

## Welcome to UETN We network for education and healthcare

Whether you're a student or healthcare provider, a librarian or a teacher, UETN provides the broadband infrastructure to keep you connected. It doesn't matter if you're in college or a charter school, Blanding or Bountiful, you have access to reliable, high speed connections.

As one of the nation's premiere networks for education and healthcare, UETN's success is based on collaboration. We work closely with state legislators, the Governor's office, public education, higher education, hospitals and health departments. As a public private partnership we also team up with technology and telecom providers to deliver cost-effective services throughout the state.

As UETN connects classrooms and clinics we also provide tools to make the most of those connections. Our tools include interactive video conferencing, an online library with thousands of media resources and a statewide learning management system. We also provide training and technology support to assure that no matter where you are, robust resources are always available.

my Walker

Ray Walker Chair, UETN Board

Ray Timothy / CEO and Executive Director, UETN

### Utah Education and Telehealth Network

Strategic Plan 2015-2020



We network for education and healthcare

#### Purpose



We connect people and technologies to improve education and healthcare in Utah.

#### NETWORK

#### We will administer a secure, advanced, and stable network.

Grow capacity > Mitigate security incidents > Support HPC for research > Merge UEN and UTN infrastructure > Leverage peering

Align to core needs and standards > Focus on graduation > Maximize cost savings

#### APPLICATIONS

through consortia

#### We will curate and support high quality resources and tools.

Initiatives



#### SUSTAINABILITY

We will secure ongoing funding for our work.

Be transparent and efficient > Maximize E-Rate and HealthCare Connect funds > Seek grants and partnerships

#### BROADCAST

#### We will extend programs and projects to benefit our community.

Manage FCC spectrum repack changes > Leverage the IP network > Produce new media

#### DEVELOPMENT

We will provide excellent professional learning experiences.

Expand Canvas training > Develop telehealth training > Staff adequately to reduce waitlists





Service: open, honest, clear and respectful Innovation: new ideas and

Innovation: new ideas and creative solutions, a responsible risk-taking culture

Diversity: respect for all

Equity: statewide access Fiscal Responsibility: stewardship, public trust Empowered Staff: opportunities

for professional growth Communication: seek input, give voice to staff and stakeholders

#### Performance Indicators



Net Promoter Score

- 100% of sites connected at sufficient capacity to meet need
- Network uptime and availability at 99.9% or greater
- 4. # of Videoconferencing events and classes
- 5. Website metrics
- 6. \$ Savings through consortia purchasing
- # of PD courses and credit hours completed
- 8. Finances are stable and sustainable

# UETN serves customers all over Utah

UETN services match the priorities and objectives of the institutions we serve.

UETN SERVES:	AND ITS:	IN SUPPORT OF THEIR MISSION TO:
Utah Public K-12 Education	633,896 students 32,760 educators 1,085 schools (USOE Fingertip Facts 2015-2016)	<ul> <li>Assure literacy and numeracy for all Utah children</li> <li>Provide high quality instruction for all Utah children</li> <li>Establish curriculum with high standards and relevance for all Utah children</li> <li>Require effective assessment to inform high quality instruction and accountability</li> </ul>
Utah System of Higher Education	175,509 students 34,857 faculty and staff 8 institutions (USHE Data Book 2016)	<ul> <li>Increase the rate of student participation in higher education (postsecondary education programs)</li> <li>Increase the rate of student completion in their chosen field of study or training</li> <li>Increase the level of economic innovation (HigherEdUtah2020, 2011 Report)</li> </ul>
Utah College of Applied Technology	38,985 postsecondary students 14,029 trainees (UCAT Annual Report 2016)	<ul> <li>Meet the needs of Utah employers for technically-skilled workers</li> <li>Promote local and statewide economic development</li> <li>Provide market-driven technical education</li> </ul>
Utah Public Libraries	135 public libraries and branches* Serving 3 million Utahns (Utah State Library Division 2015)	Develop, lead and deliver exceptional library services     (Utah State Library Division, 2015)
Rural and Urban Healthcare	More than 70 hospitals, clinics, and health departments throughout Utah and on our borders with Idaho and Wyoming. (UTN Site List, 2014)	<ul> <li>Provide ethical access and availability</li> <li>Provide care, prevent disease, promote wellness</li> <li>Encourage efficient use of resources         (UTN member mission statements, 2016)     </li> </ul>

\*Connected directly to the UETN backbone or via DTS

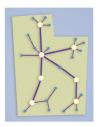
# How do we serve them?

UETN infrastructure services include three core areas: *Networking Services, Application Services,* and *Support Services*; while *Operational Services* account for our business functions. These are integral to UETN's mission of networking for education and healthcare.

#### 1. Networking Services

Networking Services extend and maintain UETN's wide area broadband and digital TV networks. Students, parents, educators, patients and health care providers all benefit from these services.

WIDE AREA NETWORK (WAN) – The Network infrastructure carries high speed data and real-time applications including video to communities throughout the state. UETN connects a majority of education and healthcare institutions at 100 Mbps and most at 1 Gbps. Network engineers and staff research, design,



build, monitor and contract with multiple Utah service providers across the state. This public/private partnership benefits businesses and homeowners who gain increased bandwidth because UETN is the anchor tenant for their local community.

**INTERNET ACCESS** – UETN manages a large network used by research institutions in Utah to support the state's science and economic development goals. It also provides the capacity for more than 40 Gbps of Internet traffic from several Internet Service Providers (ISPs) to and from Utah schools, colleges, libraries, clinics and hospitals. The Network saves Utah institutions thousands of dollars per month by purchasing Internet access in bulk from multiple competing ISPs.

#### NETWORK SUPPORT AND SECURITY MONITORING

- Network Support continuously tracks, reports and manages Internet, data, and video traffic on UETN's Wide Area Network (WAN). Network security detects attacks on the Network, identifies miscreant tools and trends, and mitigates infrastructure vulnerabilities. UETN provides in-depth leadership in security training and works in partnership with national and global security organizations to avert large threats and incidents. The Network Operations Center (NOC) provides Second Tier help desk functions with our real-time trouble ticket system for problem resolution.

**BROADCAST** – UEN-TV broadcasts three TV channels through a digital transmitter and statewide translator system: UEN-TV 9.1 provides educational

programming to public education, higher education and the general public; MHz Worldview 9.2 carries international news and cultural programs; and UEN's First Nations Experience (FNX) Channel 9.3 carries Native American and Indigenous programming.

**INTERNET FILTERING** – UETN operates content-control software and hardware on behalf of Utah K-12 public schools, charter schools and public libraries to limit child exposure to harmful content such as violence and pornography. In addition to protecting children, this enables Utah schools and libraries to meet requirements of the Children's Internet Protection Act (CIPA) and maintain eligibility to receive E-Rate funding. UETN also provides and coordinates internet filtering with healthcare facilities as requested.

#### 2. Application Services

Working with stakeholders, UETN licenses or develops multiple applications that meet education and telehealth needs. This optimizes cost efficiencies through shared support, infrastructure and procurement processes.

**INTERACTIVE VIDEO CONFERENCING (IVC)** – UETN IVC is Utah's high quality, high definition, conferencing system for education, telehealth and government. Thousands of students, educators and clinicians use it every day for live, instructor led courses, collaborative meetings, training and other special educational events. IVC is also used for emergency patient care, care coordination among healthcare providers, and case management of complex conditions. This alternative to in-person instruction and communication has the ability to connect more than 1100 IVC locations throughout Utah, as well as many locations around the globe. In addition to more than 350 daily educational events, UETN IVC also incorporates robust desktop video conferencing options allowing hundreds of administrators to collaborate and meet from almost anywhere and is used extensively for communication among health care providers and students. UETN IVC is a highly effective service that saves time, money and energy.

**LEARNING MANAGEMENT SYSTEM (LMS)** – Working with other Utah institutions, UETN licenses and supports a software application that manages online components of in-person and online classes; a shared platform for information sharing and collaboration. UETN contracts with Utah-based Instructure for its Canvas LMS. The Network regularly convenes higher and public education partners who work collaboratively to maximize this service.

UTAH'S ONLINE LIBRARY – This statewide service purchases online library resources from national suppliers at consortium discounts. The Library provides access to newspaper articles, magazines, professional journals and eBooks. UETN pays the K-12 portion of the online library. Public Libraries and Academic/ College Libraries also benefit through this collaboration. Preschool Pioneer provides early childhood resources in English and Spanish to children ages 3-5, their parents and caregivers. This service benefits more than 285,000 Utah pre-school children as they prepare for school.

**WEB CONFERENCING** – UETN licenses and supports desktop-based conferencing that creates a live, virtual classroom, office or conference room with two-way audio, video, interactive whiteboard, computer desktop sharing, one-on-one interviews and chat. This tool is available statewide for educational use such as meetings, mentoring, virtual office hours, presentations and tutoring.

**TEACHING AND LEARNING TOOLS** – UETN provides Utah's K-12 educators, faculty, and pre-service educators with tools they need to teach effectively. UETN also supports various web projects aligned to state education goals, such as STEM (Science, Technology, Engineering and Math) learning resources, UtahFutures college and career planning courses, Internet Safety and Financial Literacy. UETN's eMedia service includes more than 20,000 digital videos, images and documents for public education and higher education. We also host my.UEN, a web tool for teachers to communicate with parents and students. More than 35,000 Utah educators have my.UEN accounts. In addition, we work closely with the Utah State Office of Education (USOE) to develop curriculum applications such as the Utah Core Curriculum Database with vetted lesson plans, open educational resources, and links.

#### 3. Support Services

Support Services provides assistance to the users of UETN infrastructure and applications.

**TRAINING** – UETN provides workshops and presentations to help end-users (teachers, faculty, librarians, clinicians) use Network infrastructure services effectively. We coordinate with K-12 and higher education specialists to provide handouts, videos, and teaching materials to support their educational technology work. UETN offers technology integration support in-person and via UEN-TV, Adobe Connect and the Canvas LMS. Our teacher trainers work closely with district and school leaders to provide workshops specific to local school needs including 67 online license endorsements for teachers.



**REGIONAL SUPPORT** – UETN's regionally located field support centers provide 24/7 assistance to the data and IVC network. UETN helps sustain these four Regional

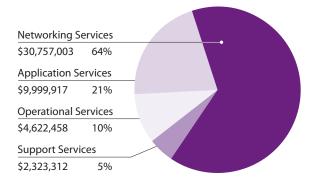
Service Centers with technical support, grant support and personnel funding. The centers are the frontline support for connectivity, training and problem resolution for Utah's rural school districts. The centers include NUES, Northeastern Utah Educational Services in Heber City; CUES, Central Utah Educational Services in Richfield; SEDC, the Southwest Educational Development Center in Cedar City; and SESC, the Southeastern Educational Service Center in Price.

**E-RATE SUPPORT** – UETN assists Utah public school districts, charter schools, private schools, libraries, Head Start programs and health care providers in obtaining E-Rate and Healthcare Connect Fund reimbursements for broadband circuit costs. The programs are part of the Federal Communication Commission's Universal Service Fund. Consumers, such as cell phone users, pay into this fund as a part of their monthly bills. With UETN's E-Rate and Health Care Connect Fund support Utah schools, libraries and health care facilities are laying claim to millions of reimbursement dollars that have been set aside for education and healthcare.

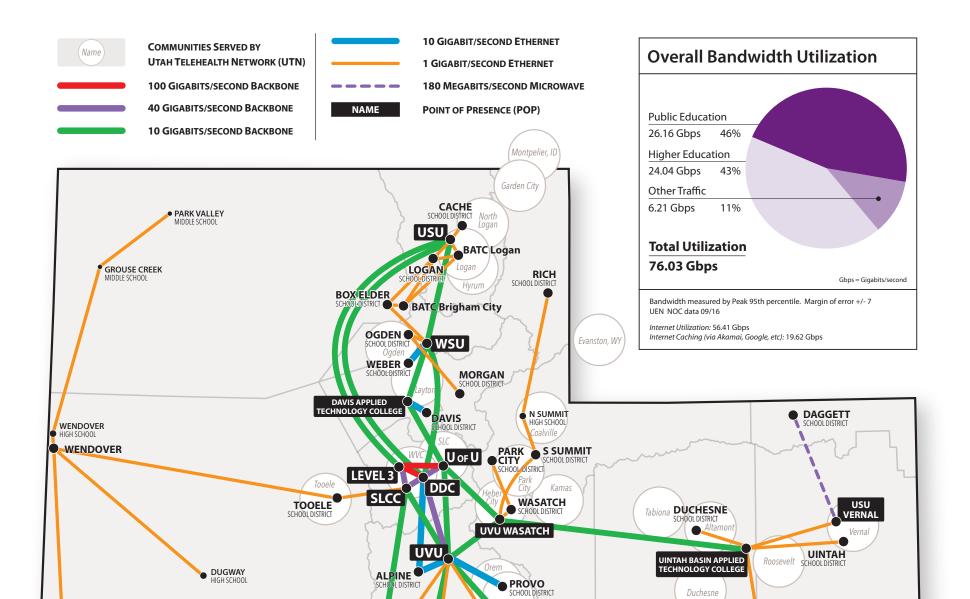
#### 4. Operational Services

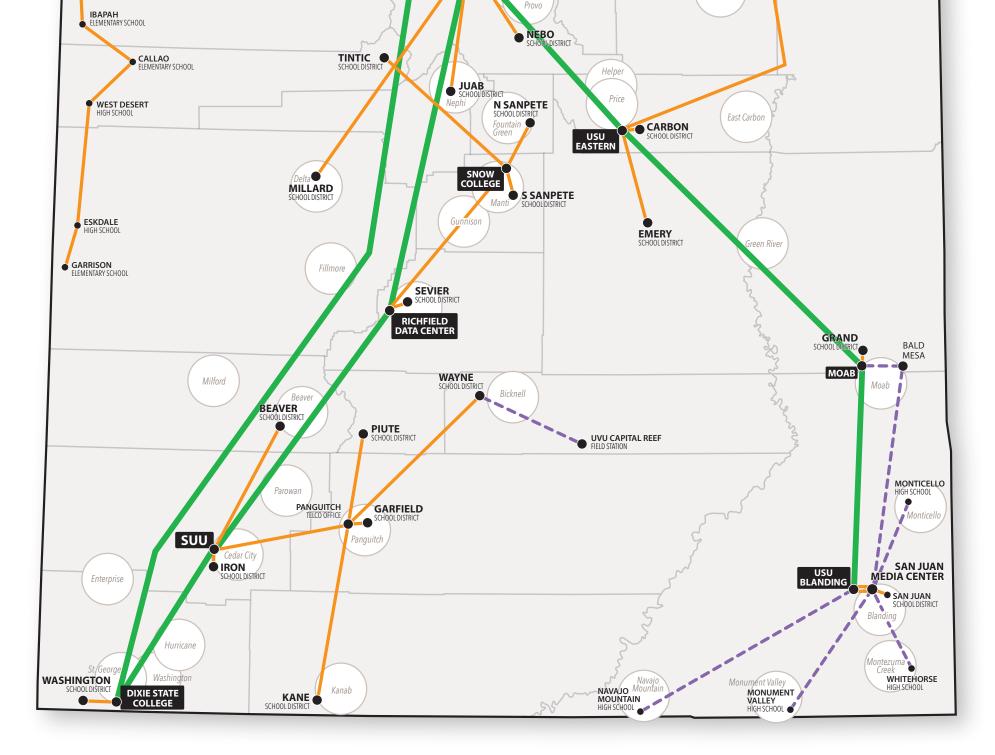
These business functions provide the operational foundation for UETN's networking, application and support services. They include basic operations and maintenance such as administration, accounting, internal telecommunications, utilities, database backups and internal security tools.

#### **UEN Infrastructure Services**



## UETN Infrastructure Map Connecting 1500+ locations throughout Utah





# What are the main sources of UETN funding and how is it allocated?

As of June 30, 2016					
UETN SERVICES	TOTAL	STATE APPROP	KUEN GRANT	FEDERAL E-RATE	OTHER FUNDING*
NETWORKING SERVICES	\$30,757,003	\$12,111,503	\$2,629,610	\$15,409,634	\$606,256
Wide Area Network (WAN)	24,757,129	9,171,870	-	15,409,634	175,625
Internet Access	734,251	447,243	20,475	-	266,534
Network Support and Security Monitoring Broadcast Internet Filtering	3,231,440 1,758,944 275,238	1,740,267 698,902 53,222	1,491,174 996,167 121,794		- 63,876 100,222
	\$9,999,917	\$8,484,623	\$117,911	-	\$1,397,383
Interactive Video Conferencing (IVC) Learning Management System (LMS)	5,019,203 392,463	3,714,370 392,463	117,911	-	1,186,921
Teaching and Learning Tools	4,180,223	3,969,761	-	-	210,461
Utah's Online Library	348,512	348,512	-	-	-
Web Conferencing	59,516	59,516	-	-	-
SUPPORT SERVICES	\$2,323,312	\$1,850,942	\$426,690	-	\$45,680
Training	1,480,172	1,007,802	426,690	-	45,680
Regional Support	746,280	746,280	-	-	-
E-Rate Support	96,860	96,860	-	-	-
OPERATIONAL SERVICES	\$4,622,458	\$4,096,890	\$450,323	-	\$75,245
Operational Services	4,622,458	4,096,890	450,323	-	75,245
TOTAL	\$47,702,689	\$26,543,958	\$3,624,533	\$15,409,634	\$2,124,564
PERCENTAGE OF TOTAL REVENUE	100.00%	55.64%	7.60%	32.30%	4.45%

\* Note: "Other Funding" is comprised of miscellaneous grants and reimbursements from Public Ed, Higher Ed, and Department of Technology Services.

### UETN services by customer

As of June 30, 2016				
UETN SERVICES	TOTAL	PUBLIC EDUCATION	HIGHER EDUCATION	OTHER CUSTOMERS
NETWORKING SERVICES	\$30,757,003	\$19,975,618	\$6,665,979	\$4,115,405
Wide Area Network (WAN)	24,757,129	16,834,848	5,446,568	2,475,713
Internet Access	734,251	242,303	418,523	73,425
Network Support and Security Monitoring	3,231,440	2,130,726	554,635	546,080
Broadcast	1,758,944	492,504	246,252	1,020,188
Internet Filtering	275,238	275,238	-	-
APPLICATION SERVICES	\$9,999,917	\$4,061,668	\$3,741,847	\$2,196,402
Interactive Video Conferencing (IVC)	5,019,203	483,290	2,455,682	2,080,231
Learning Management System (LMS)	392,463	129,513	262,950	-
Teaching and Learning Tools	4,180,223	3,302,937	877,286	-
Utah's Online Library	348,512	116,171	116,171	116,171
Web Conferencing	59,516	29,758	29,758	-
SUPPORT SERVICES	\$2,323,312	\$1,848,265	\$355,241	\$119,806
Training	1,480,172	1,036,121	355,241	88,810
Regional Support	746,280	746,280	-	-
E-Rate Support	96,860	65,865	-	30,995
OPERATIONAL SERVICES	\$4,622,458	\$2,865,924	\$1,294,288	\$462,246
Operational Services	4,622,458	2,865,924	1,294,288	462,246
TOTAL	\$47,702,689	\$28,751,475	\$12,057,356	\$6,893,858
PERCENTAGE OF TOTAL EXPENSES	100.00%	60.27%	25.28%	14.45%

#### As of June 30, 2016

Totals in these tables may not reflect precise summaries of the data since amounts less than one dollar are rounded.

### UETN Budget by service

Wide Area Network (WAN)	\$24,757,129	51.90%
Interactive Video Conferencing (IVC)	\$5,019,203	10.52%
Operational Services	\$4,622,458	9.70%
Teaching and Learning Too	ls \$4,180,223	8.76%
Network Support and Security Monitoring	\$3,231,440	6.77%
Broadcast	\$1,758,944	3.70%
Training	\$1,480,172	3.10%
Regional Support	\$746,280	1.56%
Internet Access	\$734,251	1.54%
Learning Management System (LMS)	\$392,463	0.82%
Utah's Online Library	\$348,512	0.73%
Internet Filtering	\$275,238	0.58%
E-Rate Support	\$96,860	0.20%
Web Conferencing	\$59,516	0.12%
TOTAL	\$47,702,689	100%

Estimates as of June 30, 2016 - FY2016

### UETN Budget by customer

Public Education	\$28,751,475	60.27%
Higher Education	\$12,057,356	25.28%
Telehealth	\$2,717,824	5.70%
Libraries	\$1,485,315	3.11%
General Public	\$816,326	1.71%
UCAT	\$816,326	1.71%
State Government	\$740,667	1.55%
Community Learning Centers	\$151,319	0.32%
Private Schools	\$103,534	0.22%
Other	\$62,547	0.13%
TOTAL	\$47,702,689	100%
	Estimates as of June 30, 2	2016 - FY2016

# UEN & UTN Advisory Councils



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David Brotherson Duchesne School District Public Education

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