



February 12, 2010

CCIRN meeting

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Communications

Internet2 Update

Overview

- Internet2 today
 - Development: InCommon / PerfSONAR
 - ARRA & Policy Activities
 - Network
- Internet2 Tomorrow
 - CEO Search
 - Other organizational transitions
 - Community Expectations Task Force

InCommon Federation

- **Jan 2009** – InCommon Future [Group](#) formed
- **March 2009** – Future Group meets in Oakland
- **April 2009** – Draft [Report](#) for public comment
- **May 2009** – Three Town Hall forums for comment
- **July 2009** – Board report: “InCommon Future Report...”
- **September 2009** – Financial plan for Board discussion
- **December 2009** – Final 2010 Budget for Approval

Adoption history:

2004: **10** (pilot)

2005: **12**

2006: **41**

2007: **72**

2008: **124**

Current: 200

InCommon classes:

HE: 149

(approx. 4 million end users)

Partners: 54

(NIH, NSF

Labs, TeraGrid,

K12 School Pilot,

Marketplace of applications)

NETWORK SERVICES

- Network Changes
- New Connector Fee Options
- Commodity Peering Services
- Internet2 ION Service
- Open Network Management Initiative
- Cisco Telepresence
- Internet2 DNSSEC Deployment

Economic Stimulus

- Dept of Commerce NTIA programs
 - Broadband Technology Opportunities Program (BTOP)
 - \$4.7B by the American Recovery and Reinvestment Act – ARRA
 - to enhance broadband connectivity to underserved areas and community anchor institutions.
 - BTOP provides an opportunity for the government to invest in infrastructure key to ensuring anchor institutions have access to the broadband resources they require to transform education, research, health care, public safety, and government.
- FCC Advocacy – National Broadband Plan
- Other agencies: NSF, Esnet
- Advocacy
- More information at
 - www.internet2.edu/government/opportunities.html
 - www.internet2.edu/government/stimulus.html

CEO Search

- Search committee has met to develop search strategy, timetable
- Search consultants have met with the staff and members of advisory councils to gather input
- Additional meetings planned with the community within the next several weeks
- A job description for the CEO position has been posted to the Internet2 website and ads in key publications placed
- Nominations and applications encouraged by March 1, 2010. However, applications accepted until the position is filled.
- Monthly update to the community anticipated as process evolves
- Please provide input directly to the committee:
i2ceosearchinput@internet2.edu

Staff Transitions/Org Update

- ***New* Member Relations and Communications (MRC) team**
 - MRC brings together Internet2's member engagement team - including international and industry programs – with communications and meeting planning services under one umbrella to help better coordinate all of these activities.
 - International search update
 - My goals:
 - Support CEO Transition and Governance
 - Develop/re-invigorate strategy for Membership Engagement program
 - Re-new meeting planning and strategy
 - Create a cross-organization understanding of organizational and group priorities
- Other areas



Internet2 Update

Abridged Overview Internet2



Communities

- Arts and Humanities
- Health Sciences
- Science and Engineering
- Corporate
- R&E Networks
- International
- Government
- K20 - Teaching & Learning
- Network Research



Recent News

- CEO Search
- Staff Transitions
- Stimulus
- Areas

Internet2 members advance the state of art in networking. Internet2's broad range of activities and diverse membership community offer countless opportunities for participation and collaboration.

Member Relations and Communications (MRC) team

New Member Relations and Communications (MRC) team

- Ana Preston named Executive Director of MRC, 12/1/09
- MRC brings together Internet2's member engagement team - including international and industry programs – with communications and meeting planning services under one umbrella to help better coordinate all of these activities.

Ana's Goals

- Support CEO Transition and Governance
- Develop/re-invigorate strategy for Membership Engagement program
 - Every member counts
- Re-new meeting planning and strategy
- Create a cross-organization understanding of organizational and group priorities

Numbers

- 214 University Members
- 59 Affiliate Members *
- 33 R&E Network Members
- 10 Corporate Partners
- 37 Corporate Members

CEO Search

Search Committee Members:

- Molly Broad, President American Council on Education
- Jeff Lehman, Chair Internet2 Board of Trustees
- Jim Bottum, Vice Provost and CIO Clemson University
- Dave Frohnmayer, President Emeritus, University of Oregon
- Tim Lance, President & CEO NYSERNET
- Michael McRobbie, President Indiana University
- Alan Whitney, Associate Director, Haystack Observatory
- Bob Brammer, Vice President, Northrop Grumman

External Search Consulting Firm:

- Storbeck/Pimentel & Associates

Internet2 Commodity Peering Service (CPS)

- Mid January Traffic Snapshot (based on peak 2 hr averages)
 - 30Gbps toward Connectors
 - 9.5Gbps from Connectors
- TransitRail Peering
 - Internet2 CPS and TransitRail now peering in four locations: Los Angeles, Seattle, Chicago, Washington DC
 - Each network sending a subset of its *peer* routes to the other
 - Each network sending the other network's *customer* routes to a subset of its peers
 - Enables each network to realize the benefit of the combined routes between the two
 - Majority TR peers are residential broadband networks
- 157,000 Commodity Peer routes
 - Mostly high-value content providers
 - Amazon S3 and EC2 service should now be reachable via CPS
 - Approx. 41,000 peer routes coming from TransitRail

Evolving the Internet2 ION Service

- Dynamic circuit network services called Internet2 ION launched as a production service in Fall 2009. Next step is hybridization:
 - ION and IP service on the same platform brings new use cases and development opportunities
 - ION/IP services on a Universal Hybrid Port(s) provide easier interconnect and regional flexibility
 - More efficient leverage of member fees toward growing both services at the same time
- NTAC **concluded** that ION services over MPLS tunnels could co-exist on the same platform as the IP Network
- AOAC endorsed plans to migrate ION to the IP Network
 - ION services provided by MPLS tunnels on the MX960
 - Transition timeline being worked out
 - Goal is complete transition by July 31st, 2010

Open Network Management Initiative

- As members continue to layer services over their network links, initiative seeks to help understand how network links are being used and how they are performing.
- The initiative aims to:
 - Use the perfSONAR infrastructure to analyze the data
 - Work with the community to develop an open set of tools that address specific performance questions and issues
 - Develop some initial use cases and prototypes
 - Develop an Open Network Management platform that incorporates these tools
 - Provide assistance in the use of these tools and understanding their results
- Community input and partnerships needed to help further this development
- Contact Dale Finkelson (dmf@internt2.edu) for more information

Cisco Telepresence

- Internet2 and NLR have signed an MOU to present a unified telepresence service offering for the R&E community. The goal is to leverage the strengths of each organization to make Cisco TelePresence more widely available.
- Plans include:
 - Working closely with Cisco and one another on a Cisco TelePresence strategy
 - Jointly engaging commercial TelePresence providers, including AT&T and Cisco
 - Initially focused on Cisco TelePresence, but intended to be interoperable with other forms of videoconferencing
- Many details remain to be worked out, but far enough along to permit demonstration / proof of concept connections.
- For input or questions, please email: cisco-telepresence-request@internet2.edu or cisco-telepresence-request@nlr.net
- Mailing list for discussion, news, etc: cisco-telepresence-info@internet2.edu or cisco-telepresence-info@nlr.net

Internet2 DNSSEC Deployment

- The US Department of Homeland Security (DHS) funded Shinkuro (shinkuro.com) to promote pilots for DNSSEC in the U.S.
- The Internet2 DNSSEC advisory group was formed in cooperation with Shinkuro, focused on the R&E community. Group supports:
 - Monthly conference calls held to support those who want to deploy
 - Participation on the calls from representatives from Educause, NIST, and NASA.
 - Biannual BoFs at member meetings
 - ~100 subscribers on the email list
- Participation in Educause beta test effort for .edu signing
- internet2.edu & ucaid.edu zones signed in production
- Deployed validating resolvers to be deployed internally (this week)

Campus CI Days

- CI Days Consortium aims to help campuses with their CI events
 - EDUCAUSE, Internet2, MSI-CIEC, NLR, OSG, SURAGrid, TeraGrid
- Brings together campuses to address CI needs, planning, development
 - Includes faculty, researchers, IT staff, librarians, admin, students
- CI Days goals include:
 - Create tools to help other campuses with CI events and planning
 - Identify needs, problems and barriers in CI use and deployment
- NSF Grant provides funds to help eight university events
 - Colorado State University, North Carolina State University, Notre Dame University, Penn State University, Purdue University, University of Kentucky, University of Michigan, University of Wisconsin
- Other campuses are welcome to join in the activities
- CI Days Web Site – www.cidays.org
- More info: Russ Hobby (rdhobby@internet2.edu)

perfSONAR Adoption

- Networks
 - APAN, CENIC, CSTNET, ESnet, Geant, Gloriad, GPN, Internet2, JGN2, LONI, MAX, NOX, NSERNET, RNP, Starlight, Transpac2, UEN
- Labs
 - ANL, BNL, FNAL **, NERSC, PNNL, PSC, SLAC
- International Sites
 - Chinese University of Hong Kong, Chonnam National University (Korea), KISTI (Korea), Monash University (Melbourne, Victoria, Australia), MRREE (Lima, Peru), NCHC (Taiwan), NICT (Japan), Simon Frazier (Burnaby, BC, Canada), Thaisarn Nectec (Bangkok, Thailand), UNIFACS (Salvador, Bahia, Brazil)
- Other
 - Cobham, Northop Gruman, Ocala Electric, Philadelphia Orchestra, REDDnet
- Current
 - <http://www.perfsonar.net/activeServices/IS/>
- Universities
 - Boston University *
 - College of William and Mary
 - George Mason Univ
 - Georgia Tech University
 - Hope College
 - Indiana University *
 - Leeward Community College
 - Louisiana State University
 - Michigan State University *
 - Middle Tennessee State University
 - Northwestern **
 - Oregon State
 - Penn State University
 - Southern Methodist University *
 - Syracuse
 - Texas A&M University *
 - Tufts *
 - University of California Los Angeles
 - University of California San Diego **
 - University of Chicago *
 - University of Connecticut
 - University of Delaware
 - University of Hawaii
 - University of Michigan *
 - University of Northern Iowa
 - University of Oklahoma *
 - University of Texas *
 - University of Utah
 - University of Wisconsin (Condor)
 - University of Wisconsin (Madison) * **
 - Vanderbilt **
 - University of Florida **

* USATLAS

** USCMS

Control Plane Software

- ION uses OSCARS and DRAGON Software for service provisioning and control
 - Developed in partnership with ESnet, USC ISI East, MAX
 - Enables provisioning Ethernet VLAN "Circuits" across multiple domains and heterogeneous networks (MPLS, SONET, Ethernet)
 - Current version of software suite: 0.5.2
 - <https://wiki.internet2.edu/confluence/display/DCNSS/Home>
- The following Networks have deployed software suite:
 - Internet2 ION
 - USLHCNet
 - CalTech
 - Northrop Grumman
 - NYSERNet
 - LEARN
 - LONI
 - University of Amsterdam
 - Mid-Atlantic Crossroads (MAX) DRAGON
 - I2 Ann Arbor Site
 - Japan Research Network(JGN2)

ION Control Plane Software

- There are multiple other networks connected to ION who use Web Browser GUI or API to provision services; or who map through static VLANs to specific destinations.
 - These networks are connected to ION, but do not deploy OSCARS or OSCARS/DRAGON.
- Other organizations have also been experimenting with software suite and deployment of dynamic network capabilities.
- ESnet and Internet2 are currently collaborating on next version of OSCARS
 - Objective is to develop a more modular architecture to facilitate a larger open source development community to emerge and contribute
 - This is a work in progress - software architecture and functionality are currently under development
 - All existing capabilities and deployments are expected to be supported with new software release

COMMUNITY OUTREACH

- CI Days
- Science Communities
- K20
- Spring Member Meeting Opportunities

Scientific Outreach

- The Internet2 K20 Initiative has formed a new working group
 - The Remote Instrumentation & Data Visualization Tools Working Group was formed to identify scientific resources and equipment available for public use.
 - Currently cataloging scientific communities and identifying personnel and equipment.
 - Internet2 R&D staff members assisting bridge the gap between the scientific community and educators.
- The Research and Education Data Depot network (REDDnet) is an NSF funded initiative to study and investigate data storage along network paths of interest
 - REDDnet has adopted perfSONAR tools to monitor the health and status between locations
 - REDDnet will include monitoring tools on all future software distributions

Upcoming Events and Opportunities

Spring 2010 Internet2 Member Meeting

26-28 April 2010

Arlington, VA

- Track Session proposals still being accepted
 - Focus areas include: Identity Management Federations, Collaboration Tools, Cloud Computing, Green Technologies, Economic Sustainability, Health Care Networks
 - New track introduced this year: Federal Agency Perspectives
- IDEA awards – www.internet2.edu/idea
 - Led by AMSAC, nominations now being accepted, deadline 2/28/10
 - Recognizes innovative applications of advanced network technology that have made—or promise to make—the most significant impact on the R&E community.
 - 2009 winner: Enabling Virtual Organizations (EVO),
- Richard Rose award – www.internet2.edu/rose
 - Recognizes individuals who have had an impact on extending advanced networking resources to the K20 community
 - Deadline 3/15/10