



LEADING THE WAY TO TOMORROW'S INTERNET



[About CENIC](#)
[Network](#)
[Services](#)
[Projects](#)
[Associates](#)
[Publications](#)
[Events](#)


PUBLICATIONS

Volume 6, Issue 2
February 2003

IN THIS ISSUE:

CENIC News

- CENIC 2003 – Mark the Dates
- CalREN Optical Network Buildout Status
- DCP Update
- CENIC announces the On the Road to a Gigabit Awards
- CalREN NOC RFP

National Networking News

- UC Television Pushes Technological Envelope
- SDSC Selected as a National Internet2 Technology Evaluation Center
- National Science Foundation Releases New Report from Advisory Committee for Cyber infrastructure

About CENIC

- About CENIC
- Subscription Information

QUICK LINKS

[CENIC Today](#)
[DCP Today](#)
[GB Today](#)
[Brochures](#)
[Reports](#)
[Presentations](#)
[Video Presentations](#)
[Other Documents](#)
[CENIC Home](#)

CENIC News

CENIC 2003 – Mark the Dates

CENIC 2003, our annual conference event, is set for May 7, 8 and 9 in Santa Barbara, California. The program this year features Alex Lightman, author of "Brave New Unwired World: The Digital Big Bang and the Unwired Internet" and a Cal(IT)² scholar. We've also added an additional day to the annual event to incorporate CENIC's NGI Roundtable initiative of one gigabit to every home and business in California by 2010.

Join your colleagues at this vibrant, engaging event and learn how CENIC's vision will lead the way to tomorrow's Internet. For more information, visit <http://www.cenic.org/CENIC2003/index.htm>

CalREN Optical Network Buildout Status

Work on the CalREN optical network is well underway. For the past month, CENIC and the equipment and service providers have been planning backbone equipment deployment. Weekly infrastructure meetings with Level 3 and several carrier neutral hotel facilities are continuing in order to ready the hub sites and backbone fiber for the upcoming equipment installations. CENIC staff members are working closely with Cisco to finalize the equipment installation schedule, which will be immediately followed by the testing and turn up of two backbone paths between Los Angeles and San Diego, the path from Los Angeles to Sunnyvale, and the Sunnyvale to Sacramento path. As soon as these segments are turned up, circuit migration from the existing to the new hub sites will begin.

Fiber for the Los Angeles to Chico path through the Central Valley of California has been ordered. Last mile fiber construction is also proceeding. Dates for fiber availability range from early March to late April, depending on the campus served. A new SBC Enhanced GigaMAN service is being deployed to six University of California sites to provide network redundancy. CENIC is working with SBC and the UC campuses on deployment of this service.

The first batch of Cisco electronics has arrived at CENIC's headquarters and is being inventoried and staged. Work to augment CENIC's engineering staff is proceeding, with one senior engineer starting last week, another next week and others expected to begin shortly.

The current timeline calls for:

- * Cisco to have the backbone wave division multiplexing (WDM) equipment installed and tested on the first four paths by April 30,
- * CalREN sites connected to the new backbone over fiber paths in May and June,
- * and for SBC to have their Enhanced GigaMAN services operational by June 30.

An advisory committee has been established to provide a recommendation on Network Operations Center (NOC) services. This committee is expected to complete its work by April, with NOC services (insourced or outsourced) to begin shortly thereafter.

CENIC became the first connector to Abilene to connect at 10-gigabit Ethernet this month. This is the technology used throughout the CalREN/HPR backbone.

For those interested in greater detail, CENIC is maintaining various documents, milestone progress, and project schedules related to the CalREN network buildout at <http://www.cenic.org/downloads/pmo/>

Source: Brian Court, CENIC, Director, Network Engineering and Design Engineer - CalREN

DCP Update

Activities progressed on a number of fronts since the last update. A draft "content hosting" RFP was prepared and circulated for comment to publishers and the DCP Network Liaisons. The objective of the RFP is to select pre-qualified sites that would host commercial content directly on the network for a fee. Hosted content would be reviewed through an appropriate review process established for each type of content. The RFP is expected to be distributed during March.

The E-Rate application for next year was prepared and submitted at the end of January. A laborious process into which many individuals contributed resulted in the preparation of the 950 page application. CENIC hopes to receive E-Rate funding next fiscal year, as is the case this year, in the form of circuit discounts that will help fund the backbone network and connections to K-12 schools. A process to solicit proposals to fund last mile K-12 connectivity will be undertaken towards the end of this fiscal year.

Gathering of data to identify current connectivity of K-12 schools and districts was completed in December. As this article was being written, data is being reviewed for accuracy. The K-12 network liaisons played a major role in the data collection and in the quality review process. We are grateful for their efforts. Last mile data, including information on the costs of connecting schools and districts without network connections, is expected to be available for publication by the end of March.

Interest in use of the network for various types of collaborations continues to grow. Real time interactive web casts for professional development and administrative purposes continue to be popular. To enable widespread use of web casts, a means of reducing the set up and technical support requirements is necessary. Imperial County's BorderLink system, designed to support teacher use of classroom video conferencing without required technical staff intervention, may provide a solution to this challenge.

Source: Jim Dolgonas, COO, CENIC

CENIC announces the On the Road to a Gigabit Awards

The CENIC "On the Road to a Gigabit" Awards honor California visionaries who are applying network technology in innovative ways to encourage the development and implementation of a ubiquitous gigabit statewide network by 2010. Showcasing the pioneering ideas of today's visionaries and the promise of tomorrow's Internet, the awards highlight the technologies paving the road to a gigabit world.

The "On the Road to a Gigabit" Awards will honor the best uses of high performance networking in the following areas:

- * Biggest, Fastest in the West: This award honors the fastest and most scalable high-performance networking application/technology.
- * Community: This award honors innovative uses of high-performance networking to overcome network disadvantages (economic and/or location based).
- * Education: This award honors innovative uses of high-performance networking in K-12 and higher education.
- * 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.
- * 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.
- * Partnership: This award honors the best use of high-performance networking developed by a private/public partnership.

Apply today at <http://www.cenic.org/CENIC2003/NGIAwards/NGIAwards.htm>. All entries for the 2003 On the Road to a Gigabit Awards must be received by March 31, 2003.

Source: Molly Petrick, NGI Roundtable Director

CalREN NOC RFP

The CENIC NOC committee has been examining options for NOC services and has prepared an RFP that was scheduled to be released on February 28. If you are interested in submitting a proposal, please look for the bid on the CENIC web site at <http://www.cenic.org/RFP/>

National Networking News

UC Television Pushes Technological Envelope

Taking advantage of technological advances in IP delivery of broadband content, University of California TV (UCTV) has begun transmitting live "Grand Rounds" lectures from UC Medical Centers. By using the CalREN-2 backbone, UCTV was able to capture broadcast quality video from a lecture site in Sacramento,

transmit the digitized video to UC Davis, and on to UC San Diego, where the signal was then broadcast out via C-Band satellite, Dish Network and the web. The effort was made possible by the use of VBrick Video and Audio Codex devices to digitize the live video from the camera.

The process represents a significant cost savings over traditional satellite transmission and enables health care providers in remote areas to access some UC continuing medical education courses via UCTV's website (<http://www.uctv.tv>), its direct broadcast satellite channel (Dish Network Ch. 9412), and local cable (in some areas).

The next live broadcast and web cast of the "UC Grand Rounds" lectures will be held on Tuesday, Feb. 18 at 12:30 p.m. (PST) and will feature a discussion about smallpox. The third installment, on "High Risk Obstetrics," premieres March 18.

More information: <http://www.uctv.tv/cable>

Source: CONNECT

SDSC Selected as a National Internet2 Technology Evaluation Center

The San Diego Supercomputer Center (SDSC) at UCSD has been selected by Internet2 as a national Internet2 Technology Evaluation Center (ITEC). The mission of the center will be to test and evaluate leading-edge technologies for high-performance Internet2 networks working with developers to test and refine network hardware and software for optimal end-to-end network performance up to 10 gigabits per second.

The ITEC program was created by the University Corporation for Advanced Internet Development (UCAID), the coordinator of the Internet2 program, to establish national network-testing laboratories for users of the nationwide high-performance Internet2 network infrastructure. The three ITEC sites are located at SDSC, ITEC-Ohio at The Ohio State University, and NC-ITEC at North Carolina State University's Centennial Campus.

The point of coordination for the California ITEC will be SDSC's Network Performance Reference Lab (NPRL), which evaluates networking technology, including 10-gigabit Ethernet, QoS (quality of service), and RMON (remote monitoring). The NPRL also studies application performance profiling technologies. Internet2 members deploy advanced applications in these and other areas on a regular basis. As a result of industry partnerships and support from such companies as Spirent Communications, Cisco Systems, Force10 Networks, Foundry Networks, Hewlett-Packard, NetIQ, NetOptics, NetScout Systems, and others, the NPRL is capable of testing network technologies at data rates ranging from 10 megabits per second to 10 gigabits per second.

One area for investigation by the California ITEC will be the end-to-end network performance between computers using Abilene and other high-performance networks, which serve academic, government, and diverse research institutions across the United States. The ITEC will work to eliminate network problems, software conflicts, and interrupted or degraded service. The center will address those difficulties by testing new network hardware, network components, and new software packages and updates before they are deployed.

More information: <http://archives.internet2.edu>

Source: Internet2: Greg Wood, Rex Graham

The Internet Society's 2003 Network and Distributed System Security Symposium (NDSS'03)

Report envisions a future cyberinfrastructure that will "radically empower" the science and engineering community

The critical needs of science and rapid progress in information technologies are converging to provide a unique opportunity to create and apply a sustained cyberinfrastructure that will "radically empower" scientific and engineering research and allied education, according to the National Science Foundation (NSF)'s Advisory Committee for Cyberinfrastructure. The committee details its recommendations in a report, released today, entitled Revolutionizing Science and Engineering through Cyberinfrastructure.

Like the physical infrastructure of roads, bridges, power grids, telephone and water systems that support modern society, "cyberinfrastructure" refers to the distributed computer, information and communication technologies combined with the personnel and integrating components that provide a long-term platform to empower the modern scientific research endeavor.

Cyberinfrastructure is "essential, not optional, to the aspirations of research communities." For scientists and engineers, the report states, cyberinfrastructure has the potential to "revolutionize what they can do, how they do it, and who participates." The seeds of this revolution are seen in community-driven efforts, supported by NSF and other agencies, such as the Network for Earthquake Engineering Simulations (NEES), the Grid Physics Network (GriPhyN) and the National Virtual Observatory (NVO).

Its unique breadth of scientific scope and prior investments position NSF to lead an interagency program to develop an advanced cyber infrastructure for the nation, according to the report. To reach critical mass, an advanced cyber infrastructure activity would require interagency partnerships as well as collaboration between the physical life sciences, computer science, and the social sciences.

The report emphasizes the importance of acting quickly and the risks of failing to do so. The risks include lack of coordination, which could leave key data in irreconcilable formats; long-term failures to archive and curate data collected at great expense; and artificial barriers between disciplines built from incompatible tools and structures.

The NSF has a "once-in-a-generation opportunity," according to the committee, to lead the scientific and engineering community in the coordinated development and expansive use of cyber infrastructure.

More info: the cyberinfrastructure report is available from: http://www.cise.nsf.gov/evnt/reports/atkins_annc_020303.htm

Source: NSF

About CENIC

CENIC is a not-for-profit corporation formed by the California Institute of Technology, the California State University, Stanford University, the University of California, and the University of Southern California to facilitate and coordinate the deployment, development, and operation of a set of seamless and robust advanced network services. The CENIC Associates program offers qualified companies the opportunity to collaborate with CENIC in pursuit of the goal of providing the most advanced network services for research and education. Cisco Systems, SBC, and the University and Community College System of Nevada are CENIC's Partner Associates.

Subscription Information

You can subscribe to CENIC Today by visiting http://www.cenic.org/pubs/c_today/cover.html or by sending e-mail to

listproc@cenic.org with the following request in the message body

subscribe cenic-today your email address

To unsubscribe, send email to listproc@cenic.org with the following request in the message body

signoff cenic-today

Website questions: webmaster@cenic.org

Last Update: December 14, 2004