

## 2011 Innovations in Networking Awards



Virtual Computing Lab Initiative  
Award Winners



Digital 395 Award Winners



Tele-Immersion for Physicians  
Award Winner



CineGrid@Disney Demonstration  
Award Winner

Every year, CENIC accepts and reviews award nominations in four areas – Educational, Gigabit/Broadband, High-Performance Research, and Experimental/Developmental Applications – and selects awardees whose projects showcase the benefits, both potential and realized, of advanced networks in the arenas of research and education. An awards ceremony was held on Tuesday, March 8 during the conference. Conference presentations about their projects were given by the award winners and can be found on the [conference program](#).

### Educational Applications: [Virtual Computing Lab Initiative](#)

Begun as a pilot program at the California State University's Northridge and East Bay campuses, the [Virtual Computing Lab \(VCL\)](#) allows students to access the software applications their coursework demands from anywhere they have a browser and Internet connectivity, 24/7. Faculty use this same infrastructure for high-performance computing for activities and research. Complex, expensive software can run on the VCL and be accessed via older computers since the hardware in the VCL handles the processing.

This initiative to create a shared VCL cloud over CalREN for students and faculty at multiple CSU institutions enables significant cost savings and performance increases for the CSU. Expensive software need only be bought once and the Lab scaled to make it available to users in many locations without duplicating effort. Also, this infrastructure extends the life of older and legacy equipment, which can be used to access applications hosted by the Lab.

### Gigabit/Broadband Applications: [The Digital 395 Project](#)

CENIC's Gigabit/Broadband award recognizes projects that promise to aid in closing the "digital divide" separating the most connected Californians from their fellow citizens living in unserved or underserved areas.

This year's winner, the California Broadband Cooperative's [Digital 395 Middle Mile Project](#), aims to close that gap east of the Sierras, between Nevada and Barstow, along Interstate 395. Much of this region is dependent on decades-old telephone infrastructure and has limited, insufficient broadband middle-mile capabilities, leaving wide swaths of the Central Valley and eastern California unserved. The relative lack of connectivity in the area also leaves some sections vulnerable to isolation in case of fiber cuts or other events due to a lack of diverse fiber paths.

The Project proposes to build a new 553-mile 10 Gb/s middle-mile fiber network that predominantly follows US Route 395 between southern and northern California. In addition to thirty-six municipalities, the project's proposed service area encompasses six Indian reservations and two military bases. More than 230 community anchor institutions will be provided access to 10 Mb/s broadband connectivity, with fiber-based service at 2.5 Gb/s and higher capacity offered to the region's last mile providers to expand or enhance service to households and businesses.

### High-Performance Research Applications: Tele-Immersion for Physicians

Advanced networks are increasingly being used to empower medical professionals to extend their reach to colleagues and patients at a distance. UC Berkeley and UC Davis have partnered on **Tele-Immersion for Physicians**, a project that promises to use advanced networks to unite medical professionals with one another as well as their data, so that the interaction can include the data in question (imaging data, for example). Doctors can see the same data at the same time, bringing about faster and more productive collaborations.

Through this project the Tele-Immersion Lab at UC Berkeley and the Institute for Data Analysis and Visualization (IDAV) at UC Davis are jointly developing tele-immersion infrastructure, real-time video capturing systems, and the algorithms needed to capture, visualize, and transmit such data.

### Experimental/Developmental Applications: CineGrid@Disney Demonstration

The CineGrid@Disney Demonstration on October 13, 2010 was the result of a nine-month effort involving more than fifty participants from seven CineGrid member organizations: Disney Studios, NTT Network Innovation Laboratory, Skywalker Sound, Digital Domain, Calit2@UCSD, UIC/EVL, and Pacific Interface.

Specific use cases that were demonstrated include: a 4k/60p telepresence virtual conference room; critical viewing of digitally restored archival film elements at 4k and 2k resolutions, streaming from a remote server; Digital Intermediate (DI) color grading; critical viewing

of 3D HD stereoscopic visual effects; collaborative audio editing and mixing; and use of a SAGE multi-panel display walls for collaborative review of multimedia marketing materials.



Doug Hartline (UCSC), Greg Scott,  
Jim Dolgonas (CENIC)

### Outstanding Individual Contribution: Greg Scott

Greg Scott, this year's Outstanding Individual Contribution awardee, has been a foundational member of CENIC since 2001, when he was hired to assist with the Optical Network Initiative, a project which culminated in the creation of the CalREN optical backbone.

The critical work that he performed included coordinating the physical connections of the CalREN network, largely in colocation facilities located throughout California, each presenting unique challenges. This work was extraordinarily complex and required an understanding of different types of fiber, optical equipment, and facilities issues. Significantly, this work also involved the ability to interact and negotiate with a variety of companies and organizations on behalf of the CENIC community, from commercial firms to facilities and network managers at CalREN connected institutions.

Nearly ten million California students, staff, and faculty owe him a significant debt of gratitude for helping make possible the network that enriches their lives every day.