Welcome to UETN

We network for education and healthcare

Our diverse team at UETN serves public education, higher education, libraries, hospitals and clinics. Whether we’re helping a 5th grader with history or connecting a rural clinic to a specialist, our services span three main categories:

- Networking Services – Building and maintaining the statewide broadband network through partnerships with local telecommunications companies.
- Application Services – Providing educators and students, clinicians and patients with tools like interactive video conferencing and library databases.
- Support Services – Training, technology support and trouble shooting from Logan to St. George and from Grouse Creek to Navajo Mountain.

How do we do it? In a word, collaboration. The legislature, the Governor’s office, the State Board of Regents, school districts and schools, libraries, clinics, hospitals and providers all work together to provide connectivity and resources. As a result the network is one of Utah’s greatest assets and is the envy of many states.

Ray Timothy, PhD
CEO and Executive Director
Utah Education and Telehealth Network
## UETN serves customers all over Utah

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

<table>
<thead>
<tr>
<th>UETN SERVES:</th>
<th>AND ITS:</th>
<th>IN SUPPORT OF THEIR MISSION TO:</th>
</tr>
</thead>
</table>
| **Utah Public K-12 Education** | 622,153 students 33,075 educators 1,069 schools | • Assure literacy and numeracy for all Utah children  
• Provide high quality instruction for all Utah children  
• Establish curriculum with high standards and relevance for all Utah children  
• Require effective assessment to inform high quality instruction and accountability |
| **Utah System of Higher Education** | 170,770 students 34,098 faculty and staff 8 institutions | • Increase the rate of student participation in higher education (postsecondary education programs)  
• Increase the rate of student completion in their chosen field of study or training  
• Increase the level of economic innovation |
| **Utah College of Applied Technology** | 26,704 postsecondary students 14,029 trainees | • Meet the needs of Utah employers for technically-skilled workers  
• Promote local and statewide economic development  
• Provide market-driven technical education |
| **Utah Public Libraries** | 135 public libraries and branches* Serving 2.9 million Utahns | • Develop, advance and promote library services and access to information |
| **Rural and Urban Healthcare** | More than 70 hospitals, clinics, and health departments throughout Utah and on our borders with Idaho and Wyoming. | • Provide ethical, equitable health care improvement  
• Train the health care workforce  
• Protect patient health information |

*connected directly to the UETN backbone or via DTS

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(USOE Fingertip Facts 2014-2015)  
(Promises to Keep 2009)  
(HigherEdUtah2020, 2011 Report)  
(USHE Data Book 2015)  
(UCAT Annual Report 2015)  
(UCAT Annual Report 2014)  
(Utah State Library Annual Report, 2013)  
(Utah State Library Division 2015)  
(UTN Site List, 2014)  
(American Telemedicine Association, 2015)
UETN Budget by customer

Public Education $25,293,866 60.05%
Higher Education $10,575,428 25.11%
Libraries $1,840,164 4.37%
Other $1,158,987 2.75%
General Public $1,011,350 2.40%
UCAT $1,011,350 2.40%
State Government $917,616 2.18%
Community Learning Centers $187,470 0.45%
Private Schools $128,269 0.30%
TOTAL $42,124,499 100%

Estimates as of June 30, 2015 - FY2015
How do we serve them?

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.

**PIONEER, UTAH'S ONLINE LIBRARY** – This statewide service purchases online library resources from national suppliers at consortium discounts. Pioneer 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**

- Networking Services: $29,270,908 (69%)
- Application Services: $7,444,056 (18%)
- Operational Services: $3,586,623 (9%)
- Support Services: $1,822,912 (4%)
UETN Infrastructure Map
Connecting 1447 locations throughout Utah

Overall Bandwidth Utilization

<table>
<thead>
<tr>
<th>Category</th>
<th>Utilization</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education</td>
<td>18.87 Gbps</td>
<td>46.5%</td>
</tr>
<tr>
<td>Public Education</td>
<td>18.60 Gbps</td>
<td>45.8%</td>
</tr>
<tr>
<td>Other Traffic</td>
<td>3.08 Gbps</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Total Utilization: 40.55 Gbps

Gbps = Gigabits/second

Bandwidth measure by Peak 95th percentile. Margin of error +/- 7
UEN NOC data 11/9/15
Internet Utilization: 28.58 Gbps
Internet Caching (via Akamai, Google, etc): 14.89 Gbps
What are the main sources of UETN funding and how is it allocated?

As of June 30, 2015

<table>
<thead>
<tr>
<th>UETN SERVICES</th>
<th>TOTAL</th>
<th>STATE APPROP</th>
<th>KUEN GRANT</th>
<th>FEDERAL E-RATE</th>
<th>OTHER FUNDING*</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWORKING SERVICES</td>
<td>$29,270,908</td>
<td>$12,102,376</td>
<td>$1,151,326</td>
<td>$14,647,340</td>
<td>$1,369,866</td>
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<tr>
<td>Wide Area Network (WAN)</td>
<td>23,165,014</td>
<td>8,358,009</td>
<td>–</td>
<td>14,647,340</td>
<td>159,665</td>
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<tr>
<td>Internet Access</td>
<td>857,443</td>
<td>648,338</td>
<td>27,105</td>
<td>–</td>
<td>182,000</td>
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<tr>
<td>Network Support and</td>
<td>2,045,642</td>
<td>2,045,642</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Security Monitoring</td>
<td>2,939,281</td>
<td>786,860</td>
<td>1,124,221</td>
<td>–</td>
<td>1,028,201</td>
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<tr>
<td>Broadcast</td>
<td>263,527</td>
<td>263,527</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>APPLICATION SERVICES</td>
<td>$7,444,056</td>
<td>$5,490,314</td>
<td>$409,897</td>
<td>–</td>
<td>$1,543,844</td>
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<tr>
<td>Interactive Video</td>
<td>3,396,476</td>
<td>2,010,003</td>
<td>349,990</td>
<td>–</td>
<td>1,036,482</td>
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<tr>
<td>Conferencing (IVC)</td>
<td>382,961</td>
<td>382,961</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Learning Management</td>
<td>2,958,228</td>
<td>2,680,959</td>
<td>59,907</td>
<td>–</td>
<td>217,362</td>
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<tr>
<td>System (LMS)</td>
<td>647,603</td>
<td>357,603</td>
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<td>–</td>
<td>290,000</td>
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<tr>
<td>Teaching and Learning</td>
<td>58,788</td>
<td>58,788</td>
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<td>–</td>
<td>–</td>
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<tr>
<td>Tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPPORT SERVICES</td>
<td>$1,822,912</td>
<td>$1,577,307</td>
<td>$213,075</td>
<td>–</td>
<td>$32,530</td>
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<tr>
<td>Training</td>
<td>1,042,763</td>
<td>797,158</td>
<td>213,075</td>
<td>–</td>
<td>32,530</td>
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<tr>
<td>Regional Support</td>
<td>699,396</td>
<td>699,396</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>E-Rate Support</td>
<td>80,753</td>
<td>80,753</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$42,124,499</td>
<td>$22,517,900</td>
<td>$1,957,871</td>
<td>$14,647,340</td>
<td>$3,001,388</td>
</tr>
<tr>
<td>PERCENTAGE OF TOTAL REVENUE</td>
<td>100.00%</td>
<td>53.46%</td>
<td>4.65%</td>
<td>34.77%</td>
<td>7.13%</td>
</tr>
</tbody>
</table>

* Note: “Other Funding” is comprised of miscellaneous grants and reimbursements from Public Ed, Higher Ed, and Department of Technology Services.
UETN Budget by service

<table>
<thead>
<tr>
<th>Service</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide Area Network (WAN)</td>
<td>$23,165,014</td>
<td>54.99%</td>
</tr>
<tr>
<td>Operational Services</td>
<td>$3,586,623</td>
<td>8.51%</td>
</tr>
<tr>
<td>Interactive Video Conferencing (IVC)</td>
<td>$3,396,476</td>
<td>8.06%</td>
</tr>
<tr>
<td>Teaching and Learning Tools</td>
<td>$2,958,228</td>
<td>7.02%</td>
</tr>
<tr>
<td>Broadcast</td>
<td>$2,939,281</td>
<td>6.98%</td>
</tr>
<tr>
<td>Network Support and Security Monitoring</td>
<td>$2,045,642</td>
<td>4.86%</td>
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<tr>
<td>Training</td>
<td>$1,042,763</td>
<td>2.48%</td>
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<tr>
<td>Internet Access</td>
<td>$857,443</td>
<td>2.04%</td>
</tr>
<tr>
<td>Regional Support</td>
<td>$699,396</td>
<td>1.66%</td>
</tr>
<tr>
<td>Pioneer Library</td>
<td>$647,603</td>
<td>1.54%</td>
</tr>
<tr>
<td>Learning Management System (LMS)</td>
<td>$382,961</td>
<td>0.91%</td>
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<tr>
<td>Internet Filtering</td>
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<td>0.63%</td>
</tr>
<tr>
<td>E-Rate Support</td>
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<td>0.19%</td>
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<tr>
<td>Web Conferencing</td>
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<tr>
<td>TOTAL</td>
<td>$42,124,499</td>
<td>100%</td>
</tr>
</tbody>
</table>
UETN services by customer

As of June 30, 2015

<table>
<thead>
<tr>
<th>UETN SERVICES</th>
<th>TOTAL</th>
<th>PUBLIC EDUCATION</th>
<th>HIGHER EDUCATION</th>
<th>OTHER CUSTOMERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NETWORKING SERVICES</strong></td>
<td>$29,270,908</td>
<td>$18,470,533</td>
<td>$6,347,654</td>
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<tr>
<td>Wide Area Network (WAN)</td>
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<td>15,752,210</td>
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<td>2,316,501</td>
</tr>
<tr>
<td>Internet Access</td>
<td>857,443</td>
<td>282,956</td>
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<td>85,744</td>
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<tr>
<td>Network Support and Security Monitoring</td>
<td>2,045,642</td>
<td>1,348,842</td>
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<td>345,692</td>
</tr>
<tr>
<td>Broadcast</td>
<td>2,939,281</td>
<td>822,999</td>
<td>411,499</td>
<td>1,704,783</td>
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<tr>
<td>Internet Filtering</td>
<td>263,527</td>
<td>263,527</td>
<td>–</td>
<td>–</td>
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<tr>
<td><strong>APPLICATION SERVICES</strong></td>
<td>$7,444,056</td>
<td>$3,115,384</td>
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<tr>
<td>Interactive Video Conferencing (IVC)</td>
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<tr>
<td>Learning Management System (LMS)</td>
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<tr>
<td>Teaching and Learning Tools</td>
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<td>Pioneer Library</td>
<td>647,603</td>
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<td>215,868</td>
<td>215,868</td>
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<td>Web Conferencing</td>
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<td>29,394</td>
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<tr>
<td><strong>SUPPORT SERVICES</strong></td>
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<td>Training</td>
<td>1,042,763</td>
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</tr>
<tr>
<td>Regional Support</td>
<td>699,396</td>
<td>699,396</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>E-Rate Support</td>
<td>80,753</td>
<td>54,912</td>
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<td>25,841</td>
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<tr>
<td><strong>OPERATIONAL SERVICES</strong></td>
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<td>2,223,706</td>
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<td>358,662</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>$42,124,499</td>
<td>$25,293,866</td>
<td>$10,575,428</td>
<td>$6,255,205</td>
</tr>
</tbody>
</table>

PERCENTAGE OF TOTAL EXPENSES

- **100.00%**:
  - Public Education: **60.05%**
  - Higher Education: **25.11%**
  - Other Customers: **14.85%**

Totals in this table may not reflect precise summaries of the data since amounts less than one dollar are rounded.
UETN Governing Board

Cindy Nagasawa-Cruz
Jordan School District
Represents: Public Education
Term Through: July 1, 2018
(801) 567-8315
cindy.nagasawa-cruz@jordandistrict.org

Ben Dalton
Garfield School District
Represents: Public Education
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ben.dalton@garfk12.org

Sydnee Dickson
Utah State Office of Education
Represents: Public Education
Term Through: July 1, 2016
(801) 538-7515
sydnee.dickson@schools.utah.gov

Stephen Hess
The University of Utah and Utah System of Higher Education
Represents: Higher Education
Term Through: July 1, 2016
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stephen.hess@utah.edu

Gary Koeven
Dixie State University
Represents: Higher Education
Term Through: July 1, 2018
(435) 652-7770
go@du.edu

Tad Morely
The University of Utah Hospital and Clinics
Represents: Utah Telehealth
Term Through: July 1, 2018
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tad.morely@hsc.utah.edu

Donna Morris
Utah State Library
Represents: State Library
Term Through: July 1, 2018
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dmorris@utah.gov

Tami Pyfer
Governor’s Office
Represents: Office of the Governor
Term Through: July 1, 2016
(801) 538-1178
tami.pyfer@utah.gov

Scott Snelson
Tooele ATC
Represents: Utah College of Applied Technology
Term Through: July 1, 2018
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ssnelson@tatc.edu

Gary Stone
Intermountain Healthcare
Represents: Utah Telehealth
Term Through: July 1, 2018
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Gary.stone@imail.org

Robert Wagner
Utah State University
Represents: Higher Education
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robert.wagner@usu.edu

Raymond Walker
Co-chair
Utah Valley University
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walkerra@uvu.edu

Doug Wright
Co-chair
San Juan School District
Represents: Public Education
Term Through: July 1, 2018
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dwright@sjid.org

Staff:
Ray Timothy
UETN Executive Director
(801) 581-6991
rtimothy@uen.org