NASPI North American SynchroPhasor Initiative

Data & Network Management Task Team

February 25th 2010

Austin, TX

D&NMTT Charter

- **Data & Network Management Task Team** – The scope of the Data and Network Management Task Team includes the development of the hardware and software requirements to collect and store the PMU data at a master storage site(s). The group is also responsible for defining the communications requirements from the PMU(s) or local storage site(s) to the master storage site(s), and development of future network **architecture** options.

Austin, TX Team Composition

Dave	Bakken	WSU
Supreet	Oberoi	RTI
Galen	Rasche	SRI
Dave	McKinnon	PNNL
Matt	Hauer	PNNL
Mike	Bianco	Bridge Energy (WISP)
Michael	Dittmer	SRI
Bill	Muston	Oncor
Dan	Brancaccio	Bridge Energy (WISP)
Keith	Mitchell	MISO
Prakash	Shrejtha	Ercot
John	Lampe	SCE
Mark	Thomas	Entergy
Waddell	Long	Siemens
Yi	Hu	Quanta
Fernando	Sanchez	RTI
Rakesh	Bobba	UIUC
Himanshu	Khurana	UIUC

Russell	Robertson	TVA
Simon	Mo	EPG
Brian	Mollohan	DOE NETL
Kirk	Stewart	WECC
Andrew	Armenia	RPI
Stan	Schneider	RTI
Jim	Reilly	Reilly Assoc.
Milton	Holloway	CCET
Joe	Schafer	FPL
KC	Rubal	Entergy
Brian	Gaucher	IBM
Tim	Yardley	UIUC
Erich	Heine	UIUC
Dave	Anderson	WSU
Dave	Sweeney	SCE
David	Ulmer	PJM
Dave	Burnham	FERC
Deryk	Yuill	Bow Networks
Don	Seycik	Centerpoint Enerrgy

Task team leadership:

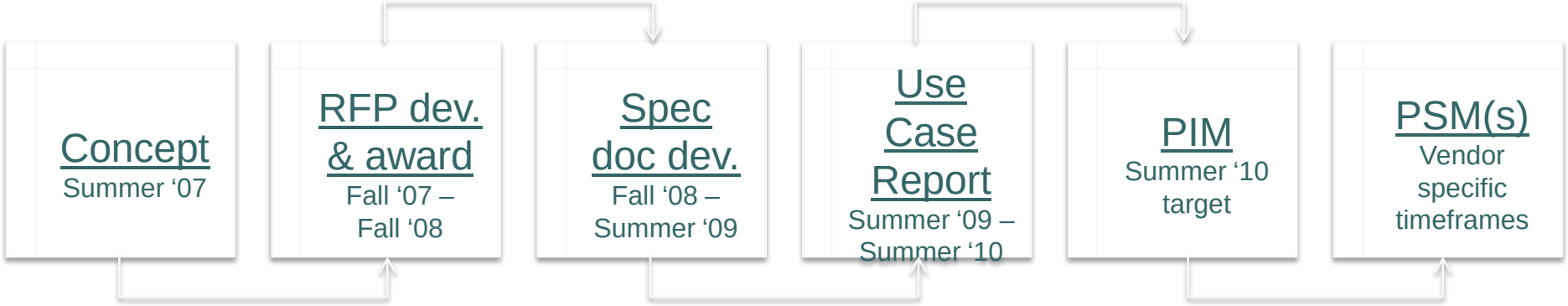
Paul Myrda	EPRI	pmyrda@epri.com
Kris Koellner	SRP	kmkoelln@srpnet.com

DNMTT breakout agenda

- Himanshu Kharana, UIUC – NASPInet security requirements, challenges, opportunities
- Supreet Oberoi, RTI – Phasor Gateway proof of concept demonstration
- Dave Bakken, WSU – NASPInet Data Bus properties and requirements
- John Gillerman, SISCO – Standards based approach to NASPInet

Some NASPInet History

- NASPI has thought through many of the design considerations required for a wide-area phasor network. These are realized in the NASPInet concept.



- The Spec Documents + Use Case Report + PIM are a starting point for ARRA SGIG awardees. These are available at http://www.naspi.org/naspinet.stm

NASPInet Architecture Features

- [Massively] De-centralized
  - More onus on asset owner, less on a centralized host
  - Current system is not scalable
- Differentiated classes for different application types
  - Not all PMU installations are considered equal
- Phasor Gateway concept introduced
- Signal level access-control lists for each data set
- Self-describing, common naming convention
- Meta data for each device
- Based on publish-subscribe model
- Multicast capability

Path Forward

- Use NASPInet if:
  - You need to robustly & securely publish and subscribe phasor data in multiple formats with variable QoS among many external entities.
- Don’t use NASPInet if:
  - You’re just sending data from PMUs to a centralized PDC for storage and/or visualization.
- There may also be several instances of NASPInet that are not interconnected.
- Down the road: PMU Registry (1st instance of NASPInet core service), NASPInet interoperability test bed
- Establish a NASPInet WG among the SGIG award winners

NASPI D&NMTT 2010 Focus

- Industry outreach & education
  - Work with SGIG awardees
  - Technical papers & FAQ
- Technical advancement
  - Expansion of NASPInet use cases
  - Platform independent model
  - API development
- Administration, roles & responsibilities
  - NASPInet governance → Internet analogy
  - Architecture review board
  - PMU Registry

Thank you for participating!