

# UTAH EDUCATION NETWORK LONG TERM STRATEGIC PLAN

## **Mission**

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

## **Vision**

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

## **Values**

Caring – Supporting our co-workers, customers, and community

Leadership – Advancing relationships and encouraging ideas

Integrity – Keeping our promises

Communication – Listening to meet needs

Service – Benefiting our partners

## **Needs**

Utah's public schools, colleges, and universities depend on the Utah Education Network to perform their missions. UEN provides Internet and network connectivity to every public school and college and university through the UEN wide area network; manages two video conferencing systems; hosts enterprise-level software applications for our public and higher education partners; offers instructional programming through a 24/7 television station; supports a growing range of rich educational resources at UEN's Web site, [www.uen.org](http://www.uen.org); and supports the technology professional development needs of Utah teachers.

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. The demand for in-creasing network capacity in public and higher education is proven by the fact that UEN network traffic continues to double every 18 months to 2 years.

In the Utah System of Higher Education, enrollment in online, technology-enhanced, EDNET, satellite-delivered, and KUEN classes has grown dramatically for the past several years. About one in four college students now enrolls in at least one

technologically-delivered course each term. Enrollment in the Utah Electronic High School has also increased enormously and there are now about 25,000 students actively completing courses offered by the Utah Electronic High School.

Because of the trends described above, educators, public and higher education staff members, and UEN employees must be technologically competent. UEN must play 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 needs of education. 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 coordinate, plan, and make decisions collaboratively for the mutual benefit of all regions of the state and all levels of education. 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 continue to be significant challenges facing us during the coming year. The economy of Utah is sound, but state financial resources must be carefully prioritized to meet numerous compelling needs that compete for available state resources. UEN must achieve the greatest value possible from limited state resources, and continue to aggressively seek grants and other revenue sources to augment state funds. And we must carefully prioritize Network projects to gain the greatest benefit from the dollars we spend.

### **Strategic Objectives**

A summary of recent accomplishments and long term strategic objectives is included below:

#### **1) Wide Area Network**

##### **a) Recent Accomplishments**

- ◇ Installed Gigabit Ethernet backbone and full Gigabit connections to all colleges and secondary schools (by end of FY 2008)
- ◇ Quadrupled Internet capacity over past three years at same cost
- ◇ Connected to I2, NLR, and commercial ISP's from Eccles Broadcast Center
- ◇ Development of full Gigabit North, Core, and South rings
- ◇ Deployed utilization monitoring tools for live updates on network health

##### **b) Long Term Objectives**

- ◇ Expand connectivity to elementary, charter, and satellite campus lo-cations
- ◇ Increase backbone capacity to 10 Gigabits/second
- ◇ Implement disaster recovery plan and redundant data center
- ◇ Explore single sign-on technologies for statewide access

## **2)Web Resources**

### a) Recent Accomplishments

- ◇ Aligned K-12 core curriculum resources and lesson plans
- ◇ Supported suite of educator “smart” tools for lesson planning, online teaching, and rubric assessment
- ◇ Developed my.UEN portal pages to facilitate home-school communication

### b) Long Term Objectives

- ◇ Develop personalization features for site, including Web 2.0 applications, customized pages, and user contributed content
- ◇ Update pages for 501 accessibility compliance and increased functionality
- ◇ Support digital interactive communities centered on common educational goals (courses, teaching areas, etc.)

## **3)Enterprise Applications**

### a) Recent Accomplishments

- ◇ Maintained Pioneer Library contracts, user access and informational Web pages
- ◇ Moved from the WebCT Vista pilot project to full service by in-installing the full course management service (CMS) hosting infrastructure. Migrated all UEN hosted higher education institutions to the system with Banner SIS system integration for USU, UVSC and Dixie State College of Utah
- ◇ Created an enterprise class digital asset management infrastructure and launched eMedia, CollegeMedia and MediaHub digital media services (DMS) providing thousands of download-able media items.
- ◇ Completed investigation phase for a statewide Web conferencing service

### b) Long Term Objectives

- ◇ Expand Pioneer Library collection adding multimedia resources. Provide a federated search allowing users to search multiple library resources at once.
- ◇ Provide a reliable, sustainable, centrally hosted course management service supporting higher education and K-12 teacher professional development. Enable inter-institution collaboration between course designers and content portability between course management systems.
- ◇ Acquire and add additional media content to the DMS. Build OAI based content sharing capabilities to other education repository systems. Integrate DMS with key UEN Web services such as my.uen.
- ◇ Provide a statewide Web conferencing service supporting course content and meetings for all state higher education and K-12 institutions

#### **4)Distance Education**

##### a) Recent Accomplishments

- ◇ Converted EDNET analog to IVC digital classrooms
- ◇ Migrated UENSS to IVC digital classrooms

##### b) Long Term Objectives

- ◇ Complete IVC room installations and training
- ◇ Build student help resources for distance education (online and call center options)
- ◇ Revise IVC policies to reflect new technical systems
- ◇ Develop process for independently scheduled events, meetings, classes
- ◇ Identify and install new sites as funding becomes available (higher and public education institutions, Charter school and other agency rooms)

#### **5)Broadcast Services**

##### a) Recent Accomplishments

- ◇ Increased programming in key target areas (seniors, adult basic education, science, health, public affairs, and teacher development)
- ◇ Promoted institutions with “Considering College” and “Research Roundup” campaigns
- ◇ Built outreach program with community screenings, teacher pre-view, senior workshops and conference presentations

##### b) Long Term Objectives

- ◇ Expand digital translator system to rural areas
- ◇ Plan for and implement community education campaign for February 2009 analog give back
- ◇ Datacast educational media to youth in custody; explore this as an adult corrections service
- ◇ Reformat 9.2 digital channel to meet state education needs and be attractive to cable carriers; explore IPTV and legislative coverage as additional digital options
- ◇ Promote academic majors in high need areas: nursing, engineering, teacher education, math, technology, science and work with Institutions to further promote their services and education programs
- ◇ Work with K-12 school administrators and USOE to dispel ‘video is bad’ image and promote effective uses of multimedia in the class-room

#### **6)Professional Development**

##### a) Recent Accomplishments

- ◇ Implemented online registration and credit tracking system
- ◇ Developed 76 different classes for PC and Mac

- ◇ Created “Faculty Lounge” program for just-in-time training using Adobe Connect

b) Long Term Objectives

- ◇ Align workshops to new ISTE NETS standards for USOE and college credit
- ◇ Move away from teaching tools to teaching good pedagogy that integrates technology
- ◇ Develop more training objects to be embedded in Web site and tools, particularly for higher education and UCAT faculty
- ◇ Develop more “just in time” training opportunities using Web conferencing
- ◇ Develop online communities for sustained PD support using Web 2.0 applications and multimedia resources

# UTAH EDUCATION NETWORK FY 2008 STRATEGIC PLAN

## **I. Wide Area Network**

Operate, maintain, and expand a 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. Catalog and maintain an IP management database
3. Develop and support an Internet content filtering system for K-12 and Libraries
4. Standardize how we develop and rollout future network deployments
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. Increase Network Operations and Field Operations Staff
9. Strengthen operational coordination between Technical and Instructional Services departments and staff members
10. Develop tools and reports to better manage network assets

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

1. Provide redundancy for UEN critical services and network connections
2. Increase network effectiveness at locations where diverse paths exist, i.e. fast re-route, efficient routing, etc.
3. Continue to explore diverse path options throughout the backbone
4. Develop a plan to provide a redundant handoff point for district offices
5. Perform scheduled maintenance according to best practices and standards
6. Monitor and respond to network outages

### C. Increase network capacity by upgrading remaining higher education campuses and secondary schools to high speed broadband connectivity.

1. Complete phase 4 ethernet projects
2. Manage high bandwidth sites and provide additional resources allowed by UEN policy
3. Continue to use E-Rate funds to develop broadband access throughout the state
4. Explore additional needs for UEN Points of Presence (PoP) sites
5. Explore options with regional service centers to increase bandwidth to Escalante Valley, Antimony and Koosharem
6. Work with UTOPIA and other community networks to leverage network resources
7. Encourage cooperation between local telephone companies and community networks

D. Work with USOE and school district leaders to develop a strategy to provide high capacity network connections to remaining elementary schools.

1. Continue to work with Districts that have allocated funds for broadband elementary connectivity
2. Work with the State Office of Education and Districts to evaluate statewide approaches to increase bandwidth capacity to elementary schools

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

F. 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
3. Work with CENIC and FRGP to develop NLR TransitRail for national peering opportunities

G. Protect the network through improved security and security practices.

1. Continue UtahSAINT user group
  - a. Keep current and publish security contacts list
  - b. Conduct weekly and ad hoc security calls
  - c. Plan and conduct two security conferences per year
  - d. Support other State security activities
  - e. Develop single-issue forums for specific needs
2. Provide leadership role for security expertise and assistance as required by districts and higher education institutions

- a. Conduct and coordinate outside security assessment
- 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
5. Work with state CIO and institutions to support USHE security audits as required.

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

1. Continue participation in national and regional network partnerships (Internet 2, National Lambda Rail, The Quilt and Western Lights)
2. Develop the SURIN Board as directed by the UEN Steering Committee
3. Provision network to accommodate research requirements
4. Work with UDOT and DTS to place fiber between U of U and USU to support research
5. Investigate UEN's role with USTAR project
6. Support development of Utah Fiber Infrastructure Project

I. Provide technical leadership and staff/stakeholder development.

1. Undertake outreach and promotion efforts of Wide Area Network projects
2. Work with the Steering Committee to formalize Regional Technical Forums
3. Define expectations (i.e., frequency of meetings, leadership roles, format, participants, etc.) of regional technical forums
4. Establish annual reporting relationship between regional leaders and UEN Steering Community
5. Provide leadership in technical training; including expanded regional training, greater depth, more frequent and topic-specific training at tech summits, and refined security training
6. Provide training and leadership in the area of improving LAN reliability and speed on a local level
7. Expand advocate program to libraries, USDB, Charter Schools
8. Support USHE IT staff in efforts to increase operational expertise across all institutions and explore possibility of taking advantage of virtual staff or staff leasing.
9. Support the CIO's and TCC to research and develop a disaster recovery plan for network and planning to provide back up equipment and staffing for emergency situations.

## **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. Coordinate lesson plan development and publishing with USOE
  - 2. Expand and maintain core curriculum resource database
  - 3. Support USOE Web pages in coordination with specialists
  - 4. Support UTIPS in coordination with USOE
  - 5. Complete updates to CACTUS per USOE's requirements
  - 6. Refine UEN-TV and Utah ITV What's On schedule
  - 7. Continue development of my.uen with additional portlets and functionality
  - 8. Undertake communication, outreach, promotion of Web projects
- B. Develop and implement new and expanded Web resources.
  - 1. Improve navigation and design on *uen.org* and increase interactive features
  - 2. Develop UEN Professional Development Management interface for participants
  - 3. Upgrade mailing list software and provide user training
  - 4. Explore future plans for *www.activities*
- C. Promote new and existing UEN Web services through technology, outreach, special events and media relations.
  - 1. Produce and distribute NetNews Newsletters for public education and higher education
  - 2. Promote UEN services and resources with online NetNews features on *uen.org*
  - 3. Feature *uen.org* at statewide conferences and exhibits
- D. Support administrative activities for the *uen.org* site.
  - 1. Gather, review, and post monthly Web statistics
  - 2. Automate Web publishing process

## **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 and train managing personnel.

1. Service: Course Management System (Vista)
  - a. Act as support escalation agent between Vista institutions and Vista support and Respondus support
  - b. Conduct regular Vista administrator coordination meetings
  - c. Provide scripted enrollment service for participating institutions
  - d. Provide institution administrator training
  - e. Review and complete Service Agreements and service documentation with hosted institutions
  - f. Coordinate shared faculty and student training materials development
2. Service: BlackBoard Course Management System
  - a. Act as support escalation agent between UEHS and Blackboard support
3. Service: Digital Media Service
  - a. Migrate UCME legacy metadata and media into DMS
  - b. Continue to add newly licensed media to DMS
  - c. Conduct metadata integrity and quality review of titles currently in the DMS
  - d. Attach existing text caption files to associated videos
  - e. Maintain NETA Media Exchange pilot service
  - f. Train and support UEN internal staff in digital asset management best practices
4. Service: Pioneer Library
  - a. Maintain and update Pioneer Library access IP address listings
5. Service: Infrastructure Foundation
  - a. Update SAN Storage Domain Servers to latest software version
  - b. Upgrade and patch server OS
  - c. Extend enterprise/backup recovery system to all servers and DMZs
  - d. Cycle out server hardware older than 5-6 years

B. Implement new enterprise solutions, services, and expand existing functionality to meet stakeholder needs

1. Service: Course Management System (Vista)
  - a. Complete automated scripted user imports and enrollments to Vista for non-integrated institutions
  - b. Complete Banner SIS integration for Dixie State College of Utah
  - c. Assist UCAT campuses in implementing Vista
  - d. Enable Vista single -sign on via UVSC campus portal

- e. Assist University of Utah in migrating to Vista
  - f. Create Vista reports interface via the Vista Powersight kit
  - g. Research a central 24/7 WebCT helpdesk/ searchable knowledge base capability for USHE students and faculty
  - h. Integrate Web Conferencing service with Vista
2. Service: Web Conferencing Service
    - a. Select and implement hosted web conferencing system for higher education institutions
    - b. Explore funding and implementaion options for extending service to K-12 system
  3. Service: Digital Media Service
    - a. Upgrade TeleScope software to version 8.3, Video Manager 2
    - b. Modify customized TeleScope interfaces to enable new features from 8.3 upgrade
    - c. Connect DMS to KUEN datacasting systems sending media to youth-in-custody facilities
    - d. Create metadata export/harvesting from DMS to third-party systems such as library catalogs
    - e. Create KUED Web site integration serving media files from DMS storage to KUED.org
    - f. Plan DMS/my.uen integration
    - g. Plan workflows for Codian to DMS digital course repository
    - h. Build DMS information web page
    - i. Explore DMS integration with Course Management System (Vista)
  4. Service: Pioneer Library
    - a. Support implementation of a federated search tool in Pioneer
    - b. Secure funds to expand Pioneer Library's multi-media resources
  5. Service: Infrastructure Foundation
 

Mirror all SAN storage for completely redundant systems

    - a. Upgrade remaining data center racks to support managed power, four post server hardware, system lights-out management and cable management
    - b. Extend enterprise backup/recovery systems, tape drives and fabric bandwidth
    - c. Explore possible co-location of storage area network mirrors
- C. Increase awareness and use of enterprise services. Provide usage reports.
1. Service: Course Management System (Vista)
    - a. Expand Vista resource and information page on *uen.org*

- b. Collaborate with participating UCAT Vista institutions to develop and deliver Vista faculty training workshops
    - c. Co-sponsor Teaching with Technology Idea Exchange conference with UVSC
    - d. Define system usage reports with input from hosted institutions
  - 2. Service: Pioneer Library
    - a. Continue Pioneer Library advocate program
    - b. Work with Pioneer Library committee and PR team to develop and implement promotion tactics; create collateral material for PR
    - c. Publish Pioneer Library product usage reports
  - 3. Service: Digital Media Service
    - a. Promote eMedia and CollegeMedia
    - b. Create DMS media usage reports
- D. With USHE CIO's and the TCC, investigate other services or IT functions that might be centrally hosted by UEN
  - a. Implement web-based collaboration and communication tools (e.g., Macromedia Breeze and Horizon Wimba)
  - b. Support the ongoing evaluation of open source alternatives in course management systems.
  - c. Explore single sign-on technologies and standards and what roles UEN could serve in identity management
  - d. 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 video conferencing technologies.

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

- A. Continue EDNET IVC migration plan
  - 1. Pursue funding for continuation of promotion and expansion of Distance Education
- B. Complete conversion of UENSS to IVC technology
  - 1. Partner closely with USU in planning and implementing conversion
    - a. Provide joint UEN/USU project management via administrative group
    - b. Staff specialized teams and participate in project work groups
  - 2. Continue planning to meet funding and staffing needs

- C. Develop operational practices, procedures, and policy to manage and efficiently utilize IVC resources on the network
  - 1. Plan and pilot manual switching capabilities as the iView product and UEN experience matures to enable independent scheduling ability
- D. Provide online tools and information that supports Utah's distance education programs
  - 1. Create distance education online resources for students
  - 2. Maintain and update the course scheduling web site
  - 3. Maintain and update the UEN Distance Education Catalog

## **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
    - a. Continue Internet Safety outreach and presentations
  - 2. Back to School resources for K-12 Teachers with KUED
  - 3. Continue on-air campaign to promote post-secondary education opportunities, programs and USHE institutions
  - 4. Continue outreach to adult, community, and corrections education providers.
- B. Implement new projects to support educational programming and outreach
  - 1. Conduct educational outreach to educate citizens about DTV transition
  - 2. Develop educational multicast for 9.2 that serves community needs and is attractive to cable providers
  - 3. Develop and program on-air education calendar of events.
- C. Support broadcast engineering infrastructure.
  - 1. Refine broadcast operations to ensure smooth transition to automation.
  - 2. Investigate server archive replacement, Move toward tapeless MassTech system
  - 3. Expand digital translator capabilities.
    - a. Conduct RUS Grant activities if funded.
    - b. Develop a schedule for the addition of companion translator channels
  - 4. Plan for replacement of UENSS Cable feeds.
  - 5. Implement Next Generation Interconnection System (NGIS)
  - 6. Work with UEN to determine where shared resources may be used

7. Perform analog maintenance as needed
8. Work to identify and offer ongoing new tech. education to our engineers.
9. Monitor and evaluate any action to change the analog shutoff date
10. Investigate disposal options of various analog transmission-related equipment
11. Work with staff to develop plans for the integration of New Media

## **VI. Professional Development**

Provide professional development opportunities to improve the quality of K-20 instruction and assure effective implementation of technology in education.

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

- A. Continue development of ongoing courses and training materials.
  1. Continue classes, endorsement program, ITC workshops
- B. Complete new class development and delivery projects.
  1. Provide Vista training for faculty
  2. Increase “just in time” training resources
  3. Provide training on new UEN Web products and services.
  4. Develop Web tools that support educator communities of practice
- C. Provide documentation and outreach for UEN professional development services.
  1. Make video tutorials for UEN products available through eMedia.
  2. Build awareness of prof dev services through promotion and presentations
- D. Administer the projects and services provided by UEN Professional Development department, and report on accountability measures to appropriate stakeholders.
  1. Continue to assess performance and report on performance

## **VII. Governance and Accountability**

Coordinate educational technology governance across the state, and be accountable to our stakeholders through communication, measurement, and reporting on UEN services.

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

- A. Coordinate UEN Steering Committee, subcommittee, advisory committee and constituent meeting groups.
  1. Update policy manual
- B. Request new funding for UEN priorities and maximize state funds through external grants, E-Rate, and other revenue sources.
  1. Develop briefing papers and documents in support of funding requests.

2. Seek grant and foundation funds; coordinate these projects with stakeholders as appropriate.
  3. Coordinate E-Rate process with SLD, K-12 Districts, Libraries and telecommunications providers.
  4. Support 21st Century ETI as determined by the Steering Committee
- C. Track UEN performance, projects and services and communicate with stakeholders regarding our work.
1. Develop Service Report process, tied to Crystal Reports and other tools as appropriate.
  2. Develop Service Level Agreements with stakeholder groups.
  3. Create NetNews for higher education; gather input and story ideas from institutions
  4. Communicate about UEN organizationally; NetNews, legislative publications, Steering Committee reports, etc.
  5. Develop UEN Service Catalog, communicate this information through SLA's.
  6. Report monthly statistics on use of UEN Web Services, Enterprise Applications, Professional Development and WAN metrics.
- D. Increase internal communication, project management and coordination of services.
1. Continue development of Information Technology Infrastructure Library (ITIL) process and training.
  2. Hold bi-monthly managers meetings and weekly executive meetings for cross-department communication
  3. Working with Steering Committee and Subcommittees, develop annual strategic plan and budget that crosses all UEN departments.
  4. Build skills and knowledge of UEN staff through professional development, industry publications, conferences, workshops and membership in professional organizations.