csmart
Center for Smart Grid Applications, Research and Technology

Panel Session

- Carol Bartucci, ComEd
- Tom Hulsebosch, West Monroe Partners
- Dave Roberts, OSIsoft
- Scott Blackburn, Silver Spring Networks
- Patrick Burgess, IIT

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Carol Bartucci

Director, IT, Smart Grid Initiatives
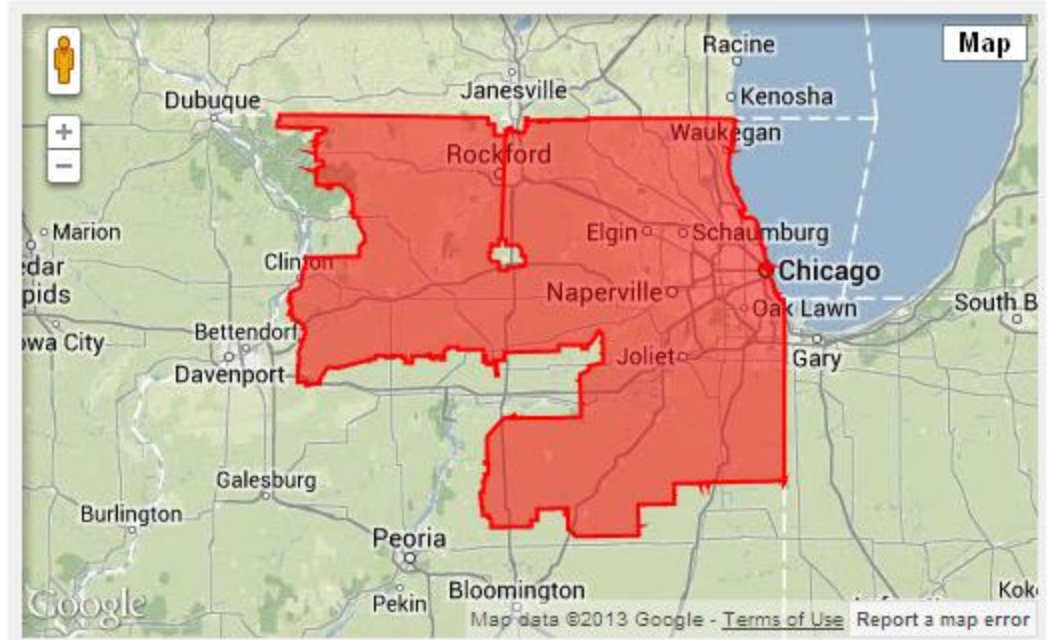
ComEd

What is csmart

- Center for Smart Grid Applications, Research, and Technology
- CSMART is a lab dedicated to researching, testing and analyzing the latest smart grid technology innovations in a real-world environment
- Built with the support of IIT, ComEd, Silver Spring Networks and West Monroe Partners, the lab is one of the first of its kind to bring together academic, industry and utility experts to provide a fully-functional test environment for smart grid technology
- Opportunity for other companies, such as OSIsoft, to participate in the center to conduct testing or offer equipment for smart grid development

ComEd and csmart

- Why is ComEd interested in participating?
  - Test Environment for both ComEd, other companies
  - Develop applications and analytics for improving reliability and resiliency
  - Identify opportunities to benefit customers
  - Develop student skills, give students real world experience

ComEd

- Commonwealth Edison
  - Electric Utility in northern Illinois, includes Chicago
  - 11,000 square miles (28,500 sq km)urban and rural

- Exelon
  - Several Business Units
    - Generation
    - Utility
    - Retail/Commercial
    - Business Services
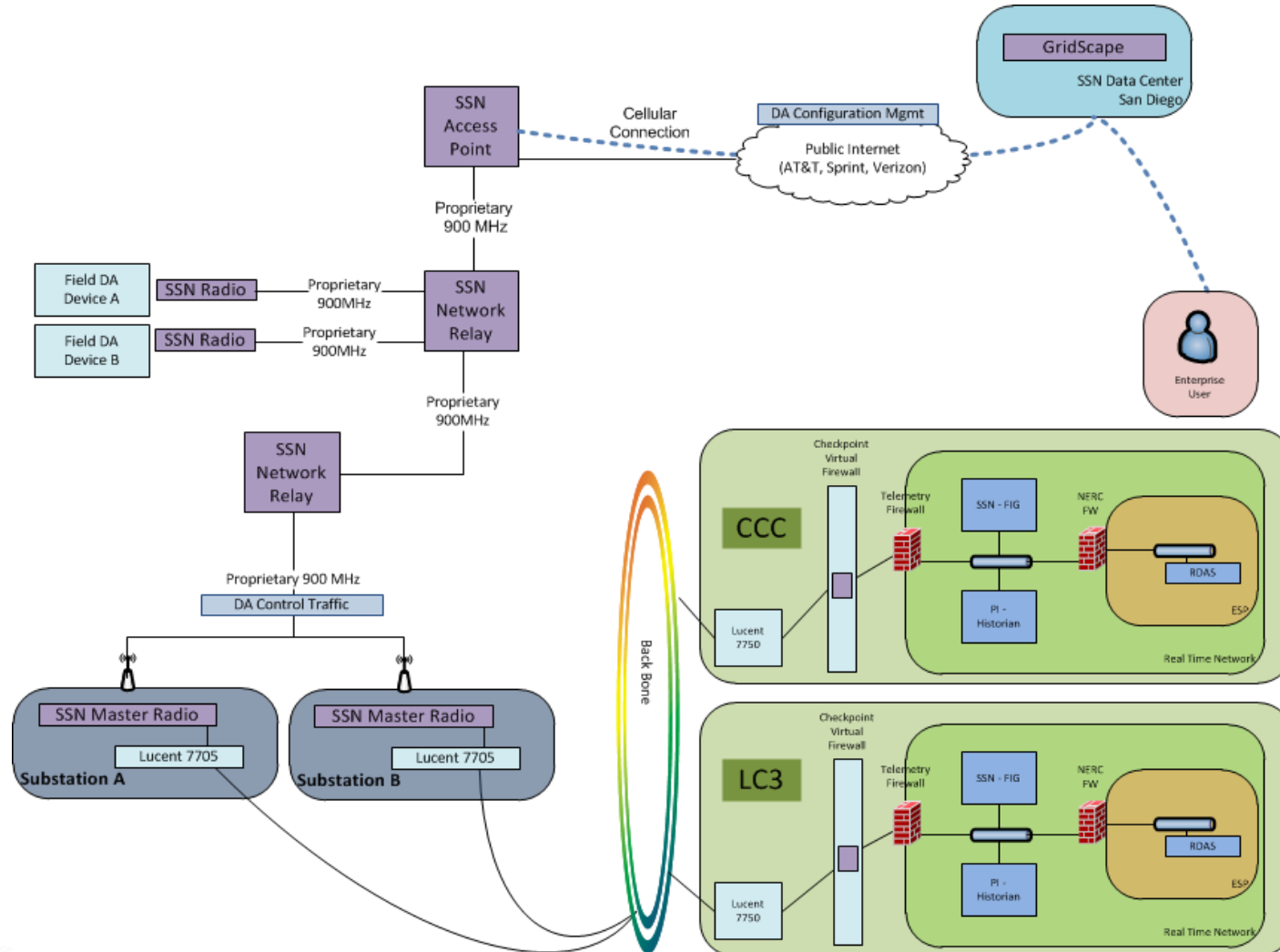
- Exelon Utilities
  - ComEd
  - Peco
  - BG&E

ComEd Smart Grid

- Silver Spring Network Deployment
  - ComEd is deploying SSN network for AMI and Grid
  - Communication Network for all potential devices
    - AMI *
    - DA *
    - FAA lighting
    - DC in a box
    - Pad mount transformers/fault location *
    - Transformer monitoring *
    - LED streetlights *
  - Currently deployed
    - 2400 (out of 6000 planned) devices
    - 2014 relays
    - 74 (out of 83 planned) master locations
    - 500k (out of 4M planned) smart meters

* Indicates similar deployment at IIT

ComEd Smart Grid

ComEd Smart Grid

- Analytics using OSIsoft PI
  - ComEd has recently deployed several analytics to allow us to predict and avoid degraded equipment or outages
    - Bushing Potential Device Monitoring
    - Transmission Oil Leaks
    - Transformer Paralleling
    - Battery Monitoring (SSN and substation)
  - csmart also has implemented PI and has begun to develop analytics

- Security
  - ComEd using a multi layer approach to security
  - csmart will also be deployed with a focus on security

Future use cases

- Converged network
- Device to device communication
- DG monitoring and control
- LUA programming
- Advanced Analytics
- Hack-a-thon