

# i-PCGRID Workshop – 2013

Innovations in Protection and Control for Greater  
Infrastructure Development

Journey in Modernizing the Grid for the 21<sup>st</sup> Century



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## Successful Data Exchange Checklist

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# The Industry is At A Critical Point

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- Data exchange is key to unlock the great potentials of many wide-area and future applications
- The amount of data and the types of data can and will be exchanged is increasing at an unprecedented pace
  - We've probably only seen the very small drop of water in front of a tsunami so far
    - Synchrophasor data including all precision time tagged data
    - IEC 61850-90-5
    - Operation data
    - Processed data
    - And much more



# A Very Different Data Exchange Paradigm

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- Not just exchange data among a few entities / points
- Not only sending data in a hierarchical structure
- DYNAMIC instead of STATIC
- Highly UNSYMMETRICAL data flow
- Extremely high requirements on
  - Security
  - Quality of services
  - Manageability
  - Flexibility
  - Expandability
  - And so on
- WE DO NOT KNOW EXACTLY WHAT WILL COME NEXT

# What Are Needed?

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- A data exchange infrastructure that meet not only today's but our future data exchange needs
- Supporting governance framework, business model and operating processes
  - A data exchange “constitution”
  - A sustainable cost sharing business model
  - Organizational support
  - Etc.
- To ensure that everyone and the industry as a whole will benefit from the data sharing in a long run

# How to Get There?

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- Where we are?
  - Certain types of data are already exchanged
    - E.g. SCADA data through NERCnet
    - Between entities on a one-to-one basis
  - Many efforts have been made or underway
    - NASPI/DOE – NASPInet
    - SGIG synchrophasor deployment projects
      - Tos to ISOs/RCs data flow
      - WECC uniform data sharing agreement
    - Eastern Interconnection Operation Data Sharing Initiative
- But a lot more still need to be done
  - Start with a checklist
- The industry will collectively invest a huge amount of money and efforts in enabling the data exchange infrastructure and probably **whole a lot more to use the exchanged data**
  - High risk for failure – what if Internet is suddenly not working any more?

# Data Exchange Checklist

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- ☑ Agree on the data to be exchanged
  - ALL data or some of them?
- ☑ Select and implement a data exchange infrastructure for the long run
  - E.g. self-managed one-to-one solution vs. going-through a well-managed infrastructure
  - E.g. one infrastructure for one type of data only vs. multiple types of data share one infrastructure
- ☑ Have the supporting governance, business and operation structures / processes in place
  - Data sharing “constitution”
  - Cost sharing model
  - Operation supporting organization and processes
- ☑ ?

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# *Thank You!*

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