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Options for Statewide School Connectivity Governance: Reviews and Recommendations

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Introduction

In May 2016, the Nevada Department of Education commissioned Connected Nation to conduct a review of other states' governance models for the provision of school Internet connectivity. Given the Federal Communication Commission's December 2014 modernization of the E-rate program that provides significant funding support for K-12 school connectivity, it is more important than ever for Nevada policymakers to understand best practices in other states to ensure that Nevada schools are realizing the maximum possible benefit from this critically important federal program. In particular, the FCC established specific school connectivity targets, modified program rules to increase funding options for high-speed connectivity that meets those targets, and established dedicated funding for Wi-Fi and connections within schools.

In conducting this review, Connected Nation examined a myriad of school connectivity governance structures from states across the country to arrive at two recommendations for consideration, which are outlined below. It should be noted that the State Education Technology Directors' Association (SETDA) and Common Sense Kids Action report entitled *State K-12 Broadband Leadership: Driving Connectivity and Access* (April 2016) provided valuable guidance in conducting this review.

Factors that should be considered in evaluating the efficacy of the various state governance structures include their ability to 1) connect all school sites regardless of location; 2) aggregate demand, increase buying power, and drive down costs; and 3) make demonstrated progress toward achieving the federal speed benchmark of dedicated 1 Gbps per 1,000 students and staff (i.e., the equivalent of 1 Mbps for each student and staff member) per school by 2020.

Across the board, evidence suggests that states which have not yet embarked on a policy of statewide or regional E-rate collaboration fare the worst in terms of speed and cost. The federal E-rate program is complicated to navigate, and the new FCC changes are designed to encourage schools and libraries to explore opportunities to lower costs through consortia and joint purchasing arrangements. Even decisions to, for example, purchase Wi-Fi equipment through a statewide agreement or issue joint requests for proposals for high-speed connectivity between school districts and other community institutions could identify opportunities for significant cost savings. States like Nevada, where school districts "fend for themselves" and submit E-rate applications individually, have the most to gain from taking a new approach.

In all, nine states that are commonly known or emerging leaders in school connectivity (Alabama, Kentucky, New Mexico, New Jersey, North Carolina, North Dakota, Ohio, Utah, and Virginia) were examined by Connected Nation in its review. Six of the nine are summarized in this document as possible models for Nevada to emulate because their accomplishments, characteristics, or a combination of the two are most applicable to Nevada’s specific circumstances. Two of those—Utah and New Jersey—were selected as the best exemplars of two different approaches that could be replicated in Nevada.

State Governance Structure Reviews

Utah

Statewide Network

The Utah Education and Telehealth Network (UETN) is a state agency housed on the campus of the University of Utah. Created in 1976 as the State Educational Telecom Operations Center (SETOC), it became the Utah Education Network (UEN) in 1989 and incorporated telehealth services to become UETN in 2013. Originally created to support university research, public broadcasting, and analog videoconferencing for educational purposes, UETN has evolved into a statewide delivery system for P-20 education.

UETN’s statewide network services public education, higher education, applied technology, public libraries, local government agencies, hospitals, clinics, and other public entities with three main categories of services: networking services (i.e., Internet and WAN connectivity), application services (i.e., the delivery of network-based applications to meet P-20 education needs), and support services (i.e., E-rate application coordination and submission and technical support). UETN has approximately 110 people on staff (W-2 employees and 1099 contractors)—most of whom work in technical operations in building, maintaining, operating, and supporting the network and its users. UETN is governed by a 12-member board of directors, comprising:

- 4 members representing K-12 public schools
- 4 members representing higher education institutions
- 1 member representing the State Library
- 1 member representing applied technology education
- 1 member representing the telehealth industry
- 1 member representing the Office of the Governor

UETN's primary funding sources are the federal E-rate program and direct state funding as appropriated by the Utah Legislature. UETN currently serves approximately 700,000 educators and students. All school districts and charter schools within the state use the network for Internet services, account administration, Children's Internet Protection Act (CIPA) content filtering, access to administrative software servers, "Internet 2" research, Network management, student information systems, and telephony services.

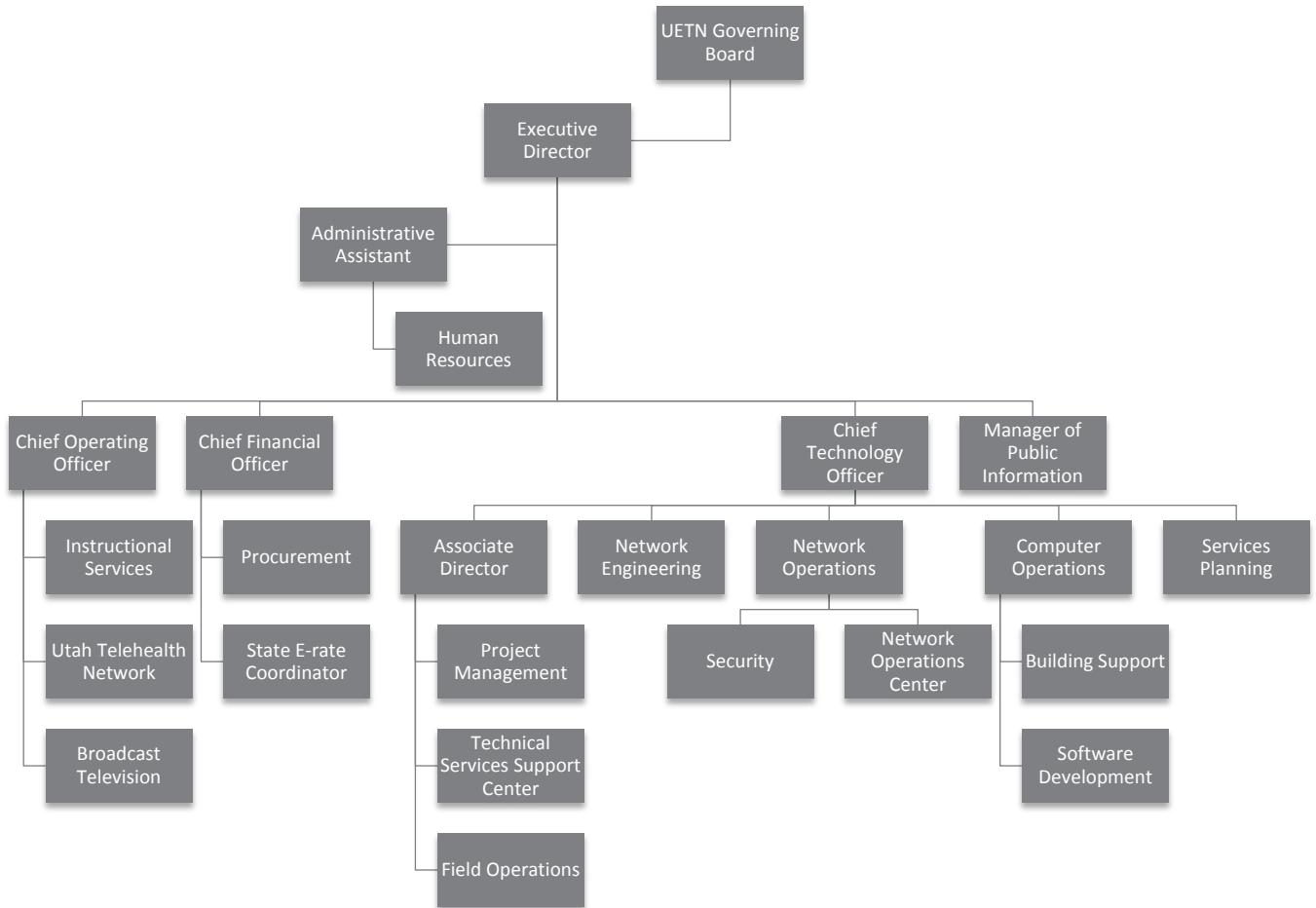
At its very core, UETN is a technology organization first and foremost and an educational organization secondly. This approach keeps UETN on the forefront of delivering reliable, state-of-the-art, affordable service to districts to meet their educational needs. Close collaboration with the Governor's office, the Legislature, the State Board of Regents, school districts, libraries, medical centers, and providers is essential to UETN's success. And while UETN operates its network, nearly 100% of its assets are leased from the state's telecommunications carriers.

The network serves 1,069 institutions and includes a statewide WAN connecting 98% of schools to gigabit fiber-based services, even in geographically remote places such as Moab and Blanding. UETN's network engineers and staff research, design, build, and monitor fiber solutions that would not otherwise be possible if resources were not aggregated centrally. As UETN makes investments in building out fiber infrastructure across the state, entire communities benefit, too, since UETN serves as a long-term anchor tenant for telecom carriers in the communities they serve. This allows the carriers to economically build out additional residential and business transport capacity to communities—capacity that might not be possible if it weren't for UETN's anchor tenancy. In all, UETN's robust network connects 1,447 locations across Utah connecting rural and urban areas alike.

Support services are also a large component to UETN's portfolio, which includes helping schools plan, bid, and secure E-rate reimbursements for broadband circuit costs. Each year, UETN collects approximately \$14 million in reimbursements from the federal E-rate program—comprising about 35% of the organization's overall annual budget. Over one-half of UETN's budget (53%) is provided through direct appropriations from the Utah Legislature. Individual school districts and charter schools do not pay anything to connect to UETN's network.

Figure 1 below shows UETN’s organizational chart. The organization is headed by an Executive Director that is accountable to the UETN Board. The senior management team includes a COO, CFO, CTO, and public information manager. The CTO’s organization is by far the largest. Actual job descriptions for UETN’s key personnel can be found on pp. 13-14.

Figure 1: UETN Governance Structure



For further information:

- <http://www.uen.org/ueninfo/downloads/booklet.pdf>
- <http://www.uen.org/board/members.shtml>
- <http://www.uen.org/ueninfo/admin-orgchart.shtml>
- http://www.uen.org/board/downloads/UETN_network_map.pdf

New Jersey

State-Led Initiative, Implemented Through Regional Consortia

With leadership from the New Jersey Department of Education, the New Jersey Broadband Component of the Digital Readiness for Learning and Assessment Project (DRLAP) established regional purchasing consortia for telecommunications services to help schools collaborate in order to bring down the cost and increase the quality of high speed broadband services. Launched July 1, 2015, the program was partially modeled after the Commonwealth of Pennsylvania's regional buying consortia program. More than 30 different agencies across the state were interviewed to serve as regional leads, and two agencies were ultimately selected to service the four established regions (northwest, northeast, central, and south). One of the regional leads, the Middlesex Regional Education Services Commission (MRESC), has assumed overall program leadership and guides all procurement activities due to its large membership and experience in bulk purchasing.

The primary goals of establishing the consortia were to lower Internet and WAN service costs, substantially increase bandwidth, and establish a statewide WAN for shared application services.

New Jersey elected to implement its initiative through regional consortia for two reasons: 1) service providers can offer services where they operate without forcing them too far out of their existing service territories, and 2) to obtain local service support from regional organizations that already service school districts in other ways.

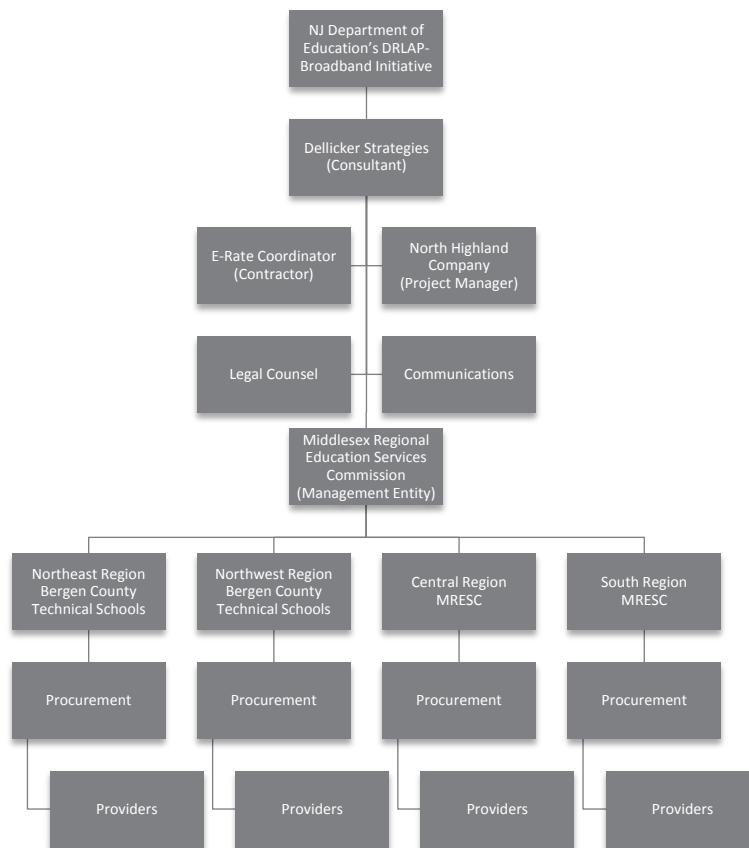
There are approximately 690 school districts (or administrative equivalents) in New Jersey and participation in the consortia is not mandatory due to state procurement law. To date, 145 school organizations have signed up for service. This indicates that the value of joining the consortia is limited to perhaps certain types of schools that benefit most from the scale of consortia purchases. Participating districts have realized \$89 million in total cost savings since the consortia launched, and average Internet bandwidth has increased from 284 Mbps to 718 Mbps, a 152% increase. Average monthly Internet prices declined from \$26.77 to \$6.40 per megabit.

Preparation for the consortia implementation took place in four phases. First, outreach to explain the implementation plan to prospective participating school districts was crucial. A series of informational meetings, budgetary conversations, and informational sessions were held to bring as many district participants on board as possible. Next, an

RFP was issued by the state, and a third party consulting firm was engaged to assist individual regions in the evaluation of bids to select the best solution for each respective region. Then, contracts were awarded, and through a series of meetings between vendors, regional management entities, and school districts, the process for network buildout commenced.

Moving forward, the MRESC will continue to serve as the administrative lead and, with assistance from a third-party an E-rate consultant, they will assist the other management entities and individual school districts in filing E-rate applications to facilitate future network enhancements.

Figure 2: Governance Structure for New Jersey Regional Consortia



For further information:

- http://njdigitallearning.org/nj_digital_learning_portal_library/broadband-consortia-project/
- http://www.mresc.k12.nj.us/pages/Middlesex_Regional/News/DRLAP_Broadband_Component

New Mexico

Statewide Consortium

As part of the Governor’s “Broadband for Education Initiative” announced in October 2015, New Mexico has been working on a “Procurement Aggregation Model” plan to allow Internet service to be purchased in bulk, thus aggregating buying power and cutting districts’ costs for E-rate eligible services. The state is also leveraging a state appropriation of \$49 million spread over fiscal years 2015-2019 as match funding to increase districts’ abilities to further leverage the E-rate program for fiber and classroom Wi-Fi deployment. While applications for the 2016 E-rate funding cycle have only recently been submitted, this new consortium approach is estimated to save schools \$3 million in the current school funding year.

The plan aims to provide no-cost or lower-cost upgrades to Internet infrastructure in schools and long-term sustainability, with a goal to bring high-speed Internet to all schools in the state by 2018.

New Mexico has also implemented a statewide master contract for Wi-Fi procurement, and through the matching program, is working to maximize the state’s ability to take advantage of the opportunities afforded by the FCC’s E-rate modernization order for fiber special construction.

For further information:

- <http://www.broadband4education.nm.gov/>
- http://www.broadband4education.nm.gov/uploads/PressRelease/685d5fd30b5144c3b4e58870f413c917/PED_Flyer_BB4E_5_11_2016_Y.pdf

North Carolina

Statewide Consortium and Non-Profit Network

The state of North Carolina, through its “School Connectivity Initiative (SCI)” launched by the State Board of Education, has been successful at bringing fiber Internet services to virtually 100% of the state’s 115 public K-12 school districts, as well as providing a master contract for Wi-Fi procurement. Through this program, schools across North Carolina are benefiting from significantly reduced costs and improved quality of service. All school districts benefit from consortium purchase of commodity Internet access, a shared common statewide backbone, and associated support services provided by

MCNC—a state-based non-profit that builds, owns, and operates broadband infrastructure for North Carolina’s research, education, non-profit healthcare, and other community institutions. The North Carolina Legislature provides an annual appropriation to pay the post E-rate discount portion of Internet and WAN services.

In 2014, the North Carolina Department of Public Instruction, in conjunction with the Friday Institute at North Carolina State University, developed the Wireless Infrastructure Plan as part of a larger North Carolina Digital Learning Plan. The purpose of the plan was to address the issue that while Internet was being effectively delivered to the schools, internal Wi-Fi infrastructure was often lacking—significantly limiting the reach of Internet resources *inside* the schools. Leveraging the FCC’s December 2014 E-rate modernization order, which provided significantly increased support for Category 2 (Wi-Fi) services, North Carolina was able maximize its bulk purchasing capabilities to file a single E-rate application to procure Wi-Fi services for over 375,000 students across the state at an average pre-discount cost of only \$116 per student.

For further information:

- <http://dlplan.fincsu.wpenqine.com/wp-content/uploads/sites/11/2015/09/NC-Digital-Learning-Detailed-Plan-9-14-15.pdf>
- <https://www.mcnc.org/>
- <http://ncdlplan.fi.ncsu.edu/wp-content/uploads/2014/09/WirelessInfrastructurePlan-Revised.pdf>

Kentucky

Statewide Network

Since 1991, the Kentucky Department of Education has managed a statewide education network serving all 174 public school districts in the state. The network, procured via a single statewide contract vehicle called the Kentucky Information Highway (KIH), has been owned and operated by AT&T since its inception, although the contract has been rebid twice (KIH2 in 2007, and KIH3 in 2013). At each renewal, AT&T has provided significant increases in bandwidth and network performance. Available bandwidth is standardized across the state—so that schools in remote parts of Appalachia have the same user experience as schools in the affluent suburbs of metro Louisville. While the current contract is not scheduled to expire until 2019, the state has the ability to rebid the contract at any time. The annual cost of the network is approximately \$18.5 million, which is funded through an appropriation from the state legislature and the E-rate program.

The network infrastructure provided by AT&T allows the Department of Education to operate a “private cloud” system that allows for application services to be centralized—minimizing the need for local school district datacenter operations. The private cloud offers districts the ability to access a centralized financial management system, student information system, virtual library, interactive encyclopedia, and virtual teacher professional development resources.

In addition to the KIH3 contract, the Kentucky Department of Education also manages centralized procurement for Wi-Fi services, as well as devices and software.

It should also be noted that Kentucky is in the process of building a 2,300-mile statewide open access middle mile fiber network called “Kentucky Wired” with 400 gigabits of total capacity, which will connect all government offices, public libraries, community colleges, and universities in the state and allow any excess capacity on the network to be sold wholesale to local telephone and cable companies for residential distribution. The state is still considering whether to migrate school districts over to the new network; a decision on that will be made later this year. While the network is being privately built and operated, the state will assume ownership of the network after 30 years.

For further information:

- <http://education.ky.gov/districts/tech/ksc/Pages/Ed-Tech-Resources.aspx>
- <http://technology.ky.gov/COT%20Agency%20Contact%20Memos/Kentucky%20Information%20Highway%203.pdf>
- <http://kentuckywired.ky.gov/>

North Dakota

Statewide Network

The North Dakota Statewide Technology Access for Government and Education network (STAGEnet) was created by the 1999 session of the North Dakota Legislature. STAGEnet provides broadband connectivity, Internet access, videoconferencing and other networking services, and all state agencies, colleges and universities, local government, and K-12 schools are required to participate in STAGEnet.

STAGEnet is an agency governed as a partnership between North Dakota state government, K-12 school districts, and the state’s colleges and universities. The governance structure consists of three committees. The Executive, Management, and Technical committees include representatives from state and local government, K-12,

colleges and universities, interactive video network, and voice communication. These committees aid in planning, prioritizing, approving standards and policies, making service level decisions, coordinating among constituencies, communicating, and identifying and providing resources. The ultimate decision making regarding STAGEnet is the responsibility of the North Dakota State CIO.

All high school buildings in the state are connected to STAGEnet and the Internet with a minimum 10 Mbps downstream connection. State general funds and federal E-rate reimbursement pay for basic connectivity at no cost to public schools. Public and private schools may purchase additional connectivity beyond that which is provided by the state. They use local funds to pay for the portion of the additional cost not reimbursed by E-rate. The North Dakota Information Technology Department (ND ITD) hosts a number of IT applications for schools including videoconferencing, Office 365, content filtering, and Active Directory services.

For further information:

- <http://www.ndetc.k12.nd.us/files/2015/01/2015-State-Plan.pdf>
- <http://www.stagenet.nd.gov/>

Recommendations

Based on its review of the national landscape, Connected Nation has arrived at two possible approaches for the State of Nevada’s consideration in creating a new government entity to spearhead school connectivity leadership.

The first approach involves the pursuit of a statewide network authority—similar to the Utah Education and Telehealth Network (UETN). Utah’s P-20 education network is nationally recognized by organizations such as SETDA and The Quilt for its efficiency and efficacy in delivering ultra-fast Internet services to meet the educational demands of schools across the state—a state which largely resembles Nevada in terms of geographic size, population size and density, and urban/rural dichotomy.

The second governance structure for consideration involves establishing a statewide E-rate coordination and buying consortium—similar to that of New Jersey, which recently implemented a state-driven, regionally led consortia approach—demanding far fewer resources

and personnel to get underway than a statewide network. Both options are further examined below, along with organizational and policy recommendations for the structure if established in Nevada.

Option 1: A Statewide Network for Nevada

Connected Nation recommends that the State of Nevada consider building—over time—a robust network to support connectivity to all of the state’s public schools and libraries. With the modernization of the E-rate program in December 2014 making leased lit and dark fiber services, as well as self-provisioned fiber, viable options for states to pursue, there has never been a more opportune time to pursue the creation of a future-ready network that truly closes the digital divide in Nevada—and to do so with the federal government picking up 70% or more of the cost.

This “Nevada Education Network” should be one that aggregates demand among school districts and libraries across the state, facilitates a network design that establishes carrier-neutral aggregation points to lower costs, oversees engineering and project management, provides network monitoring and technical support, and directly administers the E-rate bidding and application processes centrally for all districts and charter schools in the state. The network would undertake regular procurement activities with broadband providers and equipment companies.

This approach is preferred because it gives the state control and flexibility to build a comprehensive solution that takes advantage of centralized coordination, planning, and aggregation of resources to deliver a high standard of service, regardless of a school’s geographic location. It should be carrier-neutral and operate on either leased lit or dark fiber assets, based on the cost-effectiveness of either approach for a particular connection. Both traditional and non-traditional fiber carriers would have the opportunity to bid on providing WAN and Internet services. In addition, in areas where carriers are not interested in bidding, or where carrier bids aren’t cost-effective, the state can take advantage of the new Category 1 E-rate rules for self-provisioned service and build fiber infrastructure itself. Utah has demonstrated that this model is highly effective at driving down costs, dramatically improves the quality of service, and is scalable over time to meet the evolve needs of twenty-first century classrooms.

Like Utah, the Nevada Education Network should be overseen by a diverse board of directors—with 10 members appointed by the Governor—representing the various interests that the network will serve. Connected Nation recommends the following makeup of the board:

- 4 members representing K-12 public school districts
- 1 member representing public charter schools
- 1 member representing the Governor’s Office
- 1 member who is the Chair of the NV Commission on Educational Technology
- 1 member representing the NV Department of Education
- 1 member representing the Nevada System of Higher Education (NSHE)
- 1 member who is the State Librarian

With regard to personnel to staff the newly created entity, Connected Nation believes that the Nevada Education Network could be launched with a much smaller personnel footprint than its Utah counterpart, given that there are only 17 public school districts in the state (and thus, far fewer customers to serve). As part of its state review process, Connected Nation solicited feedback and recommendations from UETN’s executive director and chief technology officer on which positions they view as most critical to getting a statewide school network off the ground. The following are their recommendations for initial key personnel to facilitate the startup of the network. Additional staff would be added to supplement these individuals as the network grows and responsibilities increase. Some UETN staff members—who are experts in their respective fields—are available to support NEN’s growth as independent contractors, should their services be needed.

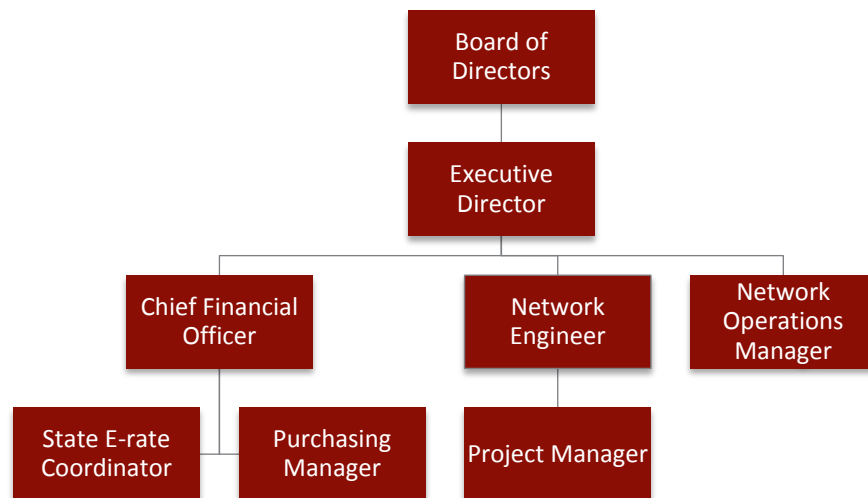
Key personnel:

- **Executive Director.** Directly accountable to the Board of Directors, and responsible for the day-to-day operations of the network. Is responsible for building and maintaining stakeholder relationships (with school districts, the Department of Education, state legislators, and other government agencies), and oversees strategic planning, personnel management, and prudent financial stewardship of the organization.
- **Network Engineer.** Responsible for architecting viable fiber services in coordination with the public school districts in a way that is cost-effective, operationally efficient, promotes competitive bidding, and takes into consideration E-rate program rules to ensure financial viability.
- **State E-rate Coordinator.** Coordinates with the Network Engineer and school district technology directors to develop E-rate form 470, 471, and other related documents to

secure and maximize federal E-rate funding support for the network’s WAN and Internet services each year.

- **Purchasing Coordinator.** Works hand-in-hand with the State E-rate Coordinator and Network Engineer to facilitate E-rate-compliant bidding and procurement of WAN and Internet services in a way that ensures the fulfillment of the state network plan.
- **Project Manager.** Responsible for working with selected carrier vendors to bring leased lit and dark fiber assets online in a timely manner and transition school districts from their existing services to the new network.
- **Network Operations Manager.** Responsible for working with carrier vendors to oversee the operations of the network, monitor in real time the network’s performance, troubleshoot issues that may be encountered, and ensure that carrier support is activated in a timely manner when issues are identified.
- **Chief Financial Officer.** Manages the day-to-day financial and human resource operations of the network, including personnel, payroll, benefits, contracted vendors, licensing, government reporting, accounts payable and receivable, and E-rate discount/reimbursement processing once funding has been committed.

Figure 3: Organizational Structure – Statewide Network Operations
(7 Key Positions)



The Nevada Education Network should be administratively attached to the Nevada Department of Education or the Governor’s Office of Science, Innovation, and Technology. All personnel would be state employees, with hiring and firing authority granted to the Board of Directors. Personnel costs for the seven key personnel, along with administrative support, are projected

to be between \$1.4 and \$1.7 million per year. Comparatively, approximately 20% of UETN's \$42 million annual budget is spent on personnel costs, or about \$8.4 million.

In considering the statewide network option, Nevada policymakers should consider the impact of the following policy issues as well:

- **Alignment with NSHE.** Since the Nevada System of Higher Education (NSHE) is a constitutionally separate entity of government from the executive branch, policymakers should consider how NSHE's existing assets could continue to be leveraged to enhance the Nevada Education Network. Since UETN operates a P-20 network that encompasses colleges and universities, too, UETN is able to leverage the Internet2 research network, dual credit college courses via video, and other shared applications that directly benefit K-12 users. Such alignment would be beneficial in Nevada as well.
- **Partnering with UETN.** Because UETN's network extends all the way to its western border with Nevada, an opportunity exists for Nevada's governing board to "outsource" the core functions described above and work with UETN to extend its network into Nevada. Doing so would eliminate what would otherwise be a duplication of personnel and allow Nevada to leverage UETN's years of experience, knowledge of the E-rate program, and extensive buying power to quickly improve rural Nevada's broadband landscape—perhaps much more quickly than Nevada could do on its own. UETN's leadership has already expressed interest in partnering with Nevada, but the political and financial details would require a deliberate effort by both parties to make the relationship a reality.
- **District Internet Service Contract Expiration Dates.** Given that many of Nevada's 17 school districts are likely locked into contracts with their current Internet service providers, it may be difficult (at first) for the state to leverage all 17 districts' buying power until their individual contracts expire. However, a standard provision in all state government contracts allows them to be terminated if funding for the contract is impacted by a decision of the Nevada Legislature. If school districts have incorporated a similar clause into their contracts for telecommunications services, the Nevada Legislature could act in its 2017 session to require school districts to purchase such services from the state network or buying consortium. According to the Deputy Attorney General assigned to the Department of Education, this could effectively invalidate current district contracts and allow the state to leverage the collective buying power of all districts at once. In a state like Nevada, mandatory participation is critical to achieving statewide success.
- **FCC Rules for Special Construction Amortization and Wi-Fi Expire in FY2019.** School districts that wish to take advantage of the FCC's provisions in its December 2014 E-rate modernization order for special fiber construction amortization and Wi-Fi buildout need to do so before the rules expire in Funding Year 2019. States that aren't organized to

take advantage of the rules by then may miss out on a significant opportunity to obtain funding that has been dedicated to support Wi-Fi buildout, as well as pay for special fiber construction costs over time instead of upfront—potentially making fiber more financially feasible in areas of the state that are the hardest to serve.

Option 2: Statewide Purchasing Consortium and E-rate Coordination Approach

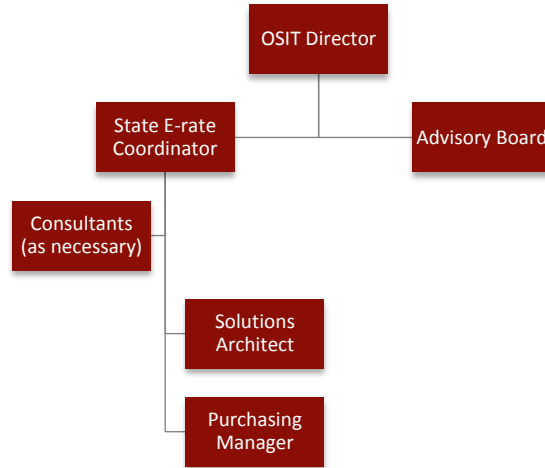
Should the state opt for a different approach, New Jersey provides a great example of how the formation of buying consortia can significantly drive down costs and improve network speeds. Given Nevada’s size and number of school districts, a single statewide consortium is likely the most effective approach to achieve similar results. A “Division of School Connectivity Strategy” could be created within the Governor’s Office of Science, Innovation, and Technology that would handle three key functions: 1) E-rate coordination and application submission for the districts; 2) solutions architecture/network engineering, and 3) bidding, evaluation, and procurement of services.

Three to four individuals could manage these functions at a significantly reduced cost (estimated to be approximately \$400k to \$700k per year) compared to the statewide network model described above. Third party consultants could be engaged as necessary to provide additional E-rate and engineering/strategy support. These costs would remain relatively stable in future years, whereas the costs of a statewide network would increase over time as the network grows.

While a Board of Directors would not be necessary in this scenario, an advisory board could be established to help craft the agency’s strategic vision and serve as a forum for planning the upcoming year’s E-rate strategy. The advisory board could be structured with six members appointed by the Governor as follows:

- 3 members representing K-12 public school districts
- 1 member representing public charter schools
- 1 member representing the Nevada Department of Education
- 1 member representing public libraries

Figure 4: Organizational Structure – Division of School Connectivity Strategy



In this model, all staff members would share responsibility for planning, educational, and outreach components. Following the New Jersey model, office staff would meet individually with technology leadership from all 17 school districts to build or strengthen relationships and better understand each district’s needs and challenges. From that point, staff would begin architecting a plan for connectivity solutions for each district, creating multi-district aggregation points where possible, and preparing Form 470 bid solicitations in an effort to investigate all possible solutions. GIS mapping of the location of all school sites within the state, as well as their existing connection type and associated speeds, will be critically important in developing a consortium plan that maximizes multi-district buying power.

In consideration of a state E-rate coordination and buying consortium approach, Nevada policymakers should consider each of the issues mentioned under Option 1 above, but give special attention to existing school district contracts and the need to maximize buying power through mandatory consortium participation. Other states like New Jersey and Pennsylvania have proven that small districts in rural areas (which are often the most difficult to serve with reasonably priced, high-bandwidth service) can benefit from their association with large urban districts without negatively impacting those districts.

Additionally, the state should carefully examine Nevada’s unique position as the home of an emerging datacenter/colocation industry. Switch, Inc., which operates two of its SUPERNAP campuses in Reno and Las Vegas, possesses immense connectivity buying power for its clients through its CORE Cooperative. The formation of a state E-rate strategy and buying consortium, leveraging the FCC’s new rules for fiber leasing and self-provisioned service to tie school sites to

aggregation points (such as Switch’s facilities)—and effectively create a statewide WAN—could significantly reduce Internet bandwidth costs overall.

Conclusion

Regardless of which path Nevada chooses to pursue, it is abundantly clear from a review of other states’ policies that the greatest strides in advanced school connectivity are being achieved through policies that call for, at a minimum, two things:

1. Careful planning and coordination at a state level to architect advanced, equitable, future-ready solutions; and
2. Leveraging collective buying power to improve speeds, lower costs, and improve quality of service.

Nevada school districts can no longer afford to “fend for themselves” and pursue connectivity individually. With a concerted effort from state education leaders, and support from the Governor, Legislature, and the new E-rate program, Nevada could dramatically improve its school connectivity landscape in a very short period of time.