

JET Meeting Minutes

May 20, 2014

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Action Items

1. If you are considering a demo at SC14, or otherwise needing a special connection to the exhibits, please give the SCinet WAN team a heads up at:

WAN-team@scinet.supercomputing.org

Proceedings

This meeting of the JET was chaired by Vince Dattoria of DOE.

TIC Initiative: Sean Connelly, Mark Robinson

The TIC initiative is an effort to optimize federal network services into a common benchmark security solution. Components of this effort are to:

- Reduce and consolidate external connections
- Manage the security capabilities of TIC access points
- On-site TIC capability validation assessments

Not every network is in-scope of the TIC, e.g., command and control of satellites is out of scope. Overseas embassies are also out of scope. Within the TICs common security capabilities are provided including Einstein boxes to enable monitoring communications by DHS and securely process the data.

DHS conducts validation of TIC Access Points through assessments of facilities to identify if they conform to the 71 TIC requirements. DHS personnel spend a week on-site talking to NOC and SOC personnel identifying policies, procedures, staffing, incident response plans, technical capabilities, physical/environmental controls and other aspects of the TIC. They do a gap analysis and provide a summary report back to the facility. Agencies often discover additional networks that should be included in their TIC and they work with DHS to include them in the TIC facilities.

DHS is carrying out a reference architecture update. Working groups over the summer 2013 worked to include cloud environments within the TIC. TIC 2.0 RA refresh will be valid for FY 14 and 15. DHS is working with FedRamp and GSA on mapping TIC Security Controls to the NIST 800-53Rev.4 controls.

DHS is producing a guide to understand TIC documentation. They are reviewing the value of some of the TIC requirements, e.g., for the 24 hour 100% packet capture for incidents, sometimes 24 hours is too short and sometimes 100% of the data is too large for reasonable amounts of storage capacity. Also the requirement for a DNSSEC signing key may be too short a timeframe. DHS is producing a paper with Carnegie Mellon University on CERT capabilities. How do we know what traffic we need?

TIC 2.0 is tied to Networx. TIC 3.0 is expected in the 2017-2019 time frame. It is expected to support NS2020, the follow-on to Networx.

If you have any questions about TICs please contact:

tic@dhs.gov or Sara.Mosley@dhs.gov

OSTP Meeting with LSN: Grant Miller

OSTP representatives met with the LSN Coordinating Group to discuss a potential National Networking Manufacturing Initiative and support for the JET SDN initiative.

The NSTC Physical Sciences Committee carried out a study last summer that recommended:

- Develop photonics to support biology applications (biophotonics)
- Develop advanced photonics components

- Photonics to support imaging through complex media, particularly to support defense and medical applications
- Develop ultra low-power nano components for applications such as the memory wall
- Accessible fabrication facilities for integrated photonics devices. Domestic capacity is, generally, owned by multinational companies and fabrication is largely done overseas. We'd like to make sure researchers have access to strictly domestic prototyping and fabrication facilities.
- Exotic photonics and compact light sources to support THz operations
- Domestic resources for critical photonics. The National Manufacturing Initiative is a likely vehicle to develop these domestic resources.

OSTP is asking the Federal agencies:

- Whether they would benefit from the manufacturing institutes?
- Which agencies would associate themselves with an institute?

OSTP also expressed their interest in supporting the SDN prototype network initiative of the JET. They would like to know what they can do to promote the effectiveness of this network and in identifying how they could potentially accelerate the transition of this technology to the commercial sector and to general internet deployment.

Network Roundtable

CAAREN: Andrew Gallo

No significant changes.

DREN: Ron Broersma

DREN will not hold a user's conference this year. The upgrade to DREN III is proceeding. The existing contract for DREN II has been extended to June 17 and no further extensions are possible. They still have approximately 30 sites to migrate to DREN III. DREN III raises the bar for services. Sites are required to exchange routes with BGP, implement IPv6 dual stack, and have jumbo frames implemented. Sites are encountering an issue with implementing BGP if they have models of routers with a limit of about 8000 routes- largely a Cisco problem. Obtaining LEC routes to some sites is difficult, particularly where AT&T is the LEC. Obtaining cross-connections from StarLight has been difficult. A Weston Building cross-connect is required for connectivity to Alaska. DHS would like to connect to DoD. Governance, reciprocity and security issues remain to be resolved. V4 will continue for the foreseeable future. DREN, internally, is beginning to turn down v4.

ESnet identified that in their environment they maintain a few token prefixes that users can default to so that the user sites do not have to maintain large routing tables.

ESnet: Eli Dart

ESnet is enabling their 100G research wave using Ciena technology. ESnet is carrying out strategic planning for an additional 100G augmentation of its backbone. Their PerfSONAR infrastructure (platform) is being updated so that the same platform can provide latency and throughput measurement (via separate interfaces.)

ESnet is addressing data challenges including, Belle II, LHC Run 2 testing this summer, LHC1 runs leading up to LHC2, and international climate community support.

GENI: Heidi Dempsey

GENI networking is currently stable. There is a GENI Engineering Conference (GEC) June 20-24 where there will be demonstrations. Georgia Tech and Northwestern are having design reviews for SDN Exchanges (SDXs.)

Internet2: Chris Robb

Internet2 networking is currently quiet. They installed an AL2S node in Tucson and another is scheduled next week at 350 Cermack in Chicago. An AL2S node will also be installed in Missoula. Internet2 has experienced large growth in backbone traffic. The backbone from Chicago to Ashburn to McLean was upgraded to 200G, driven by trans-Atlantic ANA traffic. These upgrades are express lanes. An additional 100G link from McLean to New York is being planned. An upgrade to OS3E is being planned.

NASA: Kevin Kranacs

Nothing significant to report

NIH: Don Preuss

NLM is working to implement a 2nd 100G link to provide redundancy. The European Biological Institute (EBI) is planning a 100G end-to-end experiment to NLM. If it is successful there is planning to extend this capability to other genomics facilities.

NOAA: Mark Mutz

NOAA's core N-Wave has been static. It is supporting NESDIS satellite data. Alex Hsia has been focused on upgrading NOAA TICAP infrastructure in Dallas, Boulder, Seattle & Silver Spring. A Hawaiian TICAP is being mocked up in Boulder and is expected to be operational in the July-August time frame. New capabilities include Norman, OK, to Boulder. Charleston, SC, is using N-Wave to reach the Boulder TICAP. Two Stennis, MS, sites are using a VPN tunnel to reach the Boulder TICAP. Other remote sites are likely to also use this approach. Two Miami research sites will reach the TICAP sites in Silver Spring & Boulder using FLR & AL2S connectivity.

SCinet: Matt Zekauskas

SCinet put out a call for circuits to support SC14 demonstrations in April. They are seeking to learn about demonstrations requiring large-scale transport to plan for equipment providers and networking connectivity. The Call for Network Resources can be found at:

<http://sc14.supercomputing.org/blog/call-network-resources>

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US-Ignite: Glenn Ricart

US-Ignite is holding an application summit June 24-27 in Sunnyvale, CA. They are implementing a 10G AL2S link and 802.11ac wireless to support the demonstrations.

Exchange Point Roundtable

MAX: Dave Diller

Max has received a shipment of refresh equipment that is undergoing testing. Other shipments are scheduled. The MAX has had 2 DWDM platforms, one for production, the other for research. The research platform is being upgraded so it can be integrated with and augments the production platform.

WIX: Dale Finkelson

Nothing new to report.

MANLAN: Dale Finkelson

The 100G trans-Atlantic link is back up and operational now.

Singapore Exchange Point: Dale Finkelson

Campuses are accelerating their activities to have a presence at the Singapore exchange.

3ROX: Michael Lambert

3ROX is working with NOAA for an additional 10GE to Fairmont, WV.

StarLight: Alan Verlo

TERENA is holding a workshop this week. Joe Mambretti is there to demonstrate the SDX prototype at the NetherLight exchange. Chicago has seen DDOS attacks recently via NTP resulting with Northwestern University beginning to filter for these DDOS intrusions. StarLight has Stratum 2 NTP from NWU. StarLight will be supporting the GLIF conference in Queenstown, New Zealand in September/October.

NGIX West: Mark Foster

NGIX-West is upgrading its fabric and switching equipment. They updated a switch at the PAX. They are rebuilding the Nexus gear to support the move to 100G at Ames Research Center.

Meetings of Interest:

May 19-22	TNC2014 , Dublin, Ireland
June 2-4	NANOG61 , Bellevue, WA
June 22-24	GEC20 , Davis, CA
June 24-27	US Ignite Applications Summit , Sunnyvale, CA
July 14-16	Focused Technical Workshop: High Performance Networking for International Climate Science , Boulder, CO
July 20-25	IETF90 , Toronto, Canada
September 14-15	CANS , New York, NY
September 15-16	LHCOPN & LHCONE , Ann Arbor, MI
29 September – 1 October	14th Annual Global LambdaGrid Workshop ,

	Queenstown, New Zealand
October 6-8	NANOG62 , Baltimore, MD
October 26-30	Internet2 Technology Exchange , Indianapolis, IN
November 9-14	IETF91 , Honolulu, HI
November 16-21	SC14 , New Orleans, LA

ARIN: Richard Jimmerson

ARIN has remaining v4 address space of 0.86 of a /8. IANA has depleted their address space so this is the final availability of v4 addresses, unless v4 addresses are returned to IANA. ARIN has allotted half of a /8 in the last couple of months and requests for addresses is increasing rapidly.

V6 use has accelerated rapidly over the last couple of years. ARIN is continuing its outreach activities to inform users of v6 capabilities.

Next JET Meetings:

June 17	11:00-2:00, NSF
July 15	11:00-2:00, NSF