Joint Engineering Team (JET) Meeting Minutes

National Coordination Office for Networking and Information Technology R&D (NCO/NITRD)
490 L'Enfant Plaza SW, Suite 8001, Washington, DC 20024
February 15, 2022, 12:00-2:00 p.m. ET
This meeting was held virtually

Participants

Shawn Armstrong, University of Alaska
Rich Carlson, DOE/SC
Bobby Cates, NASA/Ames
Bill Fink, NASA/GSFC
Jonah Keough, PNWGP/Pacific Wave
Michael Lambert, PSC/3ROX
Paul Love, NCO/NITRD
Joe Mambretti, StarLight/MREN
Linden Mercer, NRL
Aruna Muppalla, NASA/GSFC
Robert Sears, NOAA/N-Wave

Proceeding: This meeting was chaired by Rich Carlson (DOE/SC).

I. **Action Items**:

- Internet2 and ESnet updates on their respective new networks.

II. **Review of the Minutes of the January 2022 meeting:** Three corrections were made.

III. **Federal IPv6 Task Force – Rob Sears**

A. The Federal IPv6 Task Force (TF) is organized and managed by GSA, It has backing from OMB and NIST with guidance from OMB and the US CIO Council and has a tie in with the Cloud and Infrastructure Community of Practice. The TF was designed to help federal agencies meet the IPv6 mandates – currently the transition to IPv6-only by the end of FY2025 per OMB M-21-07. (80% at that point, 20% by the end of FY2023 and 50% by the end of FY2024.)

B. The TF provides guidance to reach these targets with any updates to the mandate, templates and guidance on developing the transition plan each agency needs to submit as part of the mandate: asset assessment, transition team composition, IPv6 address plan, etc.

C. The TF has set up a pair of subcommittees, one to work on helping the development of the required transition plan, the other is developing a library of text to be inserted into acquisitions to ensure new services and equipment is fully supportive of the IPv6-only goal. These are above and beyond what's in the FAR.

D. By virtue of running N-Wave, a service provider, and overseeing its transition to IPv6-only along with helping to ensure N-Wave's customers also transition, the new TF chair brings to the TF the firsthand knowledge of the issues and complexities of implementing the mandate. The TF's monthly meetings will include "how to's" and create resources in

the federal space with aggregated lessons learned and other resources. The TF is working to replicate in the federal space Internet2's IPv6 WG does in the academic R&E space.

IV. **Operational network security roundtable:** No updates were received.

V. **Network roundtable**

A. NASA/GSFC (Bill Fink): With Joe Mambretti (StarLight) and Linden Mercer (NRL) starting to plan for SC22.
B. NOAA (Rob Sears):
    a. N-Wave has had several new connections over the last quarter in the northeast and Gulf regions. These are primarily sites of the National Ocean Service and the National Marine Fisheries Service (NMFS).
    b. In Alaska a lot of new infrastructure has been put in place. A 1G backbone has been built as a triangle connecting the N-Wave core node in Seattle, WA, with Anchorage and Fairbanks.
    c. Currently this new infrastructure supports sites for NMFS; Oceanic and Atmospheric Research; and the National Environmental Satellite, Data, and Information Service. Other NOAA Line Offices are evaluating sharing the infrastructure.
    d. NOAA is planning a June meeting in Anchorage to bring together the various agencies with networking needs in Alaska to discuss what resources would make sense to share within Alaska and between Alaska and the contiguous 48. The goal is to develop something similar to the Hawaiian Intranet Consortium organized by DOD in Hawaii.
    e. N-Wave will be installing a TICAP in Anchorage to keep as much traffic within Alaska rather than a needing a roundtrip to Seattle. This will be done by relocating the equipment from the retired Dallas, TX, TICAP.
    f. A part of a next generation, N-Wave is planning to upgrade its backbone to 400G in FY2022Q3. It will leverage Internet2's AL1S native 400G waves.
    g. As part of the next generation build N-Wave will be collapsing its external peering network, X-Wave, onto the same physical infrastructure as N-Wave. X-Wave interconnects NOAA's contagious 48 TICAPs (Seattle, Denver, CO, and Washington, D.C.)
    h. Starting in FY2022Q4 and running into FY2023Q1-Q2 NOAA will be upgrading its TICAPs starting in Washington, D.C. This upgrade will include new hardware and a redesigned topology to be ready for TIC 3.0 when its design is completed.
C. NRL (Linden Mercer): NRL is working with GSFC & StarLight to have infrastructure used for SC21 become permanent and ready for future testing opportunities including SC22.
D. Pacific Wave (Jonah Keogh):
    a. Pacific Wave (PW) is continuing to work with UCSD on the IGROK monitoring and measurement tools. PW should be able to share some data in the coming months on what is being observed over the PW infrastructure.
    b. PW is continuing to improve its routing security.

c. Guam's open exchange, GOREX, has had some changes but no details are available at this point.

E. PSC/3ROC/XSEDE (Michael Lambert): No updates this month.

F. University of Alaska (Shawn Armstrong): The University's contracts for intra- and inter-state WAN services are expiring in July. This week the RFP for the next five years is being issued.

VI. **Exchange Points Round Table**

A. PNWGP (Jonah Keogh): No updates today.

B. Ames (Bobby Cates):
   a. USGS is starting to install its TICAP at Ames adjacent to NASA's TICAP.
   b. DREN has started its transition to the incoming provider, Verizon. At the moment services are still provided by Lumen but Verizon has located its cabinets and installed power and grounding. Ames is not a DREN4 IPC site.

C. StarLight (Joe Mambretti):
   a. With NRL & GSFC StarLight (SL) is developing the Joint Big Data Test Bed facility in McLean, VA.
      i. SL has requested 100G between SL and McLean from Internet2.
      ii. SL is also in discussions with ESnet for 400G on the same path.
      iii. SL has just completed a 400G link over ESnet's test bed between SL and NERSC in Berkeley, CA.
   b. Collaborations continue with CERN, TRIUMF and CANARIE along with several universities on the NOTED testbed.
   c. Other projects include:
      i. AutoGOLE/SENSE
      ii. The Named Data Networking for Data Intensive Science in Engineering
      iii. Two interconnected P4 testbeds, one designed by SL, the other by GÉANT
      iv. Phase III Chameleon cloud testbed
      v. Investigating interconnection of Chameleon with FABRIC and the Platform for Advanced Wireless Networking.
   d. SL is developing technologies for DTN as a Service and DTN as a Large Flow Appliance.
   e. SL is working with UCSD on distributed, federated caching for high performance storage.
   f. Additionally, work with UCSD continues on the Pacific Research Platform, the National Research Platform and the Global Research Platform. As part of this, SL has helped organized a mini Global Research Platform workshop during SupercomputingAsia (SCA). This will be on March 3, 1:30-5:30p.m. Singapore time.
   g. A second gathering during SCA is a mini APAN meeting. This will be on March 2, 1:30-3:30p.m. Singapore time.

Meetings of Interest 2022

Note: Meetings cancelled since the January JET have been removed from this list. Those whose format has changed have been updated.

Feb 14-16	NANOG 84, Austin, TX, hybrid
Mar 1-3	SupercomputingAsia 2022, Singapore, hybrid
Mar 7-11	APAN53, Bangladesh, virtual
Mar 8-10	The Quilt Winter Meeting, virtual
Mar 19-25	IETF 113, Vienna, Austria, hybrid
Apr 24-27	ARIN 49, Nashville, TN, hybrid
Jun 6-8	NANOG 85, Montréal, QC, Canada
Jun 13-17	TNC22, Trieste, Italy, primarily in-person with a basic remote option
Jul 10-14	PEARC22, Boston, MA
Jul 23-29	IETF 114, Philadelphia, PA
Aug (date TBA)	APAN54, China
Sep 20-22	The Quilt Fall Member Meeting, Minneapolis, MN
Oct 10-11	Global Research Platform Workshop, Salt Lake City, UT

Next JET meetings

Note: It is anticipated that JET meetings will remain virtual for the foreseeable future

Mar 15, 2022	12-2 p.m. ET
Apr 19, 2022	12-2 p.m. ET
May 17, 2022	12-2 p.m. ET