

**Synchrophasor Application-Based Guide for Archive and Network Strategies (SABGANS)**

**North American Synchrophasor Initiative**

**Technical Report (Paper / Guide)**

**Authors/Contributors**

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Purpose: Define a matrix to match synchrophasor systems (network and archive) to synchrophasor application data requirements by:

* Evaluating existing piggyback or standalone systems.
* Evaluating new technology systems.

Method:

1. Applications:
   1. Define sets of applications (real-time, research, off-line analysis) – Mostly done
   2. Define matrix of data requirements for each application
2. Networks:
   1. Define available capabilities of existing synchrophasor networks
      1. Source data connections
         1. Serial-Based
         2. Ethernet based
      2. Communication networks
         1. Fiber, Routers
      3. PDC Network
         1. Substation PDC
         2. Substation to central PDC
         3. Direct to central PDC
3. Storage:
   1. Define methods of existing archive system storage – Are they raw (uncompressed), compressed (interpolation), dropped repeat, conditioning and validation. Cloud-Based, Local Server-Based.
      1. SEL SynchroWAVe – Matthew Rhodes request
      2. EPG RTDMS – Matthew Rhodes request
      3. BPA – Matthew Rhodes request
      4. GPA OpenHistorian – Christoph Lackner
      5. OSI Soft PI – Dan Brancaccio and OSI
4. Define available methods of new archive systems – Are they raw (uncompressed), compressed (interpolation), dropped repeat, conditioning and validation. Cloud-Based, Local Server-Based.
   1. PingThings PredictiveGrid – Matthew Rhodes request
   2. SAS – Matthew Rhodes request
5. Define available methods of transferring PMU data from network to storage
   1. PDC configuration
   2. CSV file upload (direct or minimal pass through direct from PMU)
6. Matrix of Network/Storage strategy to application data requirements
7. NERC CIP Implications

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