

# Overview of Case Study and Interoperability Profile

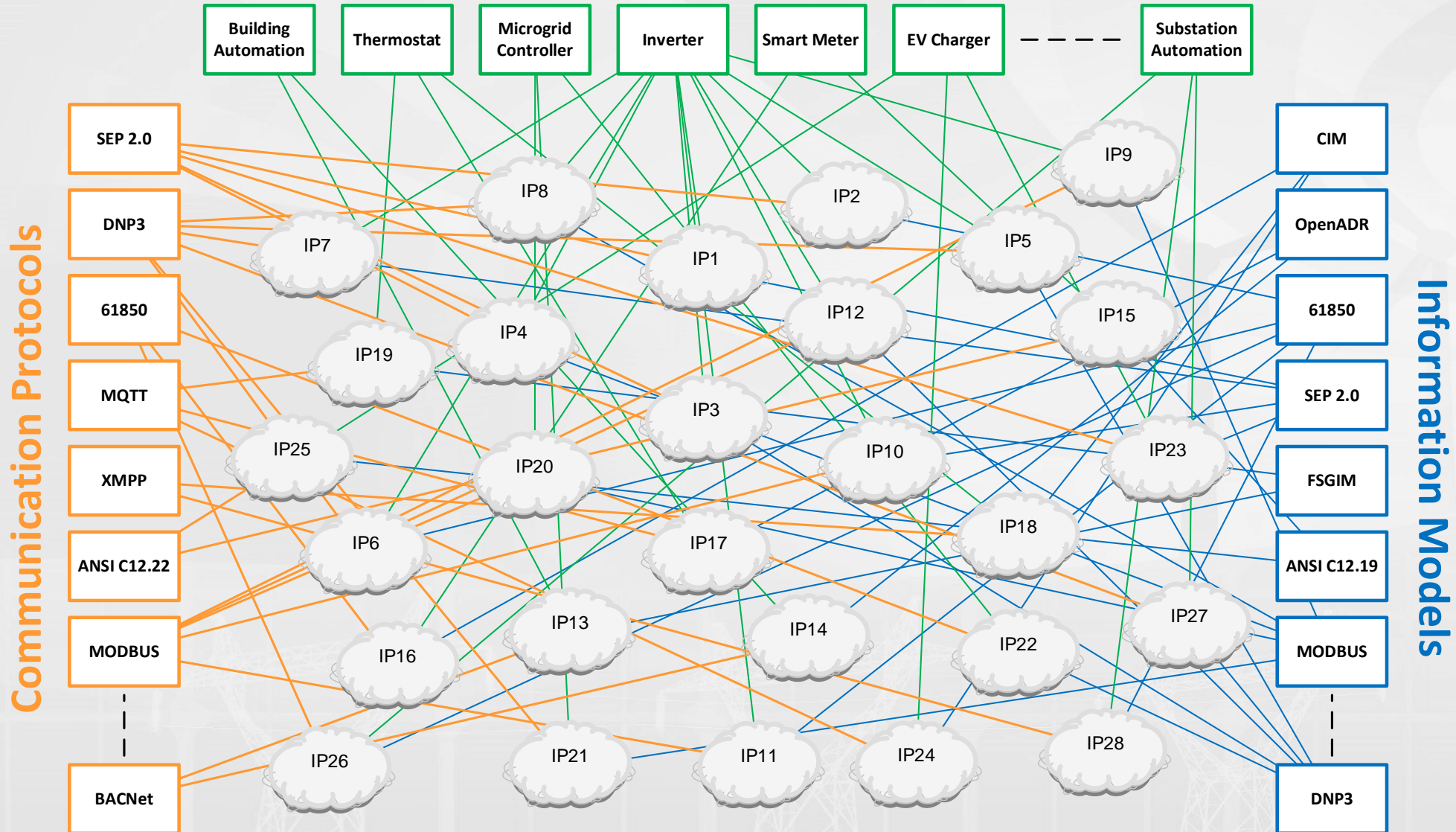
**Cuong Nguyen**

Engineering Laboratory  
NIST Smart Grid & Cyber-Physical Systems Office

July 9, 2018

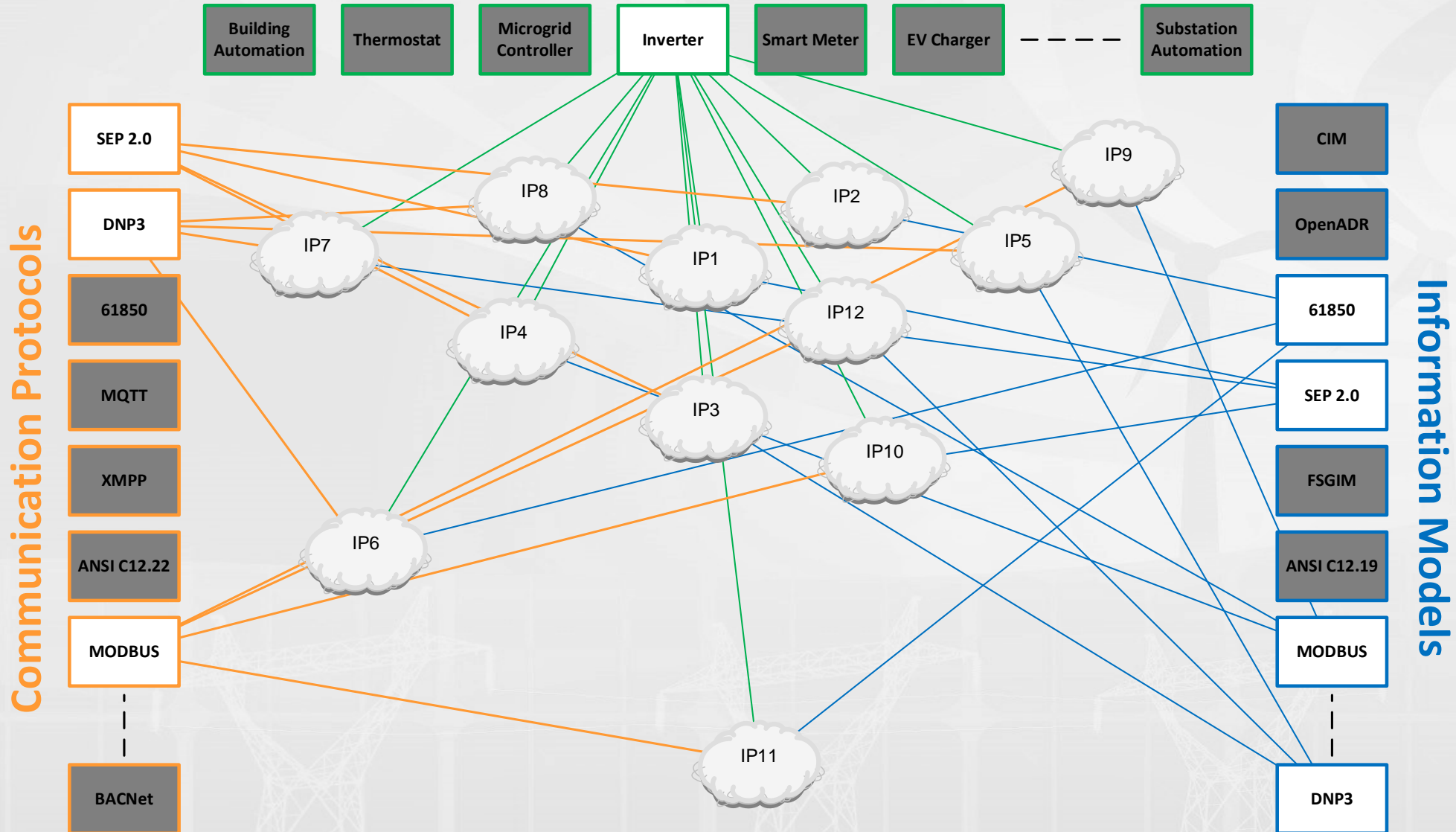
# Interoperability Profile: Illustrative Landscape

## Hardware / Performance Requirements

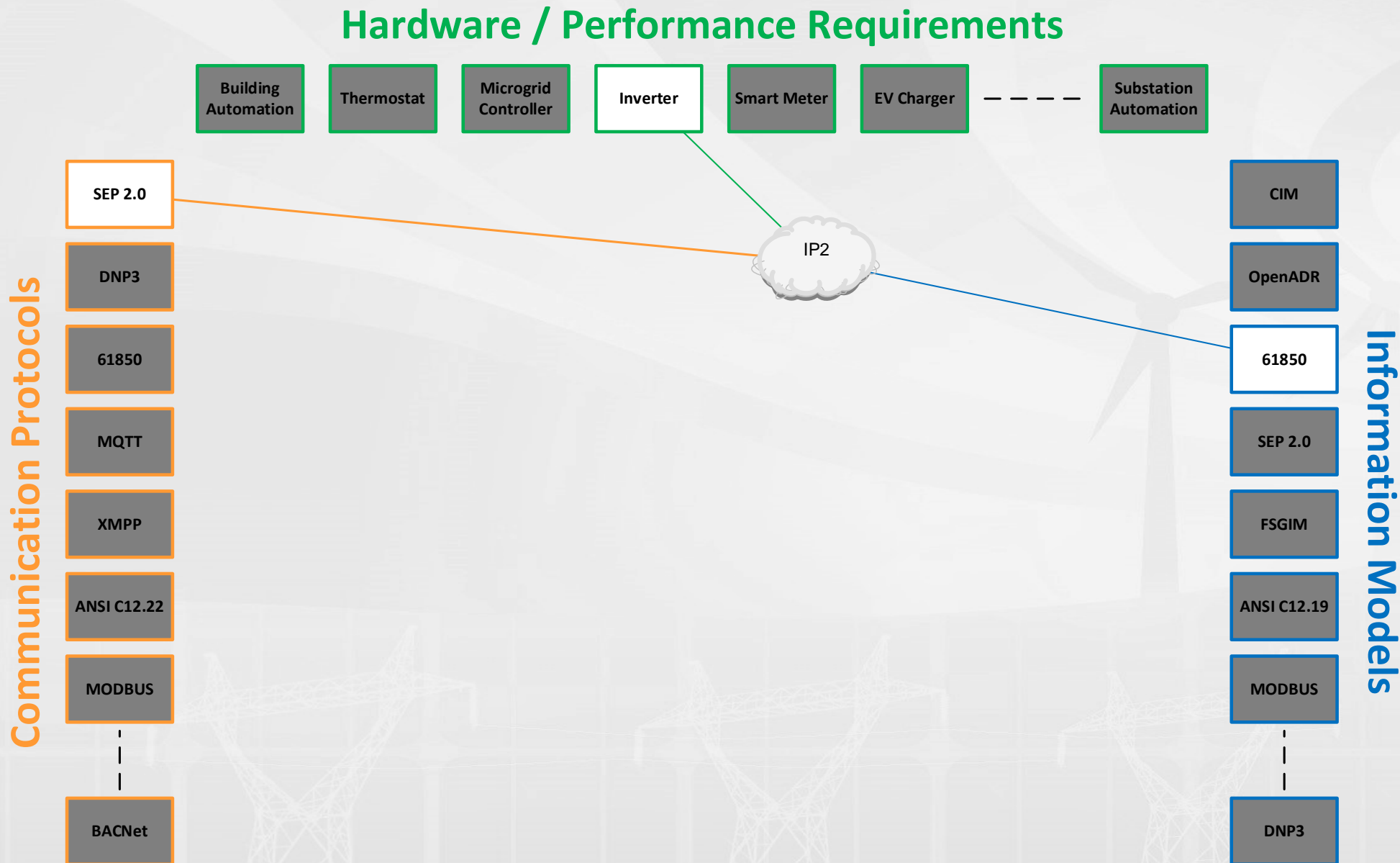


# Interoperability Profile: IEEE 1547 Case Study

## Hardware / Performance Requirements

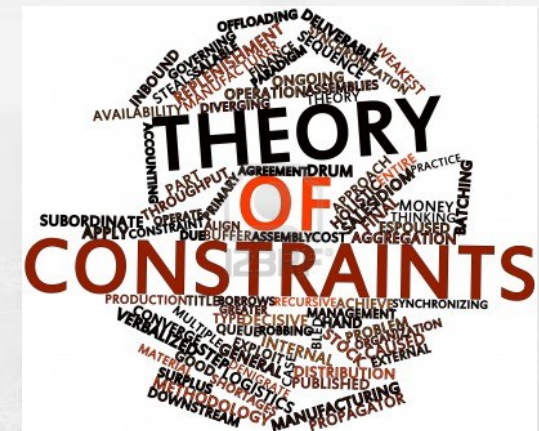


# Interoperability Profile: California Rule 21 Case Study



# Interoperability Profile

- A profile is a description of a well-defined subset of the standard that has been agreed upon by a user community, testing authority or standards body.
- The specification and use of profiles allows the interoperability gap to be narrowed by reducing the degrees of freedom of implementation flexibility in the context of interest by the device supplier, implementer and system owner.
- Basic set of elements for a profile include:
  - Physical performance specifications
  - Communication protocol
  - Information model



# Interoperability Profile Benefits

- An Interoperability Profile with a narrow set of implementation requirements could be more easily tested for certification.
- It could be listed by vendors that support it and used in procurement specifications by end users.
- It could facilitate the development and utilization of testing and certification programs, and advance interoperability for smart grid equipment and systems.