Lessons "LEARNed": NSF CC* Grants

Mary Goldie and Amy Schultz

10/18/2021
Our History

• LEARN was established in 2003 by the Texas Legislature to help build a high-speed fiber optic network for research, education, healthcare, and public entities to serve the state of Texas
• LEARN is a 501(c)3 private organization
• First passage of light on the LEARN network was between College Station and Houston in 2005
LEARN Members Served

- ISDs: 233
- Universities: 59
- Community Colleges: 23
- Libraries, Museums & Hospitals: 20
- ESCs: 9
- Federal, State, or Consortium: 6
- Cities & Counties: 5
- Other: 7
Timeline of NSF Grants at LEARN

- Fall 2018: LEARN began exploring NSF Grants
- Sept 2019: LEARN awarded NSF CC* Regional Grant (2019)
  - UTD submitted proposal (TRECIS)
  - TAMU submitted proposal (BRICCs)
- June 2020: LEARN awarded NSF CC* Cyberteam Grant
  - UTD Awarded NSF CC* CIRA Grant
- March 2021: LEARN submitted proposal (2021)
- Sept 2021: LEARN awarded NSF CC* Regional Grant (2021)
CC* Regional: Accelerating Research and Education at Small Colleges in Texas via an Advanced Networking Ecosystem Using a Virtual LEARN Science DMZ

October 1, 2019 – September 30, 2022

PI: Akbar Kara, LEARN

Co-PIs:
Ryan Fitzgerald, South Plains College
Curtis White, St. Mary's University
Amy Schultz, LEARN

$957,000 awarded

Midland College
McLennan Community College
South Plains College
South Texas College
St. Mary's University
Trinity University

ESnet
Internet2
Texas Advanced Computing Center
The Quilt
2019 NSF Grant Achievements - Technology

- Data Transfer Nodes
- Customer Premise Equipment
- Science DMZ
- Six campuses receive R&E Connectivity/Services
  - 1G CDR on 10G burstable port
  - Peering/Caching
  - DDoS
  - Blended Commodity Internet

NSF CC* Award Number 1925553
2019 NSF Grant Achievements - Training

- 3 Workshops From National Leaders
- 16 Monthly Training Meetings from LEARN
- 1:1 Training as Needed

NSF CC* Award Number 1925553
2019 NSF Grant Achievements - Outreach

5 Presentations from Industry Leaders

Campus Engagement Events

EPOC Deep Dives (Planned)

NSF CC* Award Number 1925553
NSF Award #2126248

CC* Regional: LEARN Extending & Accelerating Participation in Science (Texas LEAPS)

October 1, 2021 – September 30, 2023

PI: Akbar Kara, LEARN

Co-PIs:
- Lonie Packer, Trinity Valley Community College
- Dr. Catherine Howard, Texarkana College
- Amy Schultz, LEARN

Trinity Valley Community College
Texarkana College
Texas Lutheran University

$890,000 awarded
2019 NSF Grant
NSF CC* Award Number 1925553

2021 NSF Grant
NSF CC* Award Number 2126248
TRECIS/BRICCCs Achievements

• Raise awareness of TRECIS/BRICCCs grants and their resources amongst the LEARN community
  • Grants promoted on LEARN's social media, website, at LEARN Board meetings, and in LEARN's Annual Report

• Coordinate introductions between TRECIS/BRICCCs and potential community partners
  • TADC
  • LEARN NSF grant participating campuses
TRECIS Achievements

- LEARN assisted in connecting TRECIS components to the Arlington Regional Data Center (ARDC)
- In the future, LEARN will be involved with network monitoring, figuring out how to do research stack with the Kubernetes clusters, setting up a chain with dev ops tools, and Gitlab pipelines
BRICCCs Achievements

• Assist with coordination for the BRICCCs workshop, making connections & interviewing CIOs

• In the future, LEARN will be involved with BRICCCs efforts to disseminate knowledge amongst community college groups about the NSF grant proposal process and CI-adoption strategies
Lessons "LEARNed"

• Technical Deployment
  • 1 device for circuit termination + packet switching + performance measurement
  • Original plan called for one DTN; ended up using two DTNs
  • Every campus connected to LEARN at different times
  • COVID-related delays

• Training
  • Question of how to train faculty to utilize the technology
  • Re-engaging faculty that provided network use cases

NSF CC* Award Number 1925553
Lessons "LEARNed"

• Outreach
  • Commitment to grant and involvement varied campus to campus
  • COVID, inner institutional impacts to grant engagement
    • Move to virtual offerings; inability to conduct campus engagement in-person
    • Campus COVID protocols varied from institution to institution
  • IT and faculty departments not aligned
Grant Participating Institutions

2019 Participating Campuses (NSF Award 1925553)

- South Plains College
- Midland College
- Texas Lutheran University
- Trinity University
- St. Mary’s University
- Texarkana College
- Trinity Valley Community College
- McLennan Community College
- South Texas College

2021 Participating Campuses (NSF Award #2126248)

- South Plains College
- Midland College
- Texas Lutheran University
- Trinity University
- St. Mary’s University
- Texarkana College
- Trinity Valley Community College
- McLennan Community College
- South Texas College
Thank You!

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