



## LEADING THE WAY TO TOMORROW'S INTERNET


 
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#### CENIC News

##### President's Message: The Telecom Act and Net Neutrality

There was a significant occurrence on Wednesday April 26 on the net neutrality provision of the Telecom Act. The issues surrounding the amendment center on whether the telecom and cable companies are free to charge for access to various sites/information. Many feel that permitting such charges, essentially not protecting net neutrality, would have a significant effect on the Internet as we know it today. The telcos and cable companies argue that they are merely asking to receive a return for use of their private property. Regardless of the outcome of a net neutrality provision in the Telecom Act, an amendment by Ed Markey, Democratic Congressman from Massachusetts and ranking Democrat on the House Subcommittee on Telecommunications and the Internet, was defeated last week by House Energy and Communication Committee members. However, those who support the amendment feel that the vote was closer than expected (34-22) and bodes well for a possible introduction to the full floor of the House.

It is clear that the use of the Internet itself by various blogs is having a major impact on the net neutrality debate. If you wish to participate in this debate surrounding these important issues, join in and let your voice be heard.

-- Jim Dolgonas, CENIC

##### CENIC Completes Migration to H.323 for All California Community Colleges

On April 17, CENIC announced that it had completed the migration of the California Community Colleges to CalREN Video Services (CVS). With the completion of this multi-year project, all community college campuses in the state are now H.323-enabled. The H.323 standard provides a foundation for multimedia communications across IP-based networks, such as the commercial Internet and CENIC's high-performance California Research and Education Network (CalREN). By complying with H.323, multimedia products and applications from multiple vendors can interoperate, allowing users to communicate without concern for compatibility.

Through CVS, CENIC offers Video-over-IP services to over 140 educational sites throughout the state, including the California State University system, the California Community College system, the University of California system, and a number of K-12 schools.

[...]

"This is a significant achievement for CENIC and the California Community College system," said Catherine McKenzie, Lead Specialist, Information Systems and Analysis at the California Community College Chancellor's Office. "Thanks to the hard work of both organizations, researchers and educators in the state's

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community colleges will be able to collaborate much more seamlessly with their colleagues within the system and beyond as well."

To learn more, visit CENIC's Press Releases at <http://www.cenic.org/about/releases/releases.htm>.

### **CENIC to Play Lead Role in Use of NLR for Pilot Transit/Peering Program**

On April 20, National LambdaRail (NLR) announced that CENIC and Pacific Northwest Gigapop had initiated a project to provision an intelligently managed nationwide peering and transit program. CENIC is excited to be part of that program, along with Front Range GigaPop (FRGP), Mid-Atlantic Terascale Partnership (MATP), Pacific Northwest Gigapop (PNWGP), and Pittsburgh Supercomputing Center (PSC).

Called National TransitRail, the project aims to use commodity and peering traffic to improve network performance and reduce the overall cost of Internet services to NLR members.

If you'd like to learn more about National LambdaRail, visit their website at <http://www.nlr.net/>. To read the press release about National TransitRail in its entirety, please visit <http://www.tmcnet.com/usubmit/2006/04/20/1592721.htm>.

### **CalREN Update: Network Projects and Activities**

#### *Community College Update:*

CENIC recently completed the H.323 migration for all community college campuses, but that's not all that's been happening for California's community college system. Efforts are also underway to take advantage of potential fiber opportunities for several community college campuses, and CENIC is working with the Chancellor's Office on circuit upgrade solutions for several districts with high circuit utilization as well.

#### *California State University Update:*

The CENIC NOC recently completed acceptance testing on two new Gigabit Ethernet circuits: the first to CSU Bakersfield, which was delivered on April 20 and the second to CSU Chico on April 25. Work is on schedule for CSU Long Beach to get its first Gigabit Ethernet circuit in mid-May of this year.

San Diego State, which already has a Gigabit connection to CalREN over CENIC-managed fiber, is scheduled to get its second diverse Gigabit connection in early June. The fiber construction work for both the California Maritime Academy and San Jose State is nearing completion, and one or both schools are scheduled to receive a fiber connection to the CalREN backbone in May.

The Cal State system is also working on improved connectivity for several other CSU sites, such as the Moss Landing Marine Lab facility and the Stockton Multi-campus Regional Center.

#### *K-12 Update:*

The SLD (Schools & Libraries Division), which reviews and approves federal telecommunications E-rate discounts for the K-12 system, recently issued its Funding Commitment Letter to CENIC for its 2005-06 E-rate application. With the issuance of the Commitment Letter, CENIC can now move ahead on work with various service providers to secure both the federal and state circuit discounts on eligible circuits serving the K-12 community.

For further updates on these and other network projects, check out future issues of CENIC Today!

-- Ed Smith, CENIC

### **Spotlight On Kings County: 1 Gb/s to District Offices, 100Mb/s to K-12 Schools**

In Kings County, CA, something wonderful is happening for K12 schools and district offices. Thanks to Kings County's High-Speed Wireless Network, schools enjoy 100 Mb/s connectivity and district offices 1 Gb/s connectivity to CalREN. As part of the K-12 High-Speed Network (or K12HSN, formerly the Digital California Project), the Kings County Office of Education is connected to CalREN; as always, last-mile connectivity to district offices and schools has been the main challenge. This project addresses that with the installation of over 30 microwave towers throughout the county. The project began in the Lakeside Elementary School District and expects to cover all the Kings County school districts within the next few months. When completed, this countywide wireless network will interconnect 46 sites throughout Kings County with high-speed Internet access and connectivity to CalREN.

Not only does this project offer high-performance connectivity for schools and district offices, but students and district employees are not forgotten off-campus. Via Motorola Canopy technology, coverage cells provide broadband access at home. Six cells are currently operating while eight are planned, and discount rates are offered to those families on a limited income.

For more information, please visit the Kings County Office of Education online at <http://www.kings.k12.ca.us/>.

-- Janis Cortese, CENIC

### **CENIC 2007 Conference To Be Held in Long Beach, CA**

In March of 2007, CENIC's annual conference comes to the Long Beach Convention Center! Located in the heart of sunny and beautiful Long Beach, CA, the Long Beach Convention Center is close to the Long Beach Symphony, the world-famous Aquarium of the Pacific, the Long Beach Museum of Art, and lots of great shopping and dining as well as opportunities to enjoy the sun and surf on the bay. A day-trip out to Catalina Island is even a possibility for those who'd like to go a bit further asea to appreciate the beauty of the southern California coast.

The conference itself will be packed with presentations, networking opportunities, updates about CalREN and the accomplishments of our Associates, and of course our 2007 Innovations in Networking Award winners as well. Be sure to stay in touch via CENIC Today to learn the dates, and we look forward to seeing you in Long Beach in 2007!

-- Janis Cortese, CENIC

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**National Networking News**

### **TeraGrid 06: Advancing Scientific Discovery**

The first annual TeraGrid Conference will be held on June 12-15, 2006 in Indianapolis, Indiana, June 12-15. The conference will be jointly hosted by Indiana University and the Rosen Center for Advanced Computing (RCAC) of Purdue University in Indianapolis, Indiana. The meeting will provide a forum for existing and new technology partners, users, and educators.

The TeraGrid Conference will provide a range of sessions including introductions to the TeraGrid as well as advanced applications of the TeraGrid for research and education. Visit the TeraGrid website at <http://www.teragrid.org/events/2006conference/> to learn more!

### **NCSA, SDSC Add Compute Systems to TeraGrid**

As of April 1, users requesting high-performance computing resources from the National Science Foundation have seamless access to all computational resources at the San Diego Supercomputer Center (SDSC) and the National Center for Supercomputing Applications (NCSA) within the TeraGrid environment.

[...]

One benefit of the move is that TeraGrid users with "roaming" allocations will now have access to all NSF-supported systems at NCSA and SDSC, as well as the TeraGrid systems at other sites around the country. Users can use a roaming allocation to run on the systems at opportune times, explore their code's performance on new architectures, or expand their science via grid workflows.

Source: [http://www.sdsc.edu/Press/2006/03/033006\\_tg\\_compute.html](http://www.sdsc.edu/Press/2006/03/033006_tg_compute.html)

### **California Virtual Academies Adds Sacramento Branch**

California Virtual Academies (CAVA), a network of online public charter schools serving 35 California counties, is opening a Sacramento virtual branch in September. The Sacramento branch will serve K-8 students in Sacramento, Sutter, Colusa, Butte, Placer, Yolo, and Yuba counties.

The California Virtual Academies is a network of tuition-free public charter schools that gives parents the curriculum, tools, and support they need to deliver a high-quality, well-rounded education to their children at home. In partnership with certified teachers, parents are able to become highly involved with their children's education by guiding them through the curriculum. CAVA enrolls 3,500 students statewide.

To learn more, visit <http://www.caliva.org/>.

### **New Internet2 Land Speed Record Set**

On April 26, Internet2 announced that an international team set a new Internet2 Land Speed Records (I2-LSR) in the IPv4 and IPv6 single and multi-stream categories. As an open and ongoing competition for the highest-bandwidth, end-to-end networks, Internet2 LSR awards represent the fastest rate at which data is transferred multiplied by the distance traveled.

For the IPv4 record, a team from the University of Tokyo, the WIDE Project, Chelsio Communications, JGN2 network, Northwest GigaPop, NTT Communications, APAN, Fujitsu Computer Technologies, IEEAF, CANARIE, StarLight, SURFnet, SARA, and the University of Amsterdam collaborated to create a network path over 30,000 kilometers in distance crossing eight international networks and exchange points. In doing so, the team successfully transferred data at a rate of 8.80 Gbps which is equal to 264,147 Terabit-meters per second (Tb-m/s).

Source: <https://mail.internet2.edu/wws/arc/i2-news/2006-04/msg00002.html>

### **Milwaukee Schools Tap WiMAX for Families**

Milwaukee Public Schools (MPS) is seeking to provide free wireless broadband internet service to the homes of students and staff members, starting with a pilot system covering about five square miles that is scheduled to be operational by August 2007. If successful, the Milwaukee initiative would become one of the first such projects in the United States to bring high-speed broadband service to families and educators via a WiMAX system.

The program is part of a growing trend among school systems nationwide to bring internet service into the homes of all students and educators. Similar programs have mostly used dial-up service as a means of providing free internet access to students. But James Davis, MPS director of technology, said he sees WiMAX as the means to provide Internet access to students from families too poor to afford even a phone line.

Source: <http://www.eschoolnews.com/news/showStoryts.cfm?ArticleID=6269>

### **South Carolina Community College Uses Videoconferencing for Commuter Students**

Community college students often face greater financial limitations than traditional students. For many non-traditional students attending community colleges, the recent jump in gas prices had added impact. Administrators at York Technical College (SC) immediately recognized that they had to make changes to accommodate the financial blow.

Accordingly, the school began brainstorming about using its already extensive technology infrastructure to allow students to cut back on commuting. York Tech's move to rely more on distance-learning technologies illustrates how recent leaps in technology, along with price drops in broadband access and other Internet technologies, can help community colleges serve their students effectively in new and innovative ways. The relatively low price of broadband Internet access allows the school to offer its courses through two-way videoconferencing technology to other technical colleges in South Carolina, as well as to students at high schools throughout the region. York Tech also offers courses over the Internet to college students who have a broadband connection at home.

Source: <http://www.campustechnology.com/article.asp?id=18181>

### **New Supercomputer for Indiana University**

Indiana University will acquire what university spokespeople think will be the fastest university-owned supercomputer in the US (or 3rd in the world for universities), capable of performing more than 20.4 trillion numerical operations per second. Michael A. McRobbie, interim provost and vice president for academic affairs at IU Bloomington says, "These systems will provide IU's scientists and researchers with the best cyber infrastructure at any university in the US if not worldwide."

The 20.4TF (teraFLOPS) supercomputer based on IBM's JS21 technology will easily place Indiana's new arrival in the TOP500 list, probably in the 20th position of elite supercomputers worldwide. They'll pair that with more than 1 petabyte of high-speed disk storage, and an additional petabyte of tape.

Source: [http://www.campus-technology.com/news\\_article.asp?id=18378](http://www.campus-technology.com/news_article.asp?id=18378)

#### **Gathering SCORM Could Transform E-Learning**

Educators who purchase, use, or create educational content for digital instruction should be aware of an emerging set of standards that are sure to have a profound impact on eLearning.

The Sharable Content Object Reference Model -- or SCORM -- is a collection of standards and specifications adapted from multiple sources to allow for the interoperability, accessibility, and reusability of digital learning materials: everything from a video clip illustrating how cells divide to a PowerPoint explication of a sonnet.

The SCORM specifications are becoming increasingly important for ensuring that digital content can be integrated into any learning management system (LMS) software, regardless of its manufacturer. What's more, SCORM is opening the door for the creation of "digital repositories," or collections of sharable, reusable online content that educators can search through to find items they can incorporate into their own instruction.

Source: <http://www.eschoolnews.com/news/showStory.cfm?ArticleID=6249>

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#### **About CENIC**

California's higher education and research communities leverage their networking resources under the umbrella of a nonprofit corporation known as CENIC, the Corporation for Education Network Initiatives in California, in order to obtain cost-effective, high-bandwidth networking to support their missions and answer the needs of their faculty, staff, and students. CENIC designs, implements, and operates CalREN, the California Research and Education Network, a high-bandwidth, high-capacity Internet network specially designed to meet the unique requirements of these communities, and to which the vast majority of the state's K-20 educational institutions are connected. In order to facilitate collaboration in education and research, CENIC also provides connectivity to non-California institutions and industry research organizations with which CENIC's Associate researchers and educators are engaged.

CENIC is governed by its member institutions. Representatives from these institutions also donate expertise through their participation in various committees designed to ensure that CENIC is managed effectively and efficiently, and to support the continued evolution of the network as technology advances.

For more information, visit [www.cenic.org](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>

Website questions: [webmaster@cenic.org](mailto:webmaster@cenic.org)

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