CENIC connects California to the world – advancing education and research statewide by providing a world-class network essential for innovation, collaboration, and economic growth.

10
Campuses and the Office of the President

500K+
Students, Faculty & Staff

8
Campuses connect at 100+ Gbps

The University of California and CENIC

CENIC connects The University of California to support innovation and collaboration that create California's future.

CENIC is a nonprofit organization created in 1996 by California's research and education community to provide themselves with the most advanced networking and support designed to meet their unique needs. We connect California's research and education institutions to one another and to resources and colleagues around the globe, with an estimated 20 million Californians using our services.

CENIC is governed by our Charter Associates, which include the University of California system, the California State University system, California's Community Colleges, the California K–12 system, California Public Libraries, and independent universities Caltech, Stanford University, the University of Southern California, and the Naval Postgraduate School. Other members include scientific and cultural institutions, hospitals and specialized medical institutions, space and environmental research organizations, and Tribal nations.

The University of California in Action with CENIC

The University of California (UC) system is the most prestigious and accomplished public research and education system in the world, with 71 Nobel Prizes awarded to its faculty and researchers since the creation of the awards in 1901. Its ten campuses, off-campus sites, and supercomputing and medical centers all require best-in-class networking and services to support this level of world-leading achievement, motivating the UC system's co-founding of CENIC in the mid-1990s.

That first concept—an advanced fiber-based network to serve the state's research and education communities—has since grown into a profound partnership enabling California to create a research and education community capable of changing society itself for the better in the coming century. Thanks to that partnership, all ten UC campuses, off-campus sites, and supercomputing and medical centers enjoy future-facing networking, support, and services via CENIC's California Research and Education Network (CalREN), specially designed by and for the state's research and education community.

And thanks to CalREN's connections to ESnet and other national and regional networks, both directly and via the Pacific Wave distributed peering exchange which CENIC co-owns and manages with the Pacific Northwest Gigapop, the UC system also enjoys world-class connectivity, services, and support for the national facilities it manages—or co-manages with the US Department of Energy—Lawrence Berkeley, Lawrence Livermore, and Los Alamos National Laboratories, as well as connectivity with colleagues and research facilities around the world.

UC campuses are also a central part of the CENIC AI Resource (CENIC AIR) in terms of contributing to it and making use of it for research and education. CENIC AIR provides California's research and education communities a platform to enable their faculty and students to contribute constructively to the global transformation promised by Artificial Intelligence and Machine Learning. UC faculty and students, along with those in all segments, now have access to training, research, and class lab facilities in a persistent, sustained infrastructure that will continue to evolve well into the future.

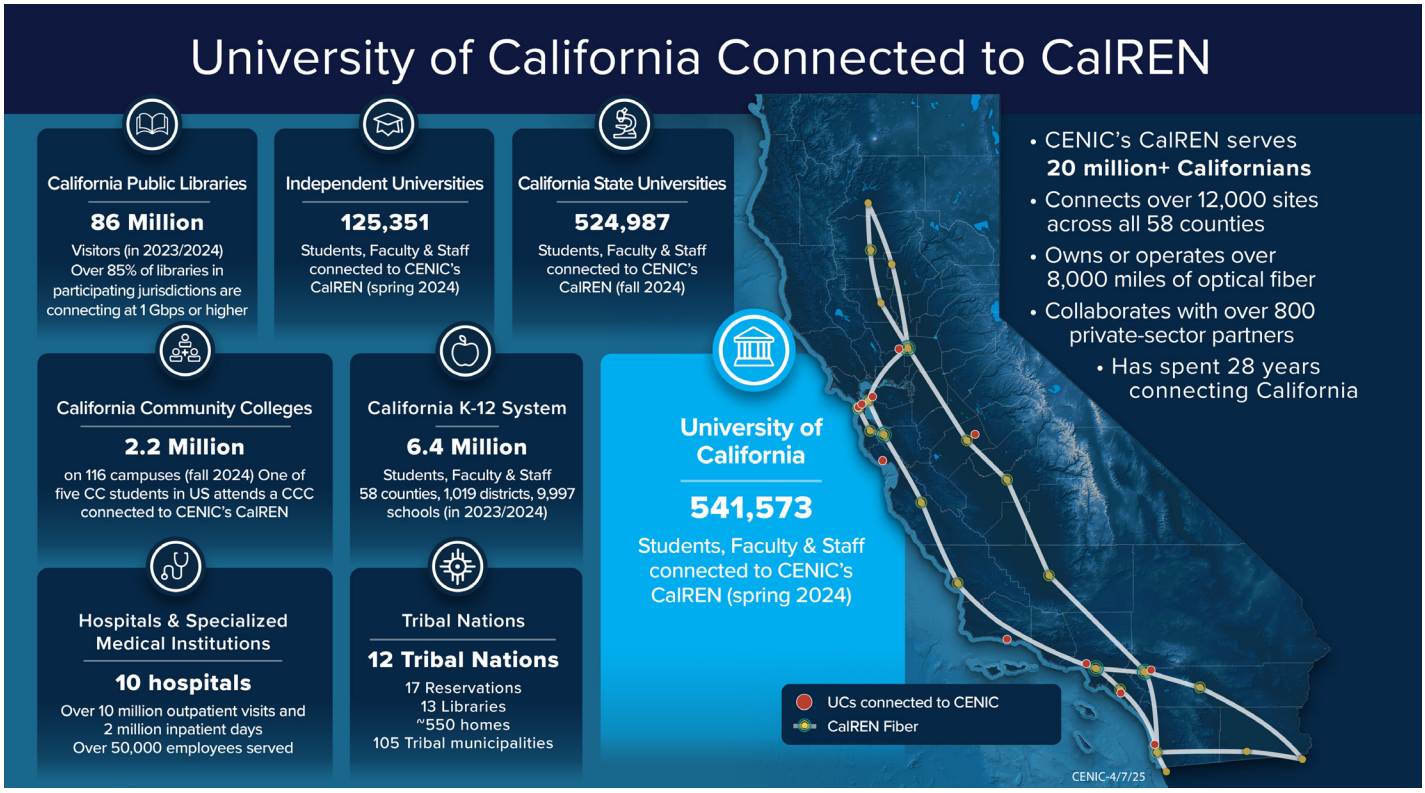
Did you know?

Network Solutions Designed for Your Needs

CENIC's Engineering team deeply understands the requirements of campus networking and works together with the University of California to craft the most cost- and time-efficient solutions (networking and services) that support your mission now and in the future.

To forestall network-based volumetric cyberattacks and other threats, CENIC Charter Associates can access Radware's on-demand, cloud-based DDoS Mitigation Service (DMS). Thanks to our partnership with Internet2, CENIC obtains for its members an extremely attractive "bulk" pricing for this service that they would not otherwise enjoy along with high-capacity direct connections through Internet2 to Radware.

Thus, the University of California contracts with CENIC to obtain for its campuses, Office of the President, and sites connected behind them, self-managed DDoS attack detection and mitigation services that are far more responsive and cost-effective than any currently available from commercial providers.



CENIC partners with national and international research and educational, governmental, and commercial networks to expand access, working to support broad public access to the educational, research, and cultural assets that position California for a prosperous future.

Positioning California for the Future through Research and Innovation

Many pressing problems confronting humanity in the coming decades will require focused study and cooperation from all of society to solve, and the University of California plays an essential role in this, as it has since its 1866 designation as one of the country's first land-grant universities. Thus, ensuring a healthy future for humanity and the world means meeting the ever-increasing networking needs of the UC system now and in the years to come.

An excellent example of this is a collaborative public-private partnership involving UC San Diego's ALERTCalifornia, the California Department of Forestry and Fire Protection (CAL FIRE), and industry partner DigitalPath. Together, they developed a powerful AI-enabled fire detection tool that was honored with CENIC's 2024 Innovations in Networking Award for Public Safety.

UC researchers also study changes in the global climate, which requires powerful compute resources and large amounts of complex data from weather satellites, ground-based measurements, and numerical model data stored at facilities around the world. The computing power required to transmit, analyze, store, and display that data is now available through CENIC AIR and the National Research Platform (NRP). It is also fueled by the high-performance infrastructure of Pacific Wave, a joint project of CENIC and the Pacific Northwest Gigapop.

Many daunting societal challenges, such as the COVID-19 pandemic, are medical in nature, and thanks to CalREN and CENIC's many peering relationships, UC campuses and health centers can access vast genomic and imaging databases and collaborate with colleagues around the world on research, treatments, and cures for maladies of all kinds.

Did you know?

CENIC Peers Directly with Major Cloud Providers

CENIC offers direct connections to AWS Direct Connect and Oracle FastConnect at CalREN's Los Angeles and San Jose backbone node sites. These direct connections offer increased resiliency and performance for access to cloud resources across all of California. In addition, there is also a 10 Gbps connection to AWS made possible by CENIC's interconnection to Internet2 at San Jose.

Did you know?

Around-the-Clock Network Support Tailored for You

The University of California also enjoys support from CENIC's 24/7 Network Operations Center, staffed by highly trained network engineers with over 25 years of experience working with our segments to create bespoke solutions that address and scale to their unique needs, including campuses, health and supercomputing centers, and major scientific facilities.