

JET Meeting Minutes

August 16, 2011

I. Participants

Guy Almes	TAMU	galmes@tamu.edu
John Baird	HPCMO	baird@hpcmo.hpc.mil
Bob Bonneau	AFOSR	robert.bonneau@afosr.af.mil
Joe Breen	UofUtah	joe.breen@utah.edu
Joe Burrescia	Esnet	joeb@es.net
Rich Carlson	DOE	rcarlson@ascr.doe.gov
Eli Dart	ESnet	dart@es.net
Jan Eveleth	PNWGP	eveleth@cac.washington.edu
Dale Finkelson	I2	dmf@internet2.edu
Michael Gill	NIH/NLM	gill@nlm.nih.gov
John Jamison	Cisco	jojamiso@cisco.com
Tom Knoeller	IU	tknoelle@indiana.edu
Michael Lambert	PSC	lambert@psc.edu
Paul Love	NCO	epl@sover.net
Bryan Lyles	NSF	jbl2403@earthlink.net
Kevin McGrattan	Cisco	kmcgratt@cisco.com
Joe Metzger	ESnet	Metzger@es.net
Grant Miller	NCO	miller@nitrd.gov
Thomas Ndousse	DOE	tndousse@er.doe.gov
Predrag Radulovic	Gloriad	predrag@gloriad.org
Don Riley	U Md	driley@umd.edu
Michael Sinatra	ESnet	ms@es.net
Brent Sweeny	Indiana	sweeny@indiana.edu
Kevin Thompson	NSF	kthompso@nsf.gov
Alan Verlo	UIC/StarLight	verlo@uic.edu
Jason Zurawski	Internet2	zurawski@internet2.edu

Action Items

1. If any agency has additional information they would like presented on the perfSONAR over IPv6 pilot project, please contact Michael Sinatra <ms@es.net> or Joe Metzger <metzger@esnet>.
2. Rich Carlson suggest Matt Mathis be contacted about the possibility of upgrading NPAD for use over IPv6.
3. Each of the agencies participating in the pilot project should send Michael Sinatra and Joe Metzger the URL for their latest data for the pilot project. This data should be time-stamped.
4. JET should develop a recommendation for the networking community on naming perfSONAR tools for IPv4 and IPv6.

5. If you plan to use C-Wave during SC11, please contact Kevin McGrattan <kmcgratt@cisco.com>.
6. If you need assistance for SC contact Alan Verlo <darkman@evl.uic.edu>.
7. Don Riley will send the JET a description of the U.S. Chinese coordination on IPv6.

Proceedings

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

NSF Asymmetric Routing: Dale Finkelson

NSF was experiencing asymmetric routing resulting in some edu sites not being able to contact the NSF. As a temporary solution, the NSF forced some routes over commercial links through filtering. Long term solution is TBD.

PerfSONAR over IPv6 Pilot Project: Joe Metzger

Joe Metzger presented a paper on the JET perfSONAR over IPv6 pilot project. Michael Sinatra prepared the paper on the pilot project based on the data developed by participating agencies.

AI: If any agency has additional information they would like presented on the perfSONAR over IPv6 pilot project, please contact Michael Sinatra <ms@esnet> or Joe Metzger <metzger@esnet>.

There were three goals for the pilot project:

- Build experience in the community with perfSONAR over IPv6
- Identify needed tools and upgrades to existing capabilities
- Identify lessons learned.

A short PowerPoint presentation will be prepared on the pilot project to be delivered to the LSN at its Annual Planning Meeting (APM). A visual graphic of the state of deployment of perfSONAR tools over IPv6 will be added to the paper.

NPAD is the only tool not fully supported. The participants haven't identified the resources necessary to upgrade this tool.

AI: Rich Carlson suggested Matt Mathis be contacted about the possibility of upgrading NPAD for use over IPv6.

Each participating agency reported their status for deploying and using perfSONAR over IPv6 as good.

AI: Each of the agencies participating in the pilot project should send Michael Sinatra and Joe Metzger the URL for their latest data for the pilot project. This data should be time-stamped.

Lessons learned included that naming of tools is difficult. OMB directed that tool names should be unique but tools had to be adapted to IPv6 and giving a different name to the IPv6 tool may violate the OMB directive. Discussion identified that, over the longer run switches should be installed to properly call IPv4 or IPv6 instantiations of tools depending on which protocol is being used. Over the short run IPv4 and IPv6 tools may use different names. Any logs or data generated should indicate if IPv4 or IPv6 tools were used.

Recommendations included providing metadata on whether IPv4 or IPv6 was used.

AI: JET should develop a recommendation for the networking community on naming perfSONAR tools for IPv4 and IPv6.

JET Roundtable

A-Wave: Don Riley

A-Wave is coming to the end of its 5-year MOU among the primary parties. An agreement is being drafted to extend the MOU.

ESnet: Joe Burrescia

ESnet created a portal for users at: my.es.net The portal provides access to visualization tools to identify traffic and site characteristics. It provides a maintenance calendar and a matrix for availability. It is oriented toward NetFlow from an Arbor Networks' box for 1-100 G.

ESnet is bringing in at least 30 G of networking to SC11.

C-Wave: Kevin McGrattan

C-Wave is preparing for SC11. There are some applications requesting use of C-Wave. In conjunction with Steve Carter, we will soon be adding one (McLean) or two (Sunnyvale pending co-lo availability) LISP servers that will be connected to C-wave.

AI: If you plan to use C-Wave during SC11, please contact Kevin McGrattan <kmcgratt@cisco.com>

Internet2: Dale Finkelson

Internet2 brought up its first 100 G connection from Boston to Washington, DC. They are continuing to implement the 100 G build, Phase 1. They hope to get a 100 G link into SC11.

NIH: Mike Gill

NIH implemented a Google link that experienced 900 M flows (primarily for the Genomics community) through the MAX commercial service.

>>> *Grant: I cut these as they weren't represented.*

P-Wave: Jan Evelyth

P-Wave is expecting to deploy a 10G dedicated wave to SC11 SINET for P-Wave connected users.

TransPac/ACE: Brent Sweeny

TransPac has received a supplemental grant from the NSF to bring a 10 G wave to Los Angeles from CERNet

ACE will provide connectivity to Europe. The circuit from MANLAN to Amsterdam is not yet completed on the Amsterdam side. A link for Washington DC to Frankfurt has been awarded but is not yet operational. There are return links for each of these links provided by GEANT so there will be a total of 4 x 10 G links.

Exchange Points

StarLight: Alan Verlo

StarLight supported a demonstration between Amsterdam and Nashville for an electron microscope. A 1GigE from UNAM is in testing for LHC traffic. They are starting to develop GLIF demonstration support for the Rio meeting. They are also working with TeraGrid and SCinet for SC11.

AI: If you need assistance for SC contact Alan Verlo <darkman@evl.uic.edu>.

MAN LAN: Dale Finkelson

MAN LAN bought a Brocade MLX-16 switch to replace its 6500 switch so it can support 100 G capability. ESnet and Internet2 are planning 100 G links to this switch.

IPv6 in Asia/China: Don Riley

There was a Chinese American Networks Symposium (CANS) last week. The meetings were organized around special interest groups (SIGs). Each group discussed potential joint projects, leadership, and next steps. One SIG dealt with OpenFlow. Steve Wallace of Indiana University announced its NDDI. An Identity Management SIG was led by Jack Seuss from UMBC. Michael Sinatra led an end-to-end performance SIG that is producing a report.

The IPv6 SIG was led by Dan Massey from Colorado. This SIG developed recommendations for potential collaborative projects. China is still investing in IPv6. They have a strong need to develop translators between v4 and v6. CNGI has a native v6 backbone that is free to users. They are using only the lower 64 bits of the v6 protocol and developing strategies for the other 64 bits. The SIG identified potential projects for v6 deployment and identified research needed to facilitate deployment. The intent is to deploy v6 networks, test them, and assess deployment progress.

AI: Don Riley will send the JET a description of the U.S. Chinese coordination on IPv6.

The U.S. and China are developing common metrics for assessment of network performance including routing, DNS, and data plane metrics.

They are generating IPv6 NetFlow statistics in coordination with Internet2. They expect

to deploy IPv6 performance monitoring this year and subsequently developing authoritative statistics on performance measurement.

Discussion among the JET members identified that if you want vendors to implement NetFlow IPv6 data the networks need to push strongly on the vendors.

JET Focus Topics for FY12

A discussion was started last month on focus topics for JET during FY12.

Discussion this month identified topics including:

- PerfSONAR: Take a break from testing in FY12
- Interconnecting testbeds; national, regional and international
- Network architectures, networking across layers, NetFlow
- Coordinate with the Asian/Chinese community to enable IPv6
- Enabling end-to-end data flows
 - ID user communities and facilities
 - Identify coordination and architectural issues: overlay user communities on the network infrastructure
 - Provide feedback to the community, e.e., best practices

Meetings of interest:

August 22-26	APAN, New Delhi, India
September 13-14	GLIF meeting, Rio de Janeiro
October 3-6:	Internet2 Member Meeting, Raleigh, NC
October 12-14	ARIN, Philadelphia, PA
November 11	SC meeting on Green Computing. This is an open meeting
November 12-18	SC11, Seattle, WA
January 22-25, 2012	ESCC/Internet2 Techs Workshop, Baton Rouge, LA
January 25-26, 2012	ESCC, Baton Rouge, LA
February 13-17, 2012	APAN, Chiang-Mai, Thailand
March, 2012	US-India workshop on network cooperation, Washington, DC
January, 2013	Techs in Paradise, Honolulu, HI

Next JET Meetings

September 20, 11:00-2:00, NSF

October 17, 11:00-2:00, NSF