# Data Network & Management Task Team (DNMTT) Minutes

Co-leads, Jim McNierney (JMcNierney@nyiso.com) and
Dan Brancaccio (dbrancaccio@bridgeenergygroup.com)
Teresa Carlon, NASPI web site and listserv contact (teresa.carlon@pnnl.gov)
December 9, 2015

**Attendees**

Roll call – see list below. Dan Brancaccio led today's DNMTT call.

**Meeting Notes**

Considerations for future efforts yielding tangible work products are:

- **Middleware** – there still seems to be very little use of Middleware within synchrophasor applications systems deployed today. The group was considering putting together a work product paper that would outline the potential benefits of deploying middleware in a utility centric environment.
- **Fragmentation of UDP packets in communications networks**. In deployments of a large amount of PMUs and the utilization of C37.118-2005, fragmentation of UDP has been cited as a pain point in a lot of synchrophasor networking deployments. It was discussed that the group could put together some lessons learned and best practices in contending with excessive fragmentation of UDP.
- **Registry XML effort** – again for large number of PMUs, how are utilities tracking all of these and as the entities are building out infrastructure to share the data with other entities it sees that the deployment of a registry would facilitate a great many benefits. Within the original NASPI net specification there was detail around the role of a registry in a large publish/subscribe paradigm. The group is considering what items would need to be included in such a registry, the benefits of a common registry and the future build-out of APIs that might be able to systemically access and use the data housed in the registry. The Internet's use of DNS might prove to be a useful model.
- **Software Defined Networking (SDN)** – The group discussed putting together a paper that would describe some of the benefits and roles that SDN could bring to networks that are supporting the exchange of synchrophasor data.

**New Business**
- Registry
    o Dan B. is ready to create a subgroup to work on the registry. XML is for simply to be able to exchange information. We are not trying to build a registry, but a way to exchange registry information not in the C37.118 configuration frame (e.g. circuits). Not every application will be able to consume this data, but some vendors will be able to use this information (every application has its own configuration UI). This could be a way to exchange data in an efficient manner. There are other ways to do this, however XML format is universal and human readable as well as long as file is laid out well. Ryan Nice would like to participate in this effort. David McKinnon; need mechanism to aggregate information, perhaps timestamp dates. Good things to capture. Flip side, we don't want this to become complicated. **Task force members:** Dan Brancaccio, Ryan Nice, David McKinnon, Paul Myrda, Matt Halladay, and Jim McNierney.

- Fragmentation of UDP Packets
  - Peak is looking at trying heavy testing of the gateway exchange protocol. Dan B. can deliver some data in the fragmentation effort.

- Ryan Nice – Discussion ideas from spring 2015 NASPI meeting regarding C37.118.2 and the additional data quality flag, untapped opportunity to use those flags, integrate it in a way that such planned outages of PMUs and PCs, flow up stream to data takers in such a way that an out of band outage handling system becomes a secondary system or perhaps not necessary at all. Is anyone else interested in this topic? If so, Ryan would like to hear from you.

- Dan Lutter – would like to know what has been done with the following topics; SDN, fragmentation and GPS.

**Action Items**
- **All**; Dan Brancaccio is ready to create task force (TF) to work on the registry. If you are interested in participating on the registry TF please email Teresa Carlon (teresa.carlon@pnnl.gov).
- **All/Data quality flag;** Ryan Nice would like to form a small group of folks interested in discussing the data quality flag of C37.118..2. If interested please reach out to Ryan.
- **Ryan Nice**; present to the group on our next call. Teresa will test Lync with Ryan prior to the January call.
- **Tool used for viewing xml;** http://www.altova.com/xmlspy.html. You may also use a web browser.

**Reference Documents**
NASPI DNMTT web site

**Next D&MTT Conference Call**
- **January 13, 2016 @ 12:30pm PT / 3:30pm ET**. The conference calls are typically scheduled for the **second** Wednesday of the month unless otherwise noted.

**Attendees**
Dan Brancaccio
Dan Lutter
David McKinnon
Frank Tuffner
Jim McNierney
Jun Yamazaki
Ken Martin
Mahendra Patel
Matt Halladay
Ryan Nice
Teresa Carlon
Ron Farquharson