

**LINKING UTAH ANCHORS: POSITIONING UEN AS A U.S. UCAN PILOT AFFILIATE
WITHIN THE INTERMOUNTAIN WEST**

*Jim Stewart (jstewart@uen.org), Laura Hunter, and Dennis Sampson, Utah Education Network
Steve Corbató, University of Utah and UEN Steering Group
January 13, 2012*

Please provide a short statement explaining why mission and goals of your organization are a good match to the planned activities of the U.S. UCAN national program as described above.

The Utah Education Network (UEN) is responding to the U.S. UCAN call for pilot proposals on behalf of public and higher education, public libraries, state government, health care providers, and other affiliated community anchor institutions (CAIs) in the state of Utah. UEN serves as a 2x10-Gbps connector to the Internet2 Network, and in conjunction with the University of Montana and the Idaho Regional Optical Network (IRON), serves as the Internet2 Network aggregator for the three intermountain states of Idaho, Montana, and Utah. We are prepared to collaborate closely with collaborators in Idaho and Montana whose teams also are submitting pilot proposals.

In positioning the U.S. UCAN initiative in Utah, UEN can leverage a number of both long-standing and more recent UEN programs. UEN already operates a statewide backbone supporting public and higher education, public libraries, and museums. In parallel with the U.S. UCAN award to Internet2, UEN recently was awarded a \$13.6 million Broadband Technology Opportunities Program (BTOP) grant from the National Telecommunications and Information Administration (NTIA) to establish advanced broadband connectivity to additional K-12 and charter schools, public libraries, and other community anchor institutions throughout the state. UEN already serves as the commercial Internet and Internet2 aggregator for Utah state government and the Utah Telehealth Network, which connects health care providers across the state. Finally, UEN has served as Utah's Internet2 Sponsored Education Group Participant (SEGP) for nearly a decade and participates actively in the Internet2 K-20 Initiative.

Among its peer networks around the country, UEN is recognized as a national leader for:

- a long history of service to both the public and higher education sectors in Utah for two decades,
- the integrated and operationally robust support of advanced networking and educational collaboration tools,
- UEN's oft-repeated role as the anchor tenant for the deployment of advanced services in rural Utah communities through collaborative relationships with the commercial sector,
- UEN's broad portfolio of innovative support for educational content, outreach, and leading-edge research that is highly dependent on advanced networking capabilities, and
- a long-standing track record of financial support from and performance-based accountability to the state of Utah.

Are you currently partnering with other organizations within your state?

Yes, UEN already has a number of existing partnerships with organizations supporting community anchors in Utah, including:

Utah State Libraries Division	Utah Governor's Office of Economic Development
Utah Telehealth Network	Utah Department of Technology Services
Utah System of Higher Education	Central Utah Telephone (CentraCom)
Utah Colleges of Applied Technology	Utah's Pre-K Head Start Programs
Utah State Office of Education	

Describe innovations (applications or processes) they may be using or considering.

- The University of Utah is spearheading a pilot project designed to connect remote and underserved residents dealing with chronic conditions to needed healthcare services and providers through telemedicine. A federally funded, remote monitoring project – *Improving Healthcare One Patient at a Time* – is being overseen by the University and Utah Telehealth Network and will make use of Electronic House Call remote monitoring devices, kiosks and interactive voice response (IVR) telehealth solutions.
- Interactive Video Conferencing (IVC): this service accommodates over 600 live classrooms and playback of recorded sessions. In addition, UEN supports desktop video conferencing.
- Learning Management System (LMS): UEN licenses, hosts, and supports an enterprise software application for in-person and on-line classes for sharing and collaboration. Higher and public education students, faculty, teachers and students utilize this system daily.
- Web Conferencing: UEN licenses and supports Wimba desktop video conferencing for live virtual classrooms and sharing.
- Core Curriculum Database Resources and Tools: UEN hosts a database of the Utah Core Curriculum standards adopted by the Utah State Board of Education. Lesson plans, learning development and curricular materials are made available to educators through the *my.uen* portal.
- Teaching and Assessment Resources: UEN provides Utah’s K-12 educators, faculty, and pre-service educators with many tools that they need to teach effectively. For example, the UEN E-media service includes more than 19,000 digital videos, images, and documents for public and higher education instructors and students. UEN works with the Utah State Office of Education on the Utah Test Item Pool Service (UTIPS), a formative testing application used by educators statewide.

Describe the organizations, the reason for the partnership, and how the partnership works.

The *Utah State Libraries Division* works to develop, advance, and promote library services and equal access to information and library resources to all Utah residents. UEN has been working with the major county library systems, city libraries, and many rural libraries to build and provide increased broadband connectivity into the UEN network, as well interactive video conferencing. UEN provides K-12 and Academic Pioneer Library and Preschool Pioneer on-line services as statewide public resources for Utah’s residents. The State Library Director is a member of the UEN Steering Committee.

The *Utah Telehealth Network (UTN)* links patients to health care providers across Utah, the country and the world by using leading edge telecommunications technology. Working with both private and non-profit health care providers, UTN delivers to rural patients and health care professionals access to services that usually are available only in more densely populated urban areas. UTN uses interactive video to deliver patient care, provide continuing education to health professionals, and to facilitate administrative meetings. UEN provides UTN with both commodity Internet access and connectivity to Internet2.

Utah System of Higher Education is comprised of over 173,000 students, 30,000 faculty and nine state institutions of Higher Education. UEN provides wide area and Internet access to all campus and regional extension offices throughout the state of Utah. UEN manages and provides Interactive Video Conferencing (IVC) events and courses for USHE, including graduate, undergraduate, professional training and certifications, and concurrent enrollment courses to college, University continuing education, and high school students each day. Ten USHE representatives sit on the UEN Steering Committee.

Utah Colleges of Applied Technology (UCAT) includes eight campuses, over 9,400 secondary students, 32,000 postsecondary students, and 14,300 adult trainees. The mission of the Utah College of Applied Technology (UCAT) is to meet the needs of Utah's employers for technically skilled workers by providing market-driven technical education to both secondary and adult students. UEN provides wide area and Internet services to each regional campus and IVC synchronous and asynchronous conferencing services. In addition, UEN regional technical advocates and field staff work with UCAT campuses to meet their needs.

Utah State Office of Education's mission is to ensure literacy and numeracy for all Utah children, provide high quality instruction for all Utah children, establish curriculum with high standards and relevance for all Utah children, and require effective assessment to inform high quality instruction and accountability. USOE serves over 576,000 students, 30,900 educators, and 1,100 schools statewide. Ten representatives of Public Education sit on the UEN Steering Committee.

Utah's Governor's Office of Economic Development (GOED) helps provide a rich ensemble of business resources for the creation, growth, and recruitment of companies within Utah and to increase scientific research, tourism, and film production in the state. UEN works with GOED as a participating member of the Utah State Broadband Advisory Council, which provides the Governor and Utah Legislature with state and federal policy and regulatory recommendations supporting broadband access and adoption fostering economic development.

The Utah Department of Technology Services (DTS) is the Technology Service Provider for the Executive Branch of the State of Utah, offering State Agencies a wide variety of services. DTS works together with other State Agencies to transform government through the effective use of technology. The State CIO is a member of the UEN Steering Committee. UEN is the Internet Service Provider for state government, and works closely with DTS as state government Interactive Video conferencing deployment, management and support of state agencies.

Central Utah Telephone was founded in 1903 as the first independent rural telephone company in Fairview, Utah. Now reaching many remote and rural areas of the state, Central Utah Telephone (d/b/a Centracom Interactive) provides wide area Ethernet backbone and last-mile connections for UEN to reach many school, libraries and campuses in central and western Utah. Centracom is a member of the Utah Rural Telecommunications Association (URTA), with which UEN works on projects and state/federal policy issues.

Utah's Head Start Programs provide comprehensive child development services to economically disadvantaged children and families, with a special focus on helping preschoolers develop the early reading and math skills they need to be successful in school. Aided by the BTOP award, UEN has been working with head start programs to build broadband connections to community learning centers, adult education centers, and child care facilities.

Briefly describe your existing relationship with each of the following CAI sectors and identify where advanced applications or processes supported by your organization and U.S. UCAN will be meaningful.

- Public Safety – already connected to UEN through state government
- Libraries – already connected to UEN
- K-12 School – directly connected through UEN
- Museums – many are connected through UEN (e.g., Natural History Museum of Utah, Utah Museum of Fine Arts, The Leonardo – a new science education museum in downtown Salt Lake City)

- Government – Utah state government is already connected through UEN
- Health Services – Utah Telehealth Network is already connected to UEN backbone; other opportunities exist to connect the broader health care provider community to U.S. UCAN
- Public Media and Performing Arts – UEN already connects the public television (KUTV) and public radio (KUER) stations at the University of Utah; additional opportunities exist in this space.
- Community Colleges – both two-year colleges in the state are directly connected through UEN
- Universities – all eight public higher education institutions in Utah are directly connected through UEN; UEN also provides Internet2 connectivity for Brigham Young University, one of the largest private universities in the country.

UEN connects the vast majority of the community anchor segments currently identified by U.S. UCAN. Opportunities exist to work with the public media, performing arts and health care segments to connect these CAIs to the Internet2 Network through U.S. UCAN and provide additional services. All other CAI sectors in Utah already are either completely or substantially connected to the UEN network.

Are you willing to contribute to a repository of information on advanced applications, resources, processes, and reporting being developed by U.S. UCAN?

Yes, UEN is willing and prepared to contribute to such a national repository. UEN has a history of collaboration in similar initiatives. For example, UEN built and hosts the StateNets website. If desired, we would be willing to pursue possible license modifications on the UEN Equella repository so that it could be used for U.S. UCAN. UEN has helped create and current contributes to other national repositories, such as PBS Learning Media and E-Rate professionals training resources.

Describe the mechanisms you are using or will use to identify eligible CAIs, assist them in eliminating the network as a barrier, driving advanced applications and to integrate them into a community-driven, participatory networking model.

UEN is the longstanding connector of education, library and state community anchor institutions. We have outreach programs that monitor the CAI needs and network performance. Upon request, UEN can provide information concerning these connected CAIs such as organizational name, segment, address, connectivity type, peak and sustained network throughput, etc. UEN already developed substantial reporting capabilities to meet the requirements of E-rate funding and the NTIA BTOP award.

Other eligible CAIs will be identified and approached to educate them as to U.S. UCAN connection and service options. UEN will also work with the Local Exchange Carriers (LEC) and Other Common Carriers (OCC) within the state of Utah to identify underserved or unserved CAIs and to develop solutions that will meet the needs of these entities.

UEN will also work with these CAI segments to identify advanced network services that are available and that best meet the needs of these organizations. UEN will work with carriers to design low cost, high impact programs to meet these needs. This approach will allow access to the U.S. UCAN network and services from the broadest spectrum of potential participants.

Describe the value that U.S. UCAN can bring to your state.

UEN's participation in U.S. will amplify existing efforts to connect and to support Utah community anchor institutions through the sharing of best practices and the potential development, distribution, and adoption of new CAI-specific applications and content that leverage Gigabit-level broadband connectivity. We are particularly excited about the potential of U.S. UCAN to provide new capabilities and broadband motivations for rural health care institutions and public safety.

Describe how you anticipate interacting with U.S. UCAN.

UEN Technical Services Director Jim Stewart will serve as the Utah point of contact with U.S. UCAN. Jim has extensive contacts within the UEN service constituency and has been a national participant in the Internet2 K-20 Initiative and The Quilt. Jim will lead an internal UEN/UCAN steering group that will include Steve Corbató as alternate point of contact (cyberinfrastructure point at the University of Utah, UEN steering group member, and former Internet2 network and technology lead), Dennis Sampson (project lead for the UEN BTOP award), and Laura Hunter (UEN's chief content officer with extensive, long-term contacts among Utah K-12 and CAI thought leaders and outreach lead for Utah EPSCoR).

Are there metrics that you are currently using to track CAI participation? Are there additional metrics you will track to demonstrate value added by U.S. UCAN?

The most significant metric is identifying all eligible CAIs and comparing how many of these are connected to the UEN network. UEN can presently show that a majority of CAIs in the state of Utah are connected through UEN backbone. Other CAI sectors - specifically, health care, public media and performing arts - already enjoy some connectivity to the UEN network. UEN will work with carriers to identify connectivity options and to provide network solutions for those CAIs who desire to connect to the U.S. UCAN. Additionally, UEN will work with our partners in business and government throughout the state to identify additional CAI segments and work to expand the pool of participation within the US UCAN network family.

UEN provides network performance metrics for all network participants. These metrics include total usage, dropped packets, jitter, latency and access to DNS services. These metrics are available in real time on the UEN web site, and historical data is stored and provided as needed and upon request. These metrics, both in terms of total numbers of participants within the eligible pool and actual traffic performance, will provide important data showing the value of both the UEN network and its collaboration with U.S. UCAN.

Describe how your organization is able to serve as the primary organization in the state for this program.

With its long-standing history and its recent NTIA BTOP award, UEN finds itself in a respected, highly visible role throughout state education and government and increasingly among the broader set of community anchor institutions. The state CIO (Steve Fletcher) and the director of state libraries (Donna Morris) are members of the UEN steering committee. UEN staff serve on the state advisory committee for broadband organized by the Governor's Office of Economic Development (Tara Thue). Upon selection for the pilot program, UEN will notify the intended collaborators cited in this proposal and will convene the Utah UCAN project group, which will combine the aforementioned internal steering group with key external leaders to reach to the broad spectrum of CAIs in Utah.

Letters of collaborative intent from the following related organizations are appended to this proposal:

- Utah Department of Technology Services (DTS)
- Utah System of Higher Education (USHE)
- Utah State Library Division
- Utah Telehealth Network (UTN)
- Utah Governor's Office of Economic Development (GOED)
- Centracom (Central Utah Telecom)



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

**Department of
Technology Services**

J. STEPHEN FLETCHER
CIO
Executive Director

January 12, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

Dear Mr. Johnson:

The Utah State Division of Technology Services (DTS) is writing to express our support of the Utah Education Network's application for participation in the U.S. UCAN Affiliate Pilot Program. UEN is an active participant in the Utah State Broadband Advisory Committee chaired by GOED which goals are to advance community broadband adoption, access, and deployment; promote and sustain economic development, develop state and federal policy recommendations, and work on public-private partnerships that advance Utah's economy.

UEN would be an excellent partner for the U.S. UCAN pilot project, as this year UEN will complete a \$13.6 million project awarded from the Broadband Technology Opportunities Program (BTOP) program overseen by the National Telecommunications and Information Administration (NTIA) to establish advanced broadband connectivity to 140 community anchor institutions, including K-12 and charter schools, public libraries, community learning centers, and head start programs throughout the state. Among its peer state education networks around the country, UEN is recognized as a national leader for:

- a long history of service to both the public and higher education sectors in Utah over more than two decades,
- the integrated and operationally robust support of advanced networking and educational collaboration tools,
- UEN's oft-repeated role as the anchor tenant for the deployment of advanced services in rural Utah communities through collaborative relationships with the commercial sector,
- UEN's broad portfolio of innovative support for educational content, outreach, and leading-edge research that is highly dependent on advanced networking capabilities, and
- a long-standing track record of financial support from and performance-based accountability to the state of Utah.

We would appreciate your consideration and support of UEN's proposal.

Sincerely,

J. Stephen Fletcher
Chief Information Officer &
Executive Director



Chief Information Officer

101 Wasatch Drive, 201 Eccles Broadcast Center Salt Lake City, Utah 84112

January 13, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

Dear Mr. Johnson,

On behalf of the Utah System of Higher Education, I am writing to convey our strong support of the Utah Education Network's proposal to participate in the recently announced U.S. UCAN Affiliate Pilot Program and our intent to collaborate with UEN if it serves as an initial network in this program.

USHE oversees eight public institutions of higher education – the University of Utah, Utah State University, Weber State University, Utah Valley University, Southern Utah University, Dixie State College, Salt Lake Community College, and Snow College. For nearly two decades, UEN has provided our institutions with critical educational technology services, including commodity Internet and Internet2 connectivity and videoconferencing for distance education. Both USHE and a number of our institutions are represented on the UEN Steering Group, which provides us a consistent voice in UEN's governance, strategic direction, and service offerings.

We believe that UEN's demonstrated capability to support a broad set of educational and affiliated institutions positions it well to play a national leadership role in U.S. UCAN. We will support UEN as it endeavors to expand connectivity options for Utah community anchor institutions as it recently has done through its NTIA Broadband Technology Opportunities Program award. We also will facilitate the sharing of best practices in broadband connectivity and the innovative use of this technology in education through the appropriate working groups within U.S. UCAN.

Thank you very much for your consideration.

Sincerely,

Eric L. Denna, Ph.D.
Chief Information Officer, Utah System of Higher Education
Chief Information Officer, University of Utah
Interim Executive Director, Utah Education Network



STATE OF UTAH

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

DEPARTMENT OF COMMUNITY AND CULTURE

JULIE FISHER
Executive Director

STATE LIBRARY DIVISION

DONNA JONES MORRIS
Division Director/State Librarian

January 12, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

Dear Mr. Johnson,

I am writing to express my support of the Utah Education Network (UEN)'s proposal to participate in the U.S. UCAN Affiliate Pilot Program. For well over a decade, UEN and the State Library have successfully collaborated to bring broadband and Internet resources to rural and urban libraries across the state. UEN is currently building out fiber broadband connections to 17 public libraries as part of their BTOP infrastructure project which will be completed by summer, 2012.

We have a particular focus of training librarians on broadband adoption, applications, and strategies for patrons and the communities they serve.

We would welcome the opportunity to convene communities of library patrons, staff, and administrators that will collaborate nationally on this project to deploy advanced applications and services within the UEN network.

Thank you for your support and consideration.

Sincerely,

Donna Jones Morris
Division Director/State Librarian



January 13, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

Dear Mr. Johnson,

On behalf of the Utah Telehealth Network, I am writing to convey our strong support of the Utah Education Network's proposal to participate in the recently announced U.S. UCAN Affiliate Pilot Program and our intent to collaborate with UEN if it serves as an initial state-based affiliate in this program.

This mission of the Utah Telehealth Network (UTN) is to expand access to health care services and resources through innovative application of technology, serving healthcare providers, patients and the citizens of the State of Utah. UTN and its partners facilitate collaboration, provide advanced clinical services, support education and research, and encourage the development of telehealth resources and services.

UTN has a long history of collaboration with UEN, including UTN's external connectivity and an FCC Rural Health Care pilot award. We are excited by the potential of U.S. UCAN to stimulate the development of telehealth applications and expansion of broadband capabilities around the country. We will collaborate with UEN in its U.S. UCAN participation.

We believe that UEN's demonstrated capability to support a broad set of educational and affiliated institutions positions it well to play a national leadership role in U.S. UCAN. We will support UEN as it endeavors to expand connectivity options for Utah community anchor institutions as it recently has done through its NTIA Broadband Technology Opportunities Program award. We also will facilitate the sharing of best practices in broadband connectivity and the innovative use of this technology in education through the appropriate working groups within U.S. UCAN.

Thank you very much for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Deb LaMarche", is written in a cursive style.

Deb LaMarche
Associate Director



January 11, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

Dear Mr. Johnson,

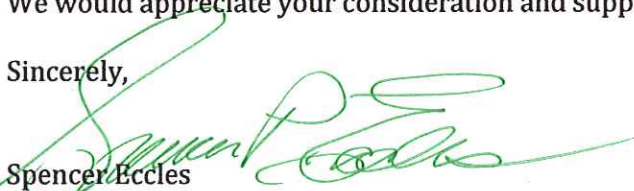
The Utah Governor's Office of Economic Development (GOED) is writing to express our support of the Utah Education Network's application for participation in the U.S. UCAN Affiliate Pilot Program. UEN is an active participant in the Utah Broadband Advisory Council chaired by GOED. The goals of this group include advancing community broadband adoption, access, and deployment; promoting and sustaining economic development, developing state and federal policy recommendations, and working on public-private partnerships that advance Utah's economy.

UEN would be an excellent partner for the U.S. UCAN pilot project, this year UEN will complete a \$13.6 million project awarded by the Broadband Technology Opportunities Program (BTOP) overseen by the National Telecommunications and Information Administration (NTIA) to establish advanced broadband connectivity to 140 community anchor institutions, including K-12 and charter schools, public libraries, community learning centers, and head start programs throughout the state. UEN has been a vital anchor tenant for many of Utah's rural cities and towns, leading to the promotion of economic development activities through access to the robust communications infrastructure brought into these areas through UEN-connected facilities. Among its peer state education networks around the country, UEN is recognized as a national leader for:

- a long history of service to both the public and higher education sectors in Utah over more than two decades,
- the integrated and operationally robust support of advanced networking and educational collaboration tools,
- their oft-repeated role as the anchor tenant for the deployment of advanced services in rural Utah communities through collaborative relationships with the commercial sector,
- a broad portfolio of innovative support for educational content, outreach, and leading-edge research that is highly dependent on advanced networking capabilities, and
- a long-standing track record of performance-based accountability and financial support from the State of Utah

We would appreciate your consideration and support of UEN's proposal.

Sincerely,


Spencer Eccles
Executive Director,
Governor's Office of Economic Development

January 11, 2012

Mr. Mark Johnson
Interim Executive Director, U.S. UCAN
Internet2
1150 18th Street, NW
Suite 900
Washington, D.C. 20036

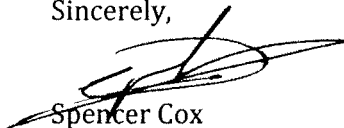
Dear Mr. Johnson,

Centracom Interactive has a successful history of implementing middle mile and last mile solutions to UEN community anchor institutions. We are writing to express our support of the Utah Education Network's application for participation in the U.S. UCAN Affiliate Pilot Program. Centracom is a subrecipient partner for the UEN's BTOP project in deploying broadband solutions to elementary and charter school institutions. This year, UEN will complete a \$13.6 million project awarded from the Broadband Technology Opportunities Program (BTOP) program overseen by the National Telecommunications and Information Administration (NTIA) to establish advanced broadband connectivity to 140 community anchor institutions, including K-12 and charter schools, public libraries, community learning centers, and head start programs throughout the state. Among its peer state education networks around the country, UEN is recognized as a national leader for:

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- a long-standing track record of financial support from and performance-based accountability to the state of Utah.

We would appreciate your consideration and support of UEN's proposal.

Sincerely,



Spencer Cox
Vice President and General Counsel,
CentraCom Interactive