Coordination of Synchrophasor Related Activities

IEEE PES PSRC C23
(last met virtually on September 23, 2020)

Presented by:
Allen Goldstein
Chair
Phasor Measurement Systems

- GPS
- Real Time Monitoring & Alarming
- Off-line Dynamics Analysis
- Data Storage
- Phasor Data Concentrator
- Future real-time controls
- Data storage standards
  - IEEE C37.111
  - COMTRADE
- Installation, calibration, test guide: C37.242

Measurement standards
- IEEE C37.118.1
- IEC 60255-118-1*

Communication standards
- IEEE C37.118.2
- IEC 61850-90-5
- ICCP

Timing standards
- IEEE 1588 or
  - C37.238 or
  - IEC 61850-9-3*

Phasor Measurement Systems

Communication standards
- IEEE C37.118.2
- IEC 61850-90-5
- ICCP

Data storage standards
- IEEE C37.111
- COMTRADE

* Not yet released
IEEE PES PSRC Activities

• C23: Coordination of Synchrophasor Related Activities
• C28: C37.242 IEEE Guide for Synchronizing, Calibration, Testing, and Installation of PMUs
• H40 Databases used in Utility Automation Systems
• CTF41: Investigate Measurement Performance Requirements for PMUs in Distribution System Applications
• C40: Summary C37.247 Standard for Phasor Data Concentrators
• H50: Requirements for Time Sources in Protection & Control Systems
IEEE PES PSCC activities

- P8: Recommended Mapping Approach between IEEE C37.118.2 and IEC 61850
- P9: Revision of C37.118.2 Synchrophasor Data Transfer for Power Systems
- P16 P1864: Review by PSCC for Communications and Cyber Security Requirement
- S5: Revision of IEEE C37.240 Cyber Security Requirements for Power System Automation, Protection and Control Systems
- S8: P2658 Guide for Cybersecurity Testing in Electric Power Systems
- S15: Study Group for Security of IEC 61850 GOOSE and Sampled Measured Values

Other IEEE activities

- ICAP: IEEE Synchrophasor Conformity Assessment Program
NASPI past work presented to C23

• CRSTT:
  – Using Synchrophasor Data to Determine Disturbance Location.
  – Using Synchrophasor Data for Oscillation Detection.
  – PMU versus SCADA Video Events Library.

• DNMTT:
  – NASPInet 2.0 Architecture Guidance (led by PNNL’s Dr. Taft)
  – Utility survey of those collecting PMUs for architecture structure and analytics interface.

• PSRVTT:
  – Categorizing Phasor Measurement Units by Application Data Requirements.

• DisTT:
  - Synchronized Measurements and their Applications in Distribution Systems: an update
  - DG-Load Disaggregation Use Case
  - Equipment Health Diagnostics Use Case
  - Fault Location Use Case
  - Phase Identification Use Case
  - Wildfire mitigation webinar

• EATT:
  – Data Mining Techniques and Tools for Synchrophasor Data.
  – Integrating Synchrophasor Technology into Power System Protection Applications.
  – Phase Angle Calculations: Considerations and Use Cases.
NASPI current work presented to C23

- **CRSTT:**
  - Focus Area Documents will now be used to develop Use Case Documents with the DisTT.

- **DNMTT:**
  - Synchrophasor Application-Based Guide for Archive and Network Strategies: Fall 2021 WG Meeting.

- **DisTT:**
  - Use Case documents development with CRSTT.

- **EATT:**
  - Focus Area Documents will now be used to develop Use Case Documents with the DisTT.

- **PSRVTT:**
  - IEEE C37.242 and C37.118.2 standards are being updated.
  - IEEE PES PSRC Task Force C41 Investigate Performance Requirements for Distribution PMUs
Discussions and new business

- Gustavo Brunello volunteered to be the C23 Vice Chair (Thank you Brunello)
- The PSRC Task Force to look into creating educational material was disbanded. There were many great ideas floated but no-one had any time to volunteer to act upon any of the ideas.
- There was a discussion about creating a database of sampled value power system data (measured or simulated) and “ideal” synchrophasor representations that would come from those.
Thank you
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