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
March 6, 2024, 12:00 – 1:15p.m. CT
This meeting was held as a hybrid in Chicago, IL, at the
Sheraton Grand Chicago Riverwalk, 301 E North Water St, Chicago, IL 60611

Participants

Icro Arai, APAN-JP	Joe Mambretti, StarLight/MREN
Adrian Baranyuk, NCO/NITRD	Linden Mercer, NRL
Jeff Bartig, Internet2	Gary Mumphrey, LONI
Basil Decina, NRL	Aruna Muppalla, NASA/GSFC
Ivor D'Souza, NIH	Sean Peisert, LBNL
Bill Fink, NASA/GSFC	Glenn Ricart, US Ignite
Andrew Gallo, CAAREN/GWU	Jen Schopf, TACC/UT Austin
Jonah Keough, Pacific Wave	Robert Sears, NOAA/N-Wave
Amit Kumar, NOKIA	Pankaj Shah, OARnet
Michael Lambert, PSC/3ROX/ACCESS	Mickey Slimp, GPN
Jim Lookabaugh, Internet2	Chadwick Sorrell, Internet2
Paul Love, NCO/NITRD	Kevin Thompson, NSF

Proceeding: This meeting was chaired by Kevin Thompson (NSF).

I. **Action Items**: (none pending)

II. **Review of the Minutes of the January 2024 meeting:** Corrections were received and are reflected in the posted final minutes.

III. **Network and Exchange Point round tables**
The slides for this meeting can be found at:
   https://www.nitrd.gov/coordination-areas/lsn/jet/jet-meetings-2024/
   A. CAAREN (Andrew Gallo): CAAREN is provisioning some additional capacity into Ashburn to support two new clusters. One of these will be added to the Open Science Grid (OSG).
   B. NASA/GSFC (Bill Fink): No update today.
   C. NOAA/N-Wave (Rob Sears):
      a. As described in November 2023, N-Wave is in the midst of upgrading its current 1G backbone to Alaska (Seattle<>Anchorage<>Fairbanks<>Seattle) to 2G as it adds support for several National Weather Service (NWS) offices. Anchorage<>Fairbanks redundancy is also being added as NWS has high availability requirements.

b. Because of NOAA's need to make AK generated data that's used within the state available as rapidly and reliability as possible, NOAA has committed to having the open peering exchange and TIC described in November operational before the end of FY2024. The IXP will be open to all interested parties. The TIC will be approved by DHS for multiagency use.

c. NOAA is open to interconnecting with other exchange points in Alaska.

d. The Alaskan regional networking summit, the Arctic Region Technical Internet Consortium (ARTIC), will have its 2024 meeting in Anchorage, AK, the end of April. (This is a shift in dates for these meetings.)

Question: Has NOAA had any discussions with the Nordic group planning trans-Arctic Ocean submarine cables on possible landing sites in Alaska?

Answer: No direct conversations so far. N-Wave makes use of the Quintillion fiber that runs from Nome around the coast with landings including Utqiaġvik and Prudhoe Bay before it runs south to Fairbanks. NOAA does have about 100 ac at Utqiaġvik for a satellite downlink facility and an atmospheric observatory and would be very interested in additional cables landing there. The identified submarine cable contact was Lars Fischer of NORDUnet.

D. NRL (Basil Decina):

a. No major changes to report.

b. NRL's dark fiber testbed, ATDnet, has three years remaining on its current IRUs. NRL is in a RFI mode for replacing it. If anybody has interest in providing dark fiber in the DC area they should contact Basil.

E. Pacific Wave (Jonah Keough):

a. Pacific Wave's (PW) 400G PTX upgrades are moving along pretty well at PW's exchanges. Not yet in full production.

b. The concurrent 400G backbone upgrade will need to be a hot cut as PW is spectrum constrained.

c. PW's Fairbanks exchange is progressing

d. Currently the Far North Express submarine cable has no plans to land at Utqiaġvik.

F. StarLight (Joe Mambretti):

a. NA-REX (North American Research & Education Exchange Collaboration) is an interconnected set of 10 open IXPs. While the interconnecting circuits are currently 100G and 400G, the NA-REX members have a goal of being all 400G by the end of 2024. NA-REX is open to other open IXPs to join. The design goal of NA-REX is to support innovation and data intensive science.

b. The 5th National Research Platform (5NRP) and FABRIC's Knit 8 workshop will be held at UCSD the week of 18 March. Some demonstrations will use the 1.2T FABRIC backbone along with 400G segments over ESnet and Internet2 to achieve a path length of ~12k miles with an estimated RTT of 640ms. This will be from San Diego, CA to Los Angeles, CA, around the country, back to Los Angeles and thence to San Diego. The Joint Big Data Testbed facilities will be used for these demonstrations.

      c. The following week OFC 2024 will be in San Diego with the 2nd iteration of OFCnet which will again be supporting demonstrations of quantum networking both standalone and with co-propagation.

      Question: Is NA-REX for production use?

      Answer: It's for research, not yet production. It's designed to support unanticipated projects that need unconstrained, large pipes.

  G. OARnet (Pankaj Shah):
      a. OARnet is working on a 400G backbone upgrade. The timeline is eighteen months or so.
      b. OARnet will be supporting N911 statewide.
  H. US Ignite (Glenn Ricart): No update today.

Meetings of Interest 2023

Mar 4-7	Internet2's Community Exchange	Chicago, IL
Mar 12-14	The Quilt Winter Meeting	virtual
Mar 16-22	IETF 119	Brisbane, Australia
19-20 Mar	KNIT 8	San Diego, CA
20-22 Mar	Fifth National Research Platform Workshop,	San Diego, CA
Mar 24-28	OFC	San Diego, CA
Mar 25-27	CENIC 2024	Monterey, VA
Apr 14-17	ARIN 53	Bridgetown, Barbados
Apr 30 – May 2	ESCC	Berkeley, CA
Apr 30 – May 2	ARTIC Annual Meeting	Anchorage, AK
May 7-10	Smart Cities Connect Conference and Expo	Raleigh, NC
Jun 9-10	Northern Tier Network Consortium,	Lincoln, NE
Jun 10-12	Great Plains Network Annual Meeting	Lincoln, NE
Jun 10-12	NANOG 91	Kansas City, MO
Jun 10-14	TNC24	Rennes, France
Jul 20-26	IETF 120	Vancouver, B.C. Canada
Aug 9	AINTEC 2024	Sydney, Australia
Aug 26-20	APAN58	Islamabad, Pakistan
Sep 16-19	Fifth Global Research Platform Workshop at IEEE eScience	Osaka, Japan
Sep 17-19	The Quilt Fall Meeting	Hartford, CT
Oct 21-23	NANOG 92	Toronto, ON Canada
Oct 24-25	ARIN 54	Toronto, ON Canada
Nov 2-8	IETF 121	Dublin, Ireland
Nov 17-22	SC24	Atlanta, GA
Dec 9-12	Internet2 Technology Exchange	Boston, MA

Next JET meetings

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

Apr 16, 2024	12-2 p.m. ET
May 21, 2024	12-2 p.m. ET
Jun 18, 2024	12-2 p.m. ET