Utah Education Network

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In Partnership with

Utah State Office of Education ■ Utah System of Higher Education

UTAH EDUCATION NETWORK
STEERING COMMITTEE

AGENDA

DECEMBER 13, 2002 – 9:00AM

9:00 am - 12:00pm

Steering Committee Meeting

Welcome and Introductions..... Bonnie Morgan

Special Recognition

Executive Committee

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Instructional Services Committee

Steering Committee

Next meeting - February 21, 2003 (Proposed)

Please place these materials in your Steering Committee Binder

TAB 20

STEERING COMMITTEE LEADERSHIP CHANGE

Issue

As is always the case, change is inevitable. It is with sadness that we note the retirement of Dr. Bonnie Morgan, effective in early January 2003. Bonnie has served education extremely well over her career and has often been at the heart of many difficult and challenging circumstances. The level of success that she has experienced and achieved has been significant as she has been able to bring resolution to and solutions for many of those very difficult problems.

The focus of Bonnie's service in education has always been on what is best for kids, and she has been a marvelous advocate for them and for the opportunity for children to receive the best possible education. She will be missed at all levels and the loss to the educational endeavor in Utah will be significant.

Much more could be said about her contributions to education, but this is not intended to be a eulogy because, from her perspective, she is moving on to a better life filled with fun and opportunities to do what she has always wanted to do (whatever those things might be). But the old rhyme comes to mind "No more school, no more books, no more teacher's dirty looks…."

Recommendation

It is appropriate for the Steering Committee to adopt a resolution in honor of Bonnie's contributions to education and to the Utah Education Network Steering Committee.

Background

As noted in the Operational Procedures and Polices of the Utah Education Network, Bonnie has served as the co-chair representing public education and her replacement has been named.

In an other major career move, Ray Timothy has been named to serve as Associate Superintendent for Law, Legislation, and Educational Services at the State Office of Education. Ray served previously as the Superintendent of the Millard County School District and has served as member of the Steering Committee for the past several years and as co-chair of the Network's Technical Service Subcommittee. Along with his new assignment at the State office of Education, Ray has been

appointed by State Superintendent Steven Lying to succeed Bonnie as Public Education's co-chair of the Steering Committee.

Obviously, because of Ray's previous involvement in Steering Committee activities, he assumes the position very well prepared to provide the continued high degree of leadership provide by Bonnie, Gary and their predecessors. The Steering Committee has been very fortunate to have had excellent leadership virtually from its inception; and Ray will continue that long line of very capable, talented, and committed individuals to serve in leadership capacities within UEN.

As Ray assume this new responsibility, it will be necessary to replace him as co-chair of the Technical Services Subcommittee. That recommendation will be forthcoming and will be on the Agenda for the February meeting.

Recommendation

It is recommended that the Steering Committee ratify the appointment of Ray Timothy as co-chair of the Steering Committee.

TAB 21

POTENTIAL BUDGET REDUCTIONS FOR FY 2003 AND FY 2004

Issue

As reported in the news media during the past several weeks, the economy continues in its very "U" shaped configuration. While many economists had projected a "V" shaped recovery, those predictions have not been validated by the facts. The economy continues to be slow and the recovery does not appear to be imminent.

This continues to place significant stress on the level of tax revenues received by the state. The current estimates are that there will be an additional shortfall in FY 2003 of $117 million dollars. And this is on top of the approximately $500 million dollars already reduced from state budgets for this fiscal year.

Background

As was reported to the Steering Committee in August, the Network's FY 2003 budget has been reduced by $83,200. This is, of course, in addition to budget reduction in FY 2002 in which ten (10) staff positions were reduced and other budget accommodations were made in order to balance the FY 2002 and FY 2003 budgets.

The present scenarios that have been reported in the news media indicate that the Governor and some key Legislative leaders have proposed that education be 'held harmless' from additional budget cuts. However, the questions always seem to be whether are not that includes both public and higher education, and whether the Network is considered to be an entity of public education or of higher education.

In reality, the Network serves both, but it seems, that since our budget is reviewed by the Higher Education Appropriations Subcommittee, we are placed more often in that category.

It has been projected that if public education is 'held harmless' all entities of state government (including higher education) could face a budget reduction for FY 2003 of approximately 6%. It very quickly becomes obvious that the Network would prefer to be included in the 'held harmless' category.

A quick and cursory review of the Network's present budget levels indicate that a 1% budget reduction would approximate $149,000. Therefore, 6% would amount to $900,000. These are indeed truly difficult times.

The most dramatic effect of these very tentative budget reduction projections might be that the proposed plans for the Network to enter into long-term (3 year) contracts

for ‘end-to-end’ services would be delayed with the potential loss of federal e-rate participation. In this regard, it should be noted that for every dollar in state appropriations that might be lost, there would be a loss of two e-rate dollars.

It is obviously far too early to tell how the Legislature might resolve this continuing crisis. The media have reported that a special session might be called on 12/18/02.

Recommendation

This is an information item and no official action is requested by the Steering Committee at this time.

TAB 22

STRATEGIC PLAN UPDATE

Issue

Each quarter, a very careful and complete review of the activities of the Network that are directly associated with the Strategic Plan occurs. This review is conducted to assure that the plan acts as the catalyst in determining the activities in which the staff is engaged as well as how the resources of the Network are expended.

During the review process, all mangers are encouraged to identify the areas where major progress has occurred and to specify the status of all activities that were to be completed during the review period. Also discussed during the review meeting are all areas where cross-organizational coordination is necessary for successful completion of a specific goal or activity; and finally, any significant impediments or barriers that are impinging upon the completion of any goal, activity, or task.

Background

In order to assure continued follow-up and accountability, careful documentation is maintained of the review meetings and of the activities discussed. This documentation is utilized in subsequent review meetings to provide background and foundation for the discussions relevant that the particular quarter's activities under review.

Included as a attachment to this tab is the updated plan for the first quarter of FY 2003. The plan format is the same as it is in the Strategic Planning documents approved in previous meetings with one major exception. On the Quarterly Plan Review document attachment, the status of each of the activities is included in the right hand column. These status statements will be updated each quarter as progress is noted.

To facilitate an orderly review process, managers (as noted earlier) are requested to discuss those items which are judged to be among their highest priorities. Therefore on the review document, there may be items that do not have any comments regarding their status, but were scheduled for completion during the quarter. These seeming omissions do not necessarily imply that no progress has been made on those items, but may only be indicative that a discussion of those items did not occur.

The real value of the plan is one of communication. Everyone associated with the mission of the Network has access to the plan and to the review documents. Staff knows and understands exactly what needs to be accomplished; management has the tools necessary to keep focus, direction, and time-frames organized; and

stakeholders, at all levels, are informed regarding all aspects of the efforts of the Network to serve education

Strategic planning is part of the very fabric of the Network and has proven, over time, to be an invaluable tool in assuring success and that the resources provided in state appropriations are expended as projected and intended.

Recommendation

This is an information item and no official action is requested from the Steering Committee

TAB 22 ATTACHMENT A

FY 2003 STRATEGIC PLAN

Utah Education Network

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Strategic Planning Document

for the

Utah Education Network

Fiscal Year 2003

December 4, 2002
First Quarter Update

Utah Education Network

Strategic Plan

FY 2003

Section 1 Executive Summary

It is the mission of the Utah Education Network to:

Provide the citizens of Utah access to the highest quality, most effective instructional experiences, educational administrative support services, and teacher/faculty resources which will assist in achieving improved student learning; more effective communications among learners, teachers/faculty, and parents; and greater efficiency in achieving statewide educational objectives.

These services will be delivered, regardless of location or time, through seamless, technology rich, communications networks linking schools, libraries, and world-wide information networks, as well as businesses, industries, and homes.

Strategic Plan Structure and Intent

The strategic plan of the Utah Education Network is structured to provide the scope of the Network's efforts in FY 2003. The direction of the plan is determined by the needs of the clients and stakeholders of the UEN and the changing environment of IT and education. These include:

1. The need for instruction and educational resources to be delivered asynchronously -- free of time and place. This provides the user of educational services with more choice, offers more convenience, and puts the student in control of his/her educational environment.
2. The growth of the use of the network's infrastructure and services to support and facilitate 'mission-critical' applications (including many new e-commerce services) by all of the entities that are connected to the network. Network security, reliability, and capacity have taken on a far more important role than previously. There is a much greater dependency on technology-delivered instructional materials.
3. The shift from a 'teacher/faculty-centered' environment to one that is more 'student/learner' centered. The information age and the ubiquitous availability of information and learning opportunities continue to provide impetus to a new educational paradigm and, potentially, a new educational model. Information Technology resources, infrastructure , and services are the crucial facilitators of this new environment
4. The need to implement processes that assist entities in 'managing their identity'. As circumstances and situations become more competitive and user groups more demanding of services and information, every organization is required to assure that its identity and image is carefully managed, services defined, and mission specified. User expectations are often a direct result of how an organization presents itself or permits and/or facilitates access to its services and information.
5. The need to adjust and implement strategies in the circumstance where funding revenues are not able to keep up with student growth projections and network traffic volume increases. It will be critical to develop non-traditional approaches to solving these two issues, which are seemingly inexorably in conflict. There appears to be an almost unanimous agreement that there are no possible scenarios, which would suggest that the solution to the student growth issues would be to build additional on-campus facilities. As noted earlier, information technology may offer the only viable options to this ominous problem.

The new sub-committee and forum structures now in effect provide significant input and continued review of all of the plans developed by the Network. This input is included and aggregated with the history and inflow of information for the Network plan. This process continues to facilitate the Network's appropriate evolution in meeting the prescribed needs of all who utilize the services available via Network resources.

Core Enablers

Today information technology presents education with the unprecedented opportunity for local control of IT services, which can only be achieved with unprecedented cooperation. The UEN purpose is to bring about that cooperation through central coordination of IT services. The elements of that cooperation are contained in what we call core enablers. They are graphically represented in a color stack arrangement and summarized below. They represent a consensus of what must be done centrally in a coordinated way to "enable" districts and educational institutions more local access and control of IT services vital to their mission. The strategic goals and issues are focused on these "core enablers" and are ordered in a logical way that build upon each other. They form a model ranging from planning, policy and financial issues at the bottom; with infrastructure and security next; and followed by delivery and service issues which provide direct support to users. The model for the Utah Education Network is described in the following components that are identified below; they form the basis for the plan for FY 2003 and are graphically illustrated in color stack in the following categories.

Planning, Policy, and Funding

Strategic planning, policy, and funding are the foundation of all UEN activity as represented graphically at the bottom of the stack. The plans have provided the overall direction and vision of the Network and have defined the goals and objectives necessary to accomplish those strategic directions. The planning process has included a careful review and accountability method assuring that goals are met, activities coordinated, and obstacles resolved. The policies to be developed or refined by the network this year include connectivity agreements, security, and network monitoring indicators.

Financial considerations and funding are integral to the planning process. For the most part, the Network is funded by legislative appropriations. An appropriate and well-managed strategy to inform the Legislature, Governor's Office, and Fiscal Analyst's Office is critical to obtaining the required funding to meet the needs of the Network's users. This would include the annual Legislative Request information. Additionally, other sources of funding need to be investigated and proposals submitted to assist in maximizing the funding resources available. The goals for planning, policy, and funding are included in more detail in the full body of the strategic plan.

Network Infrastructure and Services

The network infrastructure and services include the physical facilities, circuits, switches, routers, servers, staff, and central technical services needed by the network's many users. The priority for network infrastructure is access, capacity, circuit speed, reliability/redundancy, security, and service agreements with our clients that ensure they are receiving adequate technical service. The majority of the goals in this section reflect these priorities. The other technical service goals define directions for security, replacement of equipment, and the introduction of new technologies as equipment is replaced. These new technologies are generally in the category of increased digital and video services. They include data (with a myriad of options including gigabit Ethernet, wireless, Voice over IP, H.323 video conferencing, etc.), video microwave (both analog and digital), satellite transmission, and digital and analog video broadcast and translators. As new technologies become available, they will be investigated and implemented as user needs are defined

KULC

The video services offered by KUED and KULC over the years are an important part of the services provided by the UEN. KUED and KULC will have new digital transmitters providing a number of new services that can be utilized by public and higher education. Upgrading these systems from analog to digital and identifying new services is the focus in this years KULC services plan.

Instructional Delivery

The Utah Education Network has provided special delivery services from its inception. EDNET and later, Satellite Services have provided extensive educational opportunities for students especially in areas where student populations have not justified offering the class locally The strategic direction for instructional delivery its to improve the delivery of courses to students to better meet their needs. To accomplish this, the EDNET and UEN Satellite systems will be to enhanced and improved, but with a look forward to new more flexible technologies such as H.323, a new standard of providing interactive video over the Internet, and to more and varied locations with greater flexibility. Instructional

delivery will continue to look at ways in which instruction can be delivered more asynchronously with combined technologies such as courses delivered using the Internet and EDNET/satellite.

Instructional Services

With increased emphasis on student achievement and educator competency at the federal and sate levels, educational resources available over UEN systems are absolutely critical to the end user. By coordinating and facilitating solutions to the needs of stakeholder groups, Instructional Services provides quality content resources and support services that support teaching and learning. Online web resources; utilizing the new digital capabilities of KULC, developing and improving partnerships with business, state agencies, and educational entities; and providing outstanding professional development opportunities will be addressed in FY 2003.

The following page is a colored depiction of the model with the major 'core-enabler' components in the right column, the specific issues, projects, and initiatives which will be addressed during the year in the middle column, and the projected completion dates in the left column. This chart, along with the project information found in Appendix A, will be updated at least quarterly as goals are accomplished or completion dates modified.

Ongoing	Conduct Grant Program Activities	
Ongoing	Increase Number Served	Professional Development
Sept. 2002	Develop Systemic Approach	
Ongoing	Increase Stakeholder Partnerships	Workforce Development
Ongoing	Administer Tech Corps	
Jun. 2003	Program Critical Needs Areas	KULC Programming
Jun. 2003	Expand Access to Digital Media	
Mar. 2003	Support New Web Applications	Online Resources
Mar. 2003	Increase Curriculum Accessibility	
Dec. 2002	Develop Comprehensive Satellite Plan	
Jun. 2002	Enhance UENSS Delivery System	
Jun. 2003	Evaluate and Pilot New Delivery Technologies	Instructional Delivery
Jun. 2003	Continue and Enhance the EDNET System	
	Build DTV Translator System	KULC Video Services
	Upgrade Analog System	
Mar. 2003	Provide Security Leadership & Training	
Oct. 2002	Assist in Firewall Planning & Implementation	
Dec. 2002	Implement Intrusion Detection System	
Sept. 2002	Complete Statewide Peering Project	
Sept. 2002	Complete District T-1 Re-points	
Jan. 2003	Increase Digital Video Stability	
Ongoing	Develop Video Master Plan	
Oct. 2002	Diversify Internet Access Points at UVSC	
Jan. 2003	Develop Video Streaming Infrastructure	
	Develop Relay Site Agreements	
Oct. 2002	Maintain Microwave Assets	
Ongoing	Update Routers and Switches	
Mar. 2003	Formalize Stakeholder Relationships	
Oct. 2002	Increase Rural Capacity	Network Infrastructure and Services
Mar. 2003	Increase Core Speed, Reliability, & Capacity	
	Review Needs Assessment and Evaluation	
Dec. 2002	Establish Performance Monitoring System	
Jan. 2003	Assure Data Privacy (GRAMA)	
Dec. 2002	Define a Network Security Policy	
Jun. 2003	Adopt Federal Security Process and Plan	
Ongoing	Improve Bandwidth Management	
Mar. 2003	Maximize Funding	Planning, Policy, and Financial
Jul. 2002	Implement Integrated Plan	

Appendix A - Project Plans

Planning, Policy, and Financial

Objectives Funding, Lead Responsibility	Tasks	Completion Date:
1 Strategic Planning, Management, and Support process will be implemented to assure the development, documentation, review, and progress reporting for and to all managers and, where applicable, staff, users, stake holders, and constituents. Funding: $_____ Project Leader: George Brown	1. Manage and facilitate the Network's strategic planning process. 2 Coordinate the process in the Planning Task Force of quarterly reporting and accountability. 3. Assure that all stakeholders have opportunity for input into plan and budget. 4. Assure that the plan, budget and quarterly updates are posted to the web in a timely manner.	*April - June 2003* *Quarterly October 2002, January 2003, April 2003 July 2003.* *April - June 2003* *Quarterly (see above)*
2. Develop a strategy to maximize the funding needed to support the Network facilities and services. Funding: Project Leaders: Steve Hess Mike Petersen George Brown Lisa Kuhn	1. Prepare the Annual Legislative Appropriation Request. 2. Prepare reports for Interim Committees and Appropriations Subcommittees. 3. Respond to requests for information from the Legislative Analyst's Office, the Governor's Office, and Office of Legislative Research and General Counsel. 4. Identify new grant sources and develop and submit grant applications to acquire grants from federal, business, and private sources. 5. Maximize E-Rate funding.	*November 15, 2002* *Ongoing* *Ongoing* Ongoing Sept. 2002, Mar. 2003
3. Implement Bandwidth Management processes and policies. Funding Project Leader	1. Assess current bandwidth management tools, procedures and policies. 2. Investigate and define procedures and tools that will improve the management process. 3. Generate policies that may be required to facilitate proper management procedures. 4. Assess performance measures and update as appropriate.	Sept. 2002 Sept. 2002 Nov. 2002 Ongoing
4. Adopt Federal Security Process and Plan Funding Project Leader George Brown	1. Review federal legislation and Executive Orders. 2. Define implications to Network. 3. Implement policies, standards, protocols, and processes aligned with the legislation to protect network infrastructure, resources, and data.	Sept. 2002 Jan. 2003 Jun. 2003
5 Define Network Security Policy	1 Identify issues addressed by other states. 2. Review federal and state legislation for implications.	*Sept. 2002* *Sept. 2002*

Funding: Project Leaders: George Brown Troy Jessup	3. Generate policy proposal 4. Review with appropriate entities and individuals 5. Present to Steering Committee for approval	*Oct. 2002* *Oct. 2002* *Nov. 2002*
6. Assure Data Privacy and Access in compliance with GRAMA Funding Project Leader: George Brown	1. Address appropriate data retention schedules and data designations. 2. Work with school district and other data owners to include data privacy in their retention schedules. 3. Generate appropriate data designations through the State Records Committee process to assure data privacy.	*Sept. 2002* *Dec. 2002* *Mar. 2003*
7. Establish a Network Performance Monitoring System Project Leader Rick Cline	1. Propose and request Steering Committee approval of performance indicators. 2. Develop data collection procedures. 3. Develop formats for reporting results. 4. Pilot-test reports. 5. Prepare and distribute reports	*Sept. 2002* *Sept. 2002* *Sept. 2002* *Dec. 2002* *Dec. 2002*
8. Review Needs Assessment and Evaluation Funding Project Leader Mike Petersen	1.	*On-going*

Network Infrastructure and Services

Goal I. Core Speed, Reliability and Capacity

Objectives **Funding, Lead Responsibility**	**Tasks**	**Completion Date**
1. Finish Ethernet first phase (Core Ring) Funding Project Leader Pete Kruckenberg Dan Patterson	1. Determine hardware vendor 2. Install Circuits 3. Install Hardware 4. Test traffic 5. Go live	Summer, 2002 Finalized Core Ring Equipment decision Continued to refine the regional priority list. Correlated this list with department goals and budget. Also, provided suggested prioritization to the Steering Committee. (Most of this work was completed in the 3rd quarter although the report was not given to the Steering Committee until October.) Summer, 2002 Summer, 2002 Summer, 2002 Summer, 2002

2. Plan and communicate the Ethernet Phase 2 Project Funding Project Leader Barry Bryson	1. Barry to lead 2. Develop draft plan	Spring 2002
3. Assist Weber State University in planning and implementation of a campus alternate path and Davis Campus connectivity Funding Project Leader Pete Kruckenberg	1. Vendor walkthrough and bidding process 2. SHARPS implementation 3. Installation of alternate path	Summer 2002 Summer 2002 Fall 2002
4. Assist Utah State University in pursuing alternate path options to Cache Valley Funding Project Leader Barry Bryson	1. Conduct talks with ATT BNS 2. Participate in Cache Valley initiative; Barry 3. Pursue opportunities with ITS	Summer 2002 Ongoing Summer 2002

Goal II. Increased Rural Capacity

Objectives, Funding, Lead Responsibility	**Tasks**	**Completion Date**
1. Complete Eskdale Connectivity Funding Project Leader Jeff Egly	1. Establish microwave path 2. Use microwave radios decommissioned from SE 3. Install and test equipment for use by Fall Term 2002	Summer 2002 Installed microwave equipment at Eskdale Summer, 2002 Summer, 2002
2. Implement GigE circuits in the Uintah Basin Funding Project Leader Jeff Egly	1. Sign Contract 2. Upgrade Routers 3. Install Circuits 4. Connectivity Testing 5. Go Live	May, 2002 Installed Ethernet circuits in Vernal and Roosevelt Summer 2002 Ordered NUES DS-3, upgraded NUES router. Summer & Fall 2002 Fall 2002 Fall 2002
3. Make decisions about move from Mossback to Clay Hills site Funding Project Leader Jeff Egly	1. Determine costs 2. Make recommendations to Steering Committee	Summer, 2002 Summer, 2002
4. SE Bandwidth and video	1. Increase bandwidth from Moab to Blanding	Summer, 2002

project Funding Project Leader Jeff Egly	2. Increase bandwidth from Price to Moab 3. Replace Nortel Equipment and upgrade routers in the southeast	Summer, 2002 Summer, 2002
5. Find a home for the OC-3 microwave radios Funding Project Leader Jim Stewart	1. List options 2. Make recommendations to Steering Committee	Summer, 2002 Summer, 2002 Finalized plans for the Southeast OC-3, ordered radios and other support equipment. Coordinated with the military for the Cold Springs site
6. Increase capacity in Millard County Funding Project leader Jeff Egly	1. Add T-1 Circuits to the DO in Delta	Summer 2002 Negotiated favorable Ethernet pricing for all Millard County sites
7. Increase capacity in Emery County Funding Project Leader Jeff Egly	1. Add T-1 circuits at Green River HS and Castledale	Dependent on E-rate funding
8. Assist Grand county in reorganizing and improving access Funding Project Leader Tony Bueno	1. Tony working with Jeremy Winder to determine timeframe and steps	Summer 2002

Goal III. Formalize Stakeholder Relationships

Objectives **Funding, Lead Responsibility**	**Tasks**	**Completion Date**
1. Fully implement NOA, SLA and Network Connection agreements Funding Project Leader Jim Stewart	1. UBATC, NUES and nine districts, Tony	August, 2002 Began NOA process with the four districts in the SESC region. Finalized NOA process with districts in the CUES and SEDC region.
	2. SLCC, Granite, Jordan, Murray & SLC; Jim	August, 2002
	3. UVSC, Nebo, Alpine & Provo; Mike/Pete	August, 2002
	4. SEDC & 6 Districts; Dan	August, 2002
	5. SESC, Grand, Carbon, Emery, San Juan & CEU; Jim	August, 2002
	6. USU, Box Elder, Cache & Logan; Barry	July, 2002
	7. WSU, DATC, Davis, Weber & Ogden; Barry	August, 2002
	8. CUES, Snow, Snow South and Districts;	August, 2002

	Dan	
2. Provide the NOA/SLA/Connection agreements on line Funding Project Leader Jim Stewert	1. Shellie, Dan and Jim to coordinate	TBD
3. Provide an effective Scorecard and publish this regularly Funding Project Leader Dan Patterson	1. Dan establishing prototype 2. Develop subset of districts to beta 3. Full implementation to all districts	Summer 2002 Fall 2002 Spring 2003
4. Develop methods to track UEN performance on the NOA/SLA Funding Project Leader Dan Patterson	1. Dan & Tony to determine steps	Summer, 2002; ongoing Completion of iView, Looking Glass, NMIS reporting tools that allow greater insight into network operations and accountability
5. Provide training for the use of Network Management Tools Funding Project Leader Dan Patterson	1. Regional T Forum meetings 2. Individual and districts	As requested As requested
6. Regular T Forum Meetings Funding Project Leader Jim Stewart	1. Determined by regional co-chairs, supported by the advocates	Ongoing
7. Develop process to effectively use the Remedy Help Desk software Funding Project Leader Dan Patterson	1. Dan & Tony to determine steps 2. Coordinate with TS Management 3. Communicate to Stakeholders	Ongoing Measurable improvement in the NOC Tier 1 process, providing better response to stakeholders when reporting network problems. Ongoing Ongoing Designed and built "really cool" UEN Network Operations Center.

Goal IV. Update Routers and Switches

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Develop Replacement Priorities list	1. Work with Regional Leaders	Ongoing Installed 7500 Routers at San Juan District Office, CEU, SUU (replaced all 7000 routers).

Funding Project Leader Jim Stewart	2. Publish list on Web site 3. Determine cost and develop plan	
2. Support increased E-rate reimbursement Funding Project Leader Jim Stewart	1. Louise Tonin to regularly attend Tech Services Management Meeting 2. Advocates to discuss support with region contacts	Every 2 weeks Summer 2002; Ongoing

Goal V. Maintain Microwave Assets

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Make decisions about move from Mossback to Clay Hills site Funding Project Leader Jeff Egly	1. Determine costs 2. Make recommendations to Steering Committee	Summer, 2002 Summer, 2002
2. Find a home for the OC-3 microwave radios Funding Project Leader Jim Stewart	1. List options 2. Make recommendations to Steering Committee	Summer, 2002 Summer, 2002
3. Develop replacement plan Funding Project Leader Jim Stewart	1. Inventory all assets 2. Determine spare equipment needs/costs 3. Write and distribute replacement plan	Summer 2002 Summer 2002 Fall 2002 a. Developed spares list and will order pending budget approval.

Goal VI. Develop Relay Site Agreements

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Establish Written Agreements Funding Project Leader Ed Ridges Jeff Egly	1. Ed Ridges to define scope and tasks 2. Identify all site components. 3. Determine site ownership. 4. Develop access policy. 5. Complete written agreement for each site. 6. Begin with sites co-located with ITS. 7. Complete balance of microwave sites. 8. Complete translator sites.	June 2002 On-going June – July 2002 Fall 2002 July 2002 - June 2003

	9. Identify sites for which formal agreements will not be adequate.	MOU between ITS and UEN approved by Steering Committee

Goal VII. Develop Video Streaming Infrastructure

Objectives Funding, Lead Responsibility	Tasks	Completion
1. Develop VoIP plan Finding Project Leader Jim Stewart	1. QoS model and implementation 2. Cooperative Trunking 3. Call Management development	Summer 2002 Summer 2002 January, 2003
2. Complete the H.323 pilot project Funding Project Leader Dan Patterson	1. Evaluate the training project in the SESC region and develop a written report 2. Install, test and use the MCU 3. Install a new Audio conference bridge 4. Install, test and demonstrate an analog gateway to H.323 EDNET capability 5. Assist Rural Regions in adding matching funds to successful grant applications	Winter 2003 Continued work on the SESC video pilot Summer 2002 Installed and tested the Accord MCU Summer/Fall 2002 Fall 2002 Fall 2002 Participated with regions on a H.323 video grant project. (Regions have been recently notified that their proposal has been accepted.)
3. Implement and Test Video Bridge	1. Dave Devey and Randy Scott	Summer 2002
4. Implement Audio Bridge	1.. Dave Devey and Randy Scott	Fall 2002
5. Configure Router for Multicast	1.. Mike Downie to develop plan	Fall 2002
6. Develop Analog to H.323 Gateway	1.. Randy to determine steps	Fall 2002

Goal VIII. Diversity Internet Access Points

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Complete the Internet Peering and Bandwidth expansion Project Funding Project Leader Pete Kruckenberg	1. Core Ring dependent 2. Establish GigE connection from UVSC to EBC 3. Install Touch America transit OC-3 at UVSC 4. Install Touch America peering circuit PAIX to EBC 5. Disconnect Qwest Internet OC-3	 Summer 2002 Summer 2002 Added 1st Peering OC-3 through Touch America Summer 2002 July 1, 2002

	6. Work with Davis District for minimal impact of Qwest circuit deletion	Summer 2002

Goal IX. Develop/Implement Video Master Plan

Objectives Funding, Lead Responsibility	Tasks	Completion
1. Develop the elements of the Technical Services Tactical and video master plans Funding Project Leader Jim Stewart	1. IMA Removal 2. Microwave upgrade and maintenance 3. Resources 4. Digital Video 5. New Endsite upgrade and maintenance 6. Public Communication and continuation 7. QoS pilot and implementation	Summer 2002 Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing

Goal X. Increase Digital Video Stability

Objectives Funding, Lead Responsibility	Tasks	Completion
1. Finish MGX out project Funding Project Leader Mike Downie	1. USU 2. DATC 3. SLCC	Summer, 2002 Summer, 2002 Summer, 2002 Finished the replacement of all MGX gear. This has stabilized the video network and improved the quality of the end user experience.
2. Plan and Communicate the ATM out project Funding Project Leader Jim Stewert	1. Jim to lead 2. Develop draft plan	January, 2002 Tested H.323 end sites in an EDNET environment.

Goal XI. Complete District T-1 Re-points

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Complete District T-1 Re-points Funding Project Leader Jim Stewart	1. Davis District 2. Salt Lake City District 3. Granite District 4. Jordan District 5. Logan District 6. Cache District 7. Weber District 8. Ogden District 9. Others	Summer, 2002 Summer, 2002 Planned and began implementation of re-points at SLC District. Summer, 2002 Summer, 2002 Summer, 2002 Summer, 2002 Summer, 2002 Summer, 2002 TBD Finished re-points at Granite, Jordan, Davis, Weber, Cache and Logan

		Districts.

Goal XII. Complete Statewide Peering Project

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Cooperate with State CIO and Smart Utah CEO to develop understanding of Community Networks Funding Project Leader Jim Stewart	1. Pete and Jim to determine tasks.	Ongoing
2. Complete the Internet Peering and Bandwidth expansion Project Funding Project Leader Pete Kruckerberg	1. Core Ring dependent 2. Establish GigE connection from UVSC to EBC 3. Install Touch America transit OC-3 at UVSC 4. Install Touch America peering circuit PAIX to EBC 5. Disconnect Qwest Internet OC-3 6. Work with Davis District for minimal impact of Qwest circuit deletion	 Summer 2002 Summer 2002 Added 1st Peering OC-3 through Touch America Summer 2002 July 1, 2002 Summer 2002
3. Assist the Utah Valley Community Network group in establishing a Community Network exchange Funding Project Leader Pete Kruckerberg	1. Pete to work with UVSC and Utah Valley communities to determine steps	Ongoing Continued work with the Utah Valley Community Network in planning the community peering point

Goal XIII. Implement Intrusion Detection System

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Install IDS Software Funding Project Leader Troy Jessup	1. EBC Installation 2. Analyze data 3. Demonstrate utilization 4. Plan Hub Implementation 5. Implement Software at Hubs 6. Analyze Core and Hub Data	Summer 2002 Developed working knowledge of SNORT software and have been using this utility to better manage the network Summer 2002 Summer 2002 Summer 2002 Fall 2002/ Winter 2003 Ongoing Developed Operations Security Process to allow Troy time to work on implementation plan for Hub IDS

		servers.

Goal XIV. Assist with Firewall Planning and Implementation

Objectives Funding, Lead Responsibility	Tasks	Completion Date
1. Regional Firewall Training and Implementation Funding Project Leader Troy Jessup	1. Emery implementation 2. Communicate with regions 3. As requested by the regions	Summer, 2002 Assisted Emery District in the firewall implementation. Summer, 2002 meetings Ongoing Met with District representative in SESC to plan firewall implementation Follow through with Grand, San Juan and Carbon Districts with the firewall implementation in these areas
2. Fully implement Firewall for UEN.ORG and UEN.NET Funding Project Leader Bryan Peterson	1. Bryan & Troy to determine steps	Ongoing

Goal XV. Provide Security Leadership and Training

Objectives Funding, Lead Responsibility	Tasks	Completion
1. Statewide Technical/Security Summit Funding Project Leader Troy Jessup	1. Operations developing October conference 2. Engineering developing March conference	October and March Spent a great deal of time during the quarter planning the Training summit that was held October 21 – 24, 2002. Held a day long Public Education Planning Summit. (October 3, 2002)

KULC Video Services

Near Term Objective Funding, Lead Responsibility	Tasks	Completion Date:
1. Upgrade Analog System Funding $_____ Project Leader _____		
2. Build DTV Translator System		

Regional Priorities - Updated November 19, 2002

Budget Support	Rank	Project	Region	Status	Goals (Y or N)	Goal Identity	Initial Connectivity	Reliability Equipment Replacement	Reliability Alternate Path	Increased Capacity	Planned Equipment Replacement	Security	Training	Optimize Network Resources
	0	Audio bridge upgrade	Statewide	Installed	Y	VII.3		B						
	0	CUES connectivity to Snow South	CUES	Completed	Y	DONE								X
	0	Diagnostic access to the routers (view Access Lists)	CUES	Completed	Y	CLAR								X
	0	DS-3 Upgrade and bandwidth management	SESC	Completed	Y	II.4				D				
	0	I2 Participation	Statewide	Completed	N	VIII.2								
	0	MGX equipment replacement	Statewide	Completed	Y	X.1		B						
	0	Migration to GigE connection with UEN	U of U	Completed	Y	DONE				D				
	0	Moving frontline router responsibility to districts	SLCC	In Process	Y	III.1								X
	0	NUES router upgrade	NUES	Completed	Y	DONE		B						
	0	Reengineer CEU Hub	SESC	Completed	Y	DONE		B						
	0	Re-engineer Weber District traffic.	DATC	Completed	N	DONE								X
	0	Repoint Morgan to NUES	NUES	Ordered Pending Qwest	Y	XI.1								X
	0	Security, Firewall implementation	CUES	HOLD	N	CLAR						X		
	0	The List	CUES	Completed	N	DONE		B						
	0	Training	SEDC	Ongoing	Y	XV.1							X	
	0	Tri-School Fiber Project	NUES	Completed	Y	II.2				D				
	0	Upgrade Ethernet card at NUES Office from 10 to 100 Meg.	NUES	Completed	Y	DONE				D				
P2003-1;P2003-2	1	Capitalize on E-rate Opportunities	Statewide	In Process										
Circuit	1	CVDS replacement	Statewide	Eng/Ops Planning	Y	I.5		B						
P2003-2	1	Tooele High School Move	SLCC	In Process	N		A							
NA	2	Eskdale Connection	SEDC	Completed	Y	II.1	A							
P2003.11;	2	GigE circuits for Vernal and Roosevelt	NUES	Completed	Y	II.2				D				
NA	3	CEU New Building and Hub Move	SESC	HOLD	N	II.10	A							
P2003-1; P2003-8	4	Completion of Core ring	UVSC	In Process	Y	I.1		B						
P2003-3;	5	H.323 Video	Statewide	Installed	Y	VII.2								X
P2003-3;	5	Mutlicast enable the UEN network	Statewide	Eng Planning	Y	VII.5								X
P2003-3;	5	QoS Pilot and implementation	Statewide	In Process (Eng)	Y	I.8								X
P2003-3;	5	Video Master Plan	Statewide	In Process	Y	IV								X
P2003-4;	6	IP Telephony Project	SESC	HOLD	N	II.9								X
P200P2003-15; 3-17	6	VoIP gateway	SLCC	In Process	Y	VII.1								X
P2003-15; P2003-18	6	VoIP Plan	Statewide	In Process	Y	VII.1								X

P2003-5	7	Hub equipment redundancy at Snow South (SPARES)	CUES	In Process	Y	I.6		B						
P2003-5	7	Spares	CUES	In Process	Y	I.6		B						
P2003-5	7	Spares	SEDC	In Process	Y	I.6		B						
P2003-5	7	Spares, (Routers, Switches, Microwave radios)	Statewide	In Process	Y	I.6		B						
NONE	8	Harden power at SLCC (Dave Devey).	SLCC	Completed	N	DONE		B						
P2003-1; P2003-8; P2003-16	9	Redundant equipment and location at UVSC	UVSC	Pending Core Ring	Y	I.1		B						
P2003-15;	10	Box Elder Mini-hub	USU	In Process	Y	II.12		B						
P2003-15;	11	LAN/WAN performance diagnostic tools	UVSC	HOLD	Y	III.5		B						
Circuit	12	Capacity in the future (what should we do beyond 2 DS-3 links).	USU	Eng Planning	N	I.2					X			
Circuit; P2003-15	13	Fix redundancy into WSU	DATC	Eng Planning	Y	I.3			C					
NONE	14	Backbone Redundancy	SEDC	HOLD	Y	I.2			C					
NONE	15	Redundant link (Alternate path)	USU	Director	Y	I.2			C					
NONE	16	Redundant Connectivity	NUES	HOLD	Y	I.2			C					
Circuit	17	Alternate paths from Granite, Murray, Salt Lake City and Jordan Districts	SLCC	Eng. Planning	Y	I.7			C					
NONE	18	Implement a split node with diverse termination on the lower campus	U of U	HOLD	Y	I.7			C					
Circuit	19	Millard DO Capacity Expansion	SEDC	Ops Planning	Y	II.6				D				
NONE	20	Alternate Routes into the region	CUES	Eng Planning	Y	I.2			C					
Circuit	21	Community Network links at Provo, Alpine and Nebo districts.	UVSC	In Process	Y	XII.4				D				
P2003-9;	22	CommIX point of presence at UVSC	UVSC	Eng. Planning	Y	XII.3				D				
P2003-10;	23	Security Resources	Statewide	IDS installation	Y	XIII.1						X		
P2003-2;	24	Router replacement	CUES	In Process	Y	IV.1					X			
P2003-2;	24	Router Replacement	SLCC	In Process	Y	IV.1					X			
P2003-2;	24	Router replacements	DATC	In Process	Y	IV.1					X			
P2003-2;	24	Router replacements	USU	In Process	Y	IV.1					X			
P2003-2;	24	Router Upgrades throughout the region (Emery)	SESC	In Process	Y	IV.1					X			
P2003-2;	24	Router Ugrades - NUES	NUES	In Process	Y									
Circuit	25	Ethernet WAN	SEDC	In Process	Y	II.11								X
NONE	26	Tools	SEDC	HOLD	Y	III.5								X
P2003-7;	27	Clay Hills Microwave Site	SESC	CIB Grant Application	Y	V.1; II.3								X
NONE	28	Fiber/high speed links to SLCC satellite sites.	SLCC	HOLD	N	CLAR								X
Circuit	77	Data T-1 relocation at Granite, Salt Lake City and Jordan Districts	SLCC	In Process	Y	XI.1		B						
NA	77	More training needed from UEN.	USU	In Process	Y	XV.1							X	
NA	77	Move Internet OC-3 Connection to UVSC	UVSC	On Hold	Y	I.1			C					
Circuit	77	NUES DS-3	NUES	Circuit has been ordered	Y	II.13				D				
NA	77	Technical Training	CUES	Ongoing	Y	XV.1		B					X	
NA	77	Technical Training and cross training for hub support	UVSC	Ongoing	Y	XV.1		B						
NONE	333	Additional Personnel	SEDC	HOLD	N	CLAR								X
NONE	333	Data Warehousing	SEDC	HOLD	N	CLAR								X
NONE	999	Davis Elementary router migration	DATC	In Process	N	DONE					X			

NONE	999	Davis Ethernet Connections and Video Redesign	DATC	Completed	Y	DONE				D				
NONE	999	Dutch John Elementary connectivity	NUES	HOLD	N	CLAR	A							
NONE	999	Elementary Schools	SEDC	HOLD	N	CLAR								X
NONE	999	Internet Capacity	DATC	HOLD	N	I.2; I.3				D				
NONE	999	Involvement in online testing plans	Statewide	Ops Review	Y	III.3								
NONE	999	Layer Three Switches	SEDC	HOLD	N	CLAR				D				
NONE	999	LSR	SEDC	HOLD	N	CLAR								X
NONE	999	Routers for firewall implementation	UVSC	HOLD	Y	IV.1		B						

Instructional Delivery Services Strategic Plan

August 2002

The Utah Education Network has provided special delivery services from its inception. EDNET and later, Satellite Services have provided extensive educational opportunities for students especially in areas where student populations have not justified offering classes locally. The strategic direction for instructional delivery is to improve the delivery of courses to students to better meet their needs. To accomplish this, the EDNET and UEN Satellite systems will be to enhanced and improved, but with a look forward to new more flexible technologies such as H.323, a new standard of providing interactive video over the Internet, and to more and varied locations with greater flexibility. Instructional delivery will continue to look at ways in which instruction can be delivered more asynchronously with combined technologies such as courses delivered using the Internet and EDNET/satellite.

Goal I. Continue and improve the effectiveness and usefulness of EDNET.

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. Concurrent Enrollment Funding: UEN Budget Project Leader: Mike Petersen	1. Work with key stakeholders to assure financial viability of the program 2. Support increased cooperation between higher ed and public ed to improve effectiveness of the program for students in Utah high schools	1. Q1 – Q2 2. Q1- Q4	Attend CE Sub Comm meetings Share district funding plans among districts and HE institutions
2. Teacher Training Funding: Project Leader: Bill Kucera Project Leader: Claire Gardner, Rick Cline	**.Work with colleges of education and public school officials to develop and conduct needs Assessment** 2. Assist public and higher ed to identify, develop programs for delivery on EDNET	1. Q1 - Q2 2. Q3 - Q4	Working with PE and HE to articulate how concurrent EDNET courses help high school students get PE credit and HE credit
3. UCAT Funding: UEN Budget Project Leader: Bill Kucera Project Leader: Claire Gardner	1. Work with UCAT officials to develop and conduct needs assessment 2. Assist UCAT to identify and develop programs for delivery on EDNET	1. 1 - Q2 2. 3 - Q4	Preliminary discussions with USHE and UCAT about possible niche programming
4. New intra and Inter-district public ed courses Funding: UEN Budget Project Leader: Claire Gardner	1. Assist public ed staff at high schools and districts to identify and develop classes for delivery on EDNET	1. 2 - Q4	Little activity – exploring districts' course sharing (Jordan and Alpine)
5. New higher ed degree programs to be delivered on EDNET Funding: UEN Budget Project Leader: Rick Cline	1.Assist continuing ed. deans to identify, develop, and implement new programs and classes for delivery on EDNET	1. 1 - Q4	Working with PE and HE to articulate how concurrent EDNET courses help high school students get PE and HE credit
6. State government and non-profit educational programs Funding: UEN Budget Project Leader: Mike Petersen	1 .Identify appropriate staff at state government agencies and non-profit organizations who have educational training responsibilities 2. Assist state government and non-profit staff to identify, develop, and implement programs and classes for delivery on EDNET	1. Q1 2. Q2 - Q4	Higher Ed Banner Management Information Systems Training for 15 weeks during year USOE Rehab Training using EDNET H.323 Special Ed grant application submitted from 3 service centers

Project Leader: Claire Gardner			
7. Refine, Improve EDNET tools, resources Funding: UEN Budget Project Leader: James Hodges	1. Refine and improve EDNET web pages, web-based reports; Evaluate and upgrade end sites; improve UEN's Conference Management Environment software tool (Cme) and Remedy help desk software.	1. Q1 - Q4	IDS web pages evaluated, updated, and accurate as of 10/02. Some pages are currently live (i.e. accountability pages) End sites identified for upgrade. Phase 1 currently being engineered and planned for implementation in Tooele Remedy has been upgraded and TOC working with Remedy Admin. on accomplishing appropriate training with HUB operators to get them up to speed

Goal II. Evaluate and pilot-test new instructional delivery technologies through collaborative efforts with Technical Services and Instructional Support staff

Objectives Funding, Lead Responsibility	*Tasks*	*Completion Date*	*Current Status*
1. Lab and beta testing of new technologies 1. Funding: Technical Services Budget Project Leader: James Hodges 2. Funding: Technical Services Budget Project Leader: James Hodges 3. Funding: UEN Budget Project Leader: James Hodges	1. Work with technical services staff to evaluate and test H.323 video conferencing equipment in a lab environment 2. Work with technical services staff to evaluate and test MPEG 2 based codecs 3. Work with Instructional Support and Technical Services staff to implement streamed media services for use by public and higher ed. teachers throughout the state.	1. Q1 - Q2 2. Q1 - Q2 3. Q1 - Q4	Bench testing of Polycom H.323 and Tandberg equipment accomplished New conference bridge has been tested and is currently used in evaluation projects for video. In production for audio for ad hoc audio conferencing meetings and UENSS Miranda codecs into production in SE. Functionality relatively successful
2. Initial piloting of instruction delivered with new technologies Funding: UEN Budget Project Leader: Mike Petersen Funding: UEN Budget Project Leader: Claire Gardner, Rick Cline 3. Funding: UEN Budget Project Leader: James Hodges	1. Assist public ed and higher ed officials to identify instructors and support their preparation of courses that could be delivered with the new technologies **. Pilot test in the field a small number of higher ed and public ed courses to be offered with new technologies** 3. Initiate evaluations of H.323 equipment as part of EDNET system (blending EDNET & H.323 in a single event)	1. Q1 - Q3 2. Q3 - Q4 3. Q1 - Q4	Current pilots include: Uintah HS/Manila HS SESC sites, BATC,Tooele SD Preparing technical and instructional evaluation criteria to use in evaluating projects for this school year (e.g., Tooele SD) Blending of H.323 and EDNET is not yet in production – will be accomplished with the Tooele SD project

Goal III. Continue and enhance the value and importance of UENSS as an instructional delivery system.

Objectives Funding, Lead Responsibility	*Tasks*	*Completion Date*	*Current Status*

1. Cost Effectiveness Funding: UENSS Budget Project Leader: Rick Cline, Claire Gardner Funding: UENSS Budget Project Leader: Claire Gardner, Rick Cline, Bill Kucera	. Assist Higher Ed to identify, develop, and implement new programs and classes for delivery on UENSS . Work with stakeholders to increase channel utilization, widen audiences, increase flexibility; thus increasing cost effectiveness	1. Q1 - Q4 2. Q1 - Q4	1. Working with USHE personnel to identify types of courses (e.g., Gen Ed) currently offered via EDNET and UENSS 2.KULC carried to 19 cable head ends via satellite 3. Investigation of other potential paying users during off hours – data transmission
2. Quality instruction Funding: UENSS Budget Project Leader: Rick Cline, Claire Gardner	1. Work with instructors to improve instruction through training in instructional design and incorporation of new technologies	1. Q1 - Q4	UENSS Training team active in planning for assessment and evaluation of instructional and technical activities during first week of Spring semester UEN and USU participating in monthly training events on system and in person
3. Ease of access Funding: UENSS Budget Project Leader: Claire Gardner	1. Work on development of updated web pages for UENSS	1. Q3	Revised and easier links to USU – ensuring ease of access Many pages live already – others in works

Goal IV. Evaluate and plan for the future of UENSS

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. What should the system look like in 3-5 years? Funding: UENSS Budget Project Leader: Mike Petersen, UENSS Future Committee	1. Work with stakeholders to create 3 realistic scenarios for the future of UENSS	1. Q1 - Q2	Draft 02-05 planning document complete based on input from legislators, UENSS, USHE, fiscal analyst, and UEN
2. Evaluation of alternatives to augment or replace satellite delivered instruction Funding: KULC, KUED, UEN Budgets Project Leader: James Hodges, Dave Devey	1. H.323 video conferencing 2. DTV 3. Satellite contract renewal	1. Q1 - Q2	Evaluating alternatives and pursuing contract renewal options Internal reassessment of technical quality
3. Assess advantages of satellite delivery systems Funding: UENSS Budget Proiect Leader: Bill	1. Work with stakeholders to create clear and concise documents which portray UENSS strengths and weaknesses 2. Assist Higher Ed with assessment of economic development impacts in local communities	1. Q1 - Q2 2. Q1	*Plans to update cost of different delivery using more recent data* *determine means to assess*

Kucera, Claire Gardner Funding: UENSS Budget Project Leader: Bill Kucera			*ty economic value for education* *team undertaking nt and evaluation of ical quality*

R drive - Instructional Services - FY03 plan

Instructional Services Strategic Plan

With increased emphasis on student achievement and educator competency at the federal (No Child Left Behind) and state (Utah Performance Assessment) levels, educational resources available over UEN systems are critical to the end user. By coordinating and facilitating solutions to the needs of stakeholder groups, Instructional Services provides quality content resources and support services for both teaching and learning. Online web resources; utilizing the new digital capabilities of KULC; developing and improving partnerships with business, state agencies, and educational entities; and providing outstanding professional development opportunities will be addressed in FY 2003.

Q1 = July-September 2002
Q2 = October-December 2002
Q3 = January-March 2003
Q4 = April-June 2003

Goal I. Provide web-based resources and services that support UEN stakeholder needs.

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. Working with the Pioneer Library Committee, continue to support, deliver, and market Pioneer, Utah's Online Library. Funding: $470,000 Project Leader: Rick Cline	3. Collaborate with the committee to purchase the best electronic library resources at the best price. 4. Identify Pioneer promotion strategies statewide; implement statewide Pioneer promotional campaign through public and higher education and the public library system. 5. Determine what needs (technical, marketing, evaluation) exist in supporting Pioneer; develop and implement a plan to meet those needs.	1. Ongoing 2. Q2 3. Q1	*1. Q1: Added DigitalCurriculum to the Pioneer Library. Provided Utah educators the opportunity to evaluate potential Pioneer products.* *2. Q1: Presented marketing strategies to the Pioneer Committee – now refining strategies. Continued delivering remaining Pioneer Tool Kits.* *3. Q1: Provided Utah students one username/password to access Pioneer from home. Provided students access to World Book from home. Provided teachers and students access to Deseret News Archives from home. Provided blind students and educators a "reader" friendly Pioneer Library home page.* -
2. Increase accessibility to curriculum resources. Funding: Project Leader: Karen Krier	5. Refine the Public Education Core Curriculum authoring and display interfaces on uen.org. 6. Design and implement an easier interface for accessing the curriculum resources. Target specific audiences (students, teachers, adult learners). 7. In collaboration with USOE specialists, catalog and correlate online resources (i.e. educational links, lesson plans,) that support the public education core	1. Q2 2. Q3 3. Q4	*1. Q1: Created online curriculum grid (www.uen.org/core)* *2. Q1: Created online curriculum grid.* *3. Q1: Supported lesson plan creation for 7-12 Soc. Stud, K-6 Health, 3-6 Science, ATE Tech. Learning & ISTE / NETS lessons*

	curriculum. 8. Ensure uen.org pages meet universal accessibility requirements. 9. Establish an annual review process for online projects and tools. Act on review. 10. Work with colleges and universities to gather college-level curriculum links. Include higher education resources on uen.org, searchable by higher education discipline.	4. Ongoing 5. Q3 6. Q4	*4. Q1: Top 100 most visited are COMPLETE. Maintenance schedule for remaining pages.* *5.Q1: Reviewed CourseWare, Heritage and Weather* *6. Q1: goal established by higher ed subcommittee, disciplines list acquired*
3. Support new web applications as requested by stakeholder groups Funding: Project Leader: Karen Krier	4. Support activities of the electronic portfolio committee, determine available resources to fulfill committee priorities, participate in planning sessions. 5. Support development of online assessment tools and processes with USOE. 6. Expand web site to include resources for higher education distance education faculty. 7. Support SURWEB as a teacher/student multimedia authoring tool, TIPS as an online assessment tool and, and MyEDesk as an online teacher/student portfolio tool through collaborative planning, partial funding, and coordination of services to facilitate interoperability between MyEDesk and my.uen.	3. Q4 4. Q3 5. Q4 6. Ongoing	*1. Q1: attended meetings, examining products* *2. Q1: linked to cognos, TIPS from my.uen; ongoing professional development/presentations* *3. Q1: no activity this quarter* *4. Q1: funding allocated for professional development and product maintenance, meetings to determine universal access options, decision to provide reciprocal links to sites*

Goal II. Increase the vitality and scope of KULC.

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. Participate with the Digital Media Strategic Planning Committee to expand access to digital media. Funding: Project Leader: Laura Hunter	4. Participate with the Digital Media Strategic Planning Committee in developing a digital video strategy for KULC, H.323, DTV, EDNET for public and higher education. 5. Establish 'Annenberg Channel' for high school, higher education, and teacher education programming; promote with stakeholders. 6. Distribute a library of streamed media content for K-12 and post-secondary general education programs. 7. Partner with colleges and school	2. Ongoing 3. Q2 4. Q3 5. Q3	*1. Q1: no activity this quarter* *2. Q1: no activity this quarter* *3. Q1: RFP evaluation committee meetings, subsequent decision to pursue contract with Digital Curriculum product, documents prepared for instructional services and steering committee to ratify decision* *4. Q1: began demo project with PBS Digital Classroom grant at Bennion Jr. in Granite District, antenna, cable, server installed at school, identification of teachers, identification and indexing of local programming and web site, provided material for PBS user interface, meetings with district and school personnel.*

	districts to facilitate demo projects with DTV and streamed media. 8. Maintain national partnership with OnCourse. 9. Develop internal UEN workflow models for digital service. 10. Facilitate public and higher education hybrid course development using digital media. 11. In coordination with KULC stakeholders, develop business plan for KULC.	 6. Ongoing 7. Q3 8. Q4 9. Q4	*Triveni equipment installed, professional development material prepared* *5. Q1: attended board meetings, began educational advisory committee – first meeting, scheduled site visit from onCourse team, ongoing discussions about future product partnerships* *6. Q1: established indexing procedure using Access database for PBS project, ongoing discussions* *7. Q1: no activity this quarter* *8. Q1: ongoing discussions*
2. Identify and act on growth opportunities for KULC programming in critical needs areas. Funding: Project Leader: Laura Hunter	2. Work with colleges and school districts to identify program gaps and expand service to these areas. 3. Support KUED projects where service audience and educational missions align. 4. Implement local productions with institutions, based on institution request. 5. Identify program sources for expanded service in the critical need areas identified by KULC stakeholders. 6. Identify and implement program-specific promotion strategies on behalf of districts and institutions. 7. Expand KULC website to include program search, translator and cable information.	1. Q3 2. Q1 3. Ongoing 4. Ongoing 5. Ongoing 6. Q2	*1.Q1: no activity this quarter* *2. Q1: collaborated on and received Ready to Learn grant; collaborated with curriculum links and outreach for VoteUtah* *3.Q1: added U of U newsbreaks, SLCC news program* *4. Q1: discussions about Spanish GED, added new parenting courses* *5. Q1: Implemented new ITV schedule for 2002-2003 school year, new ITV guide, new Colonial Williamsburg and US Dept of Ed programs* *6. Q1: ongoing updates to website and program search*

Goal III. Support workforce and career development programs.

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. Increase partnerships with business, workforce, adult learning, applied technology, higher education, and career development stakeholders. Funding: Project Leader: Dennis Sampson	2. Implement UEN internship program with DATC. 3. Participate in the Utah Association of Adult Continuing and Community Education (UAACCE) Board of Directors; support the UAACCE Annual Conference; sponsor technology-related sessions. 4. Support multimedia education and ATE and UCAT workforce development. 5. Participate in the Utah Information Technology Association (UITA) Skilled Workforce Subcommittee. 6. Participate in the U of U AOCE UACTION Grant (Utah's Access to Community Technology	1. Q1 2. Q1 and Q3 3. Q1 4. Q1 and Q3 5. Ongoing	*1. Q1: Completed UEN/DATC internship program. Evaluations completed by supervising staff. Executive summary forthcoming.* *2. Q1: 2002 UAACCE conference planning completed. Conference Oct. 21 and 22.* *3. Q1: Planning completed for Utah Multimedia Educator Retreat to be held Oct. 25 at Utah Museum of Fine Arts.* *4. Q1: UITA meetings on-going monthly participation and input to Education Coalition Committee commissioned by Governor Leavitt* *5. Q1: Attended a regional CTC consortium meeting of grant partners for UACTION* *6. Q1: Internet2 SEGP proposal accepted by higher education stakeholder consortium. Approval received from University Corporation for Advanced Internet Development for UEN to*

	Integration Outreach Network). 7. Expand Internet2 to USHE and secondary schools.	6. Ongoing	*become a Sponsored Educational Group Participant (SEPG). Presented Internet2 to UCAT Directors at Ogden-Weber ATC. Initial pilot project planning with KUED and Public Television consortium from Idaho and Nevada to share video content over Internet2.*
2. Administer Utah Tech CORPS for K-12 schools. Funding: $15,500 Project Leader: Dennis Sampson	3. Administer the Intel Utah PC Recycling Program. 4. Hire and support two AmeriCorps* VISTA interns. 5. Implement PC-to-TV classroom converter project for K-12 schools; design and administer post-project evaluation. 6. Secure additional funding sources and partnerships for the PC-to-TV Converter project. 7. Administer Intel QX3 Computer Microscope Donation Project	1. Ongoing 2. Ongoing 3. Q4 4. Ongoing	*1. Q1: Secured $15,000 grant from National Intel Foundation for PC Recycling Program.* *2. Q1: New VISTA intern hired, began 9/9/02* *3. Q1: 7 pallets received. Equipment distributions made to: West Hills Middle School. Grant Elementary School, Lehi Jr. High School Library Center, Box Elder School District* *4. Q1: no activity this quarter* *5. Q1: awarded microscopes, designed award program and training, presentation at TCC*

Goal IV. Provide high quality, sustainable professional development programs.

Objectives Funding, Lead Responsibility	***Tasks***	***Completion Date***	***Current Status***
1. Working with public education district and state curriculum specialists, C-Forum, and higher education stakeholders, develop a systemic approach for providing high quality, sustainable professional development programs and services. Funding: Project Leaders: Victoria Rasmussen; Renee Willemsen on Technology Integration Academy	5. Develop and implement professional development courses that address national technology integration goals for teachers and faculty. 6. Develop and deliver a web academy program for education web site administrators from both public and higher education. 7. Develop and deliver a technology integration program for K-12 teachers. 8. Implement models for existing UEN professional development offerings which utilize multiple delivery systems.	1. Q1 2. Q2 3. Q2 4. Ongoing	*1 Q1: developed Use Technology to Teach class, increased follow-up* *2. Q1: online development and presentations/recruitment underway* *3. Q1: .Developed Technology Integration Academy and beginning pilot program, ongoing discussions for endorsement and funding programs* *4. Q1: Teacherline: first module full w/waiting list. Annenberg increasing enrollment.*
2. Increase the number of teachers and faculty served. Funding: Project Leader: Victoria Rasmussen	1. Increase number of field-based trainings at both school districts and colleges. 2. Support and promote UEN web resources to all stake holders. 3. Improve and expand workshops that present best practice tools on uen.org (e.g., rubric tool, lesson	1. Ongoing 2. Ongoing 3. Q2	*1 Q1: .Increasing requests, more first-time requests.* *2.Q1: UEN Resources/Tools* *3. Q1: Increase in ITC's, including Edesk.*

	plan builder, etc.) and include Edesk and TIPS in workshops. 4. Increase service to higher education teacher education programs. 5. Work with USHE campus faculty assistance centers to identify training needs and provide such training as needed. 6. Conduct outreach efforts at conferences and workshops for public education school districts, USOE, higher education groups, and other educational and government organizations.	4. Ongoing 5. Ongoing 6. Ongoing	*4.Q1: Increase in Univ. of Utah presentations. Held BYU and Westminster presentations. Total: 6* *5. Q1: No requests this quarter.* *6. Q1: total conferences: 6*
3. Conduct activities of grant-funded programs in accordance with grant requirements and commitments. Funding: Project Leader: Renee Willemsen, Doug Jones	1. Complete Intel Teach to the Future project and plan expansion. 2. Implement PBS TeacherLine online professional development project. 3. Update and conduct 40 ITC workshops in school districts. 4. Increase utilization of MarcoPolo resources and professional development programs.	4. Ongoing 5. Q1 6. Q4 7. Ongoing	*1. Q1: A total of 3,102 Participant Teachers have been trained.* *2. Q1: TeacherLine - 3 facilitators trained, 3 classes scheduled to start October 21 are filled to capacity.* *3.Q1: Conducted 9 district ITC workshops.* *4. Q1: Including MarcoPolo resources in all ITC workshops.*

Funding Summary

Planning, Policy, and Financial	$
Network Infrastructure and Services	$
KULC Video Services	$
Instructional Delivery	$
Instructional Support	$
Total	$

Appendix B.

BENCHMARKS

June 4, 2002

Preface: The following benchmarks are intended to establish ultimate outcomes for the partnership represented by the Utah Education Network. Their successful accomplishment will require the 'best efforts' of all partnership entities. As 'ultimate goals', these benchmarks represent and describe those outcomes that will eventually result from the year-to-year efforts which are identified in the annual strategic planning process undertaken by the Network staff.

General:

The Utah Education Network will:

- provide students, teachers, and faculty access to quality, technology-rich, learning resources (including the Internet) in such a way that they can become an integral part of the instructional process in both public and higher education. Public libraries will also be connected, as appropriate, as part of the overall partnership facilitated by the Network, thereby permitted broad citizen access to these resources.

Student Services:

The Network will provide services which will:

- assist students in experiencing an enhanced and personalized education characterized by an improved and more productive educational process.

- provide students with learning opportunities to assist them in developing the information technology and problem-solving skills necessary to be competent, functional, and competitive in the information age.

Teacher/Faculty Services:

The Network will provide or facilitate:

- Professional development for Utah's public and higher education teachers and faculty in the use of computers, the World Wide Web, and instructional television to enable them to enhance student learning opportunities.

- Utah's public and higher education teachers and faculty with the support necessary to permit them to successfully use technology to enrich the educational experiences for their students.

School/Institution Services:

The Network will:

- Assist every public school and higher education institution in the process of developing and implementing technology plans to help teachers and faculty be more effective in providing enhanced learning opportunities for students.

- Work with Utah's public schools and institutions of higher education in developing and/or providing access to learning resources and educational materials that will promote and encourage lifelong learning opportunities.

Utah's Telecommunications Infrastructure:

- The Utah Education Network will contribute to and assist in building Utah's telecommunications infrastructure and will foster an environment that responds to the state's evolving educational telecommunication's needs. To achieve this, the Network will encourage partnerships and facilitate collaboration among all the education stakeholders (e.g., public schools, institutions of higher education institutions, libraries, business, industry, and government).

Appendix C.

Utah Education Network
February 2002

Planning Implications

Customer Needs and Assessment -

In order to fulfill its mission, the Utah Education Network must base all its activities on the fundamental premise of customer service. Both summative and formative research must be conducted.

Partnership Coordination -

The success of the Network will depend on its ability to assist all interested parties to work toward the common goal of using telecommunications technology in the service of education. The Network must empower both its employees and partners, and avoid being territorial. It is critical that services be 'out-sourced' to educational and private enterprise partners where appropriate.

In order to ensure that the state's educational-technology needs are met, it is essential that the Network maintain effective partnerships with the State Board of Regents, the State Office of Education, the Governor's Office, the State Legislature, the state's institutions of higher education, the state's school districts, public libraries, and private industry.

Funding Issues -

The Network staff will continue to pursue various funding opportunities and mechanisms. This includes finding more efficient ways to utilize present funding in current prioritizing activities and reallocating existing funds, seeding new ventures, and continually examining the relationship among all Network services. The Network staff should also seek new business partnerships and grant opportunities as alternative sources of revenue.

Training -

Technology is only as effective as the people who use it. To realize the maximum benefits offered by new information services, it is imperative that teachers, administrators, and students receive adequate training. Network staff will be aggressive in educating the learning community in the benefits of utilizing technology to teach and learn.

The Network will train all staff to be conversant in the services offered by the Network. The staff will be able to represent the Network's mission, principles and objectives to any and all constituencies and audiences.

Additional implications include:

1. There is significant potential to utilize some channel capacity of digital television to provide, in a broadcast mode, video-on-demand and data to schools and homes.

2. Both pre-service and in-service will continue to be critical issues for the Network. Higher education institutions must focus on the pre-service training of prospective teachers. This pre-service training should concentrate on utilizing the technology in presenting and supporting curriculum.

3. Cooperative planning, collaboration, and the encouragement to adopt standards and guidelines in hardware, software, and curriculum development activities are critical. The better the coordination, the more likely the development of useful educational services and infrastructure across an open, non-proprietary architecture.

4. Traditional institutional boundaries are disappearing. The trend is toward inclusive rather than preclusive environments, especially associated with 'lifelong' learning.

5. The definition of 'resident' for students needs to be changed to accommodate a credible, flexible, and inclusive approach.

6. Among the challenges the Network faces is to provide disadvantaged students with direct and adequate network access. The Network should encourage schools, libraries, and communities to provide Internet access to disadvantaged students and citizens.

7. Library patrons are increasingly requesting improved access to the Internet at their public libraries.

8. There is an immediate need for 'community networks' as a way to extend broadband networking facilities to homes and local governments, particularly in rural areas where many local telephone companies find it unprofitable to provide broadband services. Also, acceptable standards, guidelines, templates, etc., must be developed which focus upon the physical network as well as the applications and content available via these networks. Educational leaders in Utah must be key players in the development and deployment of these networks.

9. Parental involvement must be enhanced and questions regarding how to meet the problems of assuring that there will be pervasive access from the home must be addressed.

10. Every aspect of citizen access to educational services should be evaluated to permit access from homes, local or regional kiosks, community (after-hour) school programs, public libraries, and other easily accessible facilities.

11. All educational processes will be affected by telecommunications technology. The most successful models will include the total and systematic integration of technology into all aspects of the educational process.

12. Educational institutions will see increased competition from business and the private sector in the delivery of educational services.

13. There is an increasing need for universities to seek broadly based alliances in order to meet the ever rising student demands for the best possible educational opportunities.

14. There is increasing tension within educational institutions between those who support the use of new technologies and those who support traditional methods. The tension is focused on how they perceive technology impacting education (e.g., replacement versus transformation).

15. Satellite services are growing as a delivery option for education.

16. Educational policies continue to 'lag' behind technological advances. Issues like articulation, credit, and tuition still need to be resolved. It is likely there will be less money for traditional education which will place a premium on technologically-supported solutions.

17. E-Rate income (discounts) may help lower the on-going costs to school districts and allow for greater financial flexibility in information delivery and school connectivity.

18. There is a great need for 'scalable band-width' to facilitate more flexibility in implementing solutions to the diverse needs of users. The strategic directions of the service providers in the deployment of new and/or enhanced services (i.e., XDSL, ATM, packet over SONET, broad-band ISDN, etc.) may not correlate with the strategic long-term needs of the Network.

20. The Governor's guiding principles, especially regarding the issue that the state should not own the network, continue to be viable.

TAB 23

REGIONAL PRIORITIES REVIEW AND BUDGET DISCUSSION

Issue

The Technical Services Committee is asked to review and approve Regional Priorities and funding recommendations as enumerated in the Regional Priorities and Special Projects attachments.

Background

The UEN Technical Services Subcommittee has developed a regional priorities planning document. The most recent copy of this document is included as an attachment to this summary.

Subcommittee members were given a copy of this document at the last meeting. The recommended prioritizations will be discussed during the December subcommittee meeting.

A document detailing planned expenditures from the Technical Services Projects pool of funds is also included. These expenditures have been grouped in line items P2003-1 through P2003-17 for identification purposes. The regional priorities document has also been correlated to the expenditure spreadsheet. This correlation is placed in the first column of the regional priorities document and it identifies funding support for the regional priorities.

Recommendation

It is recommended that the Technical Services Subcommittee review and discuss priorities as outlined on the regional priorities document. From this discussion the priorities can either be accepted or modified to reflect the will of the subcommittee members.

The finalized, updated document can then be presented to the full Steering Committee for further discussion and approval.

TAB 23 ATTACHMENT A

Regional Priorities - Updated November 19, 2002

Budget Support	Rank	Project	Region	Status	Goals (Y or N)	Goal Identity	Initial Connectivity	Reliability Equipment Replacement	Reliability Alternate Path	Increased Capacity	Planned Equipment Replacement	Security	Training	Optimize Network Resources
	0	Audio bridge upgrade	Statewide	Installed	Y	VII.3		B						
	0	CUES connectivity to Snow South	CUES	Completed	Y	DONE								X
	0	Diagnostic access to the routers (view Access Lists)	CUES	Completed	Y	CLAR								X
	0	DS-3 Upgrade and bandwidth management	SESC	Completed	Y	II.4				D				
	0	I2 Participation	Statewide	Completed	N	VIII.2								
	0	MGX equipment replacement	Statewide	Completed	Y	X.1		B						
	0	Migration to GigE connection with UEN	U of U	Completed	Y	DONE				D				
	0	Moving frontline router responsibility to districts	SLCC	In Process	Y	III.1								X
	0	NUES router upgrade	NUES	Completed	Y	DONE		B						
	0	Reengineer CEU Hub	SESC	Completed	Y	DONE		B						
	0	Re-engineer Weber District traffic.	DATC	Completed	N	DONE								X
	0	Repoint Morgan to NUES	NUES	Ordered Pending Qwest	Y	XI.1								X
	0	Security, Firewall implementation	CUES	HOLD	N	CLAR						X		
	0	The List	CUES	Completed	N	DONE		B						
	0	Training	SEDC	Ongoing	Y	XV.1							X	
	0	Tri-School Fiber Project	NUES	Completed	Y	II.2				D				
	0	Upgrade Ethernet card at NUES Office from 10 to 100 Meg.	NUES	Completed	Y	DONE				D				
P2003-1;P2003-2	1	Capitalize on E-rate Opportunities	Statewide	In Process										
Circuit	1	CVDS replacement	Statewide	Eng/Ops Planning	Y	I.5		B						
P2003-2	1	Tooele High School Move	SLCC	In Process	N		A							
NA	2	Eskdale Connection	SEDC	Completed	Y	II.1	A							
P2003.11;	2	GigE circuits for Vernal and Roosevelt	NUES	Completed	Y	II.2				D				
NA	3	CEU New Building and Hub Move	SESC	HOLD	N	II.10	A							
P2003-1; P2003-8	4	Completion of Core ring	UVSC	In Process	Y	I.1		B						
P2003-3;	5	H.323 Video	Statewide	Installed	Y	VII.2								X
P2003-3;	5	Mutlicast enable the UEN network	Statewide	Eng Planning	Y	VII.5								X
P2003-3;	5	QoS Pilot and implementation	Statewide	In Process (Eng)	Y	I.8								X
P2003-3;	5	Video Master Plan	Statewide	In Process	Y	IV								X
P2003-4;	6	IP Telephony Project	SESC	HOLD	N	II.9								X
P200P2003-15; 3-17	6	VoIP gateway	SLCC	In Process	Y	VII.1								X
P2003-15; P2003-18	6	VoIP Plan	Statewide	In Process	Y	VII.1								X
P2003-5	7	Hub equipment redundancy at Snow South (SPARES)	CUES	In Process	Y	I.6		B						
P2003-5	7	Spares	CUES	In Process	Y	I.6		B						
P2003-5	7	Spares	SEDC	In Process	Y	I.6		B						
P2003-5	7	Spares, (Routers, Switches, Microwave radios)	Statewide	In Process	Y	I.6		B						
NONE	8	Harden power at SLCC (Dave Devey).	SLCC	Completed	N	DONE		B						
P2003-1; P2003-8; P2003-16	9	Redundant equipment and location at UVSC	UVSC	Pending Core Ring	Y	I.1		B						
P2003-15;	10	Box Elder Mini-hub	USU	In Process	Y	II.12		B						
P2003-15;	11	LAN/WAN performance diagnostic tools	UVSC	HOLD	Y	III.5		B						
Circuit	12	Capacity in the future (what should we do beyond 2 DS-3 links).	USU	Eng Planning	N	I.2					X			
Circuit; P2003-15	13	Fix redundancy into WSU	DATC	Eng Planning	Y	I.3			C					
NONE	14	Backbone Redundancy	SEDC	HOLD	Y	I.2			C					
NONE	15	Redundant link (Alternate path)	USU	Director	Y	I.2			C					
NONE	16	Redundant Connectivity	NUES	HOLD	Y	I.2			C					
Circuit	17	Alternate paths from Granite, Murray, Salt Lake City and Jordan Districts	SLCC	Eng. Planning	Y	I.7			C					
NONE	18	Implement a split node with diverse termination on the lower campus	U of U	HOLD	Y	I.7			C					
Circuit	19	Millard DO Capacity Expansion	SEDC	Ops Planning	Y	II.6				D				
NONE	20	Alternate Routes into the region	CUES	Eng Planning	Y	I.2			C					
Circuit	21	Community Network links at Provo, Alpine and Nebo districts.	UVSC	In Process	Y	XII.4				D				
P2003-9;	22	CommIX point of presence at UVSC	UVSC	Eng. Planning	Y	XII.3				D				
P2003-10;	23	Security Resources	Statewide	IDS installation	Y	XIII.1						X		
P2003-2;	24	Router replacement	CUES	In Process	Y	IV.1					X			
P2003-2;	24	Router Replacement	SLCC	In Process	Y	IV.1					X			
P2003-2;	24	Router replacements	DATC	In Process	Y	IV.1					X			
P2003-2;	24	Router replacements	USU	In Process	Y	IV.1					X			
P2003-2;	24	Router Upgrades throughout the region (Emery)	SESC	In Process	Y	IV.1					X			
P2003-2;	24	Router Ugrades - NUES	NUES	In Process	Y									
Circuit	25	Ethernet WAN	SEDC	In Process	Y	II.11								X
NONE	26	Tools	SEDC	HOLD	Y	III.5								X
P2003-7;	27	Clay Hills Microwave Site	SESC	CIB Grant Application	Y	V.1; II.3								X
NONE	28	Fiber/high speed links to SLCC satellite sites.	SLCC	HOLD	N	CLAR								X
Circuit	77	Data T-1 relocation at Granite, Salt Lake City and Jordan Districts	SLCC	In Process	Y	XI.1		B						
NA	77	More training needed from UEN.	USU	In Process	Y	XV.1							X	
NA	77	Move Internet OC-3 Connection to UVSC	UVSC	On Hold	Y	I.1			C					
Circuit	77	NUES DS-3	NUES	Circuit has been ordered	Y	II.13				D				
NA	77	Technical Training	CUES	Ongoing	Y	XV.1		B					X	
NA	77	Technical Training and cross training for hub support	UVSC	Ongoing	Y	XV.1		B						
NONE	333	Additional Personnel	SEDC	HOLD	N	CLAR								X
NONE	333	Data Warehousing	SEDC	HOLD	N	CLAR								X
NONE	999	Davis Elementary router migration	DATC	In Process	N	DONE					X			
NONE	999	Davis Ethernet Connections and Video Redesign	DATC	Completed	Y	DONE				D				
NONE	999	Dutch John Elementary connectivity	NUES	HOLD	N	CLAR	A							
NONE	999	Elementary Schools	SEDC	HOLD	N	CLAR								X
NONE	999	Internet Capacity	DATC	HOLD	N	I.2; I.3				D				
NONE	999	Involvement in online testing plans	Statewide	Ops Review	Y	III.3								
NONE	999	Layer Three Switches	SEDC	HOLD	N	CLAR				D				
NONE	999	LSR	SEDC	HOLD	N	CLAR								X
NONE	999	Routers for firewall implementation	UVSC	HOLD	Y	IV.1		B						

TAB 23 ATTACHMENT B
UEN SPECIAL PROJECTS BUDGET EXPLANATION

P2003-1

Core Ring **140,000.00**

Six 6509 Switches and one spare to connect UVSC, SLCC and EBC in a Gigabit Ethernet ring.

P2003-2

Router Replacement **300,000.00**

Replace up to 100 routers at edge locations. The main purpose is to remove Cisco 2500 routers from the UEN network.

P2003-3

H.323 Equipment **50,000.00**

Intended for placing a MCU in a hub location or additional end site equipment to be distributed throughout the network.

P2003-4

Carbon District IP Telephony Equipment **32,000.00**

Additional switches needed by Carbon District to make use of the Call Managers and VoIP telephones donated to the District by Cisco Systems.

P2003-5

Router & Switch Spares **50,000.00**

Spares requested by UEN Operations to provide faster replacement to remote areas of the UEN Network during situations of equipment failure.

P2003-6

Microwave Spares **30,000.00**

Spare equipment to support the aging microwave radios throughout the UEN network.

P2003-7

CIB Matching Funds **25,000.00**

UEN is pursuing a CIB grant for the San Juan County facilities. The intent of the grant request is to replace aging microwave radio equipment at San Juan County schools. This grant would require a 20% funding match.

P2003-8

Core Ring Support Equipment **40,000.00**

This is router interface cards that are needed to connect the core ring 6509 switches to the existing equipment at the UVSC, EBC and SLCC sites.

P2003-9

Community Exchange Router (UVSC) **30,000.00**

UEN has been working with the Utah Valley Community Network to establish an Internet peering point at UVSC. UEN will purchase a router at install it at this site. The purpose of the router is to exchange local IP traffic with local government agencies, business and others. This will allow UEN to divert this traffic away from its more expensive Internet links. Local peering is an efficient use of expensive network resources and assists the local community in establishing a peering exchange. All participants in a local peering exchange benefit from this cooperative effort. NOTE: Local non-education traffic will not be carried to the Internet via UEN connections.

P2003-10

Intrusion Detection Devices (Security) **35,000.00**

This project will place servers and SNORT intrusion detection software at all 8 UEN hub locations. Currently UEN is running an IDS server at the network core. This software is detecting traffic solely on the UEN.ORG network. In one recent 48 hour period over 50,000 incidents of questionable traffic were logged at the core. This software will give districts, colleges and universities the ability to identify and monitor traffic that could cause network outages and congestion.

P2003-11

Uintah Basin Ethernet **50,000.00**

This project will support the 9 Gigabit Ethernet sites connected in the Vernal and Roosevelt. Switches are needed to complete the installation and provide stabilized interfaces at these sites.

P2003-12

Grand County Wireless **6,000.00**

Grand County has placed wireless equipment to connect the district technology office to the UEN network. UEN was able to disconnect a T-1 as a result. UEN has

made the commitment to reimburse the district for this expense, as it is the responsibility of UEN to provide this connectivity.

P2003-13

Lab and Research Network **30,000.00**

This will allow UEN to purchase equipment to perform tests before bringing new software and services to the UEN network. Currently all new software releases and network changes are performed on a live network with the hopes that all will go well and the network will be stable. Developing a lab will provide the opportunity for UEN to develop solutions with greater stability and performance.

P2003-14

SE OC-3 Microwave **70,000.00**

Needed for the antennas and other hardware to install OC-3 microwave radios between Moab and Blanding.

P2003-15

Hub Support **50,000.00**

Provided to purchase interface cards and other router/switch equipment at hubs as necessary to support the network.

P2003-16

Engineering Support **30,000.00**

Provided to assist engineering as new projects are developed through the state. Often this group recommends network reconfigurations that result in the need to purchase additional equipment. This is very similar to Hub Support identified in the previous item.

Historically UEN has spent in excess of $100,000 annually for these types of purchases. Without this money it is possible that certain projects critical to stakeholders will not be done.

P2003-17

Director Projects (Reserve) **40,000.00**

These funds are held in reserve for future projects that may arise throughout the year.

Code	Account Name	Budgeted Amount	Spent Amount	RFP Number(s)
P2003-1	Core Ring	140,000.00		
P2003-2	Router Replacement	300,000.00		
P2003-3	H.323 Equipment	50,000.00		
P2003-4	Carbon District IP Telephony Equipment	32,000.00		
P2003-5	Router & Switch Spares	50,000.00		
P2003-6	Microwave Spares	30,000.00		
P2003-7	CIB Matching Funds	25,000.00		
P2003-8	Core Ring Support Equipment	40,000.00		
P2003-9	Community Exchange Router (UVSC)	30,000.00		
P2003-10	Intrusion Detection Devices (Security)	35,000.00		
P2003-11	Uintah Basin Ethernet	50,000.00		
P2003-12	Grand County Wireless	6,000.00		
P2003-13	Lab and Research Network	30,000.00		
P2003-14	SE OC-3 Microwave	70,000.00		
P2003-15	Hub Support	50,000.00		
P2003-16	Engineering Support	30,000.00		
P2003-17	Director Projects (Reserve)	40,000.00		
Total		**1,008,000.00**		

TAB 24

ROUTER REPLACEMENT SCHEDULE

Issue

This item outlines how UEN intends to replace the aging edge routers in Utah's schools. A more detailed Router Replacement spreadsheet is also included.

Background

UEN proposes to replace 53 routers this year, beginning with all 2501, 2509, and as many 2511 routers as possible. This will effectively upgrade every high school and over 50% of all middle schools. This project also replaces all aged routers in existing UENSS sites.

There are presently 158 Cisco 2500 model routers still in service throughout the state. 110 of these devices are located in high schools and middle schools. Many of these devices are in excess of eight (8) years old. While still functioning adequately, these devices do not have necessary features and are not covered under maintenance contracts.

Limited funding precludes the replacement of all routers in this budget year, however, UEN has developed a plan that:

- **A** Replaces the oldest, most unreliable routers
- **B** Replaces over 34% of all 2500 model routers
- **C** Provides a fair distribution of router replacement across the districts
- **D** Replaces the most critical routers as follows: at high schools, UENSS sites, junior highs, middle schools.

Replacement will proceed immediately at a rate of 5 devices per week until all 53 devices have been installed.

Recommendation

UEN Technical Services seeks the support of the Steering Committee in replacing these 53 routers.

TAB 24 ATTACHMENT A

	Family	Device	Device Type				Nomber of Devices	# of Serial Interfaces in use.	Version of IOS	IP, IPX, or AT
	Cisco	Router	2501				28			
	Cisco	Router	2509				34			
	Cisco	Router	2511				99			
	Cisco	Router	2514				38			
2501										
	Cisco	Router	2501	gw-h-uen-ceumoab.uen.net	Unknown-Value	11.1(12)	UENSS			
	Cisco	Router	2501	gw-slc-hillsidems	Unknown-Value	11.1(11)		2	Version 11.1(11)	IPX
	Cisco	Router	2501	gw-u-box-adellecyoung.uen.net	Box/UEN	11.3(11a)		1	Version 11.3(11a)	IPX
	Cisco	Router	2501	gw-u-car-eastcarbonhs.uen.net	Car/UEN	11.1(11)		1	Version 11.1(11)	IPX
	Cisco	Router	2501	gw-u-duc-conamore.uen.net	Duc/UEN	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2501	gw-u-gra-hunterhs.uen.net	Gra/UEN	11.1(24)		2	Version 11.1(24)	IP
	Cisco	Router	2501	gw-u-iro-parowanhs.uen.net	Iro/UEN	11.1(18)		2	Version 11.1(18)	IPX
	Cisco	Router	2501	gw-u-lib-helper.uen.net	Unknown-Value	11.1(11)				
	Cisco	Router	2501	gw-u-lib-orem.uen.net	Unknown-Value	11.1(11)				
	Cisco	Router	2501	gw-u-lib-parkcity.uen.net	Unknown-Value	11.1(20)				
	Cisco	Router	2501	gw-u-lib-provo.uen.net	Unknown-Value	11.1(11)				
	Cisco	Router	2501	gw-u-lib-spanishfork.uen.net	Unknown-Value	11.1(6)				
	Cisco	Router	2501	gw-u-lib-wsu.uen.net	Unknown-Value	11.2(14)				
	Cisco	Router	2501	gw-u-neb-springvillems.uen.net	Neb/UEN	11.1(20)		1	Version 11.1(20)	IPX
	Cisco	Router	2501	gw-u-ogd-millcreekyc.uen.net	Ogd/UEN	11.1(24)		1	Version 11.1(24)	IPX
	Cisco	Router	2501	gw-u-pro-eastwoodhs.uen.net	Pro/UEN	11.2(26)		1	Version 11.2(26)	AT
	Cisco	Router	2501	gw-u-pro-farrerms.uen.net	Pro/UEN	11.2(26d)		1	Version 11.2(26d)	IPX & AT
	Cisco	Router	2501	gw-u-pro-provohsvideo.uen.net	Pro/UEN	10.2(2)	Should have been cancelled			
	Cisco	Router	2501	gw-u-ric-richdo.uen.net	Ric/UEN	11.1(20)		1	Version 11.1(20)	IPX
	Cisco	Router	2501	gw-u-ssa-gunnisonhs.uen.net	Ssa/UEN	11.1(24)	E-Rate Citizens			
	Cisco	Router	2501	gw-u-too-tooelevalleyhs.uen.net	Too/UEN	11.1(18)		1	Version 11.1(18)	IPX
	Cisco	Router	2501	gw-u-uen-weshome.uen.net	Unknown-Value	12.0(5)				
	Cisco	Router	2501	gw-u-way-waynedosna.uen.net	Way/UEN	11.1(24)		1	Version 11.1(24)	IP
	Cisco	Router	2501	gw-v-uen-ubatcvideo.uen.net	Unknown-Value	12.0(2b)		0	Version 12.0(2b)	IP
2509										
	Cisco	Router	2509	gw-h-uen-datcvideo.uen.net	Unknown-Value	11.1(11)		0	Version 11.1(11)	IP
	Cisco	Router	2509	gw-u-alp-alpinetrans.uen.net	Alp/UEN	11.1(11)	District			
	Cisco	Router	2509	gw-u-alp-danpeterson.uen.net	Alp/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2509	gw-u-alp-lehijhs.uen.net	Alp/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2509	gw-u-jor-jordantech.uen.net	Jor/UEN	11.1(11)		2	Version 11.1(11)	IPX
	Cisco	Router	2509	gw-u-pkc-eckerhillsms.uen.net	Pkc/UEN	11.1(11)		1	Version 11.1(11)	AT
	Cisco	Router	2509	gw-u-spc-waterford.uen.net	Unknown-Value	11.2(1)				
2511										
	Cisco	Router	2511	gw-alp-oremjh.uen.net	Unknown-Value	11.1(11)				
	Cisco	Router	2511	gw-c-uen-console.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-c-uen-dial.uen.net	Unknown-Value	11.3(6)	Console/Dial			
	Cisco	Router	2511	gw-c-uen-uenebc.uen.net	Eccles Broadcast Cente	11.1(11)	Console/Dial			
	Cisco	Router	2511	gw-gra-graniteparkJH.grpjr.granite.k1	Unknown-Value	11.1(24)				
	Cisco	Router	2511	gw-h-uen-ceuvideo.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-datcconsole.uen.net	Unknown-Value	11.1(24)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-dixiedial.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-nuesdial.uen.net	Unknown-Value	11.1(24)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-slccvideo.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-snowsouthvideo.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-suuvideo.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-usuconsole.uen.net	Unknown-Value	11.1(11)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-usuednet.uen.net	Unknown-Value	11.1(18)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-usurelay.uen.net	Unknown-Value	11.1(24)	Console/Dial			
	Cisco	Router	2511	gw-h-uen-uvscrelay.uen.net	Unknown-Value	11.1(24)	Console/Dial			
	Cisco	Router	2511	gw-slc-glendalems	Unknown-Value	11.1(18)				
	Cisco	Router	2511	gw-slc-nowestms	Unknown-Value	11.1(24)				
	Cisco	Router	2511	gw-u-alp-americanforkjhs.uen.net	Alp/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2511	gw-u-alp-canyonviewjh.uen.net	Alp/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2511	gw-u-alp-lakeridgejh.uen.net	Alp/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2511	gw-u-alp-oakcanyonjhs.uen.net	Alp/UEN	11.1(9)		1	Version 11.1(9)	IPX & AT
	Cisco	Router	2511	gw-u-atc-datcfreeport.uen.net	Unknown-Value	11.1(24)				
	Cisco	Router	2511	gw-u-bev-milfordhs.uen.net	Bev/UEN	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-box-acharrisms.uen.net	Box/UEN	11.1(24)				
	Cisco	Router	2511	gw-u-box-bearriverdial.uen.net	Box/UEN	11.3(5)				
	Cisco	Router	2511	gw-u-box-boxelderjh.uen.net	Box/UEN	11.1(18)		1	Version 11.1(18)	IP
	Cisco	Router	2511	gw-u-cac-cachehs.uen.net	Cac/UEN	11.1(24)		1	Version 11.1(24)	IPX
	Cisco	Router	2511	gw-u-cac-mtncresths.uen.net	Cac/UEN	11.1(11)		1	Version 11.1(11)	IPX & AT
	Cisco	Router	2511	gw-u-cac-nocachems.uen.net	Cac/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-cac-socachems.uen.net	Cac/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-cac-springcreekms.uen.net	Cac/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-cac-whitepinems.uen.net	Cac/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-car-westridgems.uen.net	Car/UEN	11.1(24)		1	Version 11.1(24)	IPX
	Cisco	Router	2511	gw-u-col-westminster.uen.net	Giovale Library at West	11.2(11)				
	Cisco	Router	2511	gw-u-dag-daggettdo.uen.net	Dag/UEN	11.1(11)		0	Version 11.1(11)	IP
	Cisco	Router	2511	gw-u-dag-manilahs.uen.net	Dag/UEN	11.1(24)		1	Version 11.1(24)	IP
	Cisco	Router	2511	gw-u-duc-altamonths.uen.net	Duc/UEN	11.1(20)	Bundled Year 6			
	Cisco	Router	2511	gw-u-duc-duchesnedo.uen.net	Duc/UEN	11.1(18)	Bundled 2950			
	Cisco	Router	2511	gw-u-duc-duchesnehs.uen.net	Duc/UEN	11.1(20)	Bundled 2950			
	Cisco	Router	2511	gw-u-duc-tabionahs.uen.net	Duc/UEN	11.1(20)	Bundled Year 6			
	Cisco	Router	2511	gw-u-duc-thompsen.uen.net	Duc/UEN	11.1(18)	Bundled Year 6			
	Cisco	Router	2511	gw-u-emr-emeryhs.uen.net	Emr/UEN	11.1(20)		2	Version 11.1(20)	IPX
	Cisco	Router	2511	gw-u-emr-greenriverhs.uen.net	Emr/UEN	11.1(24)		1	Version 11.1(24)	IPX
	Cisco	Router	2511	gw-u-grd-grandhsdial.uen.net	Grd/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-iro-crosshollowms.uen.net	Iro/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-jor-jordanvalleyss.uen.net	Jor/UEN	11.1(9)		2	Version 11.1(9)	IP
	Cisco	Router	2511	gw-u-jor-valleyhs.uen.net	Jor/UEN	11.1(9)		2	Version 11.1(9)	IP
	Cisco	Router	2511	gw-u-jua-juabms.uen.net	Jua/UEN	11.1(20)				
	Cisco	Router	2511	gw-u-lib-saltlake.uen.net	Unknown-Value	11.2(4)				
	Cisco	Router	2511	gw-u-log-logansocampus.uen.net	Log/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-neb-paysonjh.uen.net	Neb/UEN	11.1(16)		1	Version 11.1(16)	IPX
	Cisco	Router	2511	gw-u-neb-paysonms.uen.net	Neb/UEN	11.1(16)				

	Cisco	Router	2511	gw-u-neb-spanishforkjh.uen.net	Neb/UEN	11.1(16)				
	Cisco	Router	2511	gw-u-neb-springvillejh.uen.net	Neb/UEN	11.1(11)				
	Cisco	Router	2511	gw-u-nsa-nosanpetems.uen.net	Nsa/UEN	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-nsu-nosummiths.uen.net	NSU/UEN	11.1(18)		1	Version 11.1(18)	IP
	Cisco	Router	2511	gw-u-ogd-ogdendodial.uen.net	Ogd/UEN	11.3(6)				
	Cisco	Router	2511	gw-u-pro-independencehs.uen.net	Pro/UEN	11.1(13a)		1	Version 11.1(13a)	IPX
	Cisco	Router	2511	gw-u-ric-richjh.uen.net	Ric/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-sev-cedarridgehs.uen.net	Unknown-Value	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-sev-nosevierms.uen.net	Unknown-Value	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-sev-redhillsms.uen.net	Unknown-Value	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-sev-sevierdo.uen.net	Unknown-Value	11.1(11)		2	Version 11.1(11)	IP
	Cisco	Router	2511	gw-u-sev-sosevierms.uen.net	Unknown-Value	11.1(20)		1	Version 11.1(20)	IP
	Cisco	Router	2511	gw-u-slc-bryantms.uen.net	Slc/UEN	11.1(16)				
	Cisco	Router	2511	gw-u-slc-claytonms.uen.net	Slc/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-slc-easths.uen.net	Slc/UEN	11.1(24)		2	Version 11.1(24)	IPX
	Cisco	Router	2511	gw-u-slc-highlandhs.uen.net	Slc/UEN	11.1(18)		2	Version 11.1(18)	IPX
	Cisco	Router	2511	gw-u-spc-wasatchacademy.uen.net	Unknown-Value	11.3(5)				
	Cisco	Router	2511	gw-u-ssa-ephraimms.uen.net	Ssa/UEN	11.3(5)		1	Version 11.3(5)	IP
	Cisco	Router	2511	gw-u-ssu-sosummiths.uen.net	Ssu/UEN	11.1(18)		2	Version 11.1(18)	IP
	Cisco	Router	2511	gw-u-too-grantsvillems.uen.net	Too/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-too-wendoverhs.uen.net	Too/UEN	11.1(11)	Tooele Project			
	Cisco	Router	2511	gw-u-uen-kathywebb.uen.net	Unknown-Value	11.1(18)	Stafff			
	Cisco	Router	2511	gw-u-uen-mwcovemtn.uen.net	Unknown-Value	11.1(24)	Mountain Top			
	Cisco	Router	2511	gw-u-uen-uendial.uen.net	EBC Room #003 (NOC	11.2(2)	Dial Router			
	Cisco	Router	2511	gw-u-uin-ashlyvalleyhs.uen.net	Uin/UEN	11.2(14)	3550 Bundled			
	Cisco	Router	2511	gw-u-uin-uintahhs.uen.net	Uin/UEN	11.1(18)	2950 Bundled			
	Cisco	Router	2511	gw-u-uin-vernaljh.uen.net	Uin/UEN	11.1(18)	2950 Bundled			
	Cisco	Router	2511	gw-u-uin-westms.uen.net	Uin/UEN	11.1(18)	Budnled Year 6			
	Cisco	Router	2511	gw-u-way-waynems.uen.net	Way/UEN	11.3(5)				
	Cisco	Router	2511	gw-u-web-weberdodial.uen.net	Web/UEN	11.3(5)				
	Cisco	Router	2511	gw-u-wst-dixiems.uen.net	Wst/UEN	11.1(18)				
	Cisco	Router	2511	gw-u-wst-hurricanems.uen.net	Wst/UEN	11.1(18)				
	Cisco	Router	2511	gw-v-uen-snowvideo.uen.net	Unknown-Value	11.1(18)				
	Cisco	Router	2511	gw-v-uen-usuvernalvideo.uen.net	Unknown-Value	11.1(18)				
2514										
	Cisco	Router	2514	gw-u-gra-bennionjh.uen.net	Gra/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-gra-churchhilljh.uen.net	Gra/UEN	11.1(20)				
	Cisco	Router	2514	gw-u-gra-cottonwoodhs.uen.net	Gra/UEN	11.1(18)		2	Version 11.1(18)	IPX
	Cisco	Router	2514	gw-u-gra-eisenhowerjh.uen.net	Gra/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-gra-hunterjh.uen.net	Gra/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-gra-jeffersonjh.uen.net	Gra/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-gra-kearnsjh.uen.net	Gra/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-gra-kennedyjh.uen.net	Gra/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-gra-mathesonjh.uen.net	Gra/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-gra-olympushs.uen.net	Gra/UEN	11.1(18)		2	Version 11.1(18)	IPX
	Cisco	Router	2514	gw-u-gra-olympusjh.uen.net	Gra/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-gra-skylinehs.uen.net	Gra/UEN	11.1(16)		2	Version 11.1(16)	IPX
	Cisco	Router	2514	gw-u-gra-taylorsvillehs.uen.net	Gra/UEN	12.0(3)		2	Version 12.0(3)	IPX
	Cisco	Router	2514	gw-u-gra-valleyjh.uen.net	Gra/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-gra-westlakejh.uen.net	Gra/UEN	12.0(3)				
	Cisco	Router	2514	gw-u-jor-albionms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-butlerms.uen.net	Jor/UEN	11.1(20)				
	Cisco	Router	2514	gw-u-jor-eastmontms.uen.net	Jor/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-jor-elkridgems.uen.net	Jor/UEN	11.1(5)				
	Cisco	Router	2514	gw-u-jor-indianhillsms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-joelpjensenms.uen.net	Jor/UEN	11.1(24)				
	Cisco	Router	2514	gw-u-jor-midvalems.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-mtjordanms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-oquirrhhillsms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-sohillsms.uen.net	Jor/UEN	11.0(16)				
	Cisco	Router	2514	gw-u-jor-sojordanms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jor-sovalleyss.uen.net	Jor/UEN	11.1(11)				
	Cisco	Router	2514	gw-u-jor-westhillsms.uen.net	Jor/UEN	11.1(9)				
	Cisco	Router	2514	gw-u-jua-juabdo.uen.net	Jua/UEN	11.1(18)		1	Version 11.1(18)	AT
	Cisco	Router	2514	gw-u-lib-grandcounty.uen.net	Unknown-Value	11.1(18)				
	Cisco	Router	2514	gw-u-mil-deltahs.uen.net	Mil/UEN	11.1(18)	E-Rate with Citizens			
	Cisco	Router	2514	gw-u-mil-deltams.uen.net	Mil/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-mil-deltatc.uen.net	Mil/UEN	11.1(18)				
	Cisco	Router	2514	gw-u-mil-millardhs.uen.net	Mil/UEN	11.1(18)	E-Rate citizens			
	Cisco	Router	2514	gw-u-pro-centennialms.uen.net	Pro/UEN	11.2(26)				
	Cisco	Router	2514	gw-u-pro-dixonms.uen.net	Pro/UEN	11.1(13a)				
	Cisco	Router	2514	gw-u-slc-wesths.uen.net	Slc/UEN	11.2(18)		2	Version 11.2(18)	IPX
Questions										
			2500	Monticello HS						
				Navajo Mtn						
				Grouse Creek HS						
				Park Valley HS						
Platform										
	1. Whaty Version of IOS (IP, IP/IPX, IP/IPX/AT									
	2. Qty of Serial Ports used									

TAB 25
E-RATE UPDATE

Issue

A status report on E-rate activities is provided for review of the Technical Services Committee. An attachment is included which lists current E-rate activities.

Background

UEN has been working with school districts and Telephone companies throughout the state to increase reimbursements realized through the Universal Services Fund.

An extensive cooperative effort has been underway for the past several months to train vendors, work with districts and file dozens of e-rate forms. In the near future, year six efforts will conclude with more e-rate form filings.

We have seen the cooperative efforts begin to pay off with many of our telecom vendors developing Ethernet packages with very favorable pricing. E-rate funding will be effectively used to help pay upfront infrastructure costs. These services will then be available to benefit education entities as well as commercial ventures located in these rural areas. Examples of Rural success are:

- Development of “Finished Service” agreements with Central Utah Telephone, Manti, Frontier, UBTA. South Central, and other service providers.

Qwest has been aggressively seeking a viable Ethernet solution. These efforts are resulting in the introduction of Ethernet services and pricing in line with those offered by the rural providers. This is a significant accomplishment, considering the complex organizational and other issues which must be addressed at Qwest.

E-rate is considered in every new UEN project. The UEN Engineering staff is increasingly becoming expert in e-rate provisions and is exploring redesigns in the network to greater leverage e-rate reimbursement.

Recommendation

This report is provided for information purposes.

TAB 25 ATTACHMENT A

E-RATE ACTIVITY SUMMARY

September, October, November, 2002

UEN's goals this quarter include:

1. Assist each district in proceeding through the complicated E-Rate process.
2. Reach out to each district to make sure that all appropriate forms are filed by deadlines.
3. Ensure that each district has enough information and training to make appropriate choices regarding E-Rate.

To meet these quarterly goals, UEN staff have met in person, talked via telephone and teleconference, and communicated via email with staff at every school district in the state. E-Rate has been the Number One priority for many UEN staff. Major activities included the following:

1. Contacted staff at 18 districts that had not already filed for reimbursement for Year 4 to make sure they met the deadline.
2. Contacted staff at 16 districts that needed to file their service start date and CIPA compliance for Year 5.
3. Met in person with staff in all districts, encouraging them to begin the E-Rate process for Year 6 by filing the appropriate form, and, in some cases, giving them samples of successful filings.

As of November 15th, 2002, a total of 29 school districts have completed their 2003-2004 Year 6 470 (Request for Bid) filings. Only 11 districts remain and the reasons for not filing vary from "having no need to file because of valid contracts for current services" to "moving the office this week and will file before the end of November". All UEN 470 forms have been filed for services for the next year. UEN has set December 6th as an internal deadline for school districts and we expect that all districts will have completed filing 470 forms by that date.

The next step in the E-Rate process can begin after 470 forms have been on file for 28 days. Plans to assist with filing 471 forms (Request for Service) are already in place. UEN staff will be assisting all districts to make sure that everyone files within the allowable schedule. A district's window begins 28 days after they have filed the 470 form and ends no later than January 16, 2003. 471 forms may now be filed online. UEN E-Rate staff will focus its attention on this online filing over the next 2 months.

Technical Services and Instructional Delivery Services staff members are also meeting with telecommunications service providers throughout the state. The purpose of these meetings is to explain UEN and districts' future technology plans,

and to communicate our E-Rate expectations. E-Rate is being discussed in almost all UEN staff meetings, T-Forum meetings, regional board and staff meetings, and individual meetings with district technical staff members, and with administrators and teachers.

Planning strategy to help districts increase more accurate data collection and reporting regarding Free and Reduced Lunch Program, thus increasing their discount percentages and amount of funding available.

TAB 26

COMMUNITY IMPACT BOARD GRANT DISCUSSION

Issue

Two efforts are currently underway to submit proposals to the Community Impact Board (CIB). If successful, funding would be provided to significantly improve UEN and public and higher education services and network capabilities in the Uintah Basin and Southeast Utah.

Background

The Community Impact Board (CIB) allocates funds to a wide range of projects in areas of Utah that are impacted by extraction of mineral resources such as oil, gas, and coal. The source of funds is mineral lease revenues received by the state of Utah from the payment of leases to the federal government. UEN has been the recipient of previous CIB grants; in fact it was a significant source of funding for microwave radio sites which are still used in some of the most isolated locations in the state.

The proposed grants will focus on two projects. The first project would replace aging microwave radio equipment in Daggett County with digital radio equipment with much greater capacity and reliability. It would also replace the translator equipment used by KULC and KUED with digital equipment that will dramatically improve the quality of the two stations' signals and set the stage for future conversion to digital TV.

The second project would take the initial steps to replace aging microwave equipment used by UEN, the San Juan School District, and the College of Eastern Utah in numerous locations throughout San Juan County. It would remove equipment from the Mossback mountain site (which is inaccessible except by helicopter or a risky footpath), and relocate it to the much more accessible Clay Hills site.

The first proposal is being submitted this week for initial review by the CIB staff. If we are successful in being awarded funding, work on the project could start in late Spring or early Summer. The Southeast Utah project will be submitted immediately after the first project is approved.

Recommendation

This is an information item. No action is requested.

TAB 27

PUBLIC EDUCATION PLANNING SUMMIT REPORT

Issue

This report summarizes major activities during the Public Education Planning Summit in early October. Included is an attachment: Public Education Planning Summit Summary Document.

Background

A Public Education Planning Summit was held at the Eccles Broadcast Center on October 3, 2002. Representatives from all Regions and most districts were in attendance.

Mike Petersen, UEN Executive Director, began the day with a keynote address. The morning session was conducted by Dick Lemon and featured presentations from each of the eight regions representing all districts in the state.

The afternoon session comprised a presentation of the UEN Future given by Jim Stewart, an e-rate training discussion led by Louise Tonin, a security presentation and discussion lead by Troy Jessup and an IP Addressing Discussion lead by Pete Kruckenberg.

The Public Education representatives assigned UEN staff to summarize the morning session in a document. Also, it was agreed that we should reconvene after the upcoming legislative session to refine the plans for next year.

Recommendation

This report is prepared for informational purposes. However, the subcommittee may desire to further discuss the outcome of the meeting and any next steps that should be taken by the UEN staff.

TAB 27 ATTACHMENT A

PUBLIC EDUCATION TECHNOLOGY PLANNING SUMMIT SUMMARY

1. Capacity

Many districts expressed concerns about capacity. In some districts the link to the Internet is saturated during the busy parts of the day. Some districts have installed additional circuits to meet the capacity needs at their secondary schools.

There is a general uneasiness regarding the ability of the network to meet capacity with T-1 circuits. The issues driving capacity are VoIP, H.323, video streaming, administrative services and network consolidation.

Ethernet seems to be a good solution to provide the needed capacity for the future.

2. Online Testing

Many districts expressed concern regarding online testing. The specifics of how to do the testing were problematic. Even more problematic are the concerns about hardware and space to do online testing. It will be a challenge to meet these fundamental needs.

3. Prioritization

At least one district expressed concerns about their prioritization of needs. The district is involved in technology to support administrative needs and technology to support educational needs. How do we decide between these two areas?

Educational support seems to be of greatest priority. Yet, we continue to put a majority of the resources into the administrative areas. What is the solution?

4. Aggregation of Services

Several districts discussed consolidation plans. This is the idea of collapsing services into one IP pipe. The networks affected are: voice, video, data, security and environmental control. UEN must provide proper support for some districts and leadership for others in making this consolidation happen.

5. VoIP

Most districts have either begun a VoIP implementation or are contemplating doing so. A few districts are not yet ready to embrace VoIP technology. Those reluctant districts have not seen the benefits and are concerned about the problems that are associated with a move to VoIP.

One district is attempting to structure a statewide trunking co-op. Many districts have expressed interest in participating in this co-op.

6. H.323

Many Districts and all regional offices are interested in the role of H.323 throughout the state. H.323 pilots have been well received. There is much excitement in the rural districts to get more H.323 equipment installed and into productive use.

The role UEN plays in this area must be defined.

7. Reliability

All districts and regions are concerned about reliability. Reliability problems stem from various sources. Carriers cause a high number of outages. Some rural telcos seem to lack the proper level of technical expertise.

Network configuration and aging hardware also cause unacceptable levels of reliability problems. These must be addressed. There is a general concern regarding the replacement of aging router equipment. What is UEN doing about this issue?

8. Timeliness

Overall a concern was expressed about the timeliness of solutions. It is fine that UEN and others are planning reliability, capacity and other upgrades. The usefulness of these changes seems to depend on our collective ability to get things done sooner instead of later.

9. Last mile issues.

Certain last mile concerns were expressed. Some districts are using unlicensed wireless solutions. There are even some districts that are using wireless as a backup to the carrier provided circuits. This is being done to provide a backup route from the school.

Other districts are waiting for community network solutions. There is a general concern that the last mile issues will not be addressed and solved any time soon.

10. E-rate

There is much activity in almost every district and region. The goal is to dramatically increase the use of e-rate funds to improve network services. Davis district is leading out in creatively obtaining e-rate funding.

Understanding the e-rate program and working with the SLD is problematic. One district is spending half or more of the director's time just to keep up with the changing aspects of the program.

E-rate paperwork is daunting. Also, there is a general fear of the audit process. Carriers can help take the load off of districts, although some of the rural LECs understand less about e-rate than the districts and UEN.

11. Carrier concerns

There were several concerns expressed about carriers. As mentioned before, some carriers are not as advanced in technical skills as is needed. Also, some carriers do not have adequate staffing levels to address outages in a timely manner.

E-rate knowledge is also a concern. Some carriers are struggling to gain this knowledge and skill.

Carriers are not cooperating in the VoIP area and there is a potential for conflict in this regard.

On a positive note, most carriers have been very cooperative in working with UEN and the districts. Also, the URTA members have been extremely flexible in developing better pricing and have lead the way in developing new technical solutions for the last mile.

12. Elementary Schools

Many districts are struggling to provide reliable solutions for elementary schools. Some elementary schools are connected to district offices or secondary schools via wireless radios. For the most part these radios work well. It is still a time consuming task to keep these radios working properly.

In general Elementary schools are under-funded for network connectivity.

13. Grant funding of Microwave networks.

San Juan district expressed the need for UEN to support the efforts to receive grant funding to upgrade the microwave system in San Juan county and to move the microwave equipment from Mossback Mesa to the Clay Hills site.

14. Video Streaming

Placement of video streaming servers is an important issue to consider. The functionality of these servers depends on a balance between network capacity, reliability and server accessibility.

15. Security

Security was not mentioned much at this conference. This seems to be due to a lack of understanding regarding the security threat along with lack of funds. Most districts that have security concerns are dealing with them through the use of access lists.

16. Internet 2

Internet 2 is now available to all Public Education facilities. The capabilities and uses of Internet 2 are not generally understood throughout the public education community.

Those districts with an understanding are anxious to participate in Internet 2 projects. Other districts would like to receive better training to understand what is available.

17. Ongoing meetings

a. The group requested that we meet every six months to update our plans and to discuss issues. The next meeting should be after the conclusion of the upcoming legislative session.

A tentative date for the next meeting is Thursday, March 13, 2002. The location will be determined at a later date. Also, this meeting will be broadcast across the UEN video network.

Conclusion

Not every conversation and point can be reconstructed in this summary. The major points expressed by the regions and districts are captured in this document. These points will give us a good foundation to refer to as we work together to improve the networking services provided to our stakeholders and to each other.

TAB 28

NOTIFICATION AND PLANNING OF RURAL PUBLIC EDUCATION RETREAT

Issue

A Multi Region Rural Technical Forum is being planned.

Background

It is proposed that we hold a two day retreat early next year involving the four rural regions. UEN staff would participate with the four regional technical directors to plan and conduct this meeting. Agenda items can be determined at a later date and should reflect technical issues that are pertinent to a majority of the attendees. Also, these agenda items will address the needs and concerns of the rural areas in the state.

This would also be a good time to discuss and plan year six e-rate (E-rate 2003) objectives and year seven (E-rate 2004) strategies. UEN would have an opportunity to detail what is being done with URTA members to advance connectivity and reliability needs through the rural areas of the state.

Some of the agenda items could include, but are not limited to:

1. Security
2. E-rate planning
3. Rural Telcom directions
4. Training issues
5. Wireless issues
6. Regional Priorities for the upcoming fiscal year.
7. Status of router upgrades and core ring.
8. Qwest Geomax

It is important to understand that this forum will be planned primarily by the Regional Technical Directors with the cooperation of the UEN staff.

A planning meeting targeted at Public Education was held October 3, 2002. A Wasatch Front Technical Forum is already planned for mid January 2003. Higher Education is scheduling a technical forum to address their specific need some time

early in 2003. A Technical Forum addressing rural issues seems appropriate and necessary.

Recommendation

It is recommended that the Technical Services Subcommittee support the Multi Region Rural Technical forum and direct UEN staff regarding our role. Additionally, Subcommittee members could help develop specific agenda items that are of interest to the Steering Committee.

TAB 29

T-FORUM UPDATE

Issue

The following Technical Forum update is provided for the information of the committee. A Regional Technical Forum Summary is included as an attachment to this document.

Background

UEN Technical Staff members continue to participate statewide in Regional Technical Forum meetings. These meetings are chaired by local representatives from both Higher Education and Public Education. The agendas and schedules are set by the chairpersons.

UEN is involved as a participant and advisor to these regional groups.

Attached is a summary of recent UEN activities with the Regional Technical Fora including last and next scheduled meetings.

Recommendation

This item is provided for informational purposes.

Region	Last Meeting Held	Next Meeting Scheduled	Issues Discussed	Outstanding Items
UVSC	September 4, 2002	December 11, 2002	1. Network Operating Agreements 2. Network Management Tools training.	1. Core Ring installation 2. Security Issues (Alpine, Provo and UVSC) 3. Aviation University (Resolved) 4. Utah Valley Community Network connectivity & peering.
NUES	November 12, 2002	Not Scheduled	1. Creation of a Uintah Basin sub group. 2. Year Six e-rate filings 3. Router upgrades 4. H.323 presence throughout the region. 5. IP Telephony (VoIP)	
SLCC		January 16, 2003	1. Security 2. Dark Fiber 3. Internet 2 4 Regional Priorities	
SESC	November 1, 2002	Not Scheduled	1. Regional Training 2. IP Addressing documentation 3. Multi Regional Conference 4. H.323 Pilot Issues	1. SESC concerns about the hub move at CEU. 2. Confirmation of IP CIDR block allocation. 3. Emery County circuit upgrades 4. Price to Blanding circuit upgrade from DS-3 to OC-3 5. RUS Grant participation by UEN.
SEDC	October 29, 2002	January 22, 2002	1. Security issues / file sharing policy document 2. UPS issues at Dixie. 3 Squid/Authentication issues. 4. Outage protocol concerns. 5. IP Addressing issues. 6. E-rate discussion. 7. Password security 8. Regional Priorities	1. Districts will review the policy and provide feedback. 2. There is a need to quantify suspect traffic across the network. 3. Follow-up on a 471 event (signing party?). 4. Consider & develop a 90% school strategy. 5. UEN to provide password change calendar. 6. UEN to provide clarification on password and Key FOB.

Region	Last Meeting Held	Next Meeting Scheduled	Issues Discussed	Outstanding Items
USU	November 14, 2002	December 12, 2002	1. Topics included: File Sharing Policy, bandwidth, NERDS model, e-rate filings, future planning for network	2. Plans for increased b/w to USU hub will be made in next t-forum.
WSU/DATC	October 29, 2002	Not Scheduled	1. Weber SD - issue with not enough Internnet bandwidth (resolved-T-1s were not load balancing), 2. Topics Included: File Sharing Policy, bandwidth, NERDS model, e-rate filings, future planning for network 3. IP addressing plans and planning. alternate carrier to Qwest for new links and link to Davis Campus.	1.Plans for WSU alternate path, fiber etc. will start in February. 2. We need to meet with WSU again to make plans for Davis Campus. 3. We need to meet again and explain our position on Qwest and GeoMax.
CUES	November 12, 2002	Not Scheduled	1. E-rate Filings 2. Security issues / file sharing policy document 3. Router replacement issues. 4. Gigabit Ethernet designs for Manti Tel and CUT	1. Troy and Patrick need to contact BJ concerning security issues.
Wasatch Front		January 23, 2002	1. Coordinate technical issues across all Wasatch Front Districts.	1. Cindy Nagasawa-Cruz and Jim Stewart are working together to coordinate the agenda and extend the invitation.
Multi Rural Regions	N/A	January 29 - 30, 2002	1. Coordinate rural issues across all regions	1. Planning of agenda and other details must be concluded.
Univeristy of Utah	Ongoing as needed	Ongoing as needed	1. ATM to Gigabit Ethernet conversion 2. Redundant Ethernet connectivity. 3. Implementation of BGP routing.	1. Intermountain GigaPoP.

TAB 30

CURRENT SECURITY ISSUES AND UEN TECHNICAL SERVICES POLICIES

Issue

Current network security issues are described, and the committee is encouraged to consider appropriate roles and responsibilities of the UEN staff.

Background

In recent months, the UEN Network has been experiencing some drastic increases in security incidents including large Distributed Denial of Service attacks (DDoS) being directed to and originating from our network. In addition to the Denial of Service attacks, since the 1st of June, 2002, the UEN Departmental Security Office has detected in excess of 230 computers throughout the network which have been hacked or compromised.

The general trend of these hacked machines is that they are compromised through well known exploits for which there are current patches and fixes. Once compromised they are used by the hacker to store files and services including FTP Servers which serve a variety of files containing illegal or inappropriate material.

The Utah Education Network is under constant attack, with as many as 50 simultaneous scans or attacks from the Internet or internally at any given time. This figure is not constant, and does change at different times of the day, but it never reaches zero. These attacks and scans are generally untargeted in nature, and are just looking for whatever machine it finds to be vulnerable, although there regularly are targeted attacks such those recently at Provo School District and UVSC.

As capacity is increased within the UEN network, the impact of these security incidents will increase beyond the minor inconvenience they currently cause to a small area of the network. Today's incidents are minimized to some extent by the relatively low-capacity links (T1's) that connect schools and district offices to the backbone. In the future, an incident on a 100Mb or Gigabit Ethernet link from a school could easily take down a much larger part of the network, including backbone segments and Internet connectivity.

The Hacker community has been working on new tools, and has recently released a proof-of-concept tool which poses a significantly greater threat to the network. These tools enable faster and more powerful methods of exploiting security weaknesses, reinforcing the need for solid security practices, security monitoring and incident remediation.

In summary:

1. We are beginning to see target attacks directed toward the Network
2. Scanning and attacks are constant, and are not being dealt with at the core
3. The number and severity of Security Incidents is sharply on the raise
4. Hackers are developing tools to hide on, and abuse our network with a variety of services.
5. Direct response to these threats and issues needs to be clarified for UEN as well as the Stakeholders.

Recommendation

It is recommended that the Technical Services Subcommittee discuss network security issues, and that roles and responsibilities be defined for UEN and its stakeholders regarding security and the overall health of the network.

TAB 31
IP ADDRESSING ISSUES

Issue

A project to improve IP Address planning is currently underway. An IP Address Planning position paper is Included as an attachment to this document.

Background

The IP Address Planning project is an effort to plan network addressing to accommodate the growth, increased capacity, redundancy and other changes in the UEN network. UEN Technical Services staff, along with UEN stakeholders, will create a long-term addressing plan, review current IP Addressing policy and allocations, and implement the new plan as efficiently as possible.

At the October 3, 2002, Public Education Planning Summit, UEN Technical Services staff presented a position paper (attached) on the current state of network addressing and the needs for an updated addressing plan. The group supported UEN undertaking the preliminary planning, and developing a draft plan to be shared with stakeholders

The IP Address Planning project has been discussed at the USU, WSU/DATC, SEDC, CUES and NUES T-forums. It will be discussed at the remaining T-forums during the next several weeks.

Positive feedback has been provided at the T-forums, from those institutions that may be affected by the new addressing plan. Many institutions are currently experiencing network administrative headaches that will be resolved by better address planning. Several suggestions have been made in each T-forum that will be incorporated into the planning process to make the plan implementation faster and easier.

After the project has been presented at all T-forums, UEN Technical Services staff will develop a draft plan, incorporating stakeholder feedback. This draft plan will be presented at T-forums beginning in late January, 2003, and at other stakeholder forums as appropriate. Stakeholder feedback will be used to create the final IP addressing plan in Spring 2003.

Recommendation

This report is prepared for informational purposes. However, the subcommittee may wish to further discuss the outcome of the meeting and any next steps that should be taken by the UEN staff.

The following Technical Forum update is provided for the information of the committee. A Regional Technical Forum Summary is included as an attachment to this document.

Utah Education Network

Network Address Planning

Introduction

Addressing is the most basic and critical element of network design and usability. All applications and services that use the network require proper network addressing, and network routing and switching equipment depend on good addressing methods.

The Utah Education Network and our partners have Internet Protocol (IP) addresses for over 2.4 million individual devices. The majority of these address blocks are assigned directly to specific higher-ed and K-12 institutions. UEN has been allocated nine Class B address blocks (each provides 65,536 addresses, or a total of 590,000 addresses), which are assigned to partners who do not have their own address allocations. UEN address blocks include 205.118.0.0 – 205.127.255.255 and 204.113.0.0 – 204.113.255.255.

Problem

UEN and partner networks have grown and changed over the decade since services were first provided using these address blocks. The network topology has changed to support growth within districts and regions throughout the state, and changing uses of the network. Changes in telecommunications services, new applications, and better network technologies have driven fundamental improvements to the network. All of these changes affected address allocations to some extent, and have required work-around modifications to keep the network working reliably.

Our network will experience even more significant changes during the next decade. During just the next few years, we will increase the capacity of the network by 10 to 100 times from the core to the edge; we will add unusually large numbers of new users as a result of state-wide growth trends; we will add multiple levels of diversity and redundancy from the core to the edge of the network; and, we will add and expand the number of critical applications on the packet-switched network, including video and voice services. These changes will push the limits of network equipment, and make careful address planning even more important.

Recommendation

We recommend that a network addressing plan be developed to accommodate the needs of UEN and those stakeholders who use UEN-allocated addresses. The

planning process would be facilitated by UEN, utilizing existing planning forums such as T-forum, Tech Summit, Advocate meetings, and one-on-one meetings. The result will be a network addressing plan to carry us through at least the next decade.

The new addressing plan would probably require renumbering parts of the network. The planning process would include minimizing the amount of necessary renumbering, and finding ways to minimize the impact of renumbering on network users and network staff. The plan would be implemented over a period of time long enough to accommodate the changes with existing staff resources, and to not impact network users.

Summary

A network addressing plan is a critical part of the future of our network. Through careful planning, we can be confident that the network will support our users in the future as the network grows and changes.

We ask for your support and participation to develop and implement a network addressing plan.

TAB 1

PLANNING FOR HIGHER EDUCATION/ UEN TECHNICAL SERVICES SUMMIT

Issue

A Higher Education Planning Forum is being planned for the first quarter of 2003. A proposed Agenda included as an attachment to this document.

Background

UEN staff recently held a Public Education Planning Summit. The outcome of this summit was very positive. Discussions with representatives of Higher Education institutions have led UEN to conclude that a higher education forum would be helpful.

The purpose of the Higher Education Planning Forum would be to bring all entities together to share with UEN the issues that are driving network technology at the colleges and universities in Utah. This would also allow UEN to learn about services that provide high value and areas where UEN can improve.

One essential component of this conference would be to develop a core template for the UEN/Higher Ed Network Operating Agreement.

Gary Wixom has been working with UEN staff and the Chief Information Officers at each institution to coordinate this meeting. As yet no date has been set for the initial meeting.

Recommendation

This item is provided for informational purposes. The committee may wish to discuss the proposed forum and give further direction to the UEN staff.

TAB 1 ATTACHMENT A
HIGHER EDUCATION PLANNING FORUM

Proposed Agenda:

9:00 AM – 9:30 AM; Opening Address - Mike Petersen

9:30 AM – Noon; Institutions discuss key Technical Issues/Projects that they've been working on regarding network performance/availability/security (10-15 Minutes each)

Noon – 1:00 PM; UEN Future Vision Presentation – Jim Stewart

1:00 PM – 2:00 PM; Discussion regarding Network Operating Agreement

2:00 PM – 3:00 PM; Security Presentation and Discussion

3:00 PM – 4:00 PM; Open Discussion

TAB 2

H.323 VIDEO-CONFERENCING RECOMMENDATIONS

Issue

UEN staff and many stakeholders agree that our EDNET system should be replaced over the next several years with an IP-based videoconferencing system incorporating the H.323 standards. The following report provides background, key policy issues, and recommendations on this critical topic.

Background

Interactive video conferencing has is an essential services provided by UEN. The numbers of students benefiting from distance education services has continued to increase over time. Although valued statewide, this service has become especially valuable in communities beyond the Wasatch Front for access to educational programs and instruction that are otherwise not available locally. Student needs will continue to drive the adoption of distance education, including interactive video, in the blend of technology based instructional tools.

Interactive video capabilities were first provided to rural areas of Utah in 1981. Since then the service has proliferated, and now provides services to over 400 locations statewide. Much of the current Internet backbone has also come to rely upon services that were put in place originally for video conferencing (CVDS and microwave). This success has established interactive video conferencing as an imperative for distance learning in Utah. Simultaneously, this service has now reached the practical limits of analog capacity or expansion.

During the last two decades, an assortment of technologies and services has been and continues to be employed in providing interactive distance education. All share an analog matrix, but a broad mix of standards based and proprietary technologies have been used, spanning multiple generations of product development and release.

Policy Issues

The existing system is aged. The finished services (primarily backbone) relied upon for video conferencing, and now Internet access, will no longer be available by June of 2006. Consequently, it is now critical to test, prove, and begin implementation of an alternative approach to providing interactive video conferencing for educators.

To insure the uninterrupted continuance of video conferencing for distance education, research and planning efforts have been undertaken and are nearing completion at UEN that would allow the migration of existing video conferencing

services to an H.323 based system, relying mainly on a data/IP network for transport.

Improvements in H.323 technology has been significantly improved. Ease of use, flexibility of scheduling, and increasing locations will reinforce local control and reduce reliance upon central coordination. Scheduling problems stemming from real-time enrollments usually encountered at semester's start should be greatly reduced. A number of other benefits are realized as well. The H.323 pilot projects (Figures 3 and 4) have identified some network problems that have gone unnoticed for some time. This supports the statement "Making video work on the shared network can improve overall network performance".

The planning focus on H.323 is based upon several positive factors. These points along with several issues of concern are addressed in more detail in supporting documentation.

- Available H.323 products are now in their 4th generation of product development.
- H.323 is a well-developed international standard, made ever more meaningful in the Internet age.
- Commercial service providers are adopting the technology.
- Several state educational networks have implemented H.323 including Oklahoma, Iowa, Missouri, Michigan, Alaska, North Carolina, Indiana, North Dakota, and Texas. More are planning to migrate to the technology.
- Internet 2 applications support H.323. The H.323 planning to date has enabled routing of Internet 2 to public education.
- The UEN video network is arguably in an excellent position to provide a high quality experience with this technology. The inclusion of EDNET sites in H.323 conferences lessens the classroom impact during migration.
- H.323 IP video conferencing is easily managed, scaled, and is cost effective (end to end).
- There is assurance of future standards support such as SIP (Session Initiation Protocol) for voice and video and QOS (Quality of Service) for video on shared IP networks.
- Experience. On-going broad familiarity of technology development relevant to UEN services as well as other Utah user groups such as the UIPVTF (Utah IP Video Task Force). Pilot projects' feedback is consistently positive. (Figures 3 and 4)
- Bandwidth to support H.323 migration, for the most part, already exists at EDNET sites.
- Arguably, no reasonable alternatives exist as a primary solution.

Additionally, however, some potential cross-functional policy dilemmas arise when attempting to construct a comprehensive plan. These are discussed in Tab 2 Attachment A.

The highly centralized scheduling of video conferencing services will not be necessary nor warranted in an H.323 environment. The implications of this statement are far reaching. For example, insuring that resources are available both on the network and in the classroom for high quality on-going distance ed. programs will require a guiding policy governing the Gatekeeper configurations, placement, and responsibility for H.323 Endpoints.

The cost of migration to H.323 can be reduced, especially if pursued as an e-rate eligible end-to-end solution. The existing finished services are very expensive in relation to comparable alternatives available from service providers today. Also, the costs of circuit and network upgrades may be offset by reduction in costs for the finished video services. Further bandwidth is already in place that can accommodate H.323 migration at most sites.

In conclusion, any endeavor of this magnitude is likely to encounter obstacles during the course of the project, but they can be overcome. By addressing issues surrounding Gatekeepers, Dial Plans, Quality of Service, and bridge/conference management now, UEN will avoid later needing to work around diverse, uncoordinated, and competing efforts and policies.

Recommendation

Members of the Instructional Services Committee are urged to carefully study this report, and to raise questions during their subcommittee meeting. Further discussion is also planned for the Steering Committee meeting next week. Because of its importance, no action is requested until the February meeting of the Steering Committee. At that meeting it is anticipated that key policy directives related to migration to an H.323 videoconferencing system will be action items.

TAB 2 ATTACHMENT A

THE INDIANA PLAN

Indiana is one of several states that have implemented an H.323 strategy. They are however, one of the few that have published their research findings and Implementation Strategy. This document has proved itself an excellent reference for H.323 discussions and planning at UEN. The content of the Indiana document not only reinforces the findings derived from product testing conducted at UEN over the years but also upholds the viability of previous network planning efforts at UEN. While Indiana's plan gives reason to believe that successful implementations can occur, key issues are highlighted that can pose significant dilemmas for UEN policies and roles. *(H.323 Video for ITN, An Implementation Strategy, December 3, 2001, IP Video Task Force, Indiana Higher Education Telecommunications Network. References used with permission.)

The Indiana document makes recommendations and provides reviews of the following relevant and interrelated topics. These topics should provide the framework for policy discussions and recommendations by UEN.

- H.323 Codecs (Terminal Equipment)
  - The published recommendations cover the majority of available products.
  - UEN's role in providing endpoints and conferencing hardware in the classroom is up for debate. Cost and transportability suggests that "site selection" for video conferencing is an archaic concept.
- Multipoint Control Units (MCU)
  - The published recommendations cover the majority of available products.
  - Clearly, distributed MCU's make sense for statewide video conferencing, but local MCU capabilities confound coordination efforts if not included in the service definitions. MCU's that UEN is "unaware of" can lead to inconsistent quality for users.
- Gatekeepers (Figure 1)
  - The recommendation of a hierarchical Gatekeeper strategy makes sense for UEN given the relationships with our stakeholders. The hierarchical Gatekeeper strategy allows UEN to administer the service and interface with other agencies at a state level without undo influence on local efforts.
  - A Gatekeeper strategy is pivotal in determining UEN's future role for distance education. Without a comprehensive plan, effective management, administration, and control of an H.323 network become difficult, if not impossible.
- Gateways (Analog and ISDN)
  - The relevance of ISDN Gateways in this discussion is minimal. Considering network plans, the use of gateways should be restricted to those times when out of state Internet and Internet 2 capacity cannot meet needs or out of state

endpoints require it. Gateway services are readily available locally in Salt Lake City. The application of the aforementioned Gatekeeper strategy would be required when interfacing with other networks.

- ◇ Analog Gateways however, are crucial in an implementation plan, as these will provide the means to interface between H.323 sites and existing EDNET sites. (See Figure 2) These Gateways will eventually be re-purposed for classroom use as less analog service remains.

- Dial Plan
  - ◇ The published document recommends a dial plan for the Indiana higher ed. network, acknowledging the need for at least a minimal number of devices that conform to the North American Numbering Plan. This simplifies connections made to outside of the UEN network by way of Gateways or connections within the network.
  - ◇ In a sentence, the Dial Plan is the framework for identification of devices and endpoints (sites) on the video network. It is also relevant to Voice over IP in that the dial plans could and should include IP phones.
  - ◇ Since any Dial Plan is eventually enforced at the Gatekeeper, UEN must define the policy for developing any Dial Plan that may proliferate up through the hierarchy of Gatekeepers. This would permit some standardization in dial plans across the state and promote further reduction of centralized management.
- Directory Services
  - ◇ As described, this type of service can greatly simplify finding a specific person or device on the network by making their various aliases known through a phone book like interface. This makes it possible for a single interface to provide IP addresses, gatekeeper addresses, E.164 addresses, and H.323 aliases for the same device or classroom. Something that has been difficult at best for UEN to achieve with the existing tools.
  - ◇ For early discussions, this is not as high in priority. Addressing the previous issues is more critical at this time, but directory services would greatly simplify other relevant efforts as well, such as web collaboration.
- Quality of Service
  - ◇ The Indiana document loses its relevance with regard to network design and QOS. UEN migration away from an ATM backbone design complicates the matter. Leaving the choice of how to prioritize IP traffic to local IT administrators is a departure from UEN's current responsibility of guaranteed service into the classroom.
  - ◇ Quality of Service in the more subjective sense but directly applicable to the IP network. In circumstances where administrative, educational, and IT interests demand more bandwidth than is available on the shared network, difficult choices require support in guiding policy. This is similar to the "File Sharing Policy" issue currently under consideration by the Steering Committee.
  - ◇ As it is not yet known whether Gigabit Ethernet can truly provide IP QOS for H.323 when bandwidth demand spuriously exceeds available bandwidth, it

may be necessary to keep video network traffic separate, at least during a migration period while more experience is gained with unproven technologies.

- Security
  - Though not mentioned in the Indiana document, IP Video conferencing, just as Internet access, highlights specific security issues. Policy must consider the ubiquity of access and provide guidance for establishing requirements of or restrictions to the interoperability of systems where public ed. students have access. This issue directly affects Dial Plan and Gatekeeper strategies.

TAB 2 ATTACHMENT B

H.323 GLOSSARY

ATM

Asynchronous Transfer Mode. A switching mode that breaks down packets into smaller cells for routing to their destination over virtual circuits. Virtual circuits attempt to emulate switched circuits insofar as bandwidth can be guaranteed between any points but with costly overhead and delays.

Aliases

Alternative identification strings for an IP address.

Analog

Analog for the purpose of this paper refers to NTSC video just as is currently used for most television broadcast.

Analog Gateway

An H.323 endpoint that serves to connect analog sites to the H.323 network.

B-ISDN

Broadband - ISDN. Enables telecommunications and video conferencing data to be transmitted over optical fiber at high speeds.

BRI

Basic Rate Interface to an ISDN network. A BRI line has two 64Kbps B channels that transmit the data and one 16Kbps D channel that is used for call setup and control signaling.

Circuit-switched

The temporary connection of two or more communications channels. Users have full use of the circuit until the connection is terminated. ISDN is a circuit switched network.

CODEC

Coder/Decoder is a device that changes audio and video from analog to digital and then compresses the information for transmission. At the other end the signal is decompressed and decoded back into analog for viewing and listening on a monitor. This occurs in real time.

DS-3

A telecommunications circuit that provides 45 Mbs of digital bandwidth.

Default extension

Any endpoint on the network that has been defined as an alternative destination on the network for incoming calls routed by the Gateway.

DID

Direct Inward Dialing is a method in which incoming calls are routed directly to endpoints on the LAN, without operator intervention.

DSCP

Differential Services Code Point is a service that helps to classify or differentiate traffic. Setting the three MSBs of the Type of Service byte in the IP header does this. The router then prioritizes the packet according to how the precedence bit is set.

DSL

Digital Subscriber Line. A service based largely upon ATM that provides broadband (256Kbs- 1.544 Mbs) of digital bandwidth. Variously available to consumers and referred to as ADSL, XDSL, and VDSL depending upon service provider.

DTMF

Dual Tone Multi-Frequency signals are the type of audio signals used in telephony for tone dialing.

E.164

An International Technology Union standard for telephone numbering. In short, a telephone numbering scheme allowing up to 15 digits in the number scheme.

Endpoint

An H.323 terminal, gateway, or Multipoint Controller Unit (MCU). An endpoint can call or be called and it can generate or end information streams.

Ethernet

Defined in a series of standards (e.g. 802.x) published by the IEEE. The definition of Gigabit and 10 Gigabit Ethernet standards (802.3ae) is driving the use of Ethernet for backbone and network core infrastructures and promises huge windfalls in bandwidth cost reductions and technical simplicity.

FLRQ

Forwarded Location Request. A location request that is passed from router to router until a gatekeeper is found at a specified IP address.

Gatekeeper

The gatekeeper is an H.323 entity that provides address resolution, access control, and other services to endpoints on an H.323 network.

Gateway

The gateway is a device that allows H.320 switched endpoint devices to be converted to digital H.323 endpoint devices for cross communication between protocols.

Gigabit Ethernet (GigE)

Recently defined standards for a communications circuit/connection that provides 1,000 Mbs of digital bandwidth. 10GigE provides 10,000 Mbs of digital bandwidth.

H.320

The ITU standard for video conferencing over digital networks such as ISDN.

H.323

The ITU standard for video conferencing over packet switched networks such as LAN s and the Internet.

IEEE

Institute of Electrical and Electronic Engineers. It consists of committees that are responsible for developing LAN drafts that are passed on to the ANSI (American National Standards Institute) for approval and standardization within the United States. The IEEE also forwards the drafts to the ISO (International Organization for Standardization). The IEEE 802 committees concentrate on the physical network interfaces such as network interface cards, bridges, routers, connectors, cables, and all the signaling and access methods associated with physical network connections.

IETF

Internet Engineering Task Force. A standards engineering group that publishes standards in the form of Request For Comments (RFC's) which eventually become standards governing routing and handling of packets on an IP network.

IP address

The unique address of a computer attached to a TCP/IP network. IP addresses are 32 bits long where each octet is represented in decimal and is separated by dots.

IP network

A network that uses the TCP/IP protocols.

ISDN

Integrated Services Digital Network. ISDN is an entirely digital telephone network that allows both data and voice communication over the same line. ISDN replaces the old analog local loop and operates at significantly faster speeds than the traditional telephone service.

IVR

Interactive Voice Response is a two-stage incoming call routing method supported by the Gateway. It enables Direct Inward Dialing to a LAN terminal even when the ISDN lines do not have multiple numbers allowing direct dialing to an endpoint.

ITU

International Telecommunications Union. The ITU is an agency of the United Nations that coordinates the establishment and operation of global telecommunication networks and services. This body publishes standards recommendations such as H.320, H.323, G.722, etc.

LAN

Local Area Network. A network of connected computers covering a small geographic area such as a building or a campus.

LDAP

Lightweight Directory Access Protocol. A directory service that has many front-end applications for ease of use to find information on people. This service is not designed for multimedia applications.

LRQ

Location Request. A signal sent out by an endpoint to a gatekeeper at a specified IP address.

MCU

Multipoint Controller Unit. An H.323 device that allows multipoint conferences to take place over the WAN.

MPEG

Motion Picture Experts Group series of standards published by the ISO (International Standards Organization) that govern the science of encoding, decoding, and display of moving pictures. Standards such as MPEG 1 and MPEG 2 have been in use for some time while recent definitions have been published for MPEG 4 and MPEG 7.

NANP

North American Numbering Plan. It assigns area codes and sets rules for calls to be routed across North America. Lockheed Martin currently administers the NANP. In the context of this paper, NANP refers to a unique E.164 number accessible from the Public Switched Telephone Network (PSTN) using Direct Inward Dialing (DID).

Packet-switched

Networks that break up a message into smaller packets before switching the packets to there required destination. Each packet contains a destination address so all packets in a single message do not have to travel by the same path. The destination computer reassembles the packets back into their proper sequence.

PBX

Private Branch Exchange. A private telephone switching system in an organization that interconnects telephone extensions to each other and to the public telephone network.

PRI

Primary Rate Interface to an ISDN network. In the U.S., a PRI line provides 23B channels and one 64Kbps D channel (23B+D), which is equivalent to a To line and in Europe, a PRI line provides 30B channels and 1D channel (30B+D), equivalent to an El line.

PSTN

Public Switched Telephone Network. The worldwide telephone network.

RAS

Registration Admission Status protocol. The communication protocol used to convey registration, admission, and status messages between H.323 endpoints and the gatekeeper.

RED

Random Early Detection is a service that tells the router to slow down transmission of packets until all of the packets have reached their destination. During this process, some packets may be dropped. The router resumes speed of transmission after it senses job has reached its destination.

Room system

Generally all legacy video conferencing stations. They are called room systems because they are usually large monitors with a wide-angle camera and serve groups of people who meet in a room and conference with other similar groups at remote locations.

RSVP

Resource Reservation Protocol (RSVP) has been described by some to be the Nirvana to IP routing. At this time, RSVP is being actively developed but is not ready for deployment on core networks.

SONET

Synchronous Optical Network. A very reliable fiber based communications link that provides bandwidth in a hierarchy of multiples. E.g., an OC-3 = 155.52 Mbs or 84 T1's, an OC-6 = 311.04 Mbs or 168 T1's. An OC-48 = 2,488.32 Mbs or 1,344 T1's.

T1 (or DS1)

A communication circuit that provides 1.544 Mbs of digital bandwidth.

TCP/IP

Transmission Control Protocol/Internet Protocol. IETF standards governing the use and application of the majority of Internet data.

Telephony

The science of transmitting voice and/or video over a greater distance than you could do by shouting.

T.120

ITU standard governing the transmission of data for the sharing of applications during a video conferencing session.

Transcoding

The ability of a device to convert between one protocol and another. All aspects ranging from audio and video to control signaling are converted.

V.35

The V.35 is a serial interface used to connect Data Terminal Equipment and Data Circuit Terminating Equipment (DTE/DCE).

VoIP

Voice over IP is the ability to make telephone calls over IP based data networks with suitable quality of service.

WAN

Wide Area Network. A communications network over a wide geographic area.

WRED

Weighted Random Early Detection is Cisco Systems version of Random Early Detection. It is used to prioritize traffic while telling the router to slow down the transmission of packets until all of the packets have reached their destination.

Zone

In H.323 networks, a collection of terminals, gateways, and MCUs managed by a single gatekeeper. A zone must include at least one terminal and may include several LAN or WAN segments connected by routers.

TAB 2 ATTACHMENT C

H.323 MAPS

Potential & Existing H.323 Bridge (MCU) and Gatekeeper Locations

EBC - Eccles Broadcast Center
Utah Education Network
Salt Lake City, UT
Accord MGC-100, 148 Port MCU with 2 PSTN H.320 Gateways

SEDC Regional MCU, Accord MGC-50, 12 Port IP only. Installed at hub site on SUU campus.

SESC - Regional MCU, Accord MGC-50, 12 Port IP only. Installed at SESC Regional Office, Price, UT

CUES Regional MCU, Accord MGC-50, 12 Port IP only. Installed at Snow South hub site.

Utah Education Network - H.323

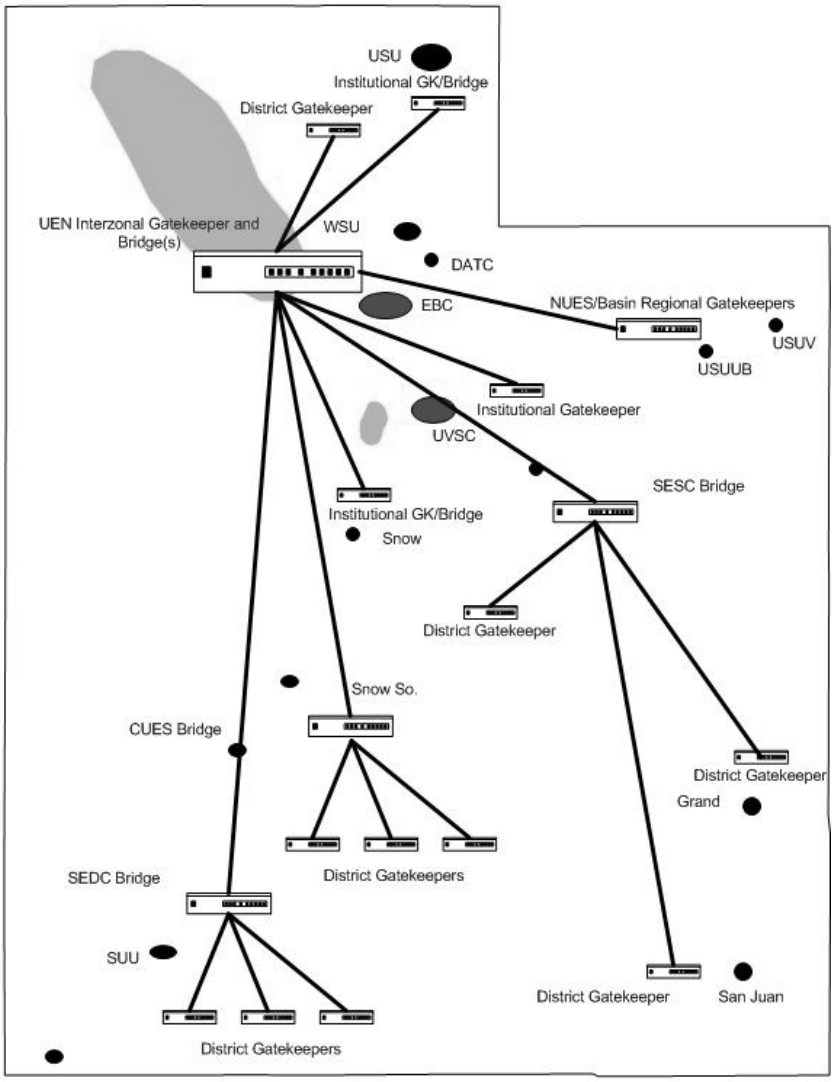


Figure 1

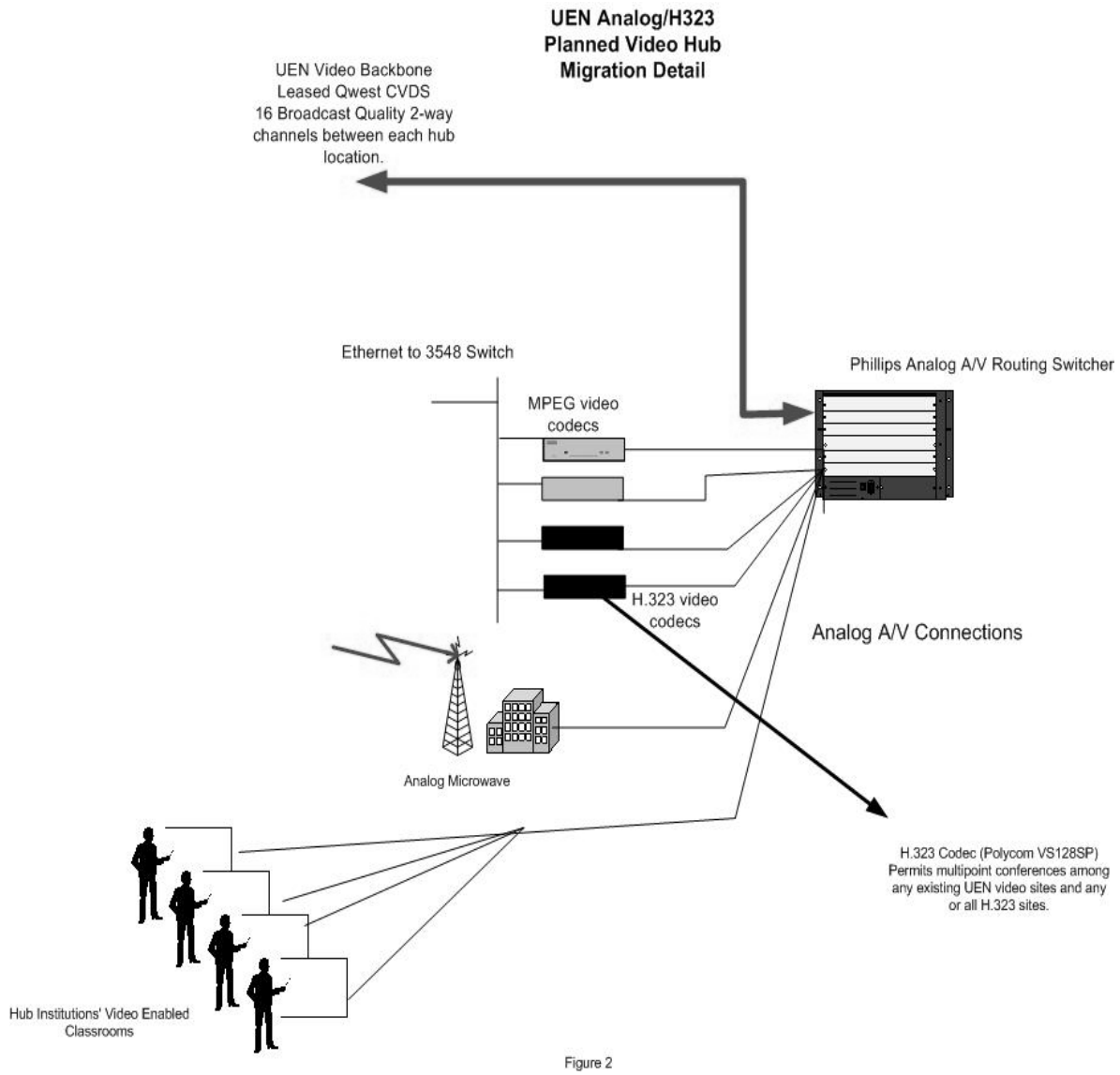

UEN Analog/H323
Planned Video Hub
Migration Detail
UEN Video Backbone
Leased Qwest CVDS
16 Broadcast Quality 2-way
channels between each hub
location.
Ethernet to 3548 Switch
Phillips Analog A/V Routing Switcher
MPEG video
codecs
H.323 video
codecs
Analog A/V Connections
Analog Microwave
H.323 Codec (Polycom VS128SP)
Permits multipoint conferences among
any existing UEN video sites and any
or all H.323 sites.
Hub Institutions' Video Enabled
Classrooms

Figure 2

Utah Education Network
H.323 Pilot Installations

Pilot H.323 Bridge (MCU) Locations

EBC - Eccles Broadcast Center
Utah Education Network
Salt Lake City, UT
Accord MGC-100, 128 Port MCU with 2 PRI and 2 DS1 for IP voice
Accord MGC-50, 12/384Kbs/port H.323 IP Video MCU

Pilot Projects Supported:
SESC In-Service Trial of H.323.
Banner Migration Training & Coordination using H.323.
Public Ed. Classroom intsruction using H.323.
22 H.323 endpoints installed so far in class/conference rooms. Numerous endpoints available as "gateway" codecs to aid in migration.

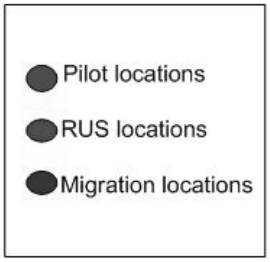


Figure 3

Potential of RUS Grant Funding for Regional H.323 Endpoint and Bridge Locations

Possible Bridges:
MGC-50, 12 Port H.323 Video MCU's at
CUES (Snow So.)
SEDC (SUU)
SESC

Funding for roughly 40 H.323 Endpoints possible.
Some endpoints multipoint capable and may impact bridge decisions.

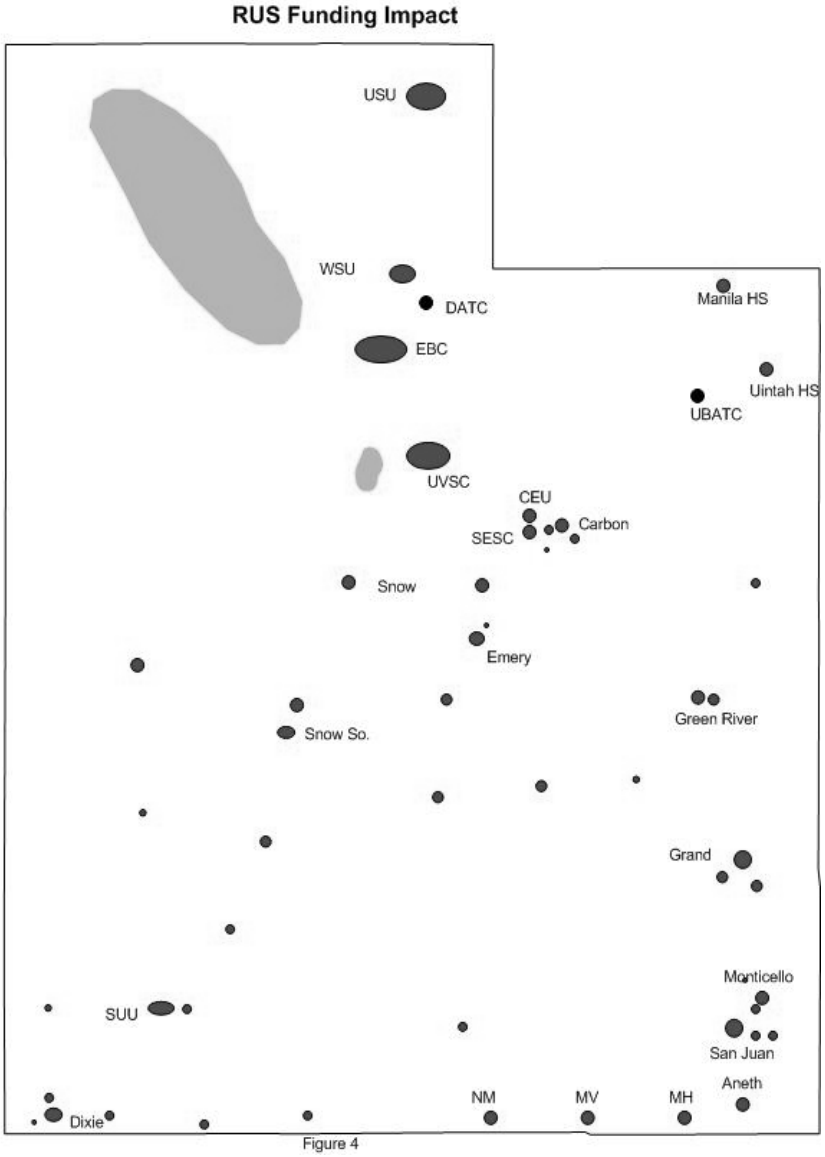
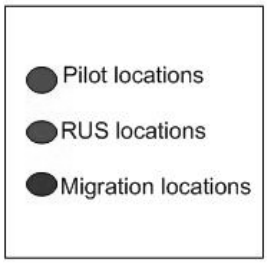


Figure 4

Phase Two Locations

Locations based on most critical need for EDNET replacement equipment, least programmatic impact, logical H.323 bridge placement , and taking full advantage of sensible funding sources such as e-rate and CVDS costs relief.
Bridges Locations:
MGC-50, 12 Port H.323 Video MCU's either installed or expanded upon at
SUU
Snow So.
CEU
EBC



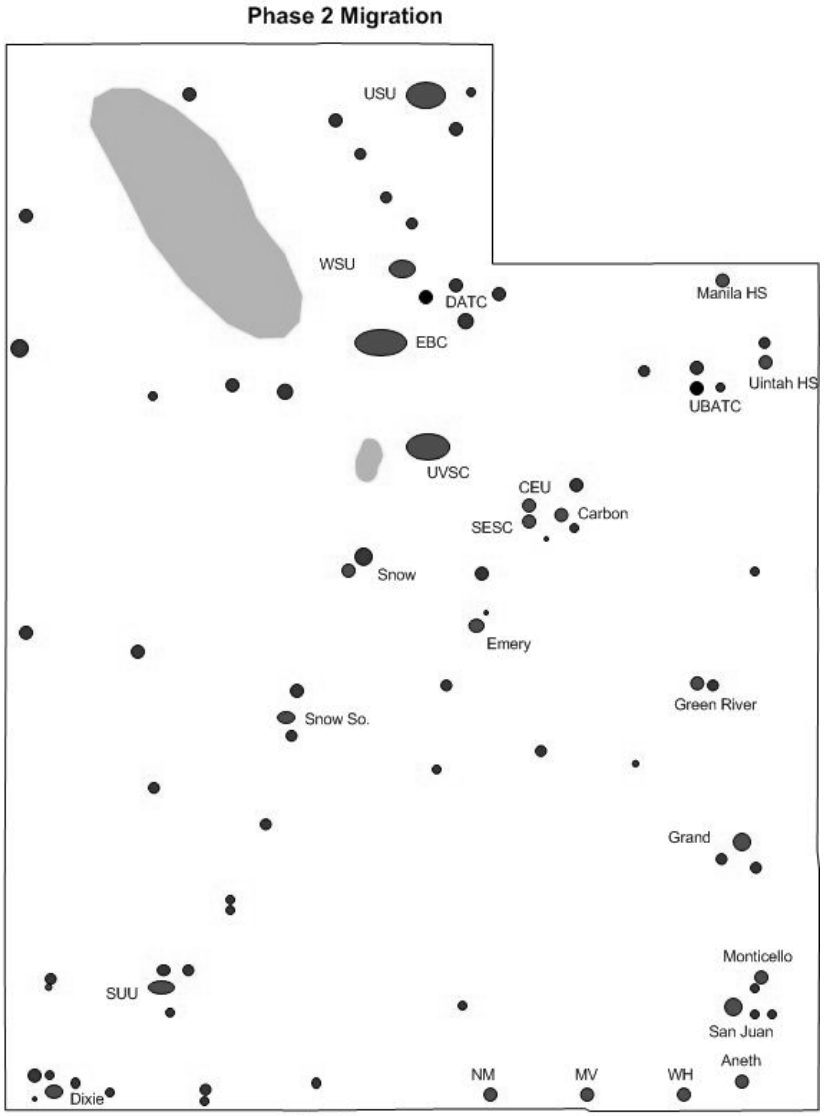
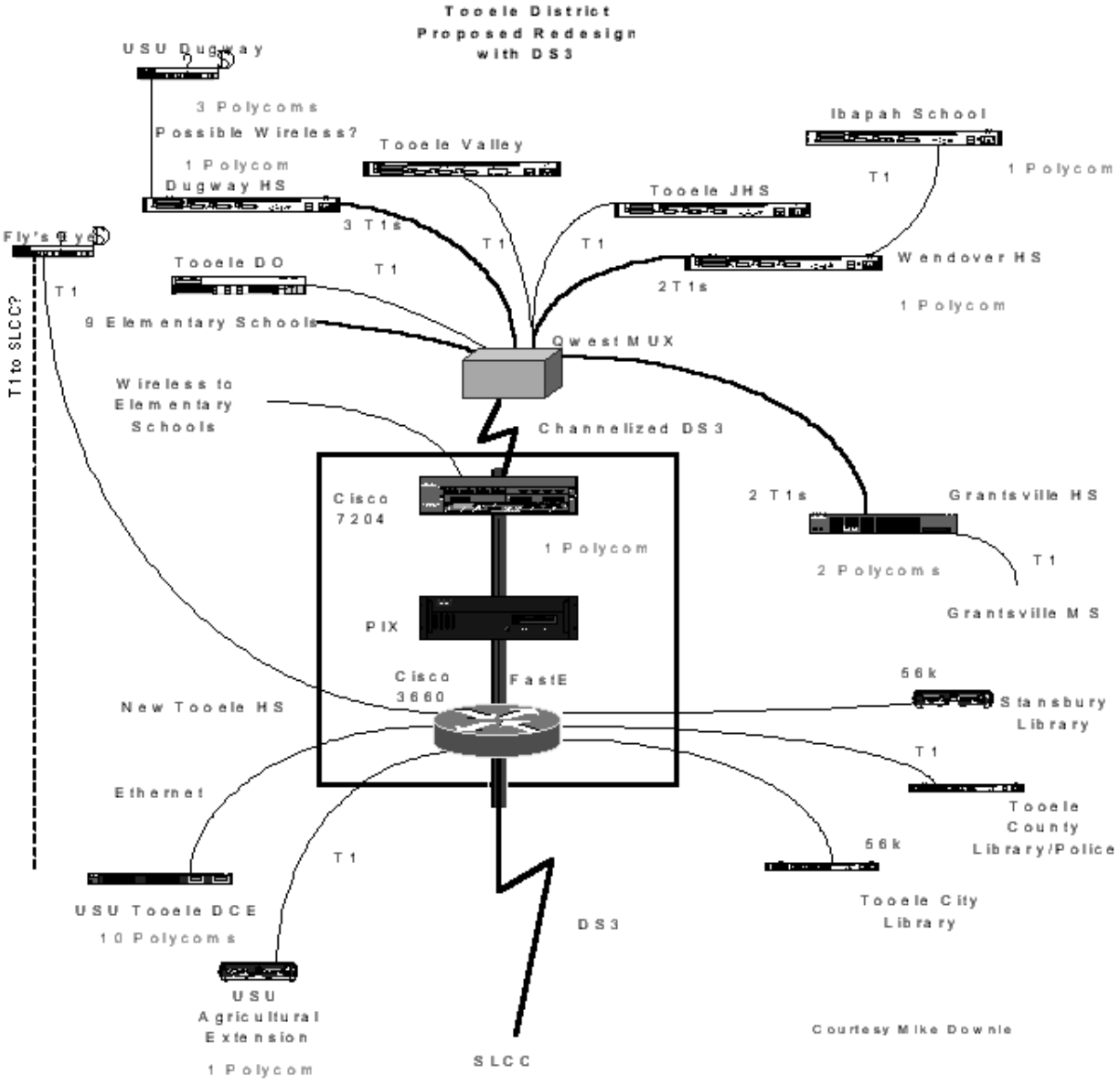


Figure 5


Tooele District
Proposed Redesign
with DS3
USU Dugway
3 Polycoms
Possible Wireless?
1 Polycom
Dugway HS
Tooele Valley
Ibapah School
1 Polycom
T1
Tooele JHS
3 T1s
T1
T1
Fly's Eye
Tooele DO
T1
T1
2 T1s
Wendover HS
1 Polycom
T1 to SLCC?
9 Elementary Schools
Qwest MUX
Wireless to
Elementary
Schools
Channelized DS3
Cisco
7204
1 Polycom
2 T1s
Grantsville HS
2 Polycoms
T1
Grantsville MS
PIX
Cisco
3660
FastE
56k
New Tooele HS
Stansbury
Library
T1
Ethernet
Tooele
County
Library/Police
56k
T1
USU Tooele DCE
10 Polycoms
DS3
Tooele City
Library
USU
Agricultural
Extension
1 Polycom
SLCC
Courtesy Mike Downie

TAB 3

QUARTERLY PROGRESS REPORT

Issue

The first quarter of Utah Education Network's planning year is complete, and reports on major activities are provided for review.

Background

Staff members reported on their first quarter progress at the Planning Task Force meeting held on October 17, 2002. Documents in the following section outline first quarter progress on planning goals for the Instructional Delivery, Instructional Services, and Public Information departments. Network planning quarters are:

Q1 – July, August, September

Q2 – October, November, December

Q3 – January, February, March

Q4 – April, May, June

A report on the quarter 1 progress of other UEN departments will be provided in the December meeting of the UEN Steering Committee.

Recommendation

It is recommended that the Instructional Services committee members review the strategic plans and quarter 1 reports of the Instructional Services, Instructional Delivery, and Public Information departments. This item is for information/ discussion. No further action is required of the committee at this time.

TAB 3 ATTACHMENT A

INSTRUCTIONAL DELIVERY SYSTEMS QUARTERLY REPORT

IDS Goals, Projects, and Activities Highlights
Quarter 1, 2002-2003

Major Projects	Key Activities	Responsible Staff
Goal I. Sustain and improve the effectiveness and usefulness of EDNET as a UEN service.		
A. Concurrent Enrollment	Continue to work with USOE/USHE Committee to increase cooperation between higher ed and public ed to improve effectiveness of the program Better understanding by PE and HE of problems with CE Articulation of PE and HE credit being discussed	Mike Petersen, Claire Gardner, Rick Cline
E. New higher ed degree programs to be delivered on EDNET	Assist Continuing Ed. Deans to identify, develop, and implement new programs and classes for delivery on EDNET	Mike Petersen, Rick Cline
G. Refine, Improve EDNET tools, resources	EDNET/IDS web pages and web-based reports all evaluated and updated – Many pages live as of 10/02 Major Remedy upgrade and extensive training	James Hodges
Goal II. Evaluate and pilot-test new instructional delivery technologies through collaborative efforts with Technical Services and Instructional Support staff		
A. Lab and beta testing of new technologies	Work with technical services and instructional support and delivery staff to evaluate and test H.323 video conferencing equipment in a lab environment – testing complete	James Hodges
B. Initial piloting of instruction delivered with new technologies	Assist public ed and higher ed officials to identify instructors and support their preparation of courses that could be delivered with the new technologies Pilot tests include 12 sites in SESC, BATC, Tooele SD, and Manila HS/Uintah HS	Mike Petersen, Claire Gardner, James Hodges, Dave Devey, Randy Scott

Goal III. Continue and enhance the value and importance of UENSS as an instructional delivery system.

A. Cost effectiveness	KULC carried to 19 cable head ends via satellite. Investigation of potential paying users for off hours data transmission UENSS	Claire Gardner, Dave Devey, Mike Petersen
B. Quality instruction	Training Team planning for intensive assessment and evaluation of instructional and technical activities during first week of Spring semester	Rick Cline, Claire Gardner
C. Ease of access	Identification and evaluation of UENSS web pages. Many revised easier to access links in place	Claire Gardner, Cory Stokes

Goal IV: Thoroughly assess The future of UENSS.

A. What should the system look like in 3-5 years?	Draft 02-05 planning document complete. Based upon input from legislators, UENSS, USHE, fiscal analyst, and UEN	Mike Petersen, UENSS Futures Committee
B. Evaluation of alternatives to augment or replace satellite delivered instruction	H.323 video conferencing to replace EDNET and the side effects for UENSS	Mike Petersen, James Hodges, Dave Devey, Randy Scott, and KUED/KULC engineers
C. The compelling advantages of satellite delivery systems	Continue to work with stakeholders to create clear and concise documents which portray UENSS strengths and weaknesses	Mike Petersen, Bill Kucera, Rick Cline, Claire Gardner
	Assist with assessment of economic development impacts in local communities	Mike Petersen, Bill Kucera

TAB 3 ATTACHMENT B

INSTRUCTIONAL SERVICES QUARTERLY REPORT

Instructional Services – FY2003 Quarter 1 Summary

Pioneer

Renewed contracts.
Added home access to WorldBook for students.
Added home access to Deseret News Archives for teachers and students.
Continued distribution of outreach kits from FY02 Q4.
Completed universal accessibility requirements for home page.
Total Q1 visitors to pioneer-library gateway page were18,681.
Total Q1 visitors to pioneer.uen.org K-12 library were 36,841.
K-12 accesses for Q1 by product:

- EBSCO – 4,421
- SIRS KS – 2,517
- SIRS DD – 2,886
- Wilson Biographies – 1,823
- WorldBook – 3,783

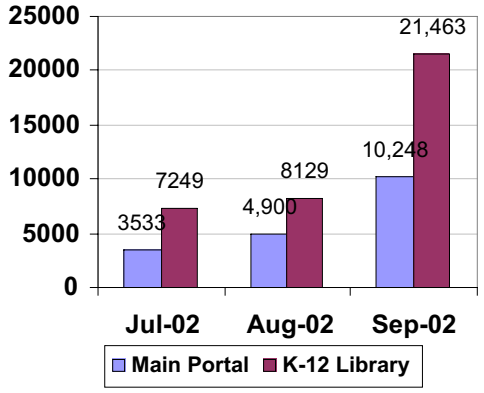
Curriculum Resources

Created online curriculum grid (www.uen.org/core).
Supported lesson plan creation for:

- 7-12 Social Studies
- K-6 Health
- 3-6 Science
- ATE Technology Learning
- ISTE/NETS Lessons

Completed Universal Accessibility Requirements for Top 100 most visited pages, created maintenance schedule for remaining pages.
Supported assessment by linking to Cognos and TIPS from my.uen; conducted ongoing presentations on these products.
Allocated funding for my.edesk development, began plans for simplifying access for users.

Total Visitor Sessions to Pioneer Library



"I wanted to tell you how wonderful your Nutrition sheets are and how it makes the life of a health educator much easier. You could impact so many lives with this information.
Janet Barton, health teacher

Internet 2

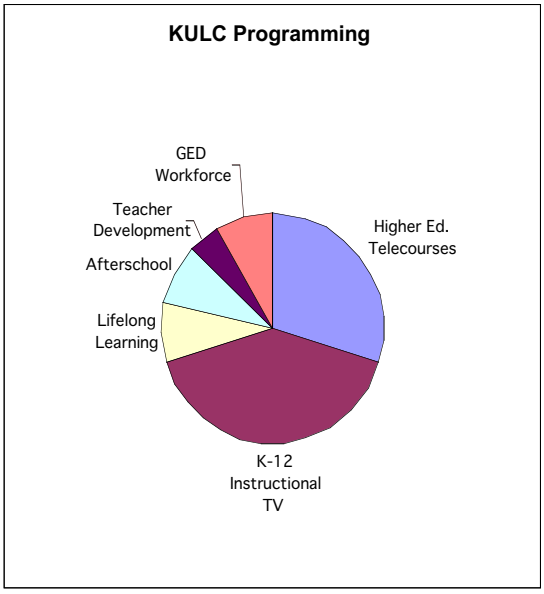
Received approval from University Corporation for Advanced Internet Development for UEN to become a Sponsored Educational Group Participant (SEGP)
Presented Internet 2 to UCAT Directors
Initial project planning with KUED and Public Television consortium from Idaho and Nevada to share video content over Internet 2

"Thumbs up to whomever has organized and placed the different lesson plans having to do with the new science core on the UEN website. They're great resources when creating my science units for this school year. Keep up the great work."
Sam Thompson, 3rd grade teacher
Jeremy Ranch Elementary

"*You have produced the greatest resource for teachers this year! Could you send me 15 more copies of the ITV guide?"*
Karen Berner, Librarian
Jordan School District

KULC Programming

Programmed new ITV schedule for 2002-2003 school year, including new Colonial Williamsburg and U.S. Dept. of Education programs.
Programmed Fall semester telecourses from SLCC, UVSC, U of U; GED and Workplace Essential Skills from Division of Workforce Services.
Ongoing updates to KULC website and program search.
Collaborated on and received PBS Ready to Learn grant with KUED.
Participated with UIMC in developing an ITV survey to be completed during Q2.
Developed content for new Annual Instructional Television and Resource Guide



Tech Corps

Secured $15,000 grant from Intel Foundation for PC Recycling Program
Hired new VISTA intern
Processed 7 pallets with distributions to:
- West Hills Middle School
- Grant Elementary School
- Lehi Jr. High School
- Box Elder School District

Awarded Intel QX3 microscopes, designed application process and professional development workshop to support sixth grade microbiology

"I am so grateful for this opportunity. Thanks to your generosity with the Tech Corps equipment I will be able to have my students learn the skills for themselves. My students will become active learners, rather than passively watching my presentations. This will have a tremendous impact on my students. Thank you so much for your wonderful program."
Tiffany Cook, 7th grade reading teacher
Jordan School District

Workforce and Career Development

Completed DATC internship program.
Planned UAACCEE conference with committee.
Planned Multimedia Educator retreat.

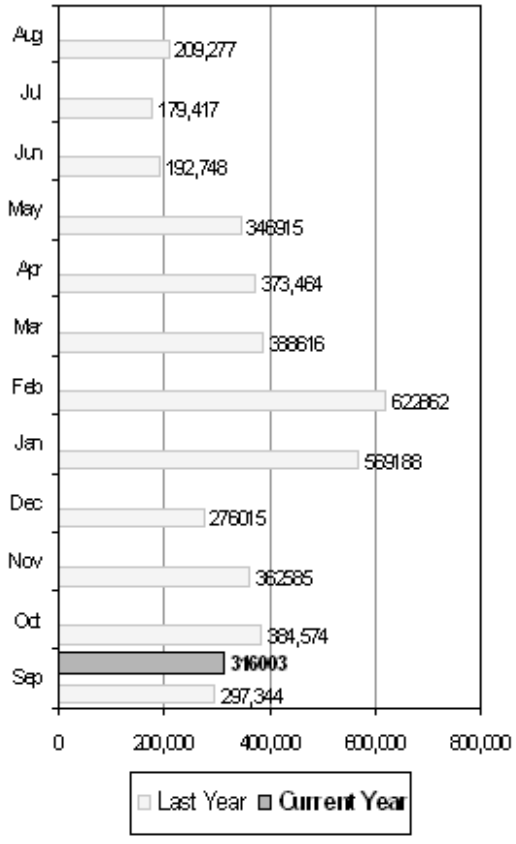
"Thank you for the large screen monitors. Just today, we had a principal request a larger screen for a sight challenged student in her school. You and your staff are offering much needed assistance to districts."
Preston Checketts, Technology Coordinator, Box Elder School District

UEN Website (www.uen.org)

Total visitors for Q1 were 704,697
Average visitors per day were 7,660
July visitor numbers were the lowest of the last 12 months
September 2002 visitors (316,003) were up from September 2001 (279,476)
Top requested pages (excluding four nationally linked lesson plans):

- News
  107,159 visitors
- UEN Homepage
  106,619 visitors
- Utah Core Curriculum
  15,680 visitors
- K-12 Core Lesson Plans
  5,893 visitors
- Professional Development
  5,180 visitors

UEN Website Visitor Sessions Per Month



Professional Development

Developed new Use Technology to Teach class; increased follow up with participants
Developed Technology Integration Academy and beginning pilot program, ongoing discussions for technology endorsement with this program.
Held 6 presentations for higher education teacher education programs including U of U, BYU and Westminster
Conducted outreach efforts at 6 conference and workshops for public education districts, USOE, higher education groups
Intel Teach to the Future Grant:
Completed training program for 3,102 Participant Teachers
Conducted 9 two-day ITC workshops in K-12 districts
Included MarcoPolo resources in all ITC workshops
PBS Teacherline: completed training program for 3 facilitators, 2 October classes filled to capacity

"This training will help me to open my classroom to a whole new level. Until this training I would never had attempted to use power point, web sites, or even a news letter. Thank you for the opportunity you have given me and my students. Is there another level of training?"
Intel Teach to the Future Participant

Website Visitor Sessions:
A visitor session is recorded each time someone enters the site, regardless of how many pages they access during their visit. Visitors are identified using their computer's IP address.

TAB 3 ATTACHMENT C

PUBLIC INFORMATION AND COMMUNICATIONS QUARTERLY REPORT

First quarter 2003 presented two unique challenges: A budget shortfall for one of the ITV stakeholders required a major rethinking of the Instructional Television Guide and whether it would be published, and the challenge of publishing a totally redesigned guide once the decision was made to continue publishing. In addition, the department also supported other UEN projects and services as outlined below.

Instructional Television/Telecourses

- Researched and developed a business case response to KUED $6,000 budget cut for the Utah Instructional Television Guide: Gap analysis, budget analysis, and production options.
- Developed new design, wrote, and produced new Annual Utah Instructional Television and Resource Guide: Wrote new articles; rewrote articles; added 24 pages of content; wrote and designed new ads for the utahitv.org Web site, Smart Tools for You ads.
- Direct mail campaign: Designed, wrote, and produced direct mail card to 24,000 educators announcing new guide is coming soon
- Wrote and produced direct mail letter targeted at Principals, Library Media Specialists, District Media Coordinators on new annual guide
- Produced six television spots for the "I want UEN" promotion campaign airing on KULC (Students; teachers; adult learners)
- Write/Produce promotion tags for a variety of programs & telecourses

Pioneer

- Draft / present Pioneer Marketing Proposal for FY2003 to Pioneer Committee
- Research marketing tactics including busboards, broadcast, print, KUED & other underwriting specialty, Proposed/Coordinate statewide Pioneer conference call etc.

Advertising

- Contracted one year underwriting rotation with KUED-TV for general UEN message spot
- Contracted underwriting with KUED-TV for Golden Apple Teacher Awards for Spring 2003

- Researched and commitment in principle to one year underwriting rotation with KUER-FM for general UEN message on *Morning Edition*, *All Things Considered*, *Talk of the Nation*
- Conceived, wrote, produced and purchased three 1/2 page b&w ads in UEA Convention Program

Online

Research / write / update daily "News" section of uen.org

- Research / write / update daily "Events" section of uen.org
- Research / write / update daily "Education Quote of the Day" section of uen.org
- Research / write / update "Awards" section of uen.org
- Coordinate monthly production of online transcripts of the Governor's News Conference
- Contribute to KULC online news and promotion items
- Contribute to Community Connections section of uen.org
- Coordinate production of graphic elements for all of the above
- KULC Web upkeep
- Write / Collaborate on the writing and production of UTED News

Special Events

- UEA: Design and produce UEN exhibit booth: Concept, design, graphics; supervise booth setup/takedown; coordinate booth staffing; select services to promote. Theme: "Smart Tools for You"
- Utah Education Network Fall 2002 Technical Summit: September preliminary planning. Collaborate with UEN Technical Services on special event planning, website information. Proposed print and other promotion support including signs, event binders, etc.

General & Administrative

- Congressional Streaming Video Presentation: Researched & developed public relations letter and maps showing overlap of Utah congressional districts and school districts, charts & graphs showing student population and potential impact.

TAB 4
POLICY ISSUES

Issue

Network staff members are often asked to perform tasks which potentially violate personal privacy of educators, copyright, or other established practices. Without organizational policies that have been reviewed and approved by legal counsel and approved by the UEN Steering Committee, staff may be placed in difficult and potentially litigious situations. By reviewing practices and establishing policies to guide our work, Network staff are empowered to represent and protect stakeholder needs.

Background

During recent planning meetings, Network staff have logged common work practices and inquiries for which policy or administrative procedure would provide guidance. Those issues fall into two main categories: Guidelines and Policies.

Staff has determined that Guidelines fall under organizational procedures category and do not require additional review by legal counsel or the Steering Committee.

Examples of guidelines include:

1. Eligibility of participants for UEN professional development classes.
2. Software development procedures and updates.
3. Use of the survey software tool.
4. Web sites hosted on UEN servers.

Staff has also determined that some issues require additional review by legal counsel and consideration by the Steering Committee. These issues will potentially lead to development of formal policies. UEN staff are conducting additional research and drafting policy recommendations in three areas:

1. IP lists to vendors and outside parties (including passwords for students, license agreements, security; includes GRAMA considerations).
2. Use of the Utah Educator (UTED) mailing list and other mailing lists hosted by UEN.
3. Educator data and privacy (who can have access to data, should we require agreement when educators self-register?).

A timeline has been established for addressing these policy needs:

November 22, 2002 – staff will gather examples, outline issues and concerns

November 27, 2002 – staff will draft recommendations, consult with GRAMA experts

December 1, 2002 – draft to legal counsel

December 13, 2002 – Draft II

December 27, 2002 – Draft III

January 10, 2003 – Public and Higher Education subcommittee meetings, members review and provide input on draft policies

January 24, 2003 – Instructional Services Committee meeting, members review and provide input on draft policies

February 1, 2003 – materials due for Steering Committee meeting

February 7 – Steering Committee Meeting – policies are presented

Recommendation

This is an information item, and no action on the part of the Committee is required at this time.

TAB 5

SUBCOMMITTEE REPORTS

INTERNET CONCURRENT ENROLLMENT CLASSES: TRAINING AND COURSE APPROVALS

Issue

Should the Joint Concurrent Enrollment Committee set up guidelines for training and course approvals of Internet-based Concurrent Enrollment classes similar to EDNET training and course approvals?

Background

EDNET training and EDNET Concurrent Enrollment class approval have been instituted under the direction and advisement of the UEN Steering Committee for many years. Instructors from public education and higher education are provided with appropriate distance learning training and orientation in a 20-hour on-site class. A full-time USOE staff member is dedicated to provide that training and to assist with CE high school course approvals and promotion. Higher education trainers also provide appropriate training to their EDNET teachers and emphasize Concurrent Enrollment policies. The process has worked well and is widely accepted by public and higher education agencies statewide.

1. USOE staff review, promote, advise and approve EDNET delivered Concurrent Enrollment classes to high schools. Higher education staff do likewise.
2. USOE staff work closely with UEN and higher education organizations to provide or assist with training and the course approval process. New software has been developed by UEN to manage the course approvals for all forms of distance delivered coursework.
3. EDNET faculty training and the course approval process has been well documented and functions well. Since 1995, 242 College/University teachers and 432 high school teachers have received EDNET training, of which 499 have been certified.
4. Hundreds of EDNET classes are presented each year, 50-75 are new and reviewed for to determine if they “map” to the Utah State Core Curriculum. USOE specialists review proposals.

Policy Considerations

Currently, all Internet based coursework, developed by high schools, the Electronic High School, colleges, universities, technology colleges, and others is prepared "in-house" with no uniform training or "quality control" provided to instructors of those courses. Some of these classes may be taken by high school students as part of their high school curriculum.

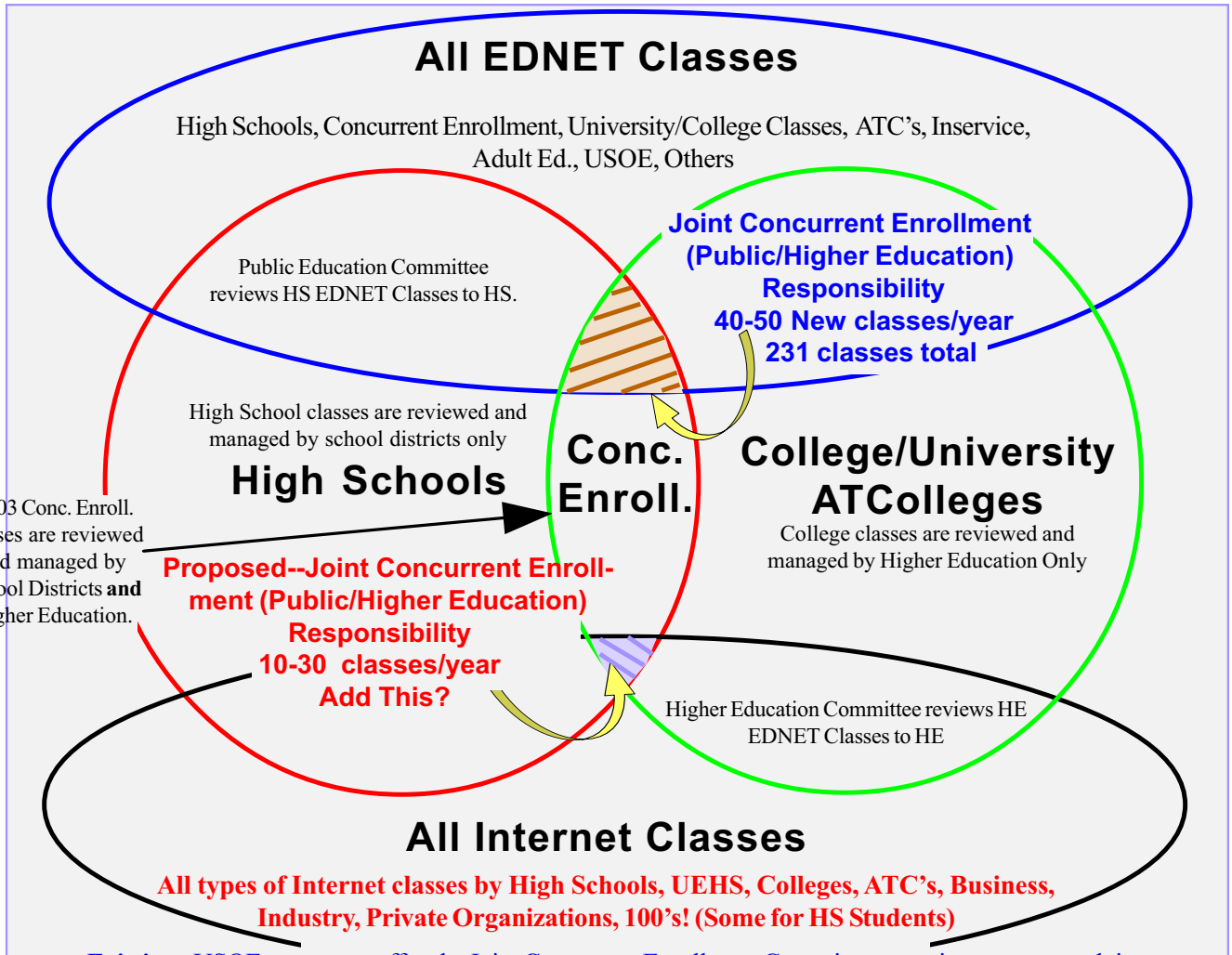
- Local institutions may provide local training and support for their Internet classes, instructors, and students.
- Most Internet based courses are managed by a CMS (Course Management Software. E.g. Blackboard, WebCT)
- Utah State Board of Education Rule--Concurrent Enrollment of High Schools Students in College Course… (R277-713-1) requires the USBE/USOE to have "general supervision and control over public schools…and to adopt rules for accelerated learning programs…[which]…directs the USBE/USOE to adopt minimum standards for curriculum." See below:
  - Private and public institutions of higher education may participate in the concurrent enrollment program.
  - Concurrent enrollment courses shall be offered at the most appropriate location using the most appropriate methods for the course content, the faculty, and the students involved.
  - The delivery system and curriculum program shall be designed and implemented to take full advantage of the most current available educational technology.
- See the "Venn Diagram" attachment for a more detailed explanation of how Concurrent Enrollment and other classes and their delivery methods are considered.
- Currently 20 Internet classes have been submitted to USOE for CE status approval. (USU, SLCC)
  - Process for approval should be identical as EDNET classes.
  - Three classes have been approved, the rest are pending.

Recommendation

It is recommended that the Instructional Services Committee review the above procedures and recommend to the UEN Steering Committee its findings.

Memo

To: Instructional Services Committee
From: George Miller, USOE EDNET Faculty Training Specialist
Date: 11/19/2002
Re: Internet Based Concurrent Enrollment Course Approval Process.



Existing: USOE serves as staff to the Joint Concurrent Enrollment Committee to review, approve, advise on content of EDNET delivered Concurrent Enrollment and High School classes to public education. Internet based software is in place to manage course approval process for all PE and HE (EDNET, UENSS, Internet, Broadcast, Video, Etc.) classes. USOE Specialists have develped a proceedure for review of all CE classes. It works well! EDNET Faculty Training and HE Conc. Training are in place and since 1995.

Proposed: Internet-based Concurrent Enrollment classes are not reviewed by USOE. Should USOE staff add Internet based Concurrent Enrollment Courses as part of Joint Concurrent Enrollment Committee oversight? Approximately 10-30 classes to review each year--but potential for growth is unknown--it will increase. Training on Internet Based Instructional design and Delivery not established. No responsibility for uniform training or quality assurance. *Well established pedagogy for Internet-Based curriculum does exist.* ***SHOULD Joint Concurrent Enrolllment Committee be responsible for these new types of classes or should it be delegated to the Instructional Services Committee? Training?***

TAB 6

NEW STAFF

Issue

The Instructional Services department is pleased to announce the hiring of a new staff member last month.

Background

Lee Baker joins the UEN Professional Development department after five years of experience teaching ESL classes at UCLA, Loyola Marymount and a private English language school in Southern California. His extensive travel experiences while growing up have helped him “to understand cultures and to broaden my social experience” and he explains that he's “very outgoing and able to comfortably meet and make friends with people of all backgrounds”. He has administrative, marketing and project management work experience, in addition to teaching, and he earned a B.A. in English from the University of Utah.

Lee's passion for screen writing has led to success in that very competitive industry - one of his many plays has been optioned by a Hollywood film company. He also enjoys a variety of athletic activities and oil painting. He and his wife are expecting their first child, and have returned to Utah to be closer to their families.

He has already impressed us with his preparation and delivery of course materials on the new Digital Curriculum resource, and is rapidly becoming an essential member of our training team. In addition to sharing responsibilities for teaching about Pioneer and UEN resources, he can contribute unique expertise in the area of digital video and camera use and ESL teaching experience and resources.

In addition, **David Walton** has been retained on a contract basis to offer outreach support specifically for the Pioneer Library. David Walton comes to UEN with a wealth of experience in public education, curriculum development, and knowledge of technology. He has worked for Alpine School District over the past 29 years as an Elementary School Teacher, Media Coordinator, and most recently, as Director of Technology. During that time he also completed a Ph.D. in Curriculum and Education through the University of Oregon. David's role at UEN will be to increase awareness among Utah's educators and administrators of the valuable resources available through Pioneer: Utah's Online Library. Some of the activities will include visits to school districts, conducting training workshops, and developing materials

that demonstrate how the Pioneer Library can support Utah's core curriculum. This position will continue through May 2003.

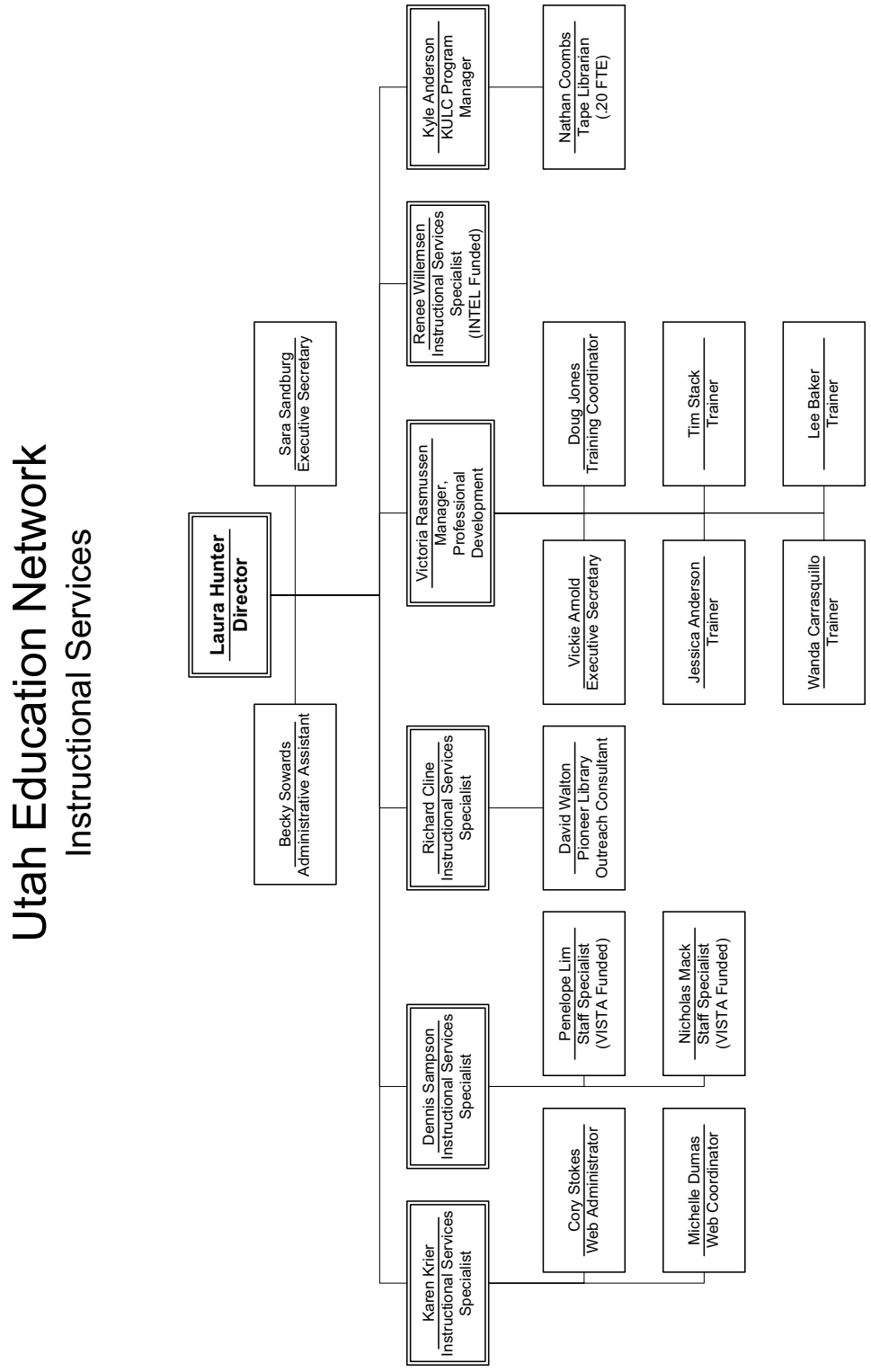
A revised organizational chart reflecting the addition of these new positions has been included in your committee materials.

Recommendation

This item is for information, and no action is required.

TAB 6 ATTACHMENT A

REVISED INSTRUCTIONAL SERVICES ORGANIZATION CHART



TAB 7

STEERING COMMITTEE MEETING MINUTES

UTAH EDUCATION NETWORK STEERING COMMITTEE

October 18, 2002 - 9:00AM

Business Steering Committee Meeting

Members Present: Vicky Dahn, Reed Eborn (via EDNET), David Eisler (via EDNET), Stephen Hess, Rich Kendell, Pat Lambrose, Eric Manz (for Ryan Thomas - via EDNET), Amy Owen, Wayne Peay, Mike Petersen, Kirk Sitterud (via EDNET), Glen Taylor (via EDNET), Ray Timothy, Carlene Walker, Ray Walker, Jeannie Watanabe (for Phil Windley), Barbara White, Gary Wixom.

Others Present: George Brown, Lisa Kuhn, Laura Hunter, Ed Ridges, Daniel Patterson, Race Davies, John Aland, Nancy Gibbs, Bruce Todd, Nancy Christensen, Vernile Prince, Bill Kucera, Charice Black (via EDNET), Louise Tonin, Cory Stokes (UEN), Claire Gardner, Karen Krier, Rick Gaisford, George Miller, Rick Cline, Cynthia Grua, James Christensen (via EDNET), Coy Ison, Dick Siddoway, Rick Mandahl, Rich Finlinson, Kathy Webb (via EDNET) and Mina Kang.

I. Welcome and Introductions - Gary Wixom

Gary welcomed everyone to the meeting.

II. Recognition of Ed Ridges - Gary Wixom

Gary recognized and honored Ed Ridges, for his years of service and dedication. Ed retired this past summer after 34 years with the University of Utah and UEN. Ed was the Associate Director of Media Services at the Utah Education Network for 17 years.

Ed's contribution to the development, growth and success of UEN is unparalleled. He has been a key player in bringing higher and public education, government and business all together in the creation of this consortium. His role in the development of EDNET is especially significant. He was presented with a certificate of appreciation for outstanding leadership in providing instructional technology services to students and educators in the state of Utah, and with a gift by Mike Petersen

Ed thanked Gary and the UEN Steering Committee. He spoke of watching the system grow, as well as the making of memories and lifelong friends. Ed also mentioned that he looked forward to the next phase -- retirement -- which he highly recommended.

III. FY 2004 Budget Request - Mike Petersen

The Executive Committee was previously briefed on the Fiscal Year 2004 budget request. The request is based on the fact that the state continues to face the challenge of very limited growth in revenues, and the expectation that any new funding will be very modest. The UEN staff has identified absolutely critical needs that cannot realistically be postponed.

The first element that is absolutely essential for UEN is a modest increase in ongoing funds to replace obsolete and aging equipment in the Network. At least half of the routers in the Network now are past their useful lifespan and need to be replaced. In addition, UEN faces the challenges of growing capacity requirements within the network. Network traffic has increased to the point where it is often reaching the maximum capacity of bandwidth. UEN needs to plan for the regular replacement of equipment, and increased traffic on the network in order to continue to support our public education and higher education constituencies. There are three critical components to this plan. The first is a request for $360,000 that would allow UEN to combine state and E-rate funding, thereby making network upgrades worth about one million dollars.

UEN has been working very closely with the school districts in the state and with the local telecommunications providers to design strategies that will leverage E-rate funding at levels that have not been produced in the past. UEN would be entering into contracts with telecommunications providers where they will be providing the equipment and the maintenance. In the past, UEN has purchased the equipment itself, and has provided the maintenance. The advantage of the current strategy is that all of these costs becomes E-ratable expenses so one million dollars worth of improvements can be provided at a state expenditure of about $360,000. This requires entering into long-term contracts with telecommunications providers, and a multiple-year commitment of state tax funds is an essential component. Barbara White questioned whether the telecommunications companies would provide quality of service comparable to current levels. Mike assured her that the rural telco's would rely on UEN for direction on equipment specifications and design work. The network will not be different in terms of specifications, access or management.

The second component in the network improvement request is funding for the initial steps in replacing the aging EDNET system. Over the next 2 or 3 years, Qwest Communications will be phasing out CVDS, the backbone circuit upon which UEN has relied to send video traffic. During the next several months, the CVDS circuit between SLCC and Tooele district will be eliminated. All segments of that backbone must be replaced by mid-2006. UEN staff is working with stakeholders in a number of pilot projects to evaluate H.323 videoconferencing. H.323 is an internet-based videoconferencing standard that uses significantly less bandwidth, provides very

high quality video and audio and has far more flexibility than the current EDNET system. It can be managed independently at a local level, for example, by a teacher who could connect her classroom to a classroom with students in another location without any intervention by the EDNET schedulers. UEN is requesting $120,000 from the state to support the beginning of the transition to this new technology for videoconferencing.

The third budget component relates to web resources at EBC. UEN needs a new server, and must upgrade a number of applications, so that they are current and efficient

Mike also explained that the expansion of the Eccles Broadcast Center was completed last November. However, O&M funding associated with that expansion has not been appropriated.

Carlene Walker asked how this budget request compares with the 2003 appropriation.

Mike pointed out that the FY 2003 appropriation was approximately $500,000 less than the FY 2002 appropriation. If each of the requests were funded, the FY 2004 budget would be 3.8% more than the FY 2003 allocation.

Rich Kendell asked about the possibility of using one time funding for some of the request. Mike stated that the network upgrades ($360,000) would need to be an ongoing appropriation. Because of E-rate considerations, UEN will be moving into multi-year lease agreements with the telecommunications providers. However, equipment in the videoconferencing and web server portions of the request could be funded by one-time allocations. It was agreed that itemization of ongoing and one-time items will be provided to Jonathan Ball, the legislative fiscal analyst, and Race Davies of the Governor's Office of Planning and Budget.

Motion: It was moved and seconded that the members of the Utah Education Network Steering Committee approve the FY 2004 Budget Request. THE MOTION PASSED WITH ALL VOTING IN FAVOR.

IV. Ratification of Instructional Services and Executive Committee Recommendations from Videostreaming RFP Committee - Vicky Dahn

A 13-person committee met during the summer to evaluate bids in response to an RFP for videostreaming services. The evaluation committee's recommendation was approved by the Instructional Services Subcommittee and the Executive Committee. Bylaws require ratification of the Executive Committee's approval by the full Steering Committee. The recommendation of the three groups is that Digital Curriculum be the vendor to provide video streaming services during the remainder of FY 2002-2003 (tab 11).

Motion: It was moved and seconded that the members of the Utah Education Network Steering Committee ratify the recommendations of the Instructional Services and Executive Committees to award the

videostreaming bid to Digital Curriculum. THE MOTION PASSED WITH ALL VOTING IN FAVOR.

V. <u>File Sharing Policy</u> - Ray Timothy

The Technical Services Subcommittee reviewed for the second time a proposed file sharing policy (Attachment A, tab 12). The policy has been reviewed by legal counsel, and now reflects modifications recommended by counsel and by subcommittee members.

The policy places the primary responsibility on network users at schools and colleges to police themselves and not misuse the system. Institutional acceptable use policies are required. UEN is provided flexibility in the extent to which the backbone is monitored for excessive file sharing traffic. UEN will then notify institutions of any abuses.

Pat Lambrose asked how UEN plans to communicate the file sharing policy to school districts. Mike committed to her that it would be placed on the agenda of each of the regional T-forums. Ray added that the policy should be presented to district superintendents. Mike and George will request that it be put on the agenda of an upcoming superintendents' meeting.

Reed Eborn asked about the grievance portion of the policy. Dan Patterson pointed out that a grievance procedure is provided in the recently adopted Network Operations Agreement, and that procedure will apply.

Amy Owen pointed out an omission in section 1.b. It should read, “document monitoring procedures. Where possible the portions of the network for which they have direct responsibility might be monitored, etc.”

<u>Motion:</u> It was moved and seconded that the members of the Utah Education Network Steering Committee approve the recommendation of the Technical Subcommittee and approve the File Sharing Policy with corrections. MOTION PASSED WITH ALL VOTING IN FAVOR.

VI. <u>Regional Technical Services Prioritization</u> - Ray Timothy

At its last meeting, the Steering Committee approved the technical services strategic plan for 2003, with the understanding that prioritization of projects would receive further refinement. Regional priorities are summarized in tab 13. No approval is required, but continued input was solicited.

Vicky Dahn asked about UEN involvement in the plans at USOE to initiate online UPASS testing. Mike reported that UEN staff members have met several times with Barbara Lawrence and John Flagg, and will be hosting the server that they are purchasing.

Mike explained that attachment B provides tentative identification of projects to be undertaken within the technical services project account. A number of those items are relatively new, and Jim Stewart has anticipated that further discussion of these

items will be needed. Most of the items directly relate to the regional priorities that are outlined in Tab A, however some statewide projects are also listed.

VII. ITS/UEN Memo of Understanding (Information) - Mike Petersen

UEN has approved an MOU with ITS (Information Technology Services Agency), which manages the State Government Network. It addresses two relationships. 1) It encourages cooperative activities which may be mutually beneficial, such as use of the ITS network to provide redundancy. 2) A management agreement was formalized regarding seven shared microwave sites. UEN recognizes ITS' management responsibility for those locations and agrees to pay ITS a per rack payment of $100 for that service. A planning team will include two representatives of ITS, David Lee and Doug Chandler, and two representatives of UEN, Jeff Egly and Dan Patterson. Ed Ridges needs to be recognized for the effort he's made over the past several months to finalize this document and bring this to fruition.

Wayne Peay requested a formal progress report on the agreement in.6 months. Mike agreed.

VIII. Major E-Rate Projects Update (Information) - Mike Petersen

Tab 15 summarizes the major activities that are under way to facilitate expanding E-rate reimbursements.

Dave Eisler requested a comparison of E-rate activity and reimbursements from year to year.

Mike stated that last year UEN collected just over 2 million dollars in reimbursements for circuit expenditures, and that amount has been fairly constant for about 5 years. For the current year that began July 1, UEN has been approved by E-rate for 3.2 million in reimbursements. UEN's goal for next year is to receive reimbursements in the range of 5 million dollars. All the forms have been submitted that are required to get authorization for the services anticipated for next fiscal year. The contracts to be negotiated that will ultimately determine UEN's reimbursements will be finalized by the latter part of January.

IX. Instructional Services Committee Report - Vicky Dahn

Laura Hunter reported that the Public Education Content Committee has proposed two changes to the Instructional Services portion of the strategic plan. Under tab 16, item #2, it was suggested that the first line be modified, as follows: “With the increased emphasis on student achievement and educator competency at the Federal (No Child Left Behind) and State (UPAC) levels.” The second recommendation was to identify the technology goals referenced in goal number 4, Professional Development. It was suggested that reference be made to ISDN, NCATE standards, INTASC standards, etc.

Dave Eisler requested that Laura prepare a report on quarter one activities at the next meeting. Laura agreed to do so.

Motion: It was moved and seconded that the members of the Utah Education Network Steering Committee approve the Instructional Service and Instructional Delivery sections of the UEN Strategic Plan. MOTION PASSED WITH ALL VOTING IN FAVOR.

Vicky Dahn reported that the subcommittee had recommended that UEN staff participate in a proposed Digital Media Strategic Planning Committee. Membership in the committee would include members of the Utah Instructional Media Consortium (UIMC), representatives from higher education as recommended by the chief academic officers and the Commissioner's Office, and UEN staff designated by the Executive Director.

Motion: It was moved and seconded that the members of the Utah Education Network Steering Committee support the formation of a Digital Media Strategic Planning Committee that would include members from public and higher education and UEN. MOTION PASSED WITH ALL VOTING IN FAVOR.

X. PBS Digital Classroom Grant (Information) - Laura Hunter

This is an exciting new project in which UEN and KUED are involved. KUED is one of 7 stations in the country participating in a PBS Digital Classroom Grant Project. It will test delivery of content in three different ways: 1) over CD Rom, 2) over the Internet, and 3) through data-casting over digital television signal. One school in Granite is participating in the project. KUED and KULC hope to gain knowledge about how this would scale up to regional service centers or school districts, and eventually to homes.

KULC will be having an informational meeting on November 8 to which Steering Committee members are invited. A guest speaker from OnCourse will be at the meeting to give an update on their project. There will also be more information about what is being learned through this grant project and other digital initiatives. It was noted that the meeting is scheduled for the same day as the Western Cooperative for Education, as well as the Board of Regents Meeting at Snow College.

XI. Review and Approval of Minutes August 16th, 2002 (Action)

The Steering Committee Minutes from August 16th, and a roster with the members of the Steering Committee and their terms were presented for approval.

Barbara White made corrections to the UEN Steering Committee membership roster.

<u>Motion:</u> It was moved and seconded that the members of the Utah Education Network Steering Committee approve the Steering Committee meeting minutes of August 16th, 2002. THE MOTION PASSED WITH ALL VOTING IN FAVOR.

Mike Petersen pointed out that everyone should have a tentative meeting schedule for 2003. However, there is still some uncertainty about the Regents' schedule. It's possible that the schedule may need to be changed. Mike requested that any problems with the schedule be reported back to him, adding that two more columns will be included in the final schedule to show the subcommittee meetings.

The meeting adjourned at 10:35 a.m.

The next meeting is scheduled for December 13, 2002, 9:00a.m.at the Dolores Doré Eccles Broadcast Center

Please note: detailed information and discussion of the issues are included in the materials prepared for the meeting. Please refer to them for additional reference.

TAB 7 ATTACHMENT A

STEERING COMMITTEE ROSTER WITH MEMBERS TERMS

UTAH EDUCATION NETWORK STEERING COMMITTEE

December 5, 2002

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Term Ends: July 31, 2003

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Term Ends: July 31, 2005

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Executive Committee
to the UEN Steering Committee

Bonnie Morgan, Gary Wixom
Mike Petersen, and the Co-chairs
Technical Services and Instructional Services Subcommittees

TAB 8

OTHER