



LEADING THE WAY TO TOMORROW'S INTERNET


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CENIC News

CalREN Optical Network Deployment Update

The migration of the tail circuits from the existing 4CNet infrastructure to the new optical CalREN-DC network continues to move forward. We have successfully migrated all the CSU sites and Community College sites out of 4CNet's "central valley" backbone. The 4CNet Qwest sites in Bakersfield, Fresno and Stockton are now in the process of being decommissioned. Relative to the data migrations, 79% of the DCP node sites have been migrated to the CalREN-DC network, 54% of the Community College sites, and 54% of CSU sites.

Source: Edwin Smith, CENIC

CENIC 2004 Lighting a Path for Imagination

This year's CENIC conference was held on March 15-17 in Marina del Rey, just outside of Los Angeles. The pretty surroundings were obscured by the fog most days of the conference but there was plenty of light to be found in the imaginations of the conference attendees. For a detailed look at the agenda and to view presentation slides visit: <http://www.cenic.org/events/cenic2004/agenda.htm>.

The keynotes of the conference were interesting and the topics had a broad range. The first day, the keynotes touched on the history and current achievements of CENIC, as well providing a roadmap for where CENIC will go in the future. John Silvester, Chairman of the CENIC Board, provided the future look, while M. Stuart Lynn offered the backward look to when he and a group of others first had the idea for CENIC. At the end of the talks John presented Stuart with a plaque acknowledging his contributions to CENIC.

The second day's keynote featured an animated talk about the 'undernet' and the denizens that inhabit it. Rob Thomas, of Team Cymru, took the wraps off life underground and provided significant insight into the rational and motivations of Internet miscreants. Surprise, surprise, the

motivation most often comes down to money to be gained. Rob's talk involved the whole audience and cleaned out the coffee pots for up the three ballrooms away! He was very animated and passionate about the subject.

The last day's keynote discussed the implications for a research network to support Biomedical Informatics Research. Professor Mark Ellisman, Director of UC San Diego's Center for Research in Biological Structure, captured the audience with his descriptions of real life uses of high speed data network transfers, Grid computing and high capacity storage systems. The NIH is one of the big supporters of his work at UCSD and it is clear that this support is really making a difference in the way big science is being done and in the archiving of data for other researchers' studies in the future. His talk provided a vivid time line, which stretched into the future for nearly a decade, of the data needed, the locations that will use the data and the processing required to allow the big discoveries in biological science.

Monday morning, between the CENIC presentations, Steve Peace, of Cornerstone Strategies, Former Director, California Department of Finance & Former State Legislator, made a presentation about research and technology from the Sacramento political perspective and gave hints at how Washington views the state of California. He talked about a number of issues including the need for politicians to behave more ethically. By most accounts, this proved to be thought provoking and a new perspective for most in attendance.

Also, Monday, both at lunch and the first session afterward, was highlighted by the "On the road to a Gigabit" awards. Lunch ended with the awards presentation to the winners for their outstanding work in six different categories. The afternoon session allowed each of the winners and the three honorable mention groups to present a brief overview of their work. Very interesting work is being done in this area. For full details on the winning entries visit <http://www.cenic.org/gb/awards/2004/winners.htm>.

Each day began with presentations by a conference sponsors about their services and offerings. From listening to the presentations, it is clear that the economic dip is over and that corporations are back to doing interesting and broad projects.

Tuesday afternoon was divided into three different breakout tracks. A variety of different topics were presented in a Collaborations Track, a Teaching and Learning Track and a New Frontier Track. While the New Frontier track attracted the most attention, the other presentations were fascinating examples of real uses of network technology as it is available today.

In addition to all of the above-mentioned presentations, Monday had a session focusing on Fiber to the Home & Campus. Tuesday followed up Rob Thomas's presentation with a Network Security Panel where experts discussed real issues at their institutions. Wednesday had two sessions, one on the technology and network needed for High-Definition Live Streaming of performances and the second on CENIC and Pacific Wave's strategies for International Peering.

Two receptions were held in a small exhibit hall where the eight conference sponsors were available to discuss their offerings and products.

Next year the conference will be in the same location in Marina del Rey on March 8-10, 2005. Hope you'll make the time to attend!

Source: Phil Reese, Stanford University

CENIC 2004 – A First-Timer's Perspective

During my 15 years' career as a network architect and engineer, I have been to numerous network related conferences and meetings such as IETF, InterOp and NANOG, but never one which was as diverse as the CENIC Meeting held on March 15-17th in Marina del Rey, CA. The topics ranged from ethical issues, common good vs. private gain, to cutting edge high bandwidth Internet infrastructure.

The one session that impressed me the most was the "On the Road to a Gigabit" presentations moderated by Susan Estrada of CENIC. The presenters were the respective representatives of the organizations or projects that won the "ON THE ROAD TO A GIGABIT" Awards. The presentations included those from higher education institutions that distribute research data at geographically distributed sites over the high bandwidth optical network, K-12 school districts such as the Desert Sands Unified School District, which works towards having every desktop with gigabit connection capability in its schools, and the City of Fontana which is planning on building a gigabit optical fiber infrastructure to link the communities in the city in order to facilitate education, healthcare, government and community-based interactions.

I can't help but be impressed by the fact that we are in this new era in which the Internet is no longer the exclusive domain of small groups of people in ivory towers. It is certainly a long way from the days when I had to explain what the Internet is about to a college professor to the present, when even school kids know what it is and use it as if it has always been part of the landscape. High speed networks are no longer accessible only to people in prestigious higher education institutions. Rather, it is ubiquitous. I think we should all thank CENIC for being one of the forces in pushing this advancement.

Source: Jessica Yu, Cal-IT(2)

2004 "On the Road to a Gigabit" Award Winners Announced

The "On the Road to a Gigabit" awards, sponsored by CENIC and Cal-(IT)², were presented at a luncheon on March 15, 2004 as a part of CENIC's annual conference. The awards showcase the pioneering ideas of today's visionaries and the promise of tomorrow's Internet, as well as highlight the technologies paving the road to a gigabit world.

The experts judging the nominations included Kathie Hackler, Research Vice President, Gartner Consulting; Molly Petrick, Contra Costa Water District; John Silvester, Vice Provost for Scholarly Technology, University of Southern California; Larry Smarr, Cal-(IT)² Director; and Bill St. Arnaud, Senior Director of Advanced Networks, CANARIE.

Winners were announced in six categories:

- **Biggest, Fastest in the West:** This award honors the fastest and most scalable high-performance networking application/technology.
Winner: On Demand Infrastructure: A Basis for High Performance Grid Computing - San Diego Supercomputer Center (SDSC) and IBM
- **Community:** This award honors innovative uses of high-performance networking to overcome network disadvantages (economic and/or location based).
Winner: Behind the Redwood Curtain: The Power of Community Activism in Broadband Deployment - Redwood Technology Consortium
- **Education:** This award honors innovative uses of high-performance networking in K-12 and higher education.
Winner: Education Telecommunications Network (ETN) - Los Angeles County Office of Education
Honorable Mention: Teaching and Learning Interchange (TLI) - University of San Francisco; California County Superintendents Education Services Association; Kings County Office of Education; San Diego County Office of Education; San Joaquin County Office of Education; and WestEd
- **Gigabit or Bust:** This award honors the high-performance networking application/technology that best exemplifies what life would be like in a gigabit-connected world.
Winner: Desert Sands Gigabit Ethernet - Desert Sands Unified School District
Honorable Mention: Education Applications for a Gigabit Network - El Monte Union High School District
- **Innovation:** This award recognizes innovative contributions to high-performance networking that best exemplify the creative spirit and the bottoms-up philosophy that created the Internet.
Winner: Fontana ACES-Advanced Community and Educational Services Network - City of Fontana
- **Partnership:** This award honors the best use of high-performance networking developed by a private/public partnership.
Winner: Ultralight Partnership – Caltech, CERN, LANL & SLAC
Honorable Mention: George Wright Society's Virtual Field Trip to Fish Creek – California State Parks, HPWREN & San Diego County Office of Education

More information about the winning entries can be found at <http://www.cenic.org/gb/awards/2004/winners.htm>

National Networking News

'Ultra-Communicators' Demand More eMail Access, Better Software

A recent survey suggests the pervasiveness of internet-connected computers at home and in the nation's schools has given rise to a new breed of tech-savvy student: "ultra-communicators," who say they approach their daily lives differently as a result of technology. The survey's findings have important implications for school leaders as they seek to design learning environments that meet the needs of today's students.

"Voices & Views from Today's Tech-Savvy Students"--part of a national report sponsored by the nonprofit group NetDay--surveyed more than 210,000 K-12 students from all 50 states to learn what role technology plays in their day-to-day activities.

Source: eSchoolNews, <http://www.eschoolnews.com/news/showStoryts.cfm?ArticleID=4946>

Internet2 End-to-End Performance Initiative Tackles Critical Performance Measurement Interoperability in Close Cooperation with Europe & Canada

Internet2(R) today announced that the Internet2 End-to-End Performance Initiative Performance Environment System (E2E piPEs), in close cooperation with DataTAG and GEANT in Europe and CANARIE in Canada, is tackling critical performance measurement issues that face the greater Internet community. One such step to address these issues is to work towards the interoperability between the E2E piPEs project, the National Science Foundation supported National Laboratory for Applied Research (NLNAR) Advisor project, and the High Energy Nuclear Physics MonALISA (MONitoring Agents using a Large Integrated clientS Architecture) project.

The transatlantic e2e performance measurement interoperability demonstration was successfully conducted at the First International Grid Networking Workshop (GNEW 2004) and the Transatlantic Performance Monitoring Workshop both at CERN in Geneva, Switzerland. The demonstration focused on moving data packets across the IP- routed infrastructure and a next-generation hybrid optical-packet network, and measuring the performance of this packet transfer over three separate transatlantic, bi-directional paths between Los Angeles, Calif. and Geneva.

Source: I2-News, <https://mail.internet2.edu/wss/arc/i2-news/2004-03/msg00001.html>

Distance Learning and Telemedicine Program

The Rural Utilities Service invites applications for funding under the Distance Learning and Telemedicine Program. This program seeks to provide access to education, training and health care resources for people in rural America through the use of advanced telecommunications technologies. Approximate FY 2004 funding for awards is broken down as follows: \$15 million for grants, \$110 million for combination loan-grants, and \$200 million for loans. Eligible is any incorporated organization or partnership, Indian tribe or tribal organization, state or local unit of government, consortium, or other legal entity such as a private corporation organized on a for-profit or nonprofit basis. Applications are due April 30, 2004. More information is available at: <http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2004/04-4322.htm>

Source: Department of Agriculture

More Cities Report Worse Economic, Fiscal Conditions than Improved Ones, NLC Finds

Preliminary findings from an annual survey conducted by the National League of Cities (NLC) reveal economic and fiscal conditions are worsening in many of America's cities and towns. A large segment of those surveyed by NLC also reported improvements in areas such as the vitality of their downtowns, increased efficiency in service delivery, and preparedness for emergencies and homeland security. The 345 respondents in the survey, State of America's Cities, reflect a nationally representative sample.

Responses from the surveyed cities and towns indicate that both overall economic and fiscal conditions have worsened over the past year more than they have improved, according to NLC data. Overall economic conditions worsened in 40 percent of cities, compared to 26 percent that said conditions improved. Roughly one-third of those sampled reported no change in their economic conditions. Forty-four percent said fiscal conditions have worsened, compared to 22 percent that reported improvement. Nearly one-third said they experienced no change in their fiscal conditions.

Source: The National League of Cities, http://www.nlc.org/nlc_org/site/newsroom/nations_cities_weekly/display.cfm?id=AA9FB740-9064-4382-85DFCB0363FFF7E7

Urban Markets Initiative

The Urban Markets Initiative requests expressions of interest for pilot projects to develop innovative information tools that extend and improve the efficiency of markets to better include inner city areas and their residents. A possible project might include information technology that links neighborhood consumers to service providers. Up to \$1 million is available for four awards ranging from \$30,000 to \$200,000. Projects are expected to match this funding on a one-to-one basis. Multi-year projects will be considered. An informational meeting is being held March 2, 2004, for open discussion and exchange. Expressions of interest are due March 15, 2004. More information is available at: <http://www.brookings.edu/urban>

Source: The Brookings Institution

Report: Unused eRate Funding Spiked in 2002

Despite declining technology budgets, schools and libraries nationwide have failed to use 42 percent of the eRate discounts promised to them for funding year 2002, according to an analysis conducted by eRate consulting firm Funds for Learning. The federal agency administering the eRate disputes the report on grounds that the data are not all in yet.

Using publicly available data as of Feb. 27, the company report calls untouched \$947 million of the funding commitments approved for program year 2002, which officially ended Sept. 30, 2003.

Source: eSchoolNews, <http://www.eschoolnews.com/news/showStoryts.cfm?ArticleID=4938>

Campus Wireless Technology Leading to Innovations in the Classroom and Beyond

More than 150 UC Berkeley students in Ruth Tringham's Anthropology 2 course last fall engaged in rich and lively classroom discussions, thanks to the presence of a new participant: wireless technology.

The course, an introduction to archaeology, was redesigned to take advantage of the communication possibilities that the web and wireless technology afford. Instead of lecturing, Tringham provided the students with information guides and library sources on the web in advance of class and used the lecture periods to hold "forums" in which students assembled into research teams and discussed specific archaeological topics. The students used wireless-enabled laptop computers to take part in chat rooms, the text of which was projected on a big screen for all to read. Discussion leaders - Tringham, her teaching assistants, and designated undergraduates from the course - served as moderators, responding to selected topics appearing on the screen while the online chat continued.

Source: UC TLTC NEWS, <http://www.uctlc.org/news/2004/03/feature.html>

Students Around the World to Gather at International Megaconference Jr., Powered by the Internet2 Commons Videoconference Service

Internet2(R) announced that its Internet2 Commons Videoconferencing Service via H.323 is providing the power behind the first international Megaconference Jr. to be held on May 6, 2004. Megaconference Jr., born out of the Megaconference founded by Bob Dixon at Internet2 member Ohio State University, is

designed to give students in elementary and secondary schools around the world the opportunity to communicate, collaborate and contribute to each other's learning in real-time, using advanced multi-point video conferencing technology.

Source: I2-News, <https://mail.internet2.edu/wws/arc/i2-news/2004-03/msg00002.html>

About CENIC

CENIC is a not-for-profit corporation serving California Institute of Technology, California State University, Stanford University, University of California, University of Southern California, California Community Colleges and the statewide K-12 school system.

CENIC's mission is to facilitate and coordinate the development, deployment and operation of a set of robust multi-tiered advanced network services for this research and education community.

More information about CENIC can be found at <http://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>

Keep track of the Digital California Project and the One Gigabit or Bust Initiative by visiting the CENIC publications page or by subscribing directly to the publications. Visit <http://www.cenic.org/pubs> for more information.

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