The Nation's Critical Infrastructure

How Our Country's Research and Education Networks are More Critical than Ever in the Time of a Pandemic

Among the many important lessons that we have learned during the pandemic is our nation's health, education system, workforce, and economic security are dependent on robust, resilient, reliable, and affordable internet access.

Today's Research and Education Networks (RENs) serve as the backbone of access, collaboration, and innovation in the U.S. by providing advanced network services and applications for colleges, universities, K-12 educational systems, public libraries, healthcare institutions, museums, cultural institutions, state and local government, and indigenous communities. Additionally, today's RENs are at the center of successful public-private partnerships to extend their middle-mile networks into unserved and underserved areas nationwide. Working together as one community, RENs empower their member institutions and support their public-service missions which are all truly critical in the time of a pandemic.

Because RENs have been designed to meet the needs of the most demanding Internet users, scientists, academics, and researchers—they are engineered to ensure high capacity, high-performance, secure, and scalable connectivity that remains affordable, regardless of the number of users on the network. These networks simultaneously sustain interactive video that supports healthcare via remote appointments, keep schools and universities prepared and ready for teaching and learning, allow for digital arts to flourish, and enable data-intensive scientific collaboration and critical research to continue. RENs are at the heart of each effort.

Today, during the worst pandemic in a century, there are more demands on the research and education community as the nation adjusts to new ways of living, working, and learning. In more ways than ever before, RENs are stepping up to serve as the critical underpinnings of our country's continued success by:

> → **Enabling secure COVID-19 research collaboration among top U.S. research universities, academic medical centers, and the many national and global organizations that collaborate on medical research, vaccines, and therapeutics.** A research institution's connection to a single REN provides researchers with access to vital research resources such as; our country's supercomputing centers, critical biomedical databases, and interconnections with the U.S. National Research and Education Network, Internet2, as well as other federal agency mission-driven science networks.

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→ **Forging multi-state partnerships within the REN community that align with pacts formed by the governors of those corresponding states and geographic regions to address the issues and challenges of the global pandemic.** These partnerships support collaboration among schools, universities, healthcare institutions, state agencies, and research centers by facilitating the transition to remote education and work, enabling an increase in health sciences network traffic, and reducing barriers to network sharing in support of medical and epidemiological researchers developing treatment protocols and cures for COVID-19.

→ **Expediting the turn-up of brand-new network connections, circuits, and backhaul connections for COVID-19 testing centers, overflow hospitals, and research centers.**

→ **Using COVID-19 testing data and infrastructure to support vaccine administration and large-scale vaccination sites that will inoculate thousands of citizens.**

→ **Facilitating remote learning and access to educational opportunities for students regardless of their location by working with community partners across the country to deliver technical solutions that bridge broadband gaps and allow for low or no-cost Virtual Private Networks (VPNs).**

→ **Easing the transition of faculty, staff, educators, and researchers to working from home via services and solutions like cloud-based architectures, remote desktop solutions, and security offerings.**

→ **Allowing for the arts to prosper via new methods of digital collaboration, performance, and education facilitated by the networks.**

→ **Ensuring constituent access to public services, especially for those in underserved communities by promoting a to-and-through Community Anchor Institution strategy such as schools, libraries, and museums.**

Historically and into the future, our nation's RENs have truly been the reliable, trusted, agile, and responsive providers of critical technical infrastructure during our nation's most trying times. Whether it's expediting solutions for first responders during September 11th, enabling connectivity during natural disasters like fires and weather events, or a global pandemic, RENs across the country work together to ensure network resiliency and continuity.

To learn more about how RENs can transform and enrich your organization's mission and goals and find one in your state or region, visit our website at www.thequilt.net

Today's Non-Profit Research and Education Networks:
Critical Infrastructure Powering Our Nation's Most Important Work

HIGHER-ED

RESEARCH CENTERS

K-12

LIBRARIES

COMMUNITY NON-PROFITS

Our nation's purpose-built Research & Education Networks (RENs) provide ultra-high-speed connectivity and specialized services that increase access to academic opportunities, further scientific discovery, and foster collaboration.

INDIGENOUS COMMUNITIES

GOVERNMENT

HEALTHCARE

PUBLIC SAFETY

CULTURAL INSTITUTIONS

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