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CENIC News

The President's Message: CENIC/CUDI Connection Enables Educational Innovation

This month, I'd like to share with you an example of the old adage .if you build it, they will come.. While there are those who believe that networks should only be built to meet existing well-documented needs, fortunately educational institutions and some governmental funding agencies realized long ago that if you want to stimulate innovation, it is important to provide a robust network infrastructure that is even a bit ahead of what is accepted as sufficient to meet current, documented traffic needs.

Last year, CENIC was a recipient of funding from the National Science Foundation to acquire fiber in order to connect CUDI, our counterpart network in Mexico, to our CalREN network. This funding paid for fiber between Tijuana and San Diego, allowing us to install equipment to obtain cost-effective Gigabit connectivity across the border . the world.s first international Gigabit connection.

This capability, which includes the ability to add additional Gigabit capacity at very modest costs, has begun to bring about just the types of innovations that the NSF hoped for in terms of joint research collaborations. But, it has also provided for capabilities to improve education across the border.

Earlier this month, the University of California.s UCCP program hosted an Online Learning Summit in Mexico City with funding from the Hewlett Foundation. The two-day event addressed curriculum sharing via CENIC.s network connection to CUDI as well as the signing of an agreement to create a bi-national high school to enable students to continue their education more easily as they cross the border. Signed by California educational representatives including John Anderson, the Superintendent of Schools for Imperial County Office of Education and head of state-funded K-12 participation in CENIC, and Francisco Hernandez, the UC Santa Cruz Vice Chancellor for Student Affairs, as well as a long list of dignitaries from Mexico.s educational systems, the agreement holds great potential for students in California as well as those in Mexico who can expect to enter into California. This innovative educational offering is exactly the type of activity that can only occur with the installation of capacity in advance of knowing exactly how it will be used.

CENIC invites you to get your imaginations going in search of creative ways to use the cross-border network capacity to enable innovations in teaching and research. This resource has tremendous potential to empower people on both sides of the border, and we.re eager to discover new ways to make it happen.

-- Jim Dolgonas, CENIC

CALEA Update: Reply Brief for Petitioners Available, Oral Arguments May 5, 2006

For those of you following progress of the Communications Assistance for Law Enforcement Act (CALEA), the latest Reply Brief for Petitioners is available on the CENIC website at <http://www.cenic.org/calea/>, along with other documents pertaining to CALEA. Oral arguments are scheduled to be heard on May 5, 2006.

If you'd like to remain apprised of the progress of CALEA or learn more, please visit our website at <http://www.cenic.org/calea/>.

Source: Janis Cortese, CENIC

CalREN Next-Generation Designs Move Forward

CENIC's Core engineering team (consisting of Chris Costa, Brian Court, Sherilyn Evans, Nihar Mehta, Darrell Newcomb, Heather Sherman, and Erick Sizelove) developed a design proposal for the next generation of the CalREN-DC network. The plan was presented to the DC TAC immediately following CENIC's annual conference to overwhelming approval. In the next phase of the project, CENIC's Core engineers will develop additional detail for the consideration of the CENIC Board of Directors. Watch future issues of CENIC Today for further developments on this exciting next step for CalREN-DC.

A design subcommittee of the HPR TAC (consisting of Mark Boolootian of UC Santa Cruz, Brian Court of CENIC, John Haskins of UC Santa Barbara, Rodger Hess of UC Davis, Tom Hutton of the San Diego Supercomputer Center, ken lindahl of UC Berkeley, and Michael Van Norman of UCLA) has developed a set of design recommendations for the next generation of the CalREN-HPR network and for an initial implementation of a standing CalREN-XD network. The HPR TAC reviewed and further developed the design proposals and asked CENIC engineering and the design team to prepare a financial analysis for submission to the Board of Directors.

Source: Brian Court, CENIC

CENIC Network Projects Update

More and more eligible education-related institutions see the value of a CalREN connection, and we are getting more requests for us to research fiber opportunities from members of all the education segments.

The existing connections to our K-12 sites has remained steady during the past year, and several of the larger counties may be getting upgrades to GigE connections when funding for such upgrades become available.

Connections serving the community colleges have been growing steadily. We are working with several districts and campuses to schedule a physical move of their connection due to construction or other campus issues. Since the beginning of this fiscal year, several additional campuses have been provided with their own network connection as opposed to being served via a district hub connection, as has been reported in CENIC Today in the past. Circuit upgrades are being examined for several large community college districts with high circuit utilization. San Bernardino Valley College recently completed upgrading their core infrastructure on campus in preparation for providing streamed telecourses for all community college students throughout the state, and bandwidth upgrade options are being explored. We are also working with the last of the community colleges who have not been able to migrate to Video-over-IP for various reasons, and we are hopeful this effort will be completed in April. CENIC is also pleased to be a presenter at the annual CISOA conference in Monterey from April 9-12, 2006. Our presentation will be titled "CENIC: Bridging the IT and Research Communities." More information on this event can be found at http://www.cisoa.org/index.php?module=sthtml&op=load&sid=s1_030_c06home.

The Cal State system's Campus Access Infrastructure initiative is continuing to progress. Two additional Cal State campuses are scheduled to get a GigE connection via leased circuits . CSU Bakersfield in mid-April and CSU Long Beach in mid-May. Detailed scheduling and coordination work with various vendors to complete CENIC-managed fiber connections to several of the campuses is also continuing.

On the UC side, we are working to establish a CENIC-managed fiber connection to the newest UC campus, UC Merced, for its connection to CalREN-HPR.

Network connections for several private universities not currently connected to CalREN are also being researched, and we look forward to providing you with more information once all details have been finalized.

Source: Edwin Smith, CENIC

CENIC 2006 Conference Success! Stay Tuned for News About CENIC 2007

In Oakland, CA from March 13-15, the research and education elite of California and beyond met at CENIC's annual conference, "Your Connection to the World." Despite the uncooperative weather, the conference was a resounding success, featuring keynote speeches from the San Diego Supercomputer Center's Fran Berman and Harvard University's Scott Brander, speaking on the "team" nature of science and how today's technology can and should be used to draw collaborators together more effectively, and the nature and evolution of the Internet, its technology, and its perception respectively. Other addresses were given by luminaries such as CENIC's Innovation Awards winners:

- Outstanding Individual Contribution: David Wasley
- Innovation Award for Experimental/Development Applications: iGrid 2005 . www.igrid2005.org

- Innovation Award for High-Performance Applications: MonALISA . monalisa.cacr.caltech.edu
- Innovation Award for Gigabit/Broadband Applications: Loma Linda Connected Communities Project . www.lomalinda-ca.gov/llccp_index.htm

Award winners' names are listed on our conference website at <http://www.cenic.org/events/cenic2006/> along with the full conference program and links to speaker presentations.

Presentations ran the gamut from K-12 educational uses to the hard sciences to drama and arts performances as well, showcasing the wide range of achievements possible when dedicated high-bandwidth networking is made available to everyone in the research and education community. CENIC is proud that CalREN has facilitated these and other achievements and looks forward to spotlighting upcoming innovations at our next conference in March 2007.

We'd also love to take this opportunity to thank everyone who made the conference such a resounding success, from our own CENIC staff to the attendees, speakers, and award recipients, and our volunteers from UC Office of the President and the Cal State Chancellor's Office. The success of the conference was your success, too -- thanks!

Source: Janis Cortese, CENIC

National Networking News

US/Mexican Summit on Bi-National High School and E-Learning To Serve CA's Hispanic Community

Nationwide reports on high-school education agree that the dropout rate for Hispanic youth is alarmingly high. Of all Latino high school dropouts, one in three were primarily educated abroad.

On March 6-7, 2006, a binational summit . Access to Education Opportunities without Borders through Online Learning . was held in Mexico City to create a forum to discuss education topics that are of interest to Mexico and California, and explore how E-learning can be an avenue to solve problems faced by the two countries.

UC College Prep Online (UCCP) has partnered with colleagues in Mexico.s CUDI to align the Mexican online curriculum in Spanish to the California Content Standards. UCCP also signed an agreement in 2005 to translate their courses into Spanish and make them available to students in Mexico and California. Already, UCCP and Colegio de Bachilleres (Mexico.s high school diploma-granting education agency) have aligned the Mexican online curriculum with California standards. In Fall 2006, participating school districts in a pilot program in Imperial County will begin accepting a "certificate of equivalency" that Mexican students can present to receive credit for courses taken in Mexico.

Source: UCCP, <http://www.uccp.org/binationalsummit/>

BBN Technologies Report on National LambdaRail: NLR Leading the Industry, Members are Leading the World

In a report by Dr. Kristen Rauschenbach of BBN Technologies, released on March 17, 2006, National LambdaRail was assessed as "leading the industry with respect to data interfaces and control-plane strategies for long-haul optical data networks." NLR members were also acknowledged as "producing world-leading results in their own fields."

The report went further to specify that the cutting-edge services offered by National LambdaRail were not available at any reasonable cost from commercial providers, and that NLR offered significantly more flexible interfaces and network topology than could be found commercially, including access to control and management, and access to dark fiber.

To learn more about NLR's national optical network, you can find the entire in-depth report at <http://www.nlr.net/pubs/NLR-TechReport-BBN.pdf>.

Source: Janis Cortese, CENIC

GridNets 2006 Call for Papers

Grid developers and practitioners are increasingly realizing the importance of an efficient network support. Entire classes of applications would greatly benefit by a network-aware Grid middleware, able to effectively manage the network resource in terms of scheduling, access and use. Conversely, the peculiar requirements of Grid applications provide stimulating drivers for new challenging research towards the development of Grid-aware networks.

[...]

Between Oct 1-2, 2006 at San Jose, California, the Gridnets 2006 workshop will provide a focused and highly interactive forum where researchers and technologists will have the opportunity to present and discuss leading research, developments, and future directions in the Grid networking area.

[...]

The GridNets 2006 workshop will focus on research issues and challenges as well as lessons learned from experience. Topics of interest are given on the workshop website. Check it out to learn more about the event itself, submission guidelines, and the deadline dates for papers!

Source: GridNets 2006, <http://gridnets.org/2006/cfp.html>

Grid Gets The Blood Flowing

A collaboration of mathematicians, middleware developers and visualization scientists has demonstrated the most comprehensive three-dimensional model of human arterial blood flow ever attempted. The simulation of the human arterial tree, the network of arteries throughout the human body, was completed using TeraGrid resources.

"We want to be able to study diseases like atherosclerosis in more detail," said George Karniadakis from Brown University.

[...]

Over the past 10 years, Karniadakis and his research group developed a computer program that simulates the largest 55 arteries and 27 bifurcations, or places where an artery splits into two, in the tree. Until last year, the simulations were run on only one computing resource at a time, modeling at most two or three branching sites at once. But in early 2005, the collaboration proposed harnessing the combined power of the TeraGrid's many computing resources to simulate, and visualize in real time, more than a dozen branching sites.

Source: Science Grid This Week, http://www.interactions.org/sgtw/2006/0329/arterial_tree_more.html

Recent Internet2 Land Speed Records Show that IPv6 is Almost on Par With IPv4

Internet2, a consortium of more than 200 universities working with industry and government to develop new Internet technologies, announced yesterday that an international team led by the University of Tokyo has set new Internet2 Land Speed Records (I2-LSR) in both the IPv6 and IPv4 single and multi-stream categories.

[...]

For the IPv6 record, the University of Tokyo team, working with the WIDE Project, Pacific Northwest Gigapop, JGN2, Chelsio Communications and other institutions, created a path more than 30,000 kilometers long and crossing five international networks. The team transferred data at a rate of 6.18 Gbps, achieving a mark of 185,400 terabit-meters per second (Tb-m/s) - 10.75 percent more than the previous IPv6 record.

Source: TMCnet, <http://news.tmcnet.com/news/2006/03/09/1444997.htm>

Internet2 Coming to New Zealand

A government investment of \$43 million -- over five years -- will bring New Zealand's universities and major research centers up to broadband speed with counterparts around the world.

[...]

New Zealand's super-fast broadband initiative advocacy group -- Next Generation Internet NZ -- is recognized as an international partner by the Internet2 organization.

The NZ Advanced Network, as described today by Research, Science and Technology Minister, Steve Maharey, will connect New Zealand universities and research institutes through a fiber-optics network that the minister says will be "400 times faster than domestic broadband."

The network will also provide a connection to international networks -- like Internet2 -- through links between New Zealand, Australia and the United States.

Source: The National Business Review, http://www.nbr.co.nz/home/column_article.asp?id=14510&cid=3&cname=Technology

Alaska State Education Network Connects to Internet2's Next-Generation Network

Children across the state of Alaska will soon have access to one of the fastest networks in the world.

Representatives from Internet2 and the University of Alaska Fairbanks (UAF) today announced that Alaska's statewide education network, AK20, will become the 35th state education network to connect directly to Internet2's nationwide high performance network. Leveraging this connection, AK20 will participate in the Internet2 K20 Initiative which will give Alaska's students access to cutting-edge, Internet-based educational opportunities not available today on the commercial Internet.

Source: PR Newswire, <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/03-23-2006/0004326064&EDATE=>

Online Colleges Get Boost from Congress

The New York Times reports that in a new budget bill, Congress has restructured the rules for online colleges. They will no longer be required to offer half of their classes on campus in order to receive federal aid. This expected to be a major boon for the for-profit education industry. While most colleges offer online courses, only a few universities are completely Internet-based, and all of those are for-profit.

Source: New York Times, <http://www.nytimes.com/2006/03/01/national/01educ.html> (requires free registration)

About CENIC

CENIC is charged with designing, provisioning, and operating robust, high-capacity, next-generation Internet communications services through a cohesive infrastructure for its associates and affiliates. CENIC represents the common interests of its associates, who are drawn from California's higher education academic and research communities, and is highly accountable to the institutions it serves in order to fulfill the trust that has been placed with it. CENIC also provides services to California K-12 schools and, in order to facilitate the education and research mission of its associates, to non-California higher education institutions, and to industry research organizations with which CENIC Associate researchers and educators are engaged.

For more information, visit www.cenic.org.

Subscription Information

You can subscribe and unsubscribe to CENIC Today via the web at: <http://lists.cenic.org/mailman/listinfo/cenic-today>

Website questions: webmaster@cenic.org

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