2017

ANNUAL REPORT

LEARN

LONESTAR EDUCATION AND RESEARCH NETWORK

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ON THE COVER

Our cover image reflects the flooding that affected many of our families, friends and neighbors in Texas in 2017 with the effects of Hurricane Harvey being the most devastating. It was inspiring to see communities come together in the wake of the devastation to help their neighbors even as they faced their own loss. Community and neighbors helping neighbors, that is what Texas and LEARN are all about.

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LEARN
LONESTAR EDUCATION AND RESEARCH NETWORK

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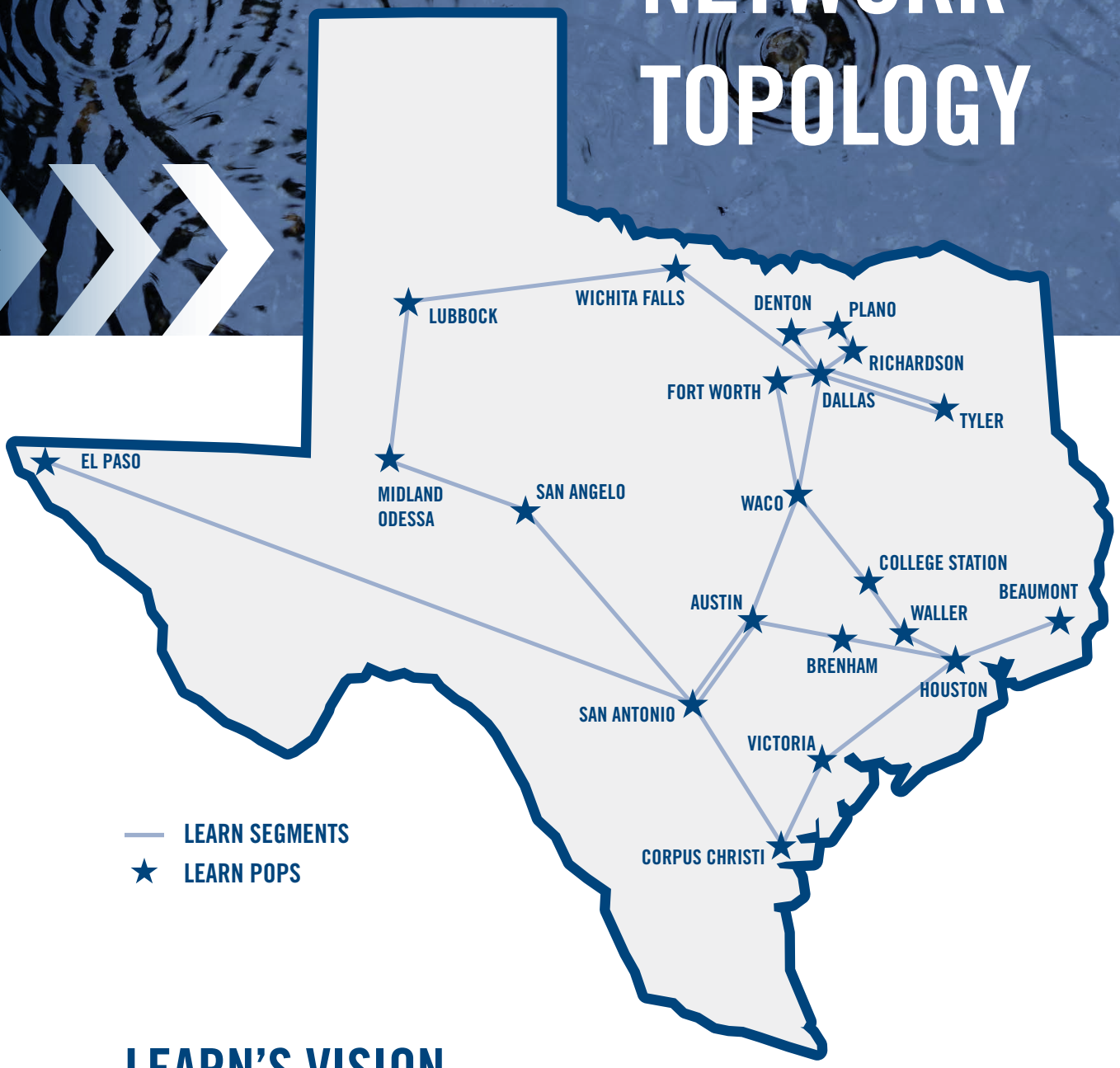
LEARN'S NETWORK TOPOLOGY



LEARN'S VISION

LEARN will be the most efficient and effective enabler of research, education, healthcare, and public service communities in Texas using technology and shared services.

LETTER FROM THE CHAIR

On behalf of our LEARN Board of Directors, it is my pleasure to present LEARN's 2017 Annual Report. 2017 was an extremely busy year with activities ranging from completion of strategic planning, new mission and vision statements, a new service model, beginning focus on new verticals and growth in LEARN's membership.

The first LEARN Board meeting occurred in January 2004 with 30 members dedicated to high performance networking in Texas and participation in the emerging national network. Today, LEARN is 41 members strong, with 2 additions in 2017, and includes public and private institutions of higher education, community colleges, the National Weather Service, and K–12 public schools. LEARN connects its members and over 600 affiliated organizations through high performance optical and IP network services to support their research, education, healthcare and public service missions.

This past year LEARN completed its strategic planning process and as a result created new Mission and Visions statements which are:

Mission: Empower non-profit communities to execute their missions through technology and collaboration.

Vision: LEARN will be the most efficient and effective enabler of research, education, healthcare, and public service communities in Texas using technology and shared services.

In addition, an outcome of strategic planning was creation of an ad hoc Business and Services Committee to study the LEARN business model and recommend changes for additional and future services to stay relevant and provide enhanced services to its customers. I'm pleased to report a new Unmetered Network Services option was added to the list of services after a lengthy West Texas pilot and then approval by the Board in December.

The LEARN Board meetings bring together the largest number of Texas higher education CIOs in a single place for sharing of best practices and discussion of technology challenges. In 2017, LEARN members experienced round table discussions on:

- SPLUNK
- Office 365
- Data Analytics Platforms
- Electronic Signature
- Expansion of LEARN footprint to unserved and underserved areas within Texas
- West Texas MPLS Pilot Project Updates
- Campus Emergency Planning and Crisis Response
- Net Neutrality

Serving LEARN as the Board Chair in 2017 was an honor and I can say from experience that we have the hardest working and dedicated staff of any non-profit organization. The LEARN staff does an outstanding job working for us and serving our communities. The future is bright for LEARN!

Kay Rhodes
Texas Tech University System

LETTER FROM THE PRESIDENT & CEO

Dear Colleagues,

Accomplishments, advancements and actions all accurately frame an exciting 2017 for the entire LEARN family. The many opportunities that surfaced this year invariably impacted our membership and affiliates statewide as well as our visibility on national platforms.

For starters, we completed a comprehensive strategic plan casting a vision for LEARN's future. Simply put, LEARN is no longer the best-kept secret! During the course of the year, LEARN's internal leadership team joined me on a statewide outreach mission to bring visibility to our services and share on the many value-adds that we provide. The fruit of our outreach efforts delivered both existing and potential new customers learning more about our services.

Moreover, the new strategic plan was completed in conjunction with the West Texas Pilot Program, which helped us restructure our rate cards and launched the now highly sought after Unmetered Network Services (UNS). This offering has received great interest and is being offered to members and affiliates at various flat rates, terms, and separate pricing available on an individual case basis (ICB).

On the national stage, our staff continues to serve in leadership positions, which bring visibility to LEARN as a viable R&E network. Also, we secured a collaborative NSF IRNC supplementary grant along with California and Oklahoma with more information on the way.

In this same vein of adding great value, our members now have more extensive benefits through the value we provide in our direct peering relationships with Google, Apple, YouTube, Amazon, Microsoft, and Netflix, just to name a few. We encourage our members to bring more of such peering possibilities with content providers of their choice to our attention.

Supporting our new vision and mission in alignment with our new strategic plan rollout, we added back-office enhancements systems, so that our team can be more efficient and effective.

In closing, I would be remiss if I did not mention that as you read through this annual report, what is likely most significantly highlighted is that LEARN's services are all about connecting people to the resources they need in the most efficient and effective way. Among many things, you will read how our LEARN team responded to support the community in Houston after the negative effects of Hurricane Harvey. How we worked diligently to support radio station KHOU's broadcast needs, so they could resume broadcasting during that critical time. You will see how we've diligently promoted the power of aggregation to reduce costs and provide savings, and you will learn more of the value we provide as in the end, we are simply all about end users. This is why we were formed in 2004… whether connecting research institutions, universities, community colleges, K–12 institutions, health sciences centers, hospitals, medical centers, and city/county governments, the goal is simply about creating value out of connecting people, so that communities and humanity can flourish. LEARN is an extension of your enterprise and we are here to enhance our value and service portfolio for all members.

Pankaj Shah
LEARN

EXECUTIVE COMMITTEE

Chair:
Kay Rhodes
Texas Tech University System

Chair Elect:
Ken Pierce
Texas State University

Past Chair:
Terry Tatum
Texas A&M University – Corpus Christi

Secretary:
Jeff Early
Baylor College of Medicine

Treasurer & Chair, Finance Committee:
Klara Jelinkova
Rice University

Chair, Operations & Services Committee:
William Green
University of Texas at Austin

Chair, Governance & Participation Committee:
Mark Stone
Texas A&M University System

President & CEO:
Pankaj Shah
LEARN

MEMBER ORGANIZATIONS

Angelo State University

Baylor College of Medicine

Baylor University

Blinn College

Lamar University

National Weather Service

Northeast Texas Consortium of Colleges & Universities (NETnet)

Prairie View A&M University

Rice University

Sam Houston State University

Southern Methodist University

Stephen F. Austin State University

Texas A&M Health Science Center

Texas A&M University

Texas A&M University - Corpus Christi

Texas A&M University System

Texas Association of Community Colleges

Texas Christian University

Texas Education Telecommunications Network (TETN)

Texas State University

Texas Tech University

Texas Tech University Health Sciences Center

Texas Tech University Health Sciences Center El Paso

Texas Tech University System

Texas Woman's University

Trinity University

University of Houston System

University of North Texas System

University of Texas at Arlington

University of Texas at Austin

University of Texas at Dallas

University of Texas at El Paso

University of Texas at San Antonio

University of Texas Health Science Center at Houston

University of Texas Health Science Center at San Antonio

University of Texas Health Science Center at Tyler

University of Texas MD Anderson Cancer Center

University of Texas Medical Branch at Galveston

University of Texas Rio Grande Valley

University of Texas Southwestern Medical Center at Dallas

University of Texas System

OVERVIEW & HISTORY

WHO IS LEARN?

The Lonestar Education And Research Network (LEARN) is a consortium of 41 organizations throughout Texas that includes public and private institutions of higher education, community colleges, the National Weather Service, and K–12 public schools. The consortium, organized as a 501(c)(3) non-profit organization, connects its members and over 600 affiliated organizations through high performance optical and IP network services to support their research, education, healthcare and public service missions. LEARN is also a leading member of a national community of advance research networks, providing Texas connectivity to national and international research and education networks, enabling cutting-edge research that is increasingly dependent upon sharing large volumes of electronic data.

A Brief History of LEARN

In 2003, a series of meetings of research universities and health science centers in Texas were held to forge a shared vision of creating a unified high performance optical network for higher education that would partner with an emerging national network dedicated to research. Overcoming the legacy of competition among the attendees and the fiscal and organizational challenges that lay ahead, the universities and health science centers soon reached a consensus that it was strategically important to create an organization dedicated to high performance networking in Texas and to participate in the emerging national network.

In the fall of 2003, the nascent LEARN organization, realizing that it was imperative to have a legal structure around which to center its operations, decided to use the existing Houston-based Texas GigaPoP as the 501(c)(3) structure for the new statewide organization. The following January officers of the new organization were installed at its first

Board meeting on the Southern Methodist University campus in Dallas with the new organization being officially named "LEARN: Lonestar Education And Research Network". Thus LEARN was officially created with a 30-member Board of Directors.

Also in the summer of 2003, the Texas Legislature endorsed the concept of providing an initial investment of $7.5 million dollars to construct the proposed optical network for Texas. That concept was fleshed out in 2004 as LEARN worked with the offices of the Governor, Lieutenant Governor, Speaker of the House and the Department of Information Resources (DIR) to study the merit of authorizing a Texas Enterprise Fund grant for the optical network project. In the fall of that year, the elected leadership offices announced that the State of Texas would fund a TEF grant to provide the initial capital funds to acquire dark fiber and equipment or leased wavelengths for a "triangle" backbone connecting Dallas, College Station, Houston, San Antonio and Austin with additional connections to El Paso, Lubbock, Denton, Tyler/ Longview, Beaumont, Galveston and Corpus Christi.

On February 28, 2005, the Governor signed the TEF grant agreement to provide $7.28 million in funding for the optical network project. LEARN now had the organizational, political and financial means to begin deploying the optical network for Texas. Since its founding, LEARN has expanded both its membership and services. It now connects hundreds of thousands of students enrolled in higher education and in Texas' public schools. Over 600 organizations rely upon LEARN, either directly or indirectly through LEARN partners, for vital connectivity to local, statewide, national, and international network services.

Akbar Kara
LEARN, Chief Technology Officer

Bob Hartland
TAG Chair

Organization & Governance

LEARN's Board of Directors governs the overall affairs of the corporation with committees advising the Board on specific operational and policy issues. The standing committees of the Board include Finance, Governance and Participation, and Operations and Services. Additionally, an Audit Committee consisting of three elected Board members and an independent advisor monitors the conduct of the annual independent audit. The Board also creates ad hoc committees of the Board as necessary.

Within the authority delegated by the Board, the Executive Committee comprised of the elected officers of the corporation and the Chairs of the three standing committee develops the Board agendas and governs the affairs of LEARN between meetings of the Board. The Executive Committee is composed of the President, Chair, Chair Elect, Past Chair, Treasurer and Secretary. Other than the President, the officers are elected from the members of the Board of Directors.

The day-to-day business of LEARN is managed by the President and CEO of the corporation, who is elected by the Board and serves at their pleasure. The CEO employs and supervises a professional technical and administrative staff to conduct and manage LEARN's operations, including a Chief Technology Officer who is responsible for the health of the network.

The Technical Advisory Group (TAG) is comprised of technical experts from each of the organization's member institutions. TAG representatives are appointed by the LEARN Board member from the institution they represent, and they elect the TAG Chair. TAG is an advisory body to the Board, President and LEARN's Chief Technology Officer and serves an important role in helping shape LEARN's architecture, operations and portfolio of services.

Network Infrastructure

LEARN's fiber network spans over 3,200 miles across the state, connecting its over 600 direct or affiliated customers east to west from Beaumont to El Paso and north to south from Amarillo to Brownsville. LEARN is built on dense wavelength division multiplexing (DWDM) optical technology, providing the capability to transport multiple high capacity signals over a shared optical fiber by using the different color wavelengths of laser light. DWDM is state-of-the-art technology that is very scalable and permits LEARN to leverage its initial investment in optical fiber by adding additional capacity at marginal costs.

LEARN's network relies on agreements with the private sector that provide the long-term use of optical dark fibers and/or long-term leases of optical wavelength capacity. When dark fiber is conveyed via an indefeasible right to use (IRU) agreement, LEARN provides the infrastructure to "light" the fiber and can add additional capacity as needed without having to revise a contract with the fiber owner. In wavelength capacity agreements, the service provider provides the infrastructure and bandwidth under the terms and conditions of the agreement.

Deploying LEARN-owned high-performance routers at its 20 strategically-located Points of Presence (POPs), LEARN makes it possible for its members and affiliates to bridge the last mile with their own network connections at minimal costs. In most cases LEARN's network segments are protected through rings that insure continued operation of the network in case of a fiber cut or other disruption to a segment.

Several university systems as well as the Texas Education Telecommunications Network (TETN) operate their own networks which in turn are linked into LEARN's statewide fiber infrastructure at LEARN's POPs. LEARN cooperates closely with those other organizations to ensure that high-performance networking is made available at the lowest cost, best reliability, and highest performance possible.

Membership & Network Services

Members are entitled to appoint an individual to the Board of Directors and to acquire network services from LEARN at member rates. Network services are designed and provisioned based on the needs of individual members through collaboration between those members and the LEARN staff. Network services, which are funded by the members who consume the services at rates which are set by the Board, sustain current and future network requirements including capital refresh at periodic intervals to keep the network state-of-the-art. Network services include:

- Layer 1 Transport Services Between LEARN Points-of-Presence (POPs),
- Layer 2 IP/MPLS Services,
- Routed Layer 3 Services,
- Connection Gateways to the National Research and Education Network (Internet2 and Energy Sciences Network and starting in mid-2018, on 100G ramps to reach Pacific Wave International Exchanges),
- Colocation Services at LEARN POPs,
- Commodity Internet Services (80G burst capacity spread across 4 POPs), and
- Low-Latency High-Capacity Access to Content and Application Providers (Peering and Caching Services), and
- DDoS Mitigation Service
- Managed Network Service and Consultation

LEARN applied for and received a Service Provider Identification Number (SPIN) with the Universal Service Administration Company. Acquiring a SPIN number permits LEARN's school, library, and rural health customers to receive significant discounts through the Universal Services Fund.

The Board and the staff are committed to ensuring LEARN remains the trusted and preferred means by which its members obtain network services in Texas. There is a broad consensus among LEARN's members that the organization has a unique role to play in the state in providing highly reliable, cost effective network services to the higher education, K–12, and not-for-profit communities. LEARN is a trusted partner and convener in these communities.

Infrastructure Performance

LEARN has deployed and operates a sophisticated state-of-the-art fiber-based optical and IP network throughout the large state of Texas. That "carrier

Road work for the installation of fiber optic cable.

grade" optical and switching technology is highly reliable and capable of provisioning high-speed bandwidth between LEARN's customers in Texas cities and smaller communities throughout the state. While bandwidth capacity is important, LEARN recognizes that the reliability of the network is just as important to the daily operation of its customers who depend upon the network for most of their service functions.

To ensure that LEARN's network operates at "five nines" or greater reliability, LEARN operates a Network Operations Center (NOC) under an agreement with the Texas A&M University System, 24 hours a day, 7 days a week, 365 days a year. The NOC serves as the central point for monitoring and managing the overall health and performance of the network. LEARN engineers have a suite of network management tools at their disposal as well as the training they need to manage the configuration of the network, monitor the performance of the network segments and their components, diagnose and isolate the cause of performance issues, and manage incidents until they are resolved. LEARN's staff works closely with its members to align the network management practices and performance with their needs.

A critical component of LEARN's network reliability toolset is a comprehensive database of hardware assets, network configuration, circuits and other strategically important data that are essential to LEARN's overall strategy of continuously improving the operational performance and efficiency of its growing network. At the end of 2017, that database had 4,400 entries with information such as the acquisition date, service records, contract expiration dates, projected replacement cycle, etc.

The vast majority of LEARN's network topology is designed to provide network rings which serve as protected paths for customers in the event of a failure in the network infrastructure. If one leg of the ring suffers a fiber cut or equipment failure, the network automatically reconfigures itself to use the other leg of the ring to maintain connectivity. This design redundancy is a key element of the network's performance but despite the network design, failures of a network segment do occasionally occur. In order to reduce the time required to get the segment back into operation, LEARN has acquired and strategically deployed critical infrastructure spares throughout the network. Additionally, LEARN maintains maintenance and support agreements for its critical infrastructure with the vendors of both the fiber paths and the network gear.

The results of LEARN's efforts to provide a highly reliable network to its customers in 2017 were as follows:

- WaveNet Layer 1 services on LEARN's backbone **– 100% uptime**
- FrameNet or Layer 2 services **– 99.999% uptime**
- Layer 3 services on LEARN's backbone **– 99.999% uptime**
- Connection gateways to Internet2 **– 100% uptime**
- WaveNet services on the Beaumont spur **– 99.974% uptime**
- Commodity Internet Services **– 100% uptime**

While these performance levels are very favorable compared with other telecommunications providers, LEARN's goal is to give its customers 100% reliability on all of its services. To that end, LEARN will continue to improve its technology, tools, training of its staff, and cooperation with its customers/partners and network staffs as it has done since the organization's inception.

A technician measures the optical power loss after fiber installation.

ACTIVITIES & ACCOMPLISHMENTS

Texas Tech CIOs & staff in their High-Performance Computing Center.

WEST TEXAS PILOT PROGRAM

LEARN helps the Texas Tech University System meet the growing needs of its institutions

Since 2009, Texas Tech University System (TTUS) has been a key participant in LEARN's backbone triangle. TTUS had concerns years ago as growth continued about connectivity between campuses, general connectivity of students, increasing bandwidth and costs, and the ability to utilize new technologies for research, supercomputing, distance learning and more. LEARN has provided opportunities for TTUS to save money while increasing their bandwidth for years. As of the fall semester of 2017, Texas Tech University (TTU) had 36,996 students with thousands more at other institutions in TTUS.

TTUS volunteered as a study case to expand FrameNet MPLS to West Texas and test a new "all-you-can-eat" business model where a flat fee is charged regardless of bandwidth usage, within the capacity provisioned by the customer. The pilot program began in 2017, starting with TTU, TTU Health Sciences Center (TTUHSC), TTUHSC El Paso and Angelo State University. New POPs were added at TTUHSC, TTUHSC El Paso and Angelo State University. The new model unifies wide area networks (WANs) for four major institutions in TTUS and greatly increases commodity bandwidth with the 30GB MPLS ring available to share between the four locations.

Texas Tech's Increasing Needs

Sam Segran, CIO of Texas Tech University, noted that the pilot has been an overwhelming success for the TTUS institutions. TTU is always looking at least three to five years ahead of what is technologically necessary. In doing so, they are able to adjust and install new infrastructure before it is needed, ensuring a seamless transition for faculty, students

and staff without interruption. With the continued increase in student population and internet usage in general due to video streaming and other services moving to the cloud, commodity bandwidth needs to match the exponential growth in traffic. With the 30Gbps shared across TTUS, Texas Tech continues to stay ahead of the technological curve.

TTUS institutions rely on cloud-based services such as Office 365, Learning Management Systems, Skype for Business, Raider Connect, Tech Link and others. WAN management through LEARN has allowed Segran's staff to focus resources on other areas within the University. With LEARN managing their WAN infrastructure, TTUS is able to increasingly rely on cloud-based services that benefit students through greater access, and at slightly lower infrastructure costs at the institutions.

Being located in a relatively sparsely populated area of Texas and requiring the connectivity resources that it does, TTUS requires the assistance of LEARN and the connectivity to collaborate with other institutions in the Texas Tech University System as well as peer collaboration between TTUS and institutions in other parts of the state. Between 2014 and 2017, TTU has more than doubled their online school offerings from just over 50 certificates, degrees and programs to more than 100. This is in part due to the cost effective bandwidth and services that LEARN has provided.

Lonestar 5, a supercomputer at Texas Advanced Computing Center (TACC)

TTU Research and Supercomputing

In addition to the multiple high performance clusters located at the University, TTU continues to utilize the LEARN network and the Texas Advanced Computing Center (TACC) at UT Austin for additional supercomputing resources to support research. LEARN connectivity is key to many researchers but especially to Dr. Rajesh Khare's research on hydrogel and Dr. Stefan Estreicher's theoretical research, dealing with semiconductor and nanostructure defects, along with their impact on electrical, thermal and optical material properties. Dr. Rajesh Khare's research group uses advanced molecular modeling techniques to predict the properties of soft matter systems based on the knowledge of their chemistry. These predictions are accomplished using supercomputing resources.

By utilizing the Lonestar 5 at TACC via LEARN for researchers such as Dr. Khare and Dr. Estreicher, TTU is able to dedicate its on-premise supercomputing resources for its other research scientists such as Drs. Hase, Ancell, Hussain, and Chen.

Dr. William Hase's research group uses chemical dynamics computer simulations to calculate the atomic level motions of atoms in interfaces, surfaces, collections of molecules and molecules.

Dr. Brian Ancell's research pertains to the predictability of high-impact weather events. Currently, his research focuses on severe convection, winter precipitation events, and wind power.

Dr. Fazle Hussain is a nationally-recognized researcher and is the President's Distinguished Chair in Engineering & Science, and professor in Mechanical Engineering. Dr. Hussain was inducted into the National Academy of Engineering in 2001 for contributions to

fundamental experiments and concepts concerning important structures in turbulence, vortex dynamics and acoustics, as well as for new turbulence measurement techniques. He continues his work today through TACC and LEARN's networking.

Dr. Chauchyun Chen's research includes thermophysical properties and fluid phase equilibria, molecular thermodynamics, process modeling and simulation, hydraulic fracturing and flow-back fluids, petroleum crude characterization, CO2 capture systems, energy storage systems and pharmaceutical solubility modeling.

Texas Tech Health Sciences Center Lubbock

TTUHSC Lubbock utilizes LEARN's network to support its multi-campus teaching and distance learning. Distance students currently match the number of traditional students at TTUHSC. LEARN provides the opportunity to connect multiple TTUHSC campuses, such as the physical therapy group that has a cohort spread across Lubbock, Amarillo and the Permian Basin. Online teaching environments use the Tech Link platform, a cloud-based service where traffic is managed via LEARN. Many TTUHSC programs have lectures hosted on Tech Link.

TTUHSC is always looking for opportunities to expand. In 2018, LEARN is exploring better connectivity options for TTUHSC Amarillo. Vince Fell, CIO of TTUHSC says they are looking for opportunities to utilize LEARN in the future to expand telemedicine and any educational opportunities that are presented. Fell says, "TTUHSC appreciates the partnership with LEARN and the service it has provided. LEARN and its constituents are valued business partners."

Angelo State University

Doug Fox, CIO for Angelo State University (ASU), echoed the difficulties outlined by Sam Segran of getting reliable WAN infrastructure in the West Texas areas such as San Angelo. The other major issue is the high cost of these extensive WAN services in the open market, now being provided by LEARN at a much more affordable cost, while LEARN is also able to address the concerns of availability, reliability, speed and cost-efficiency and future scalability with access to its Statewide WAN services.

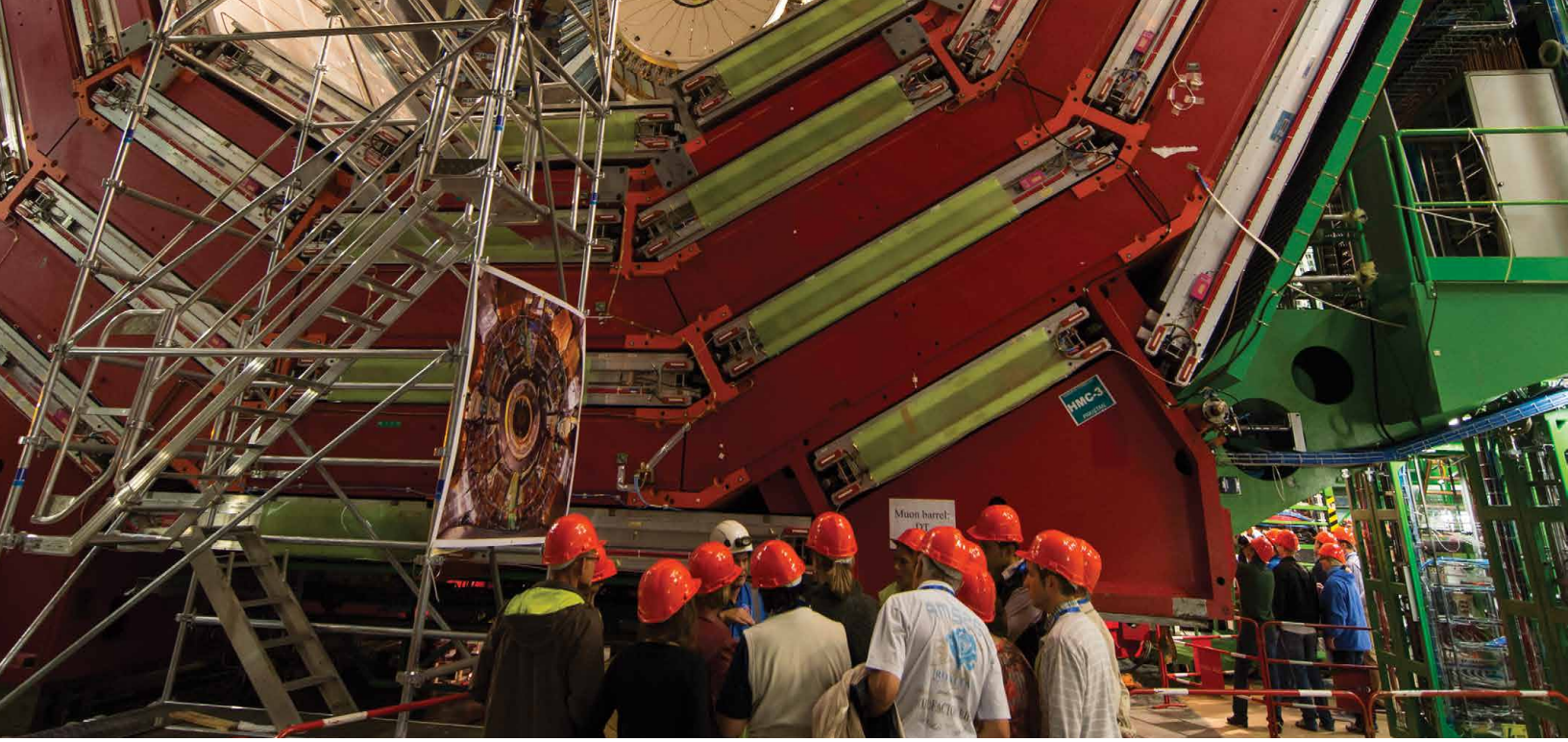
LEARN has provided ASU with enhanced reliability and network bandwidth that helps its students access course materials and information in a timelier manner. This connectivity further fosters collaboration between online students and gives them greater access to campus electronic resources. Fox says the LEARN network is a critical component for ASU's core teaching and learning mission, especially with the variety of online programs offered by a number of departments on campus.

TTUHSC El Paso

El Paso also offers distance learning for students, giving TTUHSC El Paso the ability to work with rural areas so they have access to the appropriate materials. LEARN enables TTUHSC El Paso to exchange information with other higher education institutions. TTUHSC El Paso works closely with county and private hospitals in the El Paso area. Doctors and students work with the hospital very closely on a local level and, with the assistance of LEARN, TTUHSC El Paso is able to exchange information with peers from other institutions, collaborating on research projects and comparing research and notes.

TTUHSC El Paso also strives to grow based on the needs of the area. In 2017, TTUHSC El Paso was approved for the addition of a Dental School of Medicine, with an anticipated completion date in March 2019 with a new building to support the new school. The first class of the TTUHSC El Paso Dental School of Medicine in slated for 2020. Jerry Rodriguez, CIO of TTUHSC El Paso, said "We also plan to house our research department in this building and will have need for LEARN services to support the new school and the continued research happening here."

Kay Rhodes, CIO of TTUS, said, "The West Texas Pilot Program is meeting the needs of the TTUS campuses currently involved while keeping costs down. With plans to expand its reach to all of TTUS, the infrastructure updates enabled by LEARN have proved to be an overwhelming success."



BOOSTING COLLABORATIVE RESEARCH IN HOUSTON

LEARN helps nation's 3rd largest city solidify its status as an international research hub

Above: Visit underground to the 15-metre-high Compact Muon Solenoid (CMS) experiment, located in Geneva, Switzerland. Paul Padley, a physicist at Rice University in Houston, serves as the manager of an experiment using the detector. LEARN's expanded connectivity to ESnet will make critical research by Padley's group possible.

[Image courtesy of CERN]

"The importance of a network is frequently not the network itself, but who it connects," asserts Pankaj Shah, LEARN president and CEO. "Upstream, downstream — peering is how the value of a network is increased."

Peering, which refers to the process of connecting separate Internet networks to facilitate traffic between the users of each network, is one of LEARN's greatest strengths. Houston has been a major hub of the LEARN network since its inception. In 2017, the city's connectivity received an extra boost through peering arrangements with two major national and international networks: the Energy Science Network (ESnet) and the Pacific Wave Network.

A high-performance, unclassified network built to support scientific research, ESnet — funded by the U.S. Department of Energy's (DOE) Office of Science and managed by Lawrence Berkeley National Laboratory — provides services to more than 40 DOE research sites including the entire national laboratory system, its supercomputing facilities, and its major scientific instruments. ESnet also connects to 140 research and commercial networks, permitting scientists to collaborate with partners around the world.

As a center for energy production and research, Texas — and Houston in particular — was a natural fit for an expansion of ESnet. "When I came on board, people were clamoring to connect ESnet to Texas," said Shah.

In partnership with ESnet, LEARN created a 100-Gigabit per second (Gbps) network path between the LEARN and ESnet backbone networks, which supplements the 100Gbps connection between Houston and Dallas already maintained by LEARN. The new path enables more direct, friction-free flows of data between researchers in Texas and tens of thousands of scientists at national laboratories and universities around the world.

"There are thousands of scientists that are part of the LHC experiments across the nation," Jelinkova said. "The ability to connect from data transfer nodes on campuses at high speeds of 100 gigabits per second to the LHC Open Network Environment enabled by ESnet and the Internet2 backbone ensures our ability to support this international effort."

Other major projects that will be supported by the ESnet connection include the National Science Foundation (NSF)-supported Chameleon experimental cloud system at the Texas Advanced Computing Center and physics research at the University of Texas at Arlington, which serves as one of only a handful of Tier 2 computing centers in the United States that receive all of the data processed by the ATLAS experiment at LHC, and provides computing cycles for physicists to interpret and analyze it.

Pacific Wave is another major networking initiative with whom LEARN recently established a peering relationship. Pacific Wave provides research and education networks and state-of-the-art networking

"…partnerships like this one…is critical to ensuring that researchers can access, share and analyze data as they tackle important problems."

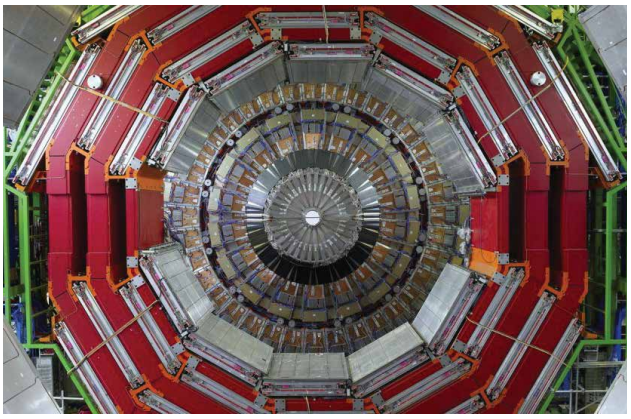
ESnet Director Inder Monga

"As the nature of research is increasingly collaborative, partnerships like this one between ESnet and the Texas research and education community served by LEARN is critical to ensuring that researchers can access, share and analyze data as they tackle important problems," said ESnet Director Inder Monga.

LEARN partners in Houston will be the among the beneficiaries of the improved connection. One such partner is Rice University, a leading research institution, renowned for its computer science, math and engineering departments.

"Many institutions across Texas were awarded National Science Foundation Campus Cyberinfrastructure awards to enhance a low-latency, high-throughput networking and improve connectivity to global instruments," said Klara Jelinkova, vice president for information technology and chief information officer of Rice University. "LEARN, in collaboration with its partners such as ESnet, allows us open communication across international and national labs unobstructed by firewalls. As the Texas state-wide research and education network, LEARN is a trusted partner and our collaboration is based on shared values and trust."

Jelinkova pointed to the research of Paul Padley at Rice as an example of how expanded connectivity to ESnet makes critical research possible. Padlay, a physicist, serves as the manager of an experiment using the Compact Muon Solenoid detector at the Large Hardon Collider (LHC), located in Geneva, Switzerland.



View of the CMS endcap through the barrel sections at the Large Hardon Collider (LHC).

[Image courtesy of CERN]

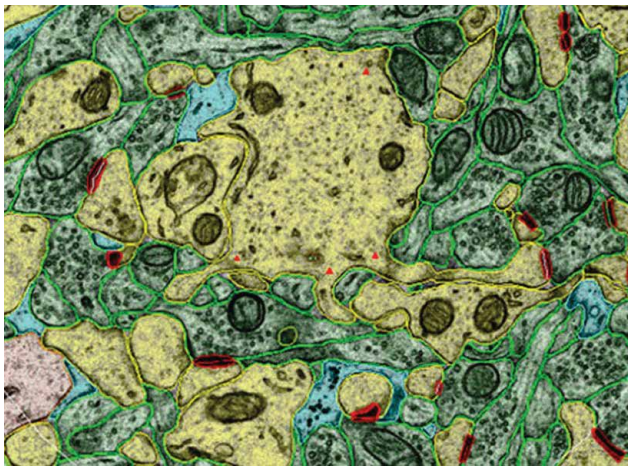


Image from an electron micrograph representative of the type researchers will explore in the Next Generation Networks for Neuroscience (NeuroNex) program. LEARN will help researchers across the U.S. share data and collaborate on analyses. Image courtesy of Kristen Harris.

capabilities throughout the Pacific Rim. With support from the NSF's International Research Network Connections Program, LEARN will be soon be directly connected to the Pacific Wave via a 200GB/second network that can carry traffic internationally to enable greater collaboration across borders.

LEARN and its consortium of public and private institutions have significant international research portfolios, which will benefit from the partnership with Pacific Wave. Moreover, new collaborations that were previously difficult will emerge because of the improved ability to collaborate, share, and access computing and scientific datasets instruments.

"Extending the Pacific Wave via a network node in El Paso will allow for frictionless scientific collaboration, exchange of large datasets, and access to global scale scientific tools and data," said Shah.

Researchers at Texas A&M plan to use the Pacific Wave network to facilitate international collaborations on climate modeling, while scientists at UT Dallas will use the network to share datasets relating to computational biology and earth science studies and to experiment with software defined optical networking. Scientists at UT Austin intend to use Pacific Wave to share electron microscopy data for brain mapping with the Salk Institute in California.

In addition to its energy focus, Houston in recent years has become a nexus for biomedical research, with MD Anderson, Rice, the University of Houston and Baylor College of Medicine (BCM) all contributing vital efforts.

The Baylor College of Medicine's Human Genome Sequencing Center is one of the three largest genomic centers in the U.S., and its collaborations are facilitated by the LEARN network, which connects the center to Internet2 and institutions across the nation.

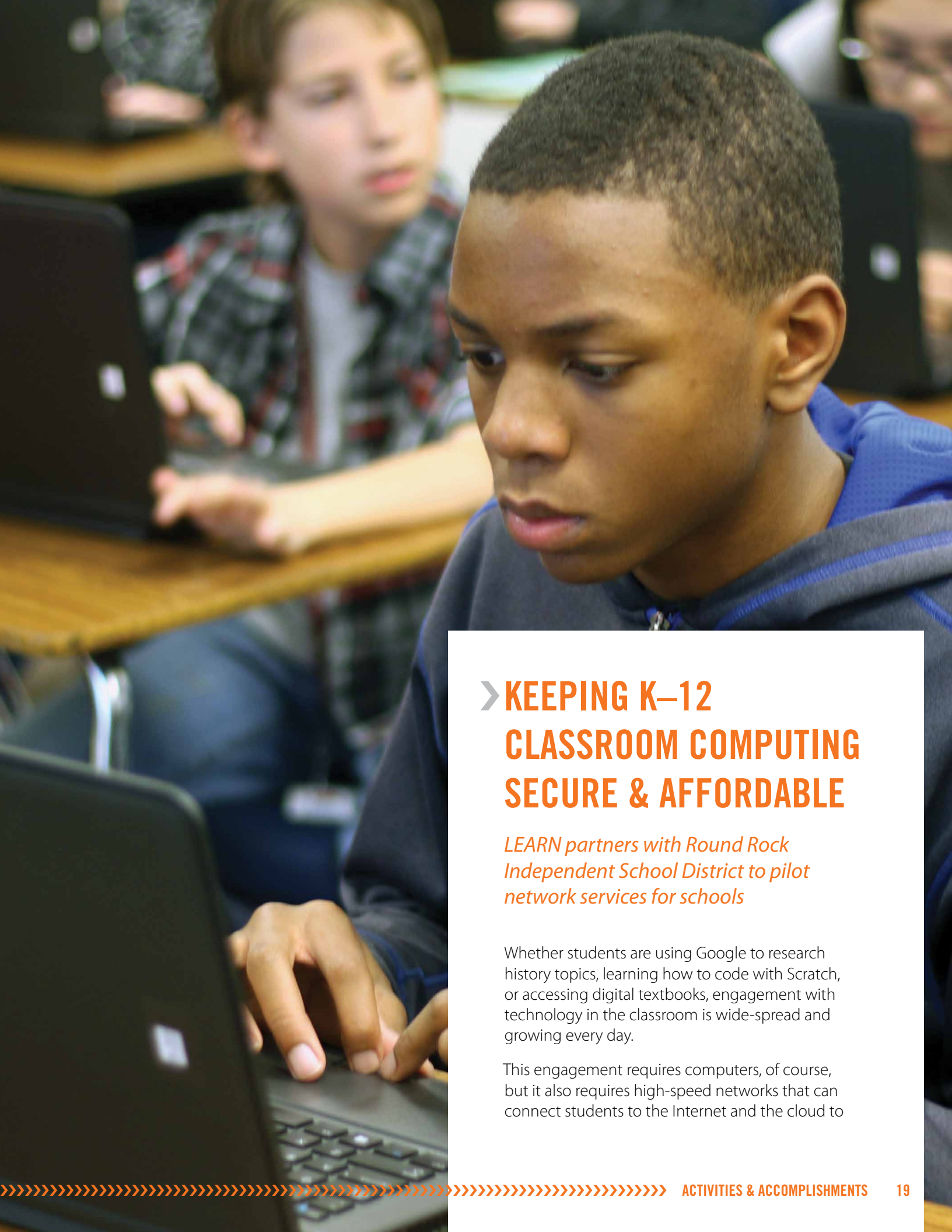
Jeff Early, director of Communication Technologies at BCM, served as principal investigator on an NSF Campus Cyberinfrastructure award that allowed the regional Southeast Texas Gigapop network to update its connection to LEARN to 100 GB/second. This in turn, allowed Richard Gibbs, director of the Human Genome Sequencing Center, to apply for and win a five-year, $500 million contract from the National Institutes of Health – a pre-condition of which was the ability to send terabytes of data per week to collaborators across the nation.

"Through a series of grants and other collaborations, we were able to create a pipeline between the Texas Medical Center and the Southeast region into the LEARN environment and on to Internet2," Early said. "This allowed us to compete for and win a massive NIH grant."

Over the past several months, LEARN has helped the Human Genome Sequencing Center deliver 6 terabytes of genomic data daily to its partners.

In an age where research increasingly relies on collaboration and large group efforts, peering with like-minded networks helps keep Texas scientists competitive.

"With growing linkages to major partnerships around the globe, LEARN is helping Texas, and in particular the City of Houston, maintain its leadership in research and education," said Shah.



KEEPING K–12 CLASSROOM COMPUTING SECURE & AFFORDABLE

LEARN partners with Round Rock Independent School District to pilot network services for schools

Whether students are using Google to research history topics, learning how to code with Scratch, or accessing digital textbooks, engagement with technology in the classroom is wide-spread and growing every day.

This engagement requires computers, of course, but it also requires high-speed networks that can connect students to the Internet and the cloud to

enable rapid access to information, web-based tools and other communities.

"All things, down to attendance, are being done digitally these days," says Lea Castillo, manager for the Texas Education Telecommunications Network (TETN). "It's critical for students and teachers to have enough access to utilize all of the digital tools that are available."

For school districts, networking comes at a cost – both to build, deploy and supply the bandwidth needed for diverse applications. As head of Information Technology for Round Rock Independent School District, a community just north of Austin, Texas, Mark Gabehart was familiar with the challenges of providing fast, secure and easily-managed network connections to the district's more than 50 campuses and 49,000 students. But until he attended the Consortium for School Networking conference in 2017, where LEARN's President and CEO Pankaj Shah presented, he wasn't aware of the resources available to Texas schools through LEARN.

LEARN doesn't provide network access directly to schools. Rather, schools work through the Texas Education Telecommunications Network (TETN), a non-profit, which in turn provides access to schools through Educational Service Centers (ESC), which coordinate school districts regionally throughout the state.

Shah introduced Gabehart to Castillo and Paul Chavez, Associate Director of Administrative Services for ESC 13, which includes Round Rock, and explained how the network hierarchy worked and the resources that LEARN could facilitate.

"Light bulbs went on," Shah said. "If we could get a cross-connection, we could bring LEARN services to Round Rock through our point of presence."

> "The goal is to educate school districts about this process in order to save them money and expand their benefit down the line."
>
> Lea Castillo, Manager, Texas Education Telecommunications Network (TETN)

LEARN already provided data transport and connectivity to more than 700,000 students across the state in collaboration with 17 ESCs. But the organization was eager to broaden its impact by piloting new service offerings to schools.

Round Rock began by testing out two of LEARN's new services for K–12: its peering and caching service; and its distributed denial-of-service (DDOS) mitigation solution.

"The peering and caching service allows us to have a direct connection from our district network to Google and a host of other sites through LEARN," Gabehart explained. "We're a major Google Apps school district. The peering and caching service potentially allows us to provide better service because it's faster and also it's more protected, so if our Internet did go down we could still reach the Google network."

Google allows organizations to establish a direct peering connection between their network and Google's. Doing so allows organizations to segregate diverse services, balance the traffic network and lower the cost for all participants. "The path is shorter; the response time is better; and the deals bring down the costs of network traffic," said Shah.

When Gabehart analyzed traffic over their network, he determined that roughly 50 percent of the monthly traffic from the district went to Google.

"This peering can potentially offset a lot of traffic that is currently using their commodity internet network that they purchase," explained Castillo.

In addition to Google, LEARN offers peering and caching with Microsoft, Amazon and Netflix.

Another service LEARN was able to provide to Round Rock ISD was the ability to protect students and systems from malicious malware and distribute denial of service (DDOS) attacks. It's a little-known fact that schools are frequent targets of cyberattacks — sometimes even from their own students. Protection can be expensive, but it is critical for keeping networks up and running.

"Members spend a significant amount of money annually for that protection," said Shah. "We came up with a strategy where we buy a service from a leading provider that can guarantee clean traffic. Round Rock opted in and are now the beneficiary of our mitigation service."

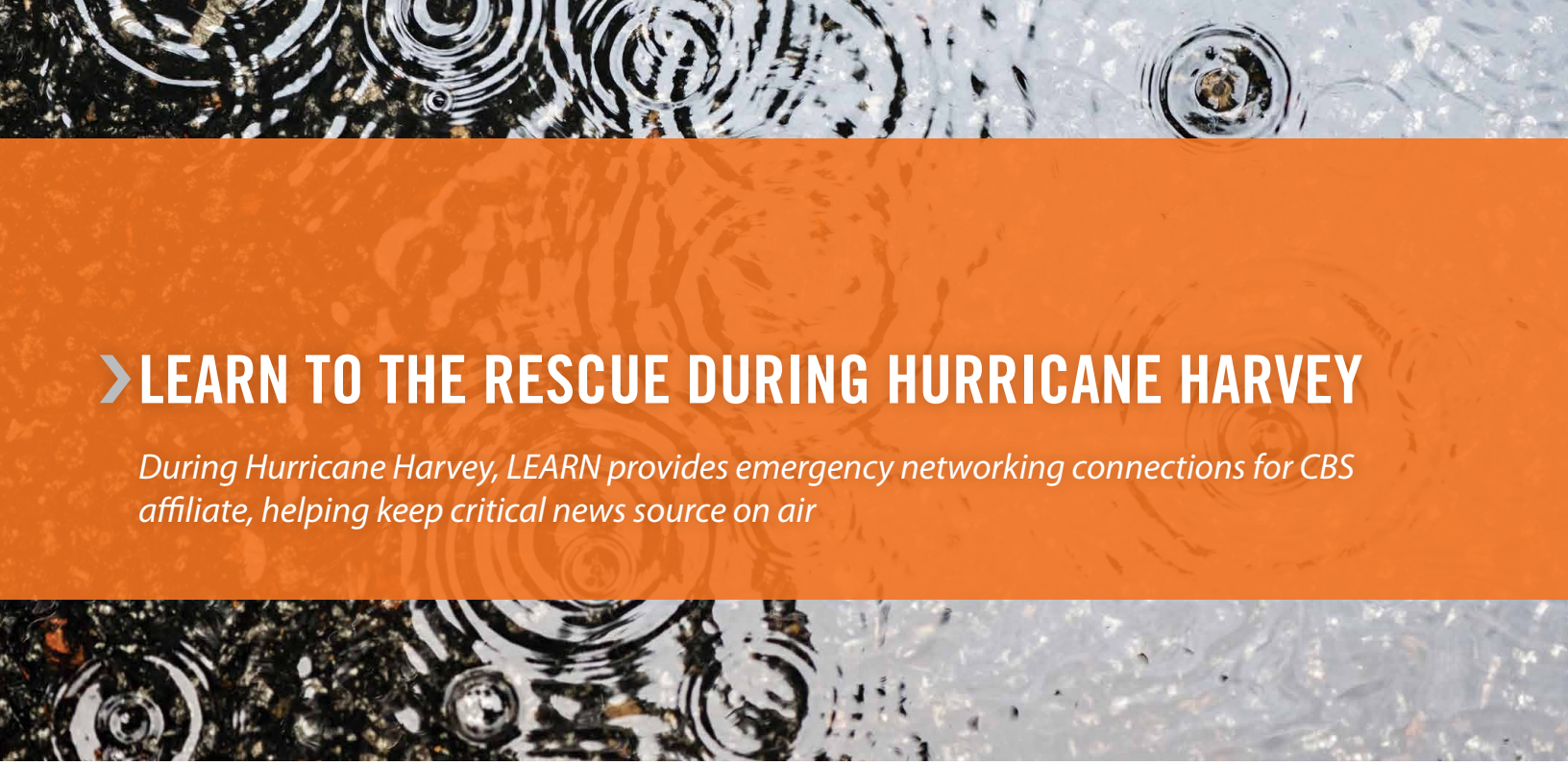
The Round Rock ISD pilot kicked off in December 2017 and in February 2018 the district awarded a bid to TETN to continue the arrangement. "LEARN's model of aggregation of services will over time continue to bring down the costs of the services they provide to not only higher education institutions but also K–12 school districts," Gabehart said. "LEARN's leadership are passionate about doing this and have made it a top priority to provide aggregation services to school districts. We are pleased to be part of that initial pilot to work through the issues."

Given that Texas has more than 1,000 school districts, collaboration with TETN and the state's ESCs is critical. "We can't go to each one, so the model is to partner with the regional service centers to work out the arrangements with the school districts," said Shah.

The experience of Round Rock ISD, Region 13 and TETN, shows the value of bringing together organizations with shared objectives to help improve the learning opportunities of students in Texas.

"The hope is that this will grow," said Castillo. "The goal is to educate school districts about this process in order to save them money and expand their benefit down the line."

Round Rock ISD students are able to explore the Internet and collaborate in a faster more protected manner through their relationship with LEARN.



LEARN TO THE RESCUE DURING HURRICANE HARVEY

During Hurricane Harvey, LEARN provides emergency networking connections for CBS affiliate, helping keep critical news source on air

When Hurricane Harvey hit the Houston area in August 2017, it flooded homes, businesses and roads. Americans sat glued to their TVs as news stations carried stories of heroic rescues and tragic losses.

But it turns out that some of those same news stations faced flooding of their own. Harvey forced CBS affiliate and TEGNA-owned KHOU-TV in Houston to evacuate its studio as water rushed into their building while they were broadcasting.

Though forced to leave their studio, KHOU still had to provide information to residents on evolving conditions in the city — information that proved critical during the dangerous storm and its aftermath.

PBS member station KUHT on the University of Houston campus, which had access to power and broadcasting capabilities, offered studio space to KHOU. However, in order to broadcast critical news and information, in addition to other equipment, KHOU needed on-screen text, graphics and mixing capabilities and the equipment to process those graphics.

TEGNA identified WFAA, their Dallas, TX station, as a location that could perform the video processing, but they needed a way to get the video to Dallas.

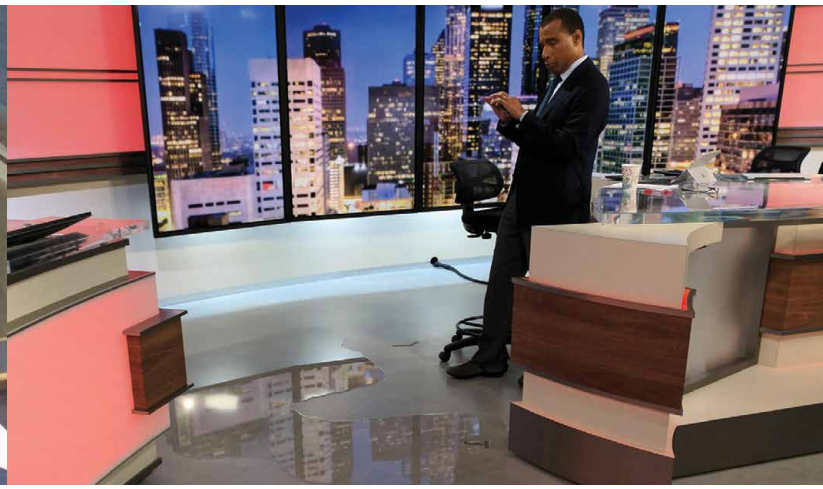
"We were looking for circuits and I talked to Charles Chambers at the University of Houston," explained Gary Gunnerson, Sr. IT Architect for TEGNA, a media company that operates 47 television stations including KHOU. "Charles said: 'We have a network called LEARN that's a not-for-profit and has a fantastic network for the state.'"

Gunnerson was introduced to Akbar Kara, Chief Technology Officer of LEARN, and the two began to discuss alternative solutions. "Our network had survived the storm and had plenty of capacity," Kara said. "The question was: how do we connect LEARN to WFAA in Dallas?"

They determined they could connect to Dallas from the University of Houston campus, but they couldn't get the last mile to WFAA. Fortunately, LEARN's partner, InnerCity FiberNet, was able to provide TEGNA a piece of fiber to connect WFAA to LEARN with a point-to-point gigabit Ethernet.

With the connection in place, KHOU started passing data between the two sites immediately.

"Working together, LEARN, Southeast Texas Gigapop (SETG) and the University of Houston, were able to offer a very easy solution to get the traffic up to Dallas in a very short period of time, which helped KHOU immensely," Chambers said.



Flooding at the KHOU station and studio.

KHOU was soon sending multiple video streams to and from Dallas — not only for studio recordings but also for confidence monitoring, a process broadcasters use to ensure picture quality is optimal, which requires additional feeds. The station was ultimately sending up to 16 video feeds at a time.

"While it is theoretically possible to transmit such data over the internet, the internet is not a point-to-point, Layer 2 circuit like LEARN, which means you get dropouts, artifacts and other glitches," said Gunnerson. "So, it wasn't until we had the LEARN connection that we could work at production quality."

Between the first call to LEARN shortly after the storm struck and the initial transmission from Houston to Dallas, only two weeks had elapsed.

"LEARN has an absolutely fantastic fiber network. It's a great resource for the entire state of Texas," Gunnerson said. "We were very happy that we received permission to use the network. It was a lifesaver for that time."

LEARN served as the primary conduit between KHOU and WFAA until the end of 2017, when KHOU was able to get their network up and running. It currently serves as a backup circuit as KHOU continues to reestablish their studio and connections.

"It just floored me that they could go out of their way to help us as much as they did," Gunnerson said. "It's a testament of their desire to help in an emergency situation."

During a moment of crisis, people and systems working together ensured that the citizens of greater Houston received critical and life-saving information.

"Our mission is always people first," said Pankaj Shah, LEARN President and CEO. "In the case of KHOU and the city of Houston after Hurricane Harvey, we were happy that we had a 'LEARN Champion' on the ground in the form of the University of Houston."

This, Shah says, is what LEARN is all about - supporting institutions and communities through their state-wide research and education network.

"We truly believe that LEARN is an extension of our members' enterprise network. Whether in crises or growth, our subject matter experts carry this torch and repeatedly leverage partnerships to support people while providing seamless and friction-free connectivity."

APPENDICES

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FINANCIAL STATEMENTS

Ingrid Edwards CPA PC
8500 N. Mopac, Suite 605,
Austin, TX 78759
512-582-0118

Member of American Institute of Certified Public Accountants

Member of Texas Society of Certified Public Accountants

INDEPENDENT ACCOUNTANT'S COMPILATION REPORT

To the Board of Directors
Lonestar Education and Research Network
Lubbock, TX

Management is responsible for the accompanying financial statements of Lonestar Education and Research Network (a nonprofit organization), which comprise the statement of financial position as of December 31, 2017, and the related statement of activities for the year then ended in accordance with accounting principles generally accepted in the United States of America. I have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. I did not audit or review the financial statements nor was I required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly, I do not express an opinion, a conclusion, nor provide any form of assurance on these financial statements.

Management has elected to omit substantially all of the disclosures and statement of cash flow required by accounting principles generally accepted in the United States of America. If the omitted disclosures and statement of cash flow were included in the financial statements, they might influence the user's conclusion about the Organization's financial position, changes in assets, and cash flow. Accordingly, these financial statements are not designed for those who are not informed about such matters.

Ingrid Edwards CPA PC

March 19, 2018

Certified Public Accountant
Austin, TX

STATEMENT OF FINANCIAL POSITION
DECEMBER 31, 2017

ASSETS

	2017
CURRENT ASSETS	
Cash and cash equivalents	$ 10,184,917
Investments - short term (at cost):	
Certificates of deposit	1,125,000
Fixed Income Bonds	1,200,000
Total Short Term Investments	2,325,000
Accounts receivable	235,367
Prepaid expenses	174,308
Funds held by others	1,900
Total Current Assets	12,921,492
INVESTMENTS - LONG TERM (at cost)	
Certificates of deposit	2,475,000
Fixed Income Bonds	3,748,472
Total Long-Term Investments	6,223,472
PROPERTY AND EQUIPMENT	
Network equipment	10,039,336
Furniture and equipment	56,273
	10,095,609
Less accumulated depreciation	(8,020,560)
Property and Equipment - net	2,075,049
OTHER ASSETS	
Network and IRU access rights	9,843,211
Less accumulated amortization	(5,952,112)
Total Other Assets	3,891,099
TOTAL ASSETS	$ 25,111,112

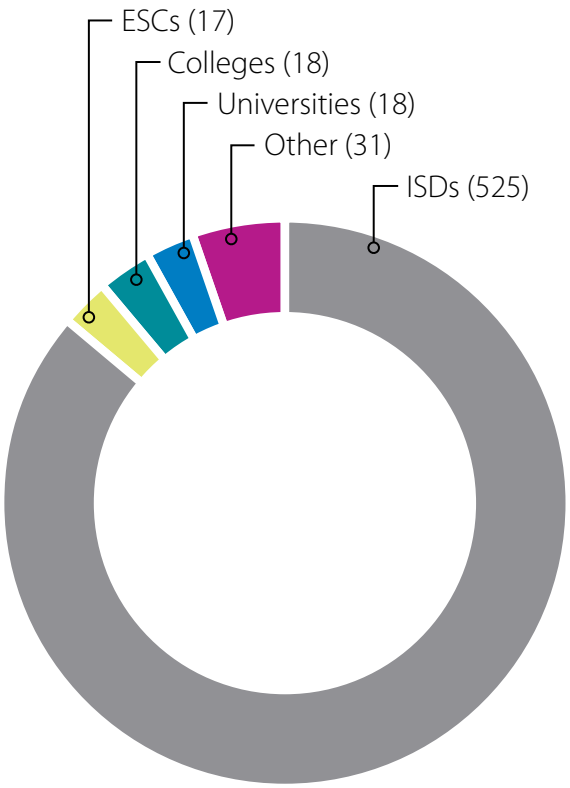
LIABILITIES AND NET ASSETS

CURRENT LIABILITIES	
Deferred revenue	$ 612,093
Accounts payable	152,073
Accrued vacation pay	10,134
Credit cards payable	36,276
Capital leases payable - current portion	15,000
Total Current Liabilities	825,576
LONG TERM LIABILITIES	
Capital leases net of current portion	23,306
Total Liabilities	848,882
NET ASSETS	
Unrestricted net assets	13,835,494
Unrestricted board designated net assets	
Life cycle replacement	10,360,713
Member balances	66,023
Total Net Assets	24,262,230
TOTAL LIABILITIES AND NET ASSETS	$ 25,111,112

STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED DECEMBER 31, 2017

	Current Operating Funds		
	Unrestricted		Total
	Program Services	Management and General	
REVENUES AND OTHER SUPPORT			
Network services	$ 6,869,795	$ -	$ 6,869,795
Membership dues	-	790,000	790,000
Investment income	96,968	4,747	101,715
TOTAL REVENUES AND OTHER SUPPORT	6,966,763	794,747	7,761,510
EXPENSES			
PROGRAM SERVICES			
Connections and fibers	2,797,622	-	2,797,622
Network parts and supplies	125,912	-	125,912
Installation	56,441	-	56,441
Amortization	632,430	-	632,430
Depreciation	763,809	-	763,809
Total Program Expenses	4,376,214	-	4,376,214
SUPPORTING SERVICES			
Professional fees:			
Administration	557,258	546,345	1,103,603
Auditing	-	19,750	19,750
Consulting	-	23,195	23,195
Accounting	-	9,748	9,748
Legal	-	6,931	6,931
Salaries and wages	303,702	44,360	348,062
Software subscriptions	11,376	97,339	108,715
Travel	88,023	49,138	137,161
Insurance	-	47,562	47,562
Sponsored meetings	-	76,902	76,902
Membership dues	-	20,100	20,100
Office rent	-	23,325	23,325
Payroll taxes	16,873	3,647	20,520
Office expenses	11,219	14,489	25,708
Computer supplies	2,096	4,343	6,439
Books and subscriptions	5,533	3,072	8,605
Telephone	267	6,595	6,862
Marketing, education and awards	-	6,565	6,565
Office utilities and maintenance	-	5,919	5,919
Depreciation	-	2,052	2,052
Total Supporting Services	996,347	1,011,377	2,007,724
TOTAL EXPENSES	5,372,561	1,011,377	6,383,938
CHANGES IN NET ASSETS	1,594,202	(216,630)	1,377,572
NET ASSETS:			
Beginning balance at January 1, 2017	21,985,695	893,231	22,878,926
Prior period adjustment	5,732	-	5,732
Balance at January 1, 2017 as restated	21,991,427	893,231	22,884,658
Ending balance at December 31, 2017	$ 23,585,629	$ 676,601	$ 24,262,230

AFFILIATED ORGANIZTIONS



Colleges

Angelina College
Austin Community College
Brazosport College
Del Mar College
Galveston College
Houston Community College
Lamar Institute of Technology
Lamar State College - Orange
Lamar State College - Port Arthur
Midland College
Navarro College
Northeast Texas Community College
Panola College
Paris Junior College
Texarkana College
Trinity Valley Community College
Tyler Junior College
Victoria College

Education Service Centers

Education Service Center - Region 1
Education Service Center - Region 11
Education Service Center - Region 13
Education Service Center - Region 14
Education Service Center - Region 15
Education Service Center - Region 16
Education Service Center - Region 17
Education Service Center - Region 18
Education Service Center - Region 19
Education Service Center - Region 2
Education Service Center - Region 20
Education Service Center - Region 3
Education Service Center - Region 4
Education Service Center - Region 5
Education Service Center - Region 6
Education Service Center - Region 7
Education Service Center - Region 9

ISDs

Abernathy ISD
Academy of Careers And Technologies
Adrian ISD
Alamo Heights ISD
Albany ISD
Alief ISD
Alpine ISD
Alto ISD
Amarillo ISD
Amherst ISD
Anderson-Shiro CISD
Andrews ISD
Angleton ISD
Anson ISD
Anton ISD
Apple Springs ISD
Archer City ISD
Aspermont ISD
Aubrey ISD
Austin ISD
Austwell-Tivoli ISD
Baird ISD
Balmorhea ISD
Bandera ISD
Bangs ISD
Banquete ISD
Bartlett ISD
Basis Texas
Bellevue ISD
Ben Bolt-Palito Blanco ISD
Benavides ISD
Benjamin ISD
Bexar County Academy
Big Sandy ISD
Big Springs Charter School
Birdville ISD
Blackwell CISD
Blanco ISD
Blanket ISD
Bluff Dale ISD
Bob Hope Charter School
Boerne ISD
Boling ISD
Booker ISD
Borden County ISD
Borger ISD
Bovina ISD
Bowie ISD
Boys Ranch ISD
Brackett ISD
Brady ISD
Brazos ISD
Breckenridge ISD
Brenham ISD
Broaddus ISD
Brock ISD
Bronte ISD
Brookeland ISD
Brookesmith ISD
Brooks Academy of Science And Engineering
Brooks County ISD
Brownfield ISD
Brownwood ISD
Buckholts ISD
Buena Vista ISD
Buna ISD
Burkburnett ISD
Burkeville ISD
Burnet CISD
Burton ISD
Caldwell ISD
Calvert ISD
Canadian ISD
Carpe Diem Schools
Carrizo Springs CISD

AFFILIATED ORGANIZATIONS (CONTINUED)

Castleberry ISD
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Center Point ISD
Centerville ISD
Channing ISD
Charlotte ISD
Chester ISD
Childress ISD
Chillicothe ISD
Christoval ISD
Cisco ISD
City Center Health Careers
City View ISD
Clarendon ISD
Claude ISD
Clint ISD
Clyde CISD
Coahoma ISD
Coldspring-Oakhurst CISD
Coleman ISD
Colmesneil ISD
Colorado ISD
Comanche ISD
Comfort ISD
Compass Academy Charter School
Comstock ISD
Cotton Center ISD
Cotulla ISD
Crane ISD
Crockett County Consolidated CSD
Crockett ISD
Crosbyton CISD
Cross Plains ISD
Cross Roads ISD
Crowell ISD
Crystal City ISD
Culberson County ISD
Dalhart ISD
Danbury ISD
Darrouzett ISD
Dawson ISD
De Leon ISD
Denton ISD
Denver City ISD
Devine ISD
Deweyville ISD
D'Hanis ISD
Dilley ISD
Dime Box ISD
Dimmitt ISD
Divide ISD
Doss Consolidated CSD
Douglass ISD
Dumas ISD
Eagle Pass ISD
Early ISD
East Central ISD
East Fort Worth Montessori Academy
Eastland ISD
Eden ISD
Edgewood ISD
Ehrhart School
Eleanor Kolitz Hebrew Language Academy
Electra ISD
Era ISD
Erath Excels Academy, Inc.
Etoile ISD
Eula ISD
Evadale ISD
Excelsior ISD
Falls City ISD
Farwell ISD
Fayetteville ISD
Flatonia ISD
Floresville ISD
Floydada ISD
Follett ISD
Forsan ISD
Fort Davis ISD
Fort Elliott CISD
Fort Sam Houston ISD
Fort Stockton ISD
Fort Worth Christian
Frankston ISD
Fredericksburg ISD
Frenship ISD
Friona ISD
Gause ISD
George Gervin Academy
George West ISD
Giddings ISD
Glasscock County ISD
Godley ISD
Gold Burg ISD
Gonzales ISD
Good Shephard Network
Goodrich ISD
Gorman ISD
Grady ISD
Graford ISD
Grandfalls-Royalty ISD
Grandview-Hopkins ISD
Granger ISD
Grape Creek ISD
Grapeland ISD
Great Hearts Texas
Greenwood ISD
Groom ISD
Groveton ISD
Gruver ISD
Gustine ISD
Hale Center ISD
Hamlin ISD
Happy ISD
Hardin-Jefferson ISD
Harlandale ISD
Harmony Science Academy
Harper ISD
Harrold ISD
Hart ISD
Hartley ISD
Haskell CISD
Hawley ISD
Hedley ISD
Hemphill ISD
Henrietta ISD
Henry Ford Academy Alameda School for Art + Design
Hereford ISD
Hermleigh ISD
Higgins ISD
Higgs Carter King Gifted & Talented
High Island ISD
Highland ISD
Highland Park ISD
Holliday ISD
Holy Cross
Hondo ISD
Huckabay ISD
Hunt ISD
Idalou ISD
Ingram ISD
Iowa Park CISD
Ira ISD
Iraan-Sheffield ISD
Irion County ISD
Jacksboro ISD
Jarrell ISD
Jim Ned CISD
John H. Wood Jr. Public Charter Dist
Johnson City ISD
Joshua ISD
Jourdanton ISD
Jubilee Academic Center
Jundson ISD
Jundson Montesorri of San Antonio
Karnes City ISD
Kelton ISD
Kenedy ISD
Kennard ISD
Kennedale ISD
Kermit ISD
Kerrville ISD
Kinkaid School
Kipp Aspire Academy
Kirbyville CISD
Klondike ISD
Knippa ISD
Knox City-O'Brien CISD
Kountze ISD
Kress ISD
La Gloria ISD
La Grange ISD
La Pryor ISD
La Vernia ISD
Lackland ISD
Lake Travis ISD

AFFILIATED ORGANIZATIONS (CONTINUED)

Lake Worth ISD
Lamesa ISD
Laneville ISD
Lapoynor ISD
Latexo ISD
Lazbuddie ISD
Leakey ISD
Lefors ISD
Leggett ISD
Leon ISD
Levelland ISD
Leveretts Chapel ISD
Lexington ISD
Liberty Hill ISD
Lighthouse Charter School
Lingleville ISD
Lipan ISD
Little Cypress-Mauriceville CISD
Littlefield ISD
Lockhart ISD
Lockney ISD
Loop ISD
Loraine ISD
Lorenzo ISD
Lovelady ISD
Lubbock ISD
Lubbock-Cooper ISD
Lueders-Avoca ISD
Luling ISD
Lumberton ISD
Lytle ISD
Madisonville CISD
Malakoff ISD
Mansfield ISD
Marathon ISD
Marfa ISD
Martins Mill ISD
Mason ISD
May ISD
McCamey ISD
McDade ISD
McLean ISD
McMullen County ISD
Meadow ISD
Meadowland Charter School
Medina ISD
Medina Valley ISD
Memphis ISD
Menard ISD
Merkel ISD
Meyersville ISD
Miami ISD
Midland Academy Charter
Midway ISD
Milano ISD
Miles ISD
Monahans-Wickett-Pyote ISD
Monsignor Kelly Catholic High School
Montague ISD
Moran ISD
Morton ISD
Mount Enterprise ISD
Muleshoe ISD
Mumford ISD
Munday CISD
Murchison ISD
Natalia ISD
Navarro ISD
Navasota ISD
Nazareth ISD
Neches ISD
New Braunfels ISD
New Deal ISD
New Frontiers Charter School
New Home ISD
Newcastle ISD
Newton ISD
Nixon-Smiley CISD
Nocona ISD
Normangee ISD
North East ISD
Northside ISD
Northside ISD
Nueces Canyon ISD
Nursery ISD
O'Donnell ISD
Olfen ISD
Olney ISD
Olton ISD
Onalaska ISD
Orange Grove ISD
Orangefield ISD
Overton ISD
Paint Creek ISD
Paint Rock ISD
Palacios ISD
Palo Pinto ISD
Pampa ISD
Panhandle ISD
Panther Creek ISD
Patton Springs
Pearland ISD
Pearsall ISD
Peaster ISD
Pecos-Barstow ISD
Perrin-Whitt CISD
Petersburg ISD
Petrolia ISD
Pilot Point ISD
Pine Tree ISD
Plains ISD
Plainview ISD
Pleasanton ISD
Plemons-Stinnett-Phillips CISD
Ponder ISD
Poolville ISD
Por Vida Academy
Port Arthur ISD
Positive Solutions Charter School
Post ISD
Poteet ISD
Poth ISD
Prairie Lea ISD
Prairie Valley ISD
Presidio ISD
Pringle-Morse CISD
Quanah ISD
Radiance Academy of Learning
Ralls ISD
Randolph Field ISD
Ranger ISD
Rankin ISD
Raven School
Reagan County ISD
Richards ISD
Richland Springs ISD
Rio Vista ISD
Rising Star ISD
River Road ISD
Robert Lee ISD
Roby CISD
Rochelle ISD
Rockdale ISD
Rocksprings ISD
Roosevelt ISD
Roscoe ISD
Rotan ISD
Round Rock ISD
Round Top-Carmine ISD
Rule ISD
Runge ISD
Sabinal ISD
Sabine ISD
Sabine Pass ISD
Saint Jo ISD
San Antonio ISD
San Antonio Preparatory Academy
San Antonio School for Inquiry & Creativity
San Antonio Technology Academy
San Isidro ISD
San Perlita ISD
San Saba ISD
San Vincente ISD
Sands CISD
Sanford-Fritch ISD
Santa Anna ISD
Santa Maria ISD
Santa Rosa ISD
Schertz-Cibolo-U City ISD
Schleicher ISD
School of Excellence In Education
School of Science And Technology
School of Science And Technology Discovery (015-831)

AFFILIATED ORGANIZATIONS (CONTINUED)

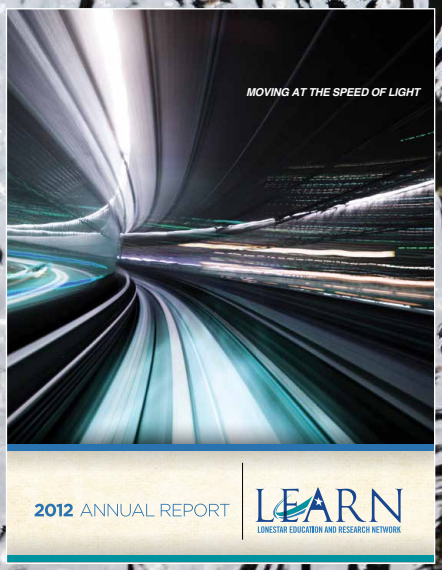
Schulenburg ISD
Seagraves ISD
Seashore Charter Schools
Seminole ISD
Seymour ISD
Shallowater ISD
Shamrock ISD
Shekinah Radiance Academy
Shelbyville ISD
Shepherd ISD
Shiner ISD
Sidney ISD
Silverton ISD
Sivells Bend ISD
Slaton ISD
Slidell ISD
Slocum ISD
Smyer ISD
Snyder ISD
Somerset ISD
Somerville ISD
Sonora ISD
South San Antonio ISD
Southland ISD
Southside ISD
Southwest ISD
Southwest Preparatory School
Spearman ISD
Spring Creek ISD
Spring Hill ISD
Springlake-Earth ISD
Spurger ISD
St. Francis de Sales School
Stamford ISD
Stanton ISD
Sterling City ISD
Stockdale ISD
Strake Jesuit College Prepatory
Stratford ISD
Strawn ISD
Sudan ISD
Sundown ISD
Sunray ISD
Sweet Home ISD
Sweetwater ISD
Taft ISD
Tahoka ISD
Tenaha ISD
Terlingua ISD
Terrell County ISD
Texas School for the Blind & Visually Impaired
Texhoma ISD
Texline ISD
The Oakridge School
Thorndale ISD
Thrall ISD
Three Way ISD
TLC Academy
Tolar ISD
Trent ISD
Trinidad ISD
Tulia ISD
Utopia ISD
Uvalde ISD
Valentine ISD
Vega ISD
Veribest ISD
Vernon ISD
Victoria ISD
Vidor ISD
Vysehrad ISD
Waelder ISD
Walcott ISD
Wall ISD
Walnut Bend ISD
Warren ISD
Water Valley ISD
Wellington ISD
Wellman-Union CISD
Wells ISD
West Orange-Cove CISD
West Rusk ISD
West Sabine ISD
Westbrook ISD
Westhoff ISD
Wheeler ISD
White Deer ISD
Whitharral ISD
Wichita Falls ISD
Wildorado ISD
Wilson ISD
Wimberley ISD
Windthorst ISD
Wink-Loving ISD
Woden ISD
Woodson ISD
Woodville ISD
Wylie ISD
Yoakum ISD
Zavalla ISD
Zephyr ISD

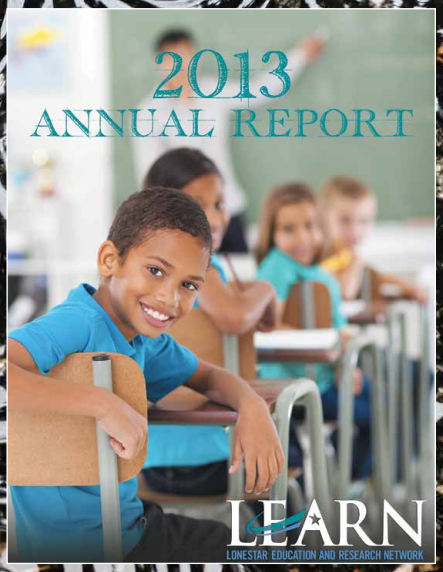
Universities

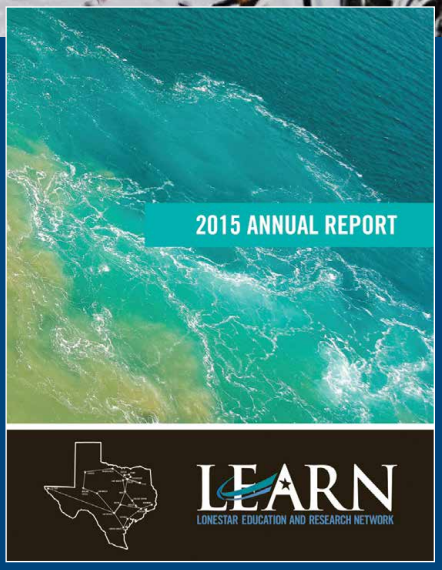
Sul Ross State University
Sul Ross State University Rio Grande College
Tarleton State University
Texas A&M International University
Texas A&M University - Central Texas
Texas A&M University - Commerce
Texas A&M University - Kingsville
Texas A&M University - San Antonio
Texas A&M University - Texarkana
Texas A&M University at Galveston
University of Houston - Clear Lake
University of Houston - Downtown
University of Houston - Victoria
University of North Texas at Dallas
University of North Texas Health Science Center
University of Texas - Permian Basin
University of Texas at Tyler
West Texas A&M University

Other

Alamo Area Council of Governments
Brazos Valley Affordable Housing
Brazos Valley Council of Governments (BVCOG)
Brazos Valley Council on Alcohol & Substance Abuse
Brazos Valley Small Business Development Council
Bryan/College Station Chamber of Commerce
Citizen's Medical Center - Victoria
City of Austin Information Services
Duncanville Public Library
Fort Worth Public Library
Guadalupe Valley Hospital
Houston Metro
Lower Colorado River Authority
Mesquite Public Library
Mission Hospital
Newton County Library
NOAA
Orange County
Parkland Memorial Hospital
Project Unity
Texas AgriLife Extension Service
Texas AgriLife Research
Texas Engineering Experiment Station
Texas Engineering Extension Service
Texas Forest Service
Texas Transportation Institute
Texas Veterinary Medical Diagnostic Lab
The Houston Museum of Natural Science
Travis County
Washington County
Wharton County Library







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