

# Utah Education Network

## FY 2011 Strategic Plan

### Mission

We network to create educational opportunities, connect citizens and collaborate with partners.

### Vision

Be Utah's most trusted, accessible and recognized partner for innovation in educational technology.

### Values

CARING – Supporting community, customers, and co-workers

LEADERSHIP – Advancing relationships and encouraging ideas

INTEGRITY – Keeping our promises

COMMUNICATION – Listening to meet needs

SERVICE – Benefiting our partners

### Needs

Utah faces many educational and economic challenges and opportunities in 2011. Due to the recession in the national and state economy, school districts and higher educational institutions including UEN have had to do far more with less staff and funding resources. Utah's public schools, colleges, and universities perform their missions each day on the UEN network. Utah's public schools continue to accommodate additional students with less funding. Utah's higher education institutions are experiencing record enrollments; many have double-digit growth over last year. For example, the Utah System of Higher Education (USHE) student enrollment for the Spring 2010 semester increased by 13,104 total students over Spring 2009, a 9.48% increase. This is the largest year-over-year increase in the state's history. Utah's population continues to grow at a steady rate, far exceeding national averages.

### UTAH DEMOGRAPHICS\*

*Population:* The state's official July 1, 2009 population was estimated to be 2.8 million, an increase of 1.5% from 2008.

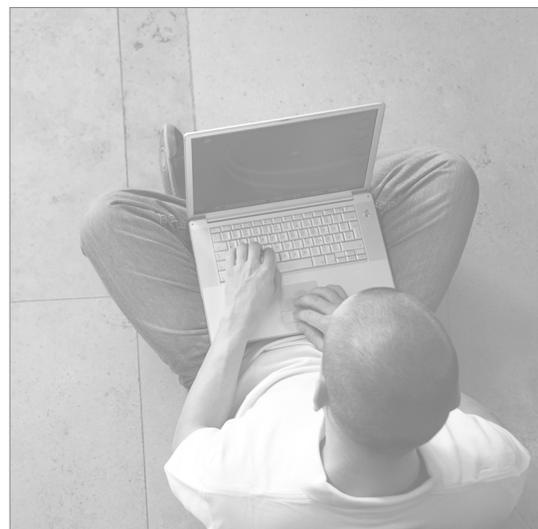
*Rate of Growth:* The U.S. Census Bureau ranked Utah second among states with a population growth rate of 2.1% from 2008 to 2009. The U.S. Rate of Growth was 0.9%

*Long-Term Projections:* The state's population is projected to reach 3.7 million in 2020, 4.4 million in 2030, 5.2 million in 2040, and 6.0 million in 2050.

### SCHOOL ENROLLMENT

In 2009, an estimated 563,273 students were in Utah's public education system, an increase of 12,260 students or 2.2% over 2008.

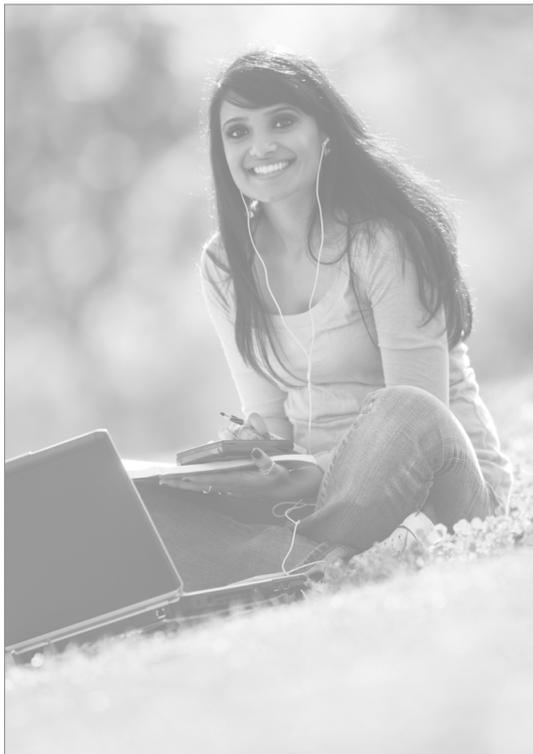
UEN provides Internet and network connectivity to every public school, college and university through the UEN Wide-Area-Network. UEN also manages a statewide interactive video conferencing system (IVC) and hosts enterprise-level software applications for our public and higher education partners. In addition, UEN offers instructional programming and life-long learning opportunities through KUEN, a 24/7 public television station which reaches most Utah citizens. UEN also supports a growing range of rich educational resources at UEN's website, [www.uen.org](http://www.uen.org); and provides professional development in technology to Utah educators.



For thousands of Utah students and educators, the Internet is their school, classroom, meeting place, and library. The Internet must be accessible to every educator, student, administrator, and staff member from any location and at all times. It is the data and communications distribution system used to deliver hundreds of administrative, academic and student support applications affecting every student, educator, and staff member countless times each day. To ensure full-time access to the Internet, UEN must provide reliable, high capacity, and scalable network connections.

To keep up with growing network capacity demands, UEN works collaboratively with college and university and school district leaders and Utah telecommunications providers to increase the capacity of network connections throughout the state. In the Utah System of Higher Education, enrollment in online, technology-enhanced, and Interactive Video Conferencing classes has grown dramatically for the past several years.

Enrollment in the Utah Electronic High School has continued to show growth. This past year, UEH granted 15,691 quarter credits towards high school graduation requirements. Because of the trends described above, educators, public and higher education staff members, and UEN employees must



be technologically competent. UEN plays a key role in providing training to its own staff members, and to teachers, faculty members, and technology staff members in educational organizations throughout the state.

UEN is driven by the diverse needs of education in a time of rapid growth and change. As it responds to more diverse needs, it grows in complexity, and supports more services at more locations. The result is increased pressure on all of us to meaningfully connect, create and collaborate for the mutual benefit of all regions of the state, all levels of education, and ultimately all citizens. Improved coordination of IT policies and backbone infrastructure will guarantee effective sharing of resources, lower prices through joint purchasing, and assure efficient use of technical support and training as UEN staff members work collaboratively with their public and higher education colleagues. Gaps in effective coordination, planning, and governance must be identified and eliminated. There will be significant challenges facing us during the coming year.

Federal funding awarded to UEN through the Broadband Technology Opportunities Program (BTOP) at NTIA will provide exciting opportunities to invest in broadband infrastructure statewide for new community anchor institution (schools, libraries, and head start programs) connecting into UEN. These investments will result in economic development and community infrastructure with UEN as the anchor tenant that will benefit students, teachers and faculty, library patrons, residences, businesses, government agencies, and local economies.

Although Utah's economy is still among the nation's best, no state has escaped the nation's most serious economic downturn in eight decades. State financial resources must be creatively prioritized to meet numerous compelling needs. UEN must achieve the greatest value possible from limited state resources, and continue to successfully seek grants and other revenue sources to augment state funds. By networking people and technology, by fostering connections and collaboration, UEN and its partners can help public and higher education and the state at large meet the challenges and the opportunities we face in the decade ahead.

## **I. WIDE AREA NETWORK**

Operate, maintain, and expand a free, reliable and secure high speed network, connecting every public school, college, university and public library in Utah.

*To achieve this goal, UEN will pursue the following objectives:*

### **A. Operate and maintain the UEN network based on best practices and standards**

1. Catalog and maintain a circuit database
2. Maintain an IP management database
3. Evaluate current filtering system and implement a 5-year plan for CIPA-compliant Internet content filtering system
4. Maintain standardization of network deployment process
5. Monitor the backbone to identify bandwidth, security, and utilization issues; and to increase capacity as necessary
6. Monitor endsites to identify bandwidth, security and reachability
7. Continue to develop tools which provide essential information about the network
8. Preserve and provide future increased Network Operations and Field Operations Staff
9. Strengthen operational coordination between Technical and Instructional Services departments and staff members
10. Support SURIN IPV 6 initiative (implementation on public facing servers, white paper, etc.)

### **B. Increase reliability of the network to 99.999%**

1. Provide full 10GB WAN redundancy for core UEN network connections in North Ring and 1GB WAN redundancy in Southeast (Uintah Basin, Price, Blanding, Moab, etc.)
2. Increase network utilization at locations where diverse paths exist, i.e. fast re-route, efficient routing, consolidation of data centers
3. Continue to explore diverse path options throughout the backbone
4. Work to secure resources to provide diverse paths for District offices
5. Perform application-level monitoring to ensure good system performance and user experience
6. Monitor and respond to network outages

### **C. Increase network capacity by upgrading all remaining elementary and charter schools, all public libraries, and all head start centers to high speed broadband connectivity**

1. Successful project management and implementation of broadband services to schools, libraries, and head starts for the BTOP Round 1 infrastructure grant
2. Ensure good communication and planning with UEN stakeholders in the BTOP implementation (develop website and regular updates)
3. Understand and expand UEN's role as a Community Anchor network
4. Manage high bandwidth sites and provide additional resources allowed by UEN policy
5. Continue to use E-Rate funds to develop broadband access throughout the state

6. Explore additional needs for UEN Points of Presence (PoP) sites
7. Continue to work with community networks to leverage network resources
8. Encourage cooperation and foster relationships between local telephone companies and community networks
9. Continue to work with Districts that have allocated funds for broadband elementary connectivity
10. Continue to work with the State Office of Education, Districts and charter schools to outline a multi-phase project plan for future upgrades in broadband to elementary and charter schools

**D. Provide support to district and higher education technology staff to ensure that the enhanced capacity and reliability of the network is fully utilized**

1. Post and share collaborative tools
2. Develop a plan to provide services for UEN tools

**E. Expand Internet capacity to meet growth in network traffic**

1. Explore additional alternate Internet Point of Presence (PoP) sites
2. Explore, develop and implement ways to keep local network traffic local

**F. Protect the network through improved security and security practices**

1. Continue UtahSAINT user group
  - a. Keep current and publish security contacts list
  - b. Conduct AdHoc Security calls
  - c. Plan and conduct one security conference per year (UtahSAINT)
  - d. Support other State security activities
  - e. Develop single-issue forums for specific needs
2. Provide a leadership role for security expertise and assistance as required by districts and higher education institutions
  - a. Work with Regional Service Centers to perform Network Security Assessments on school districts
  - b. Assist with security configuration and design
  - c. Provide security monitoring and reports
3. Work with Steering Committee to develop security policies
4. Continue to develop security monitoring tools

**G. Support the high capacity/high speed network needs of university researchers**

1. Continue participation in national and regional network partnerships
2. Continue to work within the SURIN Board as directed by the UEN Steering Committee
3. Expand optical network capabilities to support emerging research requirements at the state's research universities
4. Work with UDOT, UTA, and commercial partners to acquire fiber in Salt Lake Metro Ring, Logan and Provo Extensions
5. Play key network operation and development role in the NSF EPSCoR project for Utah

6. Assist the UofU as a technical resource in the planning and development of its new data center
7. Explore implementation of Internet2 ION (Interoperable On-demand Network) service in Utah

#### **H. Provide network leadership and support to Utah state, county, municipal, and telehealth partners**

1. Collaborate with Utah Telehealth Network (UTN) on UEN network access where feasible
2. Collaborate with DTS and county and municipal governments on UEN network access and Internet connectivity where feasible

#### **I. Provide technical leadership and staff/stakeholder development**

1. Continue to leverage economies of scale to minimize network operating costs, including Wide Area Network projects
2. Continue support of the Regional Technical Forums
3. Continue providing leadership in technical training: including regional training, technical summits, and UtahSAINT conference
4. Continue to provide LAN evaluation and consulting as requested
5. Expand advocate program to libraries, USDB, Charter Schools, and Head Starts
6. Support USHE NISST (network infrastructure server storage telecommunications) and Disaster Recovery Groups

#### **II. EDUCATIONAL WEB RESOURCES**

**Aggregate and deliver a suite of high quality Web-based educational resources to support best practices in teaching and learning.**

*To achieve this goal, UEN will pursue the following objectives:*

#### **A. Host, support, and maintain web projects and services**

1. Expand the Course Proposal interface to allow institutions to import data
2. Coordinate lesson plan development and publishing with USOE
3. Expand and maintain the core curriculum resource database
4. Conduct website and link clean-up
5. Continue to update the my.uen software as necessary
6. Develop new my.uen portlets, such as an image gallery
7. Move to centralized authentication service
8. Complete the Core Management interface to update the core database
9. Upgrade Sybase database and investigate migrating to MySQL
10. Review and either update code on legacy applications or End of Life

#### **B. Develop and implement new and expanded web resources**

1. Provide individual educator access to eMedia
2. Integrate WIMBA Voice with my.uen for K-12

3. Develop reporting tools for the Professional Development group
4. Develop mobile-friendly version of uen.org
5. Revise Professional Development's web page
6. Complete Professional Development Management "Premium" Registration
7. Expand CACTUS interface as defined by USOE
8. Develop a new UEN-TV online broadcast schedule
9. Investigate the possibility of allowing individual educators to view test data in the state data warehouse
10. Implement an interface that will allow UEN departments to easily update their web pages
11. Implement a rating system for Professional Development courses
12. Develop a new interface for UIMC evaluations
13. Fulfill the requirements of the MISSION US grant
14. Support pending grants
15. Develop Climate Science website as defined by grant requirements
16. Work with partners to integrate assessment data, curriculum and instructional behavior where feasible

**C. Promote new and existing UEN Web services through technology, outreach, special events and media relations**

1. Discuss, plan, and develop promotion and communication at the monthly Instructional Services/Public Communication Coordination meeting
2. Produce and distribute NetNews Newsletters for public education and higher education
3. Promote UEN's key services and resources in a variety of ways
4. Increase readership and click through rates of UEN-hosted e-newsletters and interactive content

**D. Support administrative activities for the uen.org site**

1. Gather, review, and post monthly web statistics
2. Sunset obsolete web services in accordance with established policies

**III. ENTERPRISE SOLUTIONS**

License, host and maintain statewide enterprise solutions supporting public education, higher education, and libraries.

*To achieve this goal, UEN will pursue the following objectives:*

**A. Host, support and maintain existing enterprise solutions**

1. Support license, host, and promote the Pioneer Library, Preschool Pioneer, CMS (Course Management Service) and associated software, eMedia/CollegeMedia, and Moodle for Utah Electronic High School
2. Provide support escalation between vendors and institutions as needed
3. Review and update service level agreements with CMS hosted institutions
4. Support and facilitate inter-institution collaboration with shared online content
5. Maintain UIMC, KUED, and UEN media assets

**B. Expand existing service functionality or implement new enterprise solutions services to meet stakeholder needs**

1. Facilitate discussion of CMS alternatives for higher education and K-12 communities. Decide which CMS to support after Blackboard Vista and create a migration plan
2. Involve Chief Academic Officers in the evaluation of the CMS
3. Implement Primo searching for K-12 Pioneer and harvest the eMedia collection metadata from Equella
4. Install additional hardware infrastructure to support new CMS
5. Define and publish instructional use cases for various desktop conferencing software supported by UEN (Movi, ConferenceMe, Wimba)
6. Federate or aggregate selected collections from PBS DLL and MWDL and allow reciprocal harvesting of eMedia metadata into the PBS DLL and MWDL
7. Expand the Utah eMedia assets to provide additional language offerings
8. Increase participation in Open Educational Resources initiative
9. Plan and design eMedia/my.uen integration
10. Add approximately 1,000 assets to eMedia for the Climate grant
11. Pending funding, add approximately 18,000 math-related assets to eMedia for the Ready to Teach grant
12. Incorporate the PBS Gap Analysis Tool to analyze subject content in eMedia
13. Federate to eMint's professional development content in eMedia
14. Support the PBS Digital Learning Library and eMedia integration project
15. Develop and deploy new enterprise DNS management tools and system to UEN stakeholders
16. Support USOE in the Utah Data Alliance (UDA) to develop the Utah Data Alliance Data Share (UDADS) as per the federal grant award by the US Department of Education for the development of the Statewide Longitudinal Data Systems
17. Work with USOE on redesign and development of formative testing tool
18. Provide technical support and hosting to USOE regarding summative testing processes, delivery, and reports
19. Support USOE initiatives in data community grant

**C. Increase awareness and use of enterprise services. Provide service reports**

1. Support the Pioneer Library advocates, promotion, and outreach
2. Continue developing Vista report generation capabilities for hosted institutions
3. Redesign and maintain an eMedia service basic information webpage
4. Publish RSS announcements of features and new content available via eMedia
5. Provide and publish quarterly reports on eMedia access and media download activity
6. Design and publish training materials for eMedia, including video tutorials to assist users in troubleshooting common problems
7. Support WIMBA promotion and outreach, K-20

**D. With USHE CIO's and the TCC, investigate other services or IT functions that might be centrally hosted by UEN**

1. Explore the feasibility of centrally hosting a Learning Object Repository, building upon the existing Equella license for eMedia to allow for contribution of digital media assets to the collection
2. Research and support consortium licensing for Turnitin and other software
3. Foster collaboration and information sharing with other state networks around the topic of centrally hosted enterprise services
4. Explore technologies and standards and what roles UEN could serve in federated identity management
5. Support USHE NISST (network infrastructure server storage telecommunications) and Disaster Recovery Groups
6. Assist USHE CIO's and TCC to evaluate centrally managed disaster recovery services and the role UEN should perform in providing that service

**IV. DISTANCE EDUCATION**

Deliver Distance Education classes and programs offered by public and higher education that use real time and on demand, reliable, high quality interactive video conferencing technologies.

*To achieve this goal, UEN will pursue the following objectives:*

**A. Support and maintain IVC core systems**

1. Continue to improve technical support and efficiency in the Technical Services Support Center (TSSC)
2. Maintain staff training and certification by TSSC
3. Maintain inventory and equipment documentation by application and field engineers
4. Provide training and applications for delivery services and content services
5. Update and maintain web pages for IVC (Interactive Video Conferencing)
6. Upgrade site equipment when applicable to comply with current standards
7. Continue support of course scheduling process. Decentralized scheduling
8. Continue to identify new funding sources and solutions (e.g., grants, stakeholders, others)
9. Continue to support UEN Distance Education Catalog

**B. Research, design, and implement new Distance Education integrated resources**

1. Continue to evaluate new and emerging video technologies
2. Continue efforts to extend IVC and desktop conferencing solutions
3. Continue efforts to integrate IVC and WIMBA resources
4. Integrate IVC and Course Management System, eMedia, eCollege Media, and other application technologies
5. Provide engineering resources and lab for testing new technologies
6. Evaluate interactive media for integration into Distance Education

**C. Revise IVC policies, develop operational practices and procedures to reflect new technical systems**

1. Develop multi-year plan for replacement and upgrade to HD IVC hardware
2. Support Steering Committee in developing policies for UEN and Institutions to develop and carry out multi-year plans to replace \$9.6 million in invested IVC hardware
3. Investigate internal communication solutions for project management and coordination
4. Continue to support stakeholder project design, procurement, and implementation
5. Continue assignment of billing and facilitation responsibilities to ready individual institutions
6. Create UEN site selection committee

**D. Promote new and existing UEN IVC services through outreach, special events, media, and technology**

1. Increase school district Technical Coordinators' and educators' understanding of Interactive Video Conferencing Services to improve satisfaction with use of system
2. Investigate and determine new applications for HDTV
3. Continue to evaluate UEN's role or responsibility as it pertains to IVC refresh and upgrades
4. Participate in faculty support open houses highlighting IVC services and tools on campuses

**V. BROADCAST SERVICES**

Educate, engage, and enrich the lives of Utah citizens through broadcast programs and services with UEN-TV.

*To achieve this goal, UEN will pursue the following objectives:*

**A. Continue programming and outreach for education stakeholder groups**

1. Program blocks and interstitials for targeted areas
2. Conduct research into the use of the channel by teachers, students and general viewers; report on results
3. Support high need academic programming and outreach (adult basic ed., job training, child care, educational technology, teacher licensing, STEM)
4. Enable and encourage locally produced programs, particularly students and teachers
5. Develop and support more statewide partnership-specific programs

**B. Implement new projects to support educational programming and outreach**

1. Utilize broadcast airwaves to promote UEN services and increase channel promotion
2. Coordinate screening events with institutions, departments, and community partners; report on the results of these events
3. Research new development of broadcast technology (i.e., mobile TV, 3dTV) and determine how it can be used to serve our mission

**C. Support broadcast engineering infrastructure**

1. Expand digital translator system
2. Move toward tapeless MassTech system
3. Implement Next Generation Interconnection System (NGIS)

**D. Manage station administrative projects; document and report on results**

1. Coordinate with national programming consortia and affinity groups
2. Continue cable relations for carriage of UEN-TV digital channels
3. Manage grant projects (Internet Safety, STEM, etc.)
4. Develop long-term goals and plan for station programming/content and new broadcast mediums (including mobile TV, IPTV, etc.)

**VI. PROFESSIONAL DEVELOPMENT**

Provide cost effective development opportunities to improve the quality of K-20.

*To achieve this goal, UEN will pursue the following objectives:*

**A. Assess and respond to changing technology professional development needs**

1. Teach classes and report participation statistics
2. Develop new courses, both online and in person
3. Continue to provide “just in time” training opportunities and evaluate tools and resources to diversify these activities
4. Continue to produce more video tutorials and publish on the web
5. Conduct assessment of teachers’/districts’ technology professional development needs
6. Assure UEN courses align to new National Technology Plan; report on results

**B. Implement non-traditional methods for providing technology integration professional development**

1. Incorporate “office hours” using WIMBA
2. Increase interactivity in online courses without increasing facilitator time commitment using SoftChalk
3. Implement ongoing, subject-specific Faculty Lounge events with USOE curriculum specialists
4. Develop learning opportunity for mobile computing “power users”

**C. Maximize use of current communication channels and develop additional audiences**

1. Explore and implement new web tools and social networking as available and practical
2. Develop tech minute videos and other content for broadcast and web sharing
3. Explore course rating and recommendation system for incorporation in PDMS

**VII. GOVERNANCE AND ACCOUNTABILITY**

Coordinate educational technology governance across the state, and be accountable to our stakeholders.

*To achieve this goal, UEN will pursue the following objectives:*

**A. Coordinate the UEN Steering Committee, subcommittee, advisory committee and constituent meetings**

1. Involve broad representation when making network/system decisions
2. Regularly update the UEN policy manual

**B. Request new funding for UEN priorities and maximize state funds through external grants, E-Rate, and federal stimulus monies**

1. Educate Legislature and Governor's Office on importance of meeting future broadband needs for new schools; develop funding model to address one-time and on-going costs
2. Advocate for UEN Technical Services operational needs to maintain the network to ensure network reliability and uptime
3. Achieve equity in UEN funding for elementary school high-speed connections for school districts
4. Coordinate E-Rate process with SLD, K-12 Districts, Libraries, Head Start, and telecom providers
5. Facilitate creation of Higher Education purchasing group - libraries, IT, education, eMedia
6. Seek grant and foundation funds; coordinate these projects with stakeholders as appropriate
7. Develop policies to ensure coordination with the FCC Broadband Plan; work to secure potential sources of new funding (E-Rate, Connect America Fund, etc.)
8. Monitor the national Unified Community Anchor Network (UCAN) program and coordinate with UEN's strategic plan where appropriate

**C. Track UEN's performance, projects, and services and communicate with stakeholders concerning our progress**

1. Provide monthly and quarterly performance dashboards to Steering Committee and to public and higher education regional, district, and campus level entities
2. Report monthly statistics on use of UEN WAN, Web Services, IVC, Enterprise Applications, Professional Development
3. Assure the UEN Service Level and Connection Agreements with stakeholder groups are in place and current
4. Highlight UEN services and tools at faculty open houses on campuses
5. Focus on promoting UEN successes with Steering Committee and with education and community partners

**D. Increase internal communication, project management and coordination of services**

1. Hold bi-monthly managers meetings, weekly executive meetings, and project team meetings to improve cross-department communication
2. Build skills and knowledge of UEN staff through professional development, industry publications, conferences, workshops and membership in professional organizations