JET Meeting Minutes
October 17, 2006

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Action Items

1. If you are interested in Colocation space please send email to Steve Cotter of Internet2

2. HOPI will give JET an update on its transition strategy for implementing HOPI capabilities on Abilene

3. HOPI and ESnet will confer on the use of common resources

4. Joe Burrescia will send Grant Miller the ESnet4 planning documents for including in the bibliography for the Federal Advanced Networking Plan

5. If anyone has an interest in peering with NLR please contact Wendy Huntoon at **huntoon@nlr.net** or **noc@nlr.net**

Proceedings

This meeting of the JET was coordinated by Kevin Thompson of NSF, George Seweryniak of DOE/SC, and Paul Love of the National Coordination Office.

Network Roundtable

Abilene

University of Pittsburgh is downgrading from an OC48 to a 1 GE link.

Sponsored Education Group Participants (SEGPs) were added at the University of Florida and University of Tennessee and soon at the University of Delaware. CUDY-Red CLARA is peering now with Pacific Wave. GEANT is turning off its OC48 now that they have a new OC192 link to NGIX-East. Abilene is extending its IPv6 peering.

ESnet:

ESnet is working with Internet2 (Steve Cotter) to share connectivity to sites they have in common.

AI: If you are interested in Colocation space please send email to Steve Cotter of Internet2

ESnet is expanding its measurement observatory capabilities. They are working with Rick Summerhill of Internet2 to add enhancements to the measurement software. They are deploying the DRAGON software and hardening it for production use. Initially the software will be on the core directors as an experimental service. Measurement software is being deployed in New York City, Washington, DC, and Chicago for implementation in December. An Infinera switch is being deployed at 32Avenue of the Americas in New York City. Steve Wallace of Indiana University is holding a beta trial with NOC members. They will be peering directly with content providers such as Google. They are starting in Chicago at the Equinix facility. There will be peering points in PAIX and Sunnyvale.

Gloriad peering was initiated at StarLight.

DREN

DREN is deploying an Intrusion Detection System. They are holding a TAP in Tampa during SC06.

NOAA

NOAA is planning to interconnect their supercomputer resources via advanced networking. They are currently considering architectures.

HOPI

Rick Summerhill is meeting with HOPI participants September 2-3. HOPI is currently undergoing compatibility testing with DRAGON and OSCARS code. They are developing a transition strategy to move HOPI capabilities to Abilene.

AI: HOPI will give JET an update on its transition strategy for implementing HOPI capabilities on Abilene
AI: HOPI and ESnet will confer on the use of common resources.

NIH

NIH has purchased WDM gear for connectivity to Goddard Space Flight Center and DRAGON with 10 GE.

NGIX-West

NGIX-West has implemented dark fiber to Equinix at Sunnyvale. They are implementing the optics next week. 1380 Kypher is waiting for Fujitsu DWDM equipment that will implement 16 wavelengths. 200 Polk Street in San Francisco will be enabled next month. They are implementing PVLANS that provide flexibility. There is decreasing demand for connectivity to PAIX. People are using the Equinix connection.

StarLight

USGS has upgraded to OC12. CzechNet is implementing OC192 or 10 GE in the December time frame. DRAGON is working with StarLight to support demonstrations at SC06. StarLight supported the GLIF meeting in Tokyo. They worked closely with the Alliance group. StarLight has added new servers and they are working with Matt Mathis on new measurement tools.

MANLAN

MANLAN is implementing a new cross-connect to the new GEANT OC192. They are implementing an AtlanticWave connection to Washington DC. DC to Atlanta is also complete. They are working on testing the circuits now.

NISN

NISN is transitioning out of ATM services onto an OC48 backbone. They are replacing services at several carrier hotels around the country. NISN has an optical testbed with an OC192 between Huntsville and Goddard.

Upcoming meetings of interest

Dec 4-7, Chicago: Internet2 Member Meeting
Feb 11-15, Minneapolis: Joint Techs meeting
December 7-8, Chicago: Chinese American networking symposium
Dec 7-8, Chicago: Performance Measurement Workshop
Nov 28, Berkeley: DANTE/I2/ESnet meeting

LSN Federal Plan for Advanced Networking Research and Development

At the LSN Annual Meeting, OSTP indicated an increased emphasis by OSTP and OMB on networking research this year. To support this increased emphasis a networking R&D plan is needed. The LSN committed to preparing a Federal Plan for Advanced Networking Research and Development to support the FY 08 budget cycle. A kickoff meeting is being held October 27, 9:00-1:00 at the NCO to identify chairs of the plan taskforce, an outline of the document, scope of the plan, and timing for its development. OSTP will be asked to provide direction to the Federal agencies to develop this plan.

ESnet4 Plans

AI: Joe Burrescia will send Grant Miller the ESnet4 planning documents for including in the bibliography for the Federal Advanced Networking Plan

ESnet has identified near-term requirements to transport massive amounts of data,

particularly for the LHC Tier 1 and Tier 2 sites. Most of the data transfers accrue to a limited number of users (about 100). To support these requirements ESnet is moving from a primarily ring architecture to a routed IP network with sites dually connected on Metro area rings or dually connected to the core ring. A switched network will provide virtual circuit services for data-intensive science. ESnet is partnering with Level 3 for use of the Internet2 footprint. Infinera DWDM equipments will be used. ESnet will share, with Internet2, optical infrastructure, new circuit-oriented network services, and NOC backup services. It will expand multi-10 Gbps Metropolitan Area Rings in San Francisco, Chicago, Long Island, Newport News, and Washington, DC. For the entire briefing and schematics of ESnet4 please see the JET Web site at: **www.nitrd.gov**

National LambdaRail (NLR)

The NLR infrastructure is fully utilized between Chicago and StarLight. Additional fiber or services will be implemented to provide for future traffic. Most NLR allocations to users are 10 GE. Very few users are using SONET. They are allocating PacketNet at Layer 3 and FrameNet VLANs at Layer 2.

AI: If anyone has an interest in peering with NLR please contact Wendy Huntoon at **huntoon@nlr.net** or **noc@nlr.net**

NLR has implemented a measurement infrastructure at 4 sites including Houston and Atlanta. It will be NetFlow based.

At SC06, NLR will have a 6504 on the floor. The available 10 GE links have been fully subscribed. They are considering offering Layer 2 service to international users.

Further information on NLR may be seen in their briefing on the NITRD JET Web site.

GLIF and ONT3 Meetings

LSN, in coordination with Japan (NICT), sponsored an Optical Networking Workshop 3 to address international cooperation in optical networking testbeds. International facilities exist today that provide a multi-layer/multi-service communications infrastructure. A highly distributed "lambda Grid" is being designed to support multiple networks with different characteristics. The core of this facility will be provided by next-generation agile "intelligent" optical and photonic technologies. These innovations are driven by advanced optical/photonic research networking organizations in response to application demand and by new optical and photonic technology. The complete briefing may be found on the JET Web site at: www.nitrd.gov

Next JET Meetings

November 15, 9-11:30, Tampa Marriott, Waterside, in coordination with SC06
December 19, 11-2, NSF, Room 1150: Will be held IFF needed.