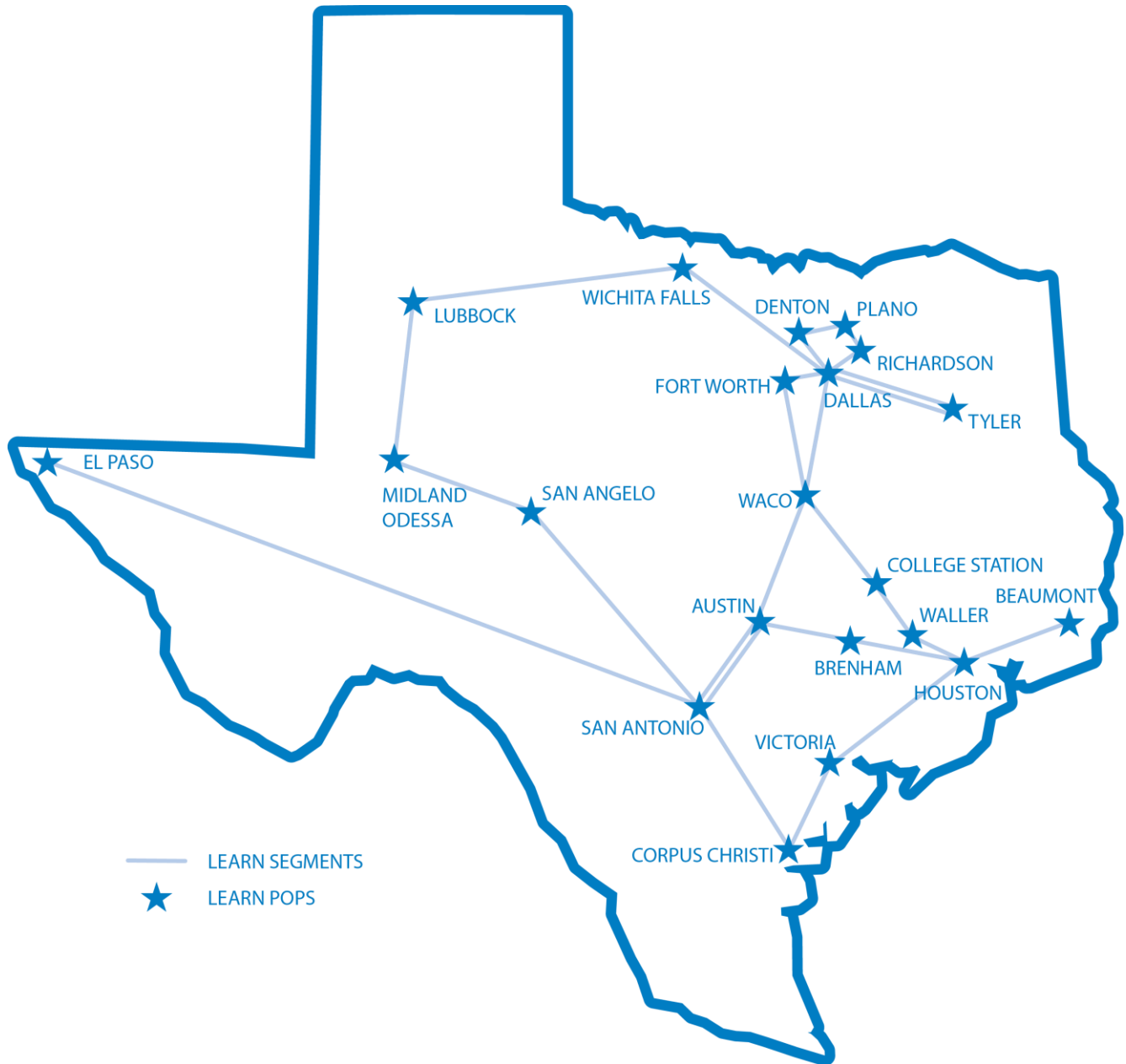


# Co-Creating LEARN's Future

## STRATEGIC PLAN (CREATED 2017)



**Final Draft for the BOD**

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## INTRODUCTION

LEARN: Lonestar Education and Research Network (LEARN) is a fast-growing advanced regional optical network (RON). When compared to its peers such as CENIC (California); MERIT (Michigan); MCNC (North Carolina); OARnet (Ohio) and NYSERnet (New York), LEARN is still an emerging organization. LEARN has a large footprint of approximately 3,200 route miles of fiber, and a total staff of 11.5 FTEs. LEARN's primary challenges are mitigating operational and tactical risks with minimal staffing, growing the customer base, and creating a new competitive service model with a corresponding financial model. LEARN's challenges are similar to almost all RONs, as well as Internet2, the U.S. national R&E network, since the telecommunications strategies have a lot to do with content generation, cloud-based services and applications and commoditization of networks.

The LEARN strategic planning process and this document were designed to continue an ongoing discussion for LEARN's leadership and its members while co-creating LEARN's future. This document lays the foundation for conversations that will be ongoing over the next several years as LEARN improves and increases the level and types of services its members can rely on, and moves to the next level as a premier RON, whereby it effectively serves multiple verticals (higher education, K-12, healthcare and public service entities) with varied business models that meet their needs. At the same time, LEARN must continue to support regional, national and international research projects.

### About LEARN

LEARN was formed in 2004 through a one-time \$7.5 million commitment from Texas Governor, Rick Perry. The initial proposal was to create a fiber network connecting the four largest urban areas of the state: Houston, Austin, Dallas, and San Antonio. The Austin-Dallas link would connect through College Station; a spur to Lubbock was also included. It was envisioned that other LEARN participants would be connected through future availability of funds created by LEARN's operations. At the same time, an additional \$2.5 million of the funding was dedicated to high-performance computing (HPC) middleware integration of the original five institutions that comprised the High-Performance Computing Across Texas (HiPCAT) project, namely The University of Texas, Texas A&M University, Rice University, University of Houston, and Texas Tech University.

LEARN is a consortium of 40 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), connects these organizations together, and over 500 affiliated organizations, utilizing high-performance optical and packet-based network services to support their research, education, healthcare and public service missions. LEARN is also part of a national community of regional optical networks, and provides Texas connectivity to the national and international research and education networks.

In collaboration with the public and private sectors, LEARN's network spans more than 3,200 miles across Texas. LEARN is built on dense wavelength division multiplexing

(DWDM) optical technology, a technology that provides 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 highly scalable and permits LEARN to leverage the initial investment by adding additional capacity at marginal costs. LEARN has a packet network overlaying the DWDM optical infrastructure that seamlessly transports Ethernet traffic for researchers and campus networks. LEARN's IP aggregation service has 200 gigabits-per-second (Gbps) of capacity to Internet2, 100 Gbps to ESnet, 70 Gbps to commodity network providers, and 130 Gbps of private peering with content providers.

LEARN's optical backbone is built on agreements with the private sector, not-for-profits, member organizations, and affiliates 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 capacity, as needed. In wavelength capacity agreements, the vendor provides the infrastructure and bandwidth under the terms and conditions of the agreement.

## Community Engagement Strategic Planning Approach

LEARN is an organization created by its community and the strategic planning approach was designed to encompass all current and potential stakeholders. To this end, in 2016 the LEARN team pursued the following approach through a year-long process:

- Interviews with the outgoing LEARN CEO & President;
- A survey of the LEARN community;
- Staff day-long strategic planning meeting;
- Four regional meetings with a total of almost 80 attendees;
- Interviews with the leaders of the regional meetings;
- Interviews with other regional and national leaders;
- Strategic planning Board meeting;
- Additional ad hoc conversations and interviews, and
- Ongoing collaboration and communication with LEARN's Executive Committee.

Based on preliminary data collected in the above process, LEARN's Executive Committee (EC) formed the Business and Services Committee (B&S) in December 2016. In conjunction with the EC, B&S has worked diligently in 2017 to start understanding and analyzing various business models and services that other RONS and state networks provide to their members. Data collected by this committee throughout 2017 has helped refine this Strategic Plan.



## LEARN'S VISION & MISSION

LEARN's vision and mission, carefully crafted at LEARN's inception, are in need of a refresh. As LEARN contemplates its future, its commitment to research and education, a collaborative statewide approach, a reasonable growth strategy, and national and global opportunities, its vision and mission should be appropriately reflective of its updated approach. Moreover, the current vision and mission are admittedly clunky and difficult to remember, they should be the launching point for outreach materials, elevator speeches, and staff's motivation each day.

### 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.

### LEARN's Mission

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

## LEARN'S GUIDING PRINCIPLES



<b>LEARN Value-Add</b>	<ul style="list-style-type: none"> <li>• CIO peer group is key.</li> <li>• Only comprehensive convener of Texas higher education CIOs.</li> <li>• Healthy, sustainable, consortium-based organization driven by its members, affiliates, and community.</li> <li>• Access and joint ownership of infrastructure.</li> <li>• Transparent business model and rates, created by members, using a philosophy of “shared services” through economies of scale and the power of aggregation.</li> <li>• People committed to contributing to the betterment of the community as a whole.</li> <li>• The diversity of the community adds to the richness of “hot topic” discussions.</li> </ul>
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## STRATEGIC PRIORITIES

The top four elements/strategies that will drive LEARN’s Strategic Plan and its future are 1.) Business and Services; 2.) Statewide Collaboration and Partnerships; 3.) National and Regional Collaboration; and 4.) Outreach. At its core, LEARN’s professional staff, its open yet secure architecture, and the opportunities it provides for collaboration and partnerships are supported by these four key elements.



### Strategies & Objectives - Top 4 Elements That Will Drive the Strategic Plan

Business & Services Strategy	Objectives:
<p>Ensure LEARN’s business strategy is agile and designed to be consistent with its vision. It should be responsive in its partnerships with its customers, while enabling a fiscally responsible and sustainable model for the future.</p> <p>Through an understanding of customer needs, procurement requirements and innovative approaches, LEARN will offer services leveraging aggregation and consolidation to achieve efficiencies and reductions in total cost of ownership.</p>	<ul style="list-style-type: none"> <li>• Competitive and flexible pricing.</li> <li>• Sustainability.</li> <li>• Managed growth, as appropriate.</li> <li>• Leverage strategic sourcing and existing contracts.</li> <li>• Work closely with members to understand and be responsive to their current and future needs.</li> <li>• Value-Add – Leverage aggregation and economies of scale at the state level amongst various verticals, which in turn is aggregated at the national level.</li> </ul>



<b>Statewide Collaboration &amp; Partnerships Strategy</b>	<b>Objectives:</b>
<p>Explicitly recognize the impact of LEARN's community convener role, the value of community engagement, and the need to harness the great strength and diversity of the LEARN community to maximize benefits to the entire state.</p>	<ul style="list-style-type: none"> <li>• Be sensitive to regional variations and responsive to national policies. Work collaboratively and co-exist with other organizations of similar mission.</li> <li>• Value-Add – Help reach remote areas and increase access to education, healthcare and research to underserved and unserved communities.</li> <li>• Value-Add – Establish LEARN as a trusted partner, while being a convener for the community.</li> </ul>
<b>National &amp; Regional Collaboration Strategy</b>	<b>Objectives:</b>
<p>Explore collaboration and shared opportunities that lead to future cost avoidance, increased access to education and increased opportunities for grants, within the context of LEARN's vision and mission.</p>	<ul style="list-style-type: none"> <li>• Identify creative solutions to existing challenges such as reaching remote areas and increasing capacity for research and high-performance requirements.</li> <li>• Value-Add – Build relationships, partnerships, and collaborations nationwide, thereby reducing costs while providing service enhancements to its members.</li> <li>• Value-Add – Bring more national visibility to LEARN and its members by enabling joint-grants and support for inter-state/regional research projects as well as participate in national projects with Internet2, ESnet, etc.</li> </ul>
<b>Outreach Strategy</b>	<b>Objectives:</b>
<p>Build a compelling business case for the value-add of LEARN as an extension of member networks and start an ambassador program with existing customers, while further reaching out to community colleges, K-12, and other organizations with public service missions.</p>	<ul style="list-style-type: none"> <li>• Articulate LEARN's value-add to the community at large.</li> <li>• Ensure that LEARN's value is clear to its members and that all members can clearly articulate LEARN's value-add.</li> <li>• Expand LEARN's outreach/marketing capabilities through a dedicated FTE to increase its presence in Texas.</li> </ul>

## LEARN's Core

Staffing	Objectives:
<p>Staff appropriately to meet the needs of the LEARN community, reducing current operational risk to the network, while being responsive to the work-life balance needs of the LEARN staff.</p>	<ul style="list-style-type: none"><li>• Reduce risk.</li><li>• Ensure business continuity and maintain high quality of service for LEARN's members.</li><li>• Prepare for members' future needs.</li><li>• Hire subject matter experts (SME). Value-Add – Local expert support – LEARN's network engineers are experts who understand the community, consider themselves contributing members of that very community, and have a personal stake in its success.</li></ul>
Secure Architecture	Objectives:
<p>Pursue opportunities towards unification of the network within and across customers, modernization of equipment, and opportunistic outreach to rural underserved areas.</p> <p>Leverage emerging technologies where advantageous, while ensuring the ongoing security and reliability of the network.</p> <p>Although LEARN's primary role is to provide secure and reliable backbone network operations, LEARN's community role is as a convener of various groups such as CIOs and networking and security leaders to share best practices.</p> <p>Seek out services and contracts that will serve its members' interests when aggregated.</p>	<ul style="list-style-type: none"><li>• Reduce members' total cost of ownership, through unification, aggregation and strategic co-locations wherever possible.</li><li>• Ensure network stability through timely equipment purchases and implementations, using the Life Cycle Replacement (LCR) fund.</li><li>• Strategically expand network capacity and reach, based on customer requirements and forward-thinking planning.</li><li>• Be more responsive to fast-growing FrameNet (packet) business, while continuing to serve WaveNet customers.</li><li>• Evaluate various services being offered to members from industry partners and not-for-profit organizations.</li><li>• Recognizing that some LEARN customers may have a need for an aggregated security service/contract offering, LEARN will seek out opportunities for such aggregation.</li><li>• Find collaboration opportunities for information security officers across organizations to maximize their effectiveness.</li><li>• Value-Add Architecture – LEARN's primary role is to develop and enable a not-for-profit R&amp;E network that supports high-end research and experimentation; it also supports a shared-services model for commodity service aggregation at the state level and knowledge sharing within the community.</li><li>• Value-Add Cybersecurity – LEARN has an obligation to the community to not only deliver advanced network services, but also to improve and enhance security and cyber knowledge within the community.</li></ul>

## CONCLUSION

The discussion in this document and the implementation of the objectives laid out herein, will move LEARN significantly forward in terms of both clarifying its identity and meeting the needs of its broad and diverse community. As LEARN revisits its business strategy, vision, mission, and services, enhances its architecture, expands its statewide and national and regional collaboration, and grows its staff, it will be necessary to revisit its governance structure to be sure that it is designed to meet the needs of its growing community.

The Strategic Plan can only be successful if it is embraced by the community and recognized as a living, breathing document. The guiding principles are designed to be enduring; all decisions should be evaluated based on these principles. The rapidly evolving and changing nature of technology, education, and state and national governments may require adjustments to the Strategic Plan. It is designed to not be prescriptive, but to provide direction while adapting to changing circumstances. In addition, the Board should annually evaluate and update the plan.

LEARN will also develop and maintain a tactical plan beginning in 2018, one which uses the Strategic Plan and LEARN's Technology Roadmap as its guide. The tactical plan will use elements of Gartner's "run, grow and transform the business model", as a catalyst for effective project management, communication, decisions and forecasting.