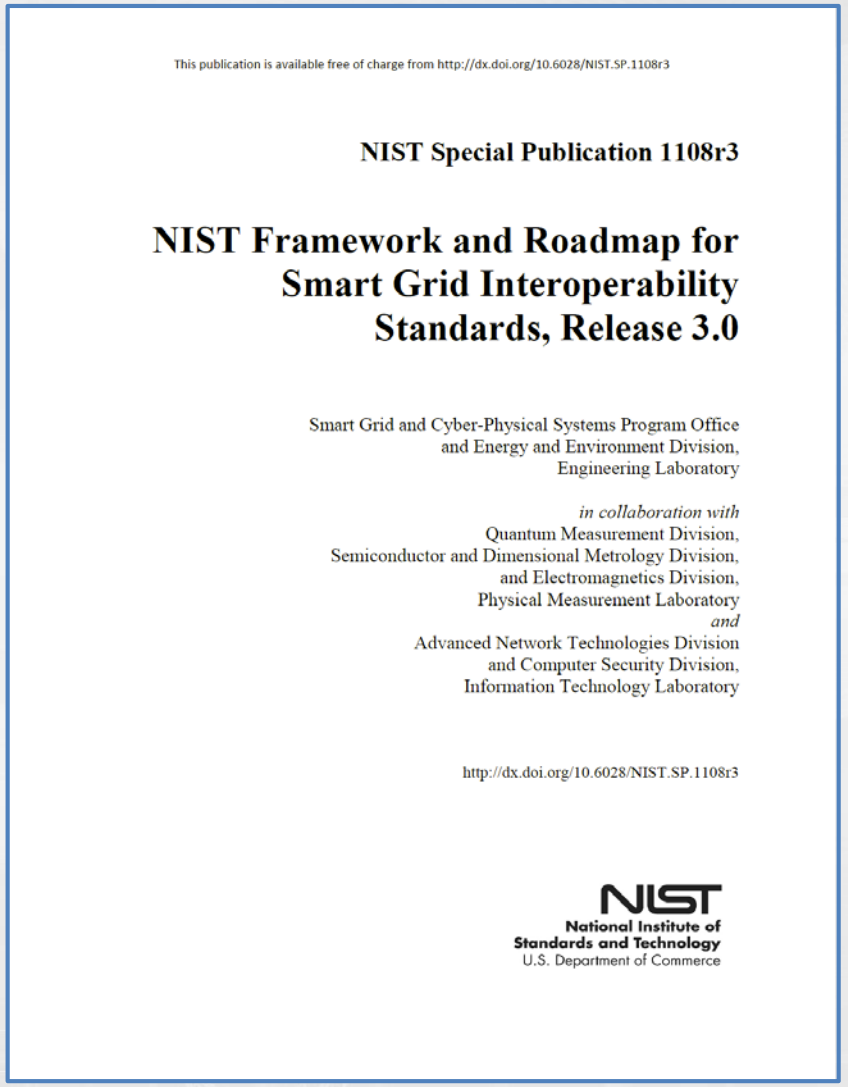
2012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NIST Special Publication 1108r3

NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 3.0

Smart Grid and Cyber-Physical Systems Program Office
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Engineering Laboratory

in collaboration with
Quantum Measurement Division,
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and
Advanced Network Technologies Division
and Computer Security Division,
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2014

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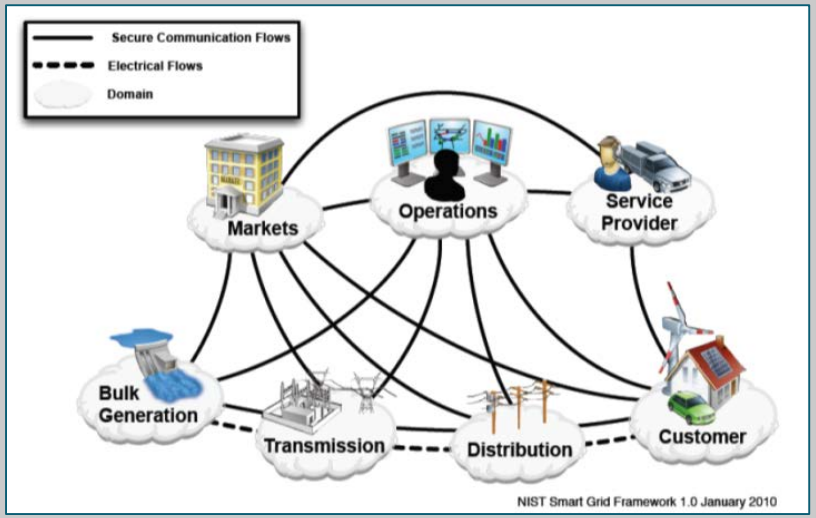

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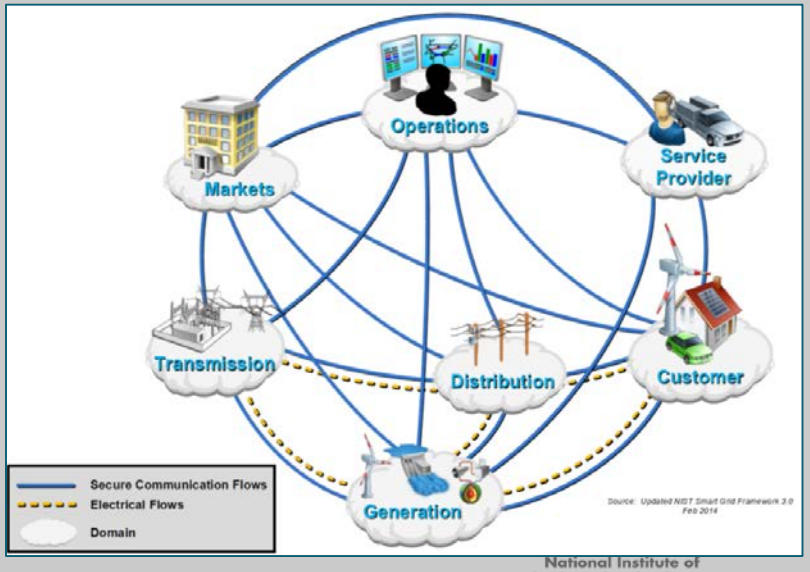

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Motivations / Themes

Motivations

- Technology is advancing rapidly
- Evolving capabilities bring:
  - New opportunities
  - New concerns / challenges
  - Structural change
- Modular and scalable technologies enable:
  - Disaggregation of system physics
  - Hyper-local optimization
  - A new set of cascading concerns
- Distribution models diversifying
- Interoperability more critical than ever
- Interoperability more challenging than ever

Framework 4.0 Themes

- Structural changes are occurring in the grid
- System complexity is increasing
  - Interoperability is a critical element of modern grid function
- No single architecture is correct
  - Common trends
  - Unique conditions
- Grid architectures affect:
  - Operations
  - Economics
  - Cybersecurity
- As actors take on new roles within the system and new economic forces emerge, interoperability gains new dimensions
  - Testing & Certification

Workshop Overview

Cuong Nguyen

Engineering Laboratory
NIST Smart Grid & Cyber-Physical Systems Office

July 9, 2018

Workshop Goal

To explore underlying drivers for the current state of smart grid interoperability testing and certification, and examine interoperability profiles for smart grid standards as a means to accelerate the development of testing and certification programs.

Key Questions:

- What is limiting the development and use of T&C in the smart grid ecosystem?
- What essential elements are needed to formulate an interoperability T&C program?
- How would you prioritize operational interfaces for T&C development?

Agenda

9:15 AM	Keynote – Jason Handley
9:45 AM	Panel on Value Proposition for Testing & Certification (T&C)
	Moderator: Bill Colavecchio
	Panelists: Ron Bernstein, Ravi Subramaniam, Alvin Razon, and Howard Self
10:45 PM	Break (refreshment provided by IEEE-SA)
11:00 AM	Breakout Session 1: Challenges for Interoperability T&C
12:15 PM	Lunch (on your own)
1:30 PM	Breakout Session 2: Interoperability Profiles for T&C Program Development
2:45 PM	Break (refreshment provided by IEEE-SA)
3:00 PM	Breakout Session 3: Priority Interfaces for T&C Program Development
4:30 PM	Report Outs and Next Steps
5:00 PM	Adjourn

Charge to the Group

- Participate in the discussions and provide inputs
- Consider both challenges and potential solutions
- Use the breaks for networking opportunities