



**QUANTA**  
**TECHNOLOGY**



NASPI April 13-15 2021

WECC Synchrophasor Data Exchange  
JSIS DDMWG

**NASPI** *North American  
SynchroPhasor Initiative*



# WECC JSIS DDMWG

- Western Electricity Coordinating Council (WECC)
- Joint Synchronized Information Subcommittee (JSIS)
- Data Delivery and Management Work Group (DDMWG)
  - Co-Chair Dan Brancaccio Quanta Technology
  - Co-Chair Tony Faris Bonneville Power Administration (BPA)

The purpose of the DDMWG is to review and improve performance of inter-utility data network, system architecture & configuration, testing and operational experience of various types of Time Synchronized Measurement Devices and Synchrophasor data exchange networks, in general referred to as Synchronized Information (SI). The DDMWG addresses issues related to data from synchrophasors, including data availability, validity, and management. The group also coordinates with the North American Synchrophasor Initiative (NASPI).

# Data Sharing

*Easier said than done*

## Two issues to resolve

1. Technical issues
2. Security concerns

# Technical Issues

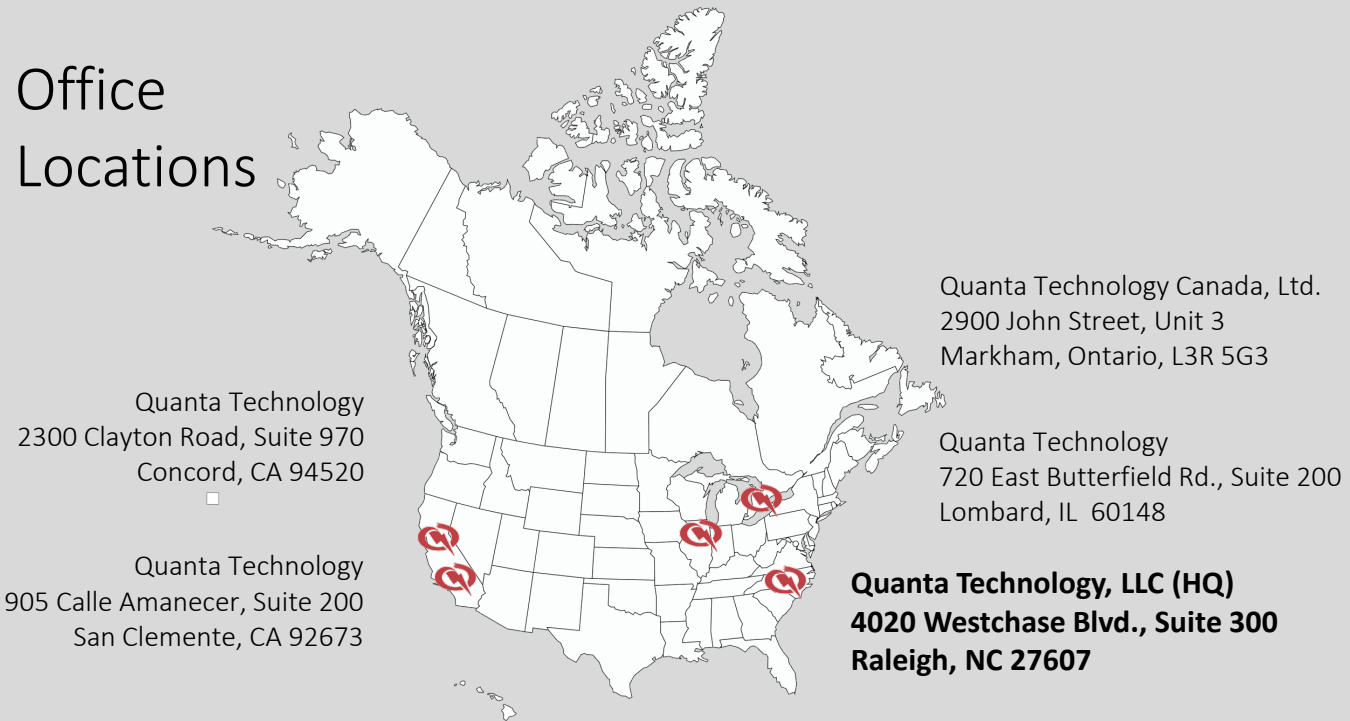
- Data size per measurement point
  - 30 reports per second
  - 1,800 per minute
  - 108,000 per hour
  - 2,592,000 per day
  - 10 MB / day for 1 measurement point (float)
- Requests for multiple months of data
  - No one wants binary
  - Even with compression ASCII CSV files quickly reach TB
  - Even with willing data archivers exporting this much data takes multiple man-days and strains infrastructure
- **Needed** Web based self serve portal for retrieving large amounts of data with automated request and delivery support.
- Exchange Format
  - JSIS
    - ASCII Defined CSV format
  - COMTRADE
    - IEEE C37.111-2011
      - ASCII
      - Binary
        - » Float
        - » Int
        - » Int32
      - PSRC H8 Application of COMTRADE for Synchrophasor Data
        - Schema
  - **Needed** COMTRADE Tools
- **Needed** Phasor Registry
  - Presently no single system of record for Synchrophasor measurement points

# Security Concerns

- Other Utilities
  - Data sharing agreements
  - Mutual NDA
  - No Issue with signal identification
  - Usually near real time streaming measurements
  - ISO and RC use to perform functions
  - **Needed** portal-based registry to browse for important data
- Agencies
  - NERC
    - Official requests only for specific events
    - PRC 002-2 Post even analysis
    - Usually, short duration data requests
    - **Needed** COMTRADE tools
- Research groups and Application vendors
  - Anonymized data
    - Used for Machine Learning
    - Some concerns about reverse engineering signal locations
  - Data that can be applied to a Model
    - Used for tool development
    - Needs to identify measurement points
  - **Needed** We now have some utilities and regional entities with multiple years of synchrophasor archives. It would be useful to determine some age limit where data could become public domain

# Thank you!

## Office Locations



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