

JET Meeting Minutes
August 20, 2013

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Action Items

1. Joe Mambretti will send Grant Miller a summary description of the Big Data Demonstrations as a basis for JET reporting to the LSN. Completed

Proceedings

This meeting of the JET was chaired by Kevin Thompson of NSF.

NASA CSO TIC Update: Arkan Al-Dijaili

Arkan Al-Dijaili discussed the NASA TIC architecture and status. The NASA networking backbone is comprised of SNET circuits that cover CONUS in a WAN. Circuits terminate at NASA Centers and 5 Carrier Independent Exchange Facilities

(CIEFs). The Layer 3 network is comprised of two independent L2VPN networks, one as an Intranet, the other for Internet traffic.

All external internet traffic can now be inspected by DHS equipment. Layer 3 traffic transitioned to the 4 NASA TIC locations at NASA Centers. ER-SPAB was used to capture tail traffic at other NASA Centers. To better accommodate DHS requirements NASA plans to implement agency level firewalls and content filters that require symmetric routing to function. Symmetric WAN routing depends on Phase 1 of the NASA Backbone Equipment Refresh (BB-ER) project. The BB-ER will replace aging M320 devices with redundant routers. NASA's solution for symmetric routing reduces the WAN Layer 2 and 3 complexities and significantly reduces the number of pathways.

The NASA CSO is currently considering equipment that can perform both firewalling and content filtering functions for up to 40Gbps firewalling and 10Gbps of content filtering in a single box. The ownership of the firewall rule set and content filtering configuration remains to be determined.

NASA and DHS have held initial discussions of TIC 3.0. TIC 3.0 will continue current monitoring with the Einstein equipment currently deployed. 3.0 will also have additional, opt-in services, for specific protocols. Monitoring will be done in SCIF facilities located at major ISPs.

NASA has a goal of updating the CSO backbone to support circuits required for both Mission and corporate networks.

The complete briefing is posted on the JET Wiki Website at:

[http://www.nitrd.gov/nitrdgroups/index.php?title=Joint_Engineering_Team_\(JET\)#title](http://www.nitrd.gov/nitrdgroups/index.php?title=Joint_Engineering_Team_(JET)#title)

Roundtable

ESnet: Patrick Dorn

ESnet is progressing on the installation of its 100G network. The NERSC 100G connectivity is in production now. The Brookhaven 100G is in-process and is undergoing testing and provisioning. The Livermore 100G has completed acceptance testing. The ESnet 100G testbed extension from Chicago to 32 AoA (& ANA) will be turned up soon. The ANA 100G trans-Atlantic link's European end is still in transition.

GENI: Kristin Rauschenbach

GENI racks are being deployed and GENI is working toward an international federation including sites in Europe and Japan. An invitation-only workshop is being held in Belgium in October. There is also a Scalable Terabit networking workshop September 19-20 by invitation only.

Internet2: Chris Robb

Internet2 is expanding its Layer 2 AL2S network. Nodes are being installed in Minneapolis, Portland, Jackson, Columbia, Boston, Pittsburgh, Charlotte, Philadelphia, and other sites. There will be 33 AL2S nodes nationwide. They are migrating the IP network onto the Layer 2 network. They are standing up adjacencies between Layer 2 and Layer 3. Internet2 monitored 7 of their high-bandwidth migrated circuits while in use and saw microflaps. These might be triggered by the LR10 optics. They are working with the vendors to resolve the issue.

NOAA: Dave Hartzell

NOAA is working to get their sites behind the TICs. They are using VPNs for backhaul of small field sites. They have a target of getting 50% of the field sites behind the TICs this calendar year. NOAA is working to boost bandwidth to enable a new generation of satellite data acquisition at Gilmore Creek, AK, and Wallops Island, VA. NOAA is considering a new TIC site in Hawaii and is considering the implications versus backhaul from its Hawaiian sites. NOAA would consider making the Hawaiian TIC a multi-agency TIC serving other agency networking facilities in Hawaii.

Exchange Points**Pacific NorthWest GigaPoP: Jonah Keough**

Pacific Wave is working on 100 and 40G connectivity to Los Angeles and 100G trans-Pacific. They are talking to potential vendors.

Chicago: Alan Verlo

StarLight has supported multiple demonstrations over the last 2 months including an international demonstration for APAN 36 in Daejong, South Korea. They will be supporting GLIF meeting demonstrations in October. StarLight is implementing an ExoGENI rack this month. StarLight supported extensive US Ignite demonstrations at the UIC campus in Chicago.

Joe Mambretti reported that 50 demonstrations were supported at the US Ignite meeting. They are implementing 3 new racks for BOREAS. They are working with the GENI Program Office. The GEC 17 meeting in Madison, Wisconsin was supported. They are working on supporting multiple 100G demonstrations at SC13. There will be multiple 100G links from the east coast and 2 x 100G from StarLight. The SC13 demonstrations will be supported by a 100G network on the SC13 show floor. There currently is 280G at Mid-Atlantic Crossroads (MAX) to support big data flows and demonstrations.

MANLAN: Matt Zekauskas

MANLAN is supporting connectivity to the WIX and Singapore. They are working with Amsterdam to install capacity.

Ames: Hugh LaMaster

Bldg 254 (location of the IXP) will have mission freeze that could extend as late as 19 Nov. If work needs to be done in the building please contact either Kevin Jones or Hugh LaMaster.

SCinet WAN: Matt Zekauskas

SCinet is planning 6 x 100G connectivity to the convention site. Start planning your demonstrations now and let the SCinet people know what you are planning.

Big Data Demonstrations: Joe Mambretti

The JET Big Data Team is planning several demonstrations at SC13. These include:

- Sloan Digital Sky Survey which will move data from Johns Hopkins to StarLight and the ESnet 100G production network to access the Titan computational facility at Oak Ridge National laboratory for modeling and analysis. The results will be sent back to Johns Hopkins and SC13. This demonstration was previously demonstrated over 10G links. Discussion identified that we should try to show the difference in speed/quality between the 10G connectivity and the 100G connectivity.
- Bioinformatics/Genomics demonstration between the NIH in Bethesda, Maryland, the U. of Chicago (Bob Grossman) and SC13.
- Remote I/O: Linden Mercer has been working with the Luster User's group to demonstrate a UDT Luster interface that will be demonstrated at SC13.
- Data Accelerator Demonstration: Phoebus; Eli Dart and Martin Swamy are seeking a site to demonstrate the Phoebus accelerator application at SC13.

Potential JET Tasking from the LSN

JET members discussed potential tasks from the LSN for next year. Suggestions included:

- Continuation of the JET Big Data Task
- perfSONAR workshop

AI: Joe Mambretti will send Grant Miller a summary description of the Big Data Demonstrations as a basis for JET reporting to the LSN at its Annual Planning Meeting in October.

Meetings of Interest:

August 19-23	APAN36 , Daejong, Korea
September 9-13	CANS , Hangzhou, China <i><nb: changed location</i>
September 10	ARIN / NANOG on the Road , Portland, OR
September 12	ARIN on the Road , Calgary, AB, Canada
September 19-20	Workshop on Scaling Terabit Networks , Washington, DC
October 1-2	Global LambdaGrid Annual Workshop , Singapore
October 7-9	NANOG59 , Phoenix, AZ
October 10-11	ARIN 32 , Phoenix, AZ
October 27-29	GEC18 , Brooklyn, NY
October 28-29	2013 CANARIE National Summit , Ottawa, ON, Canada
November 17-22	SC13 , Denver, CO
December 17-18	SDN Operational Prototype Network Workshop: By invitation and by Webcasting
January 20-24, 2014	APAN37 , Jakarta, Indonesia
February 10-12	NANOG60 , Atlanta, GA
Feb 2014	perfSONAR Workshop, NSF, Arlington, Virginia

Next JET Meetings:

September 17:	11:00-2:00, NSF, Room TBA
October 15:	11:00-2:00, NSF, Room TBA
November 19:	1:30-3:30 MST, Room 507, Colorado Convention Center, Denver, CO <i>nb: This is during SC13</i>

