

# ESC-20 Broadband Consortium

## Oct 3, 2017 Discussion

### Mission Statement

Create a Regional Broadband Fiber  
Infrastructure for All ESC-20 School Districts  
with Competitively Priced Internet Access

It's not that far away



# How to Solve the Dilemma of Cost VS Speed



# ESC Region 20 Broadband Consortium Network



# ESC Region 20 Fiber Consortium Mission Statement

The purpose of the Educational Service Center Region 20 Broadband Consortium is to provide a **Regional Fiber Infrastructure** and cost effective internet access for All ESC-20 Service Center Consortium Members. Future Facilitation of additional services as requested by the member community.

# ESC-20 Internet Access Cost as of E-Rate FY 2016

## ESC-20 Cost Analysis

**87 GIG**

### COST BEFORE E-RATE DISCOUNTS

TOTAL MONTHLY COST ALL SCHOOL DISTRICTS \$379,022  
TOTAL ANNUAL COST ALL SCHOOL DISTRICTS \$4,548,266  
TOTAL COST OVER 20 YEARS ALL SCHOOL DISTRICTS **\$90,965,335**

**That's \$1002 Per GIG each month after E-rate**

**Up to 500 GIG**

### COST

TOTAL MONTHLY COST ALL SCHOOL DISTRICTS \$116,500  
TOTAL ANNUAL COST ALL SCHOOL DISTRICTS \$1,398,000  
TOTAL COST OVER 20 YEARS ALL SCHOOL DISTRICTS **\$23,697,600**

**That's \$233 per GIG each month PERIOD!**

# Internet Access & Broadband Fiber Infrastructure RFP(s)

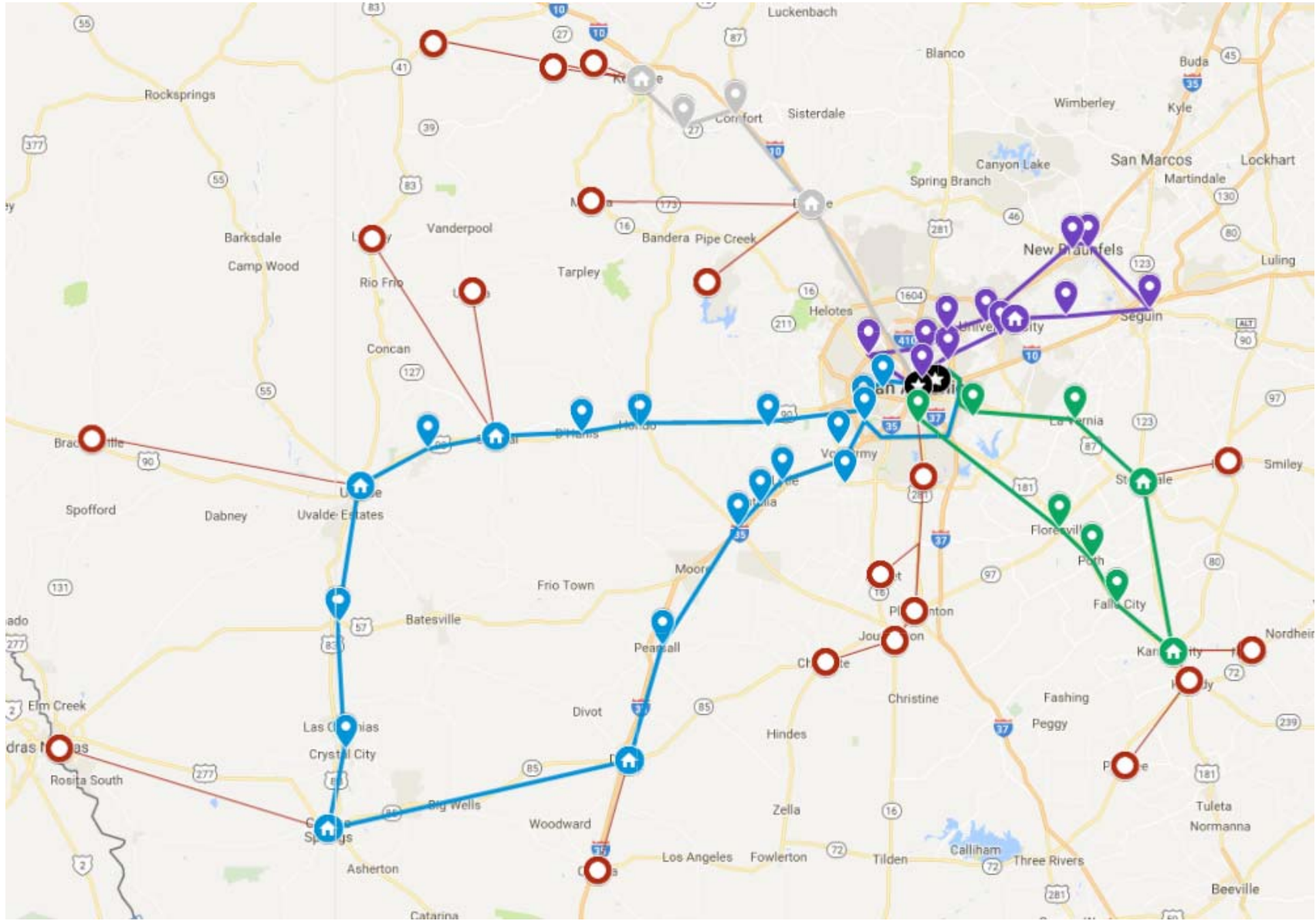
- A request for proposal for Internet Access from 200 Gbps to 500 Gbps to be terminated at the Educational Service Center, Region 20 Network Operations Center on behalf of the Consortium to be released Mid-October
- A request for proposal for broadband connectivity from each consortium member **Network Operations Center and/or Network Hub Site** TO the Region 20 Service Center on behalf of the Consortium to be released Mid-October
- The Fiber Connectivity RFP will include a request for “Leased Lit Fiber” and “Leased Dark Fiber”

# Network Equipment RFP

- ESC-20 will release a request for quote for network equipment to “light” the Dark Fiber
- An Optical Network for Layer 1 Transport, includes Core and Hub Sites
  - Two Core Routers at the ESC-20 NOC
  - Optical Transport in Ring & Spoke Topology
  - One Edge Device at each participating district location
    - Edge Device will support 1, 2, 4, 10 Gigabit Ethernet Connectivity.



# Notional schema



# Estimated Cost

(based on 60 participating entities minimum of 1 circuit each)

- Estimated Internet Access Average Cost
  - Two 100 Gig connections (100 Gig CR to begin)
    - \$64,000 Per month
    - \$15,640 Per month after E-Rate
    - **\$256.00 per month per district**
- Estimated New Fiber Build will be approximately 780-900 Miles
  - Estimated Fiber Build Cost/Special Construction Cost is **\$50,000,000**
  - Estimated E-Rate Payment is \$43,500,000
  - Estimated Texas TEA State Match is \$5,000,000
  - Consortium Pays \$1,500,000 / \$375,000 Per Year over Four years
  - \$6,250 per district per year for years 1 to 4
  - **\$520.84 per month per district for years 1 to 4**
- Estimated Dark Fiber Monthly Cost
  - \$26,000 per Month
  - \$6,000 per month after E-Rate
  - **\$100 per month per district**

# Estimated Cost

- Estimated Network Equipment Cost
  - \$5,000,000 for Optical Equipment, Core Router, and Edge Devices
  - \$1,150,000 One-Time Cost After E-Rate
  - **\$19,166 Per District One-Time Cost** / Can be financed over 60 Months
  - Approximately **\$400 per month** per District for 60 Months
  - Equipment has a 10 Year Life Cycle – Carrier Grade
  - Region 20 Support cost \$315,000 per year
  - **\$430.00 per district per month**

Region Average \$1,700 Per District Per month

VS

Today's \$7,130 Per District Per month

Estimated cost for a 10 Gig Circuit and internet access

“NOT TO EXCEED PRICING”

Number of Students	Year 1-4 Monthly District cost per circuit	Year 5-20 Monthly District cost per circuit	10 year total	10 year monthly average
1-250	\$800	\$500	\$74,400	\$620
251-500	\$1,000	\$700	\$98,400	\$820
501-1000	\$1,100	\$800	\$110,400	\$920
1001-2000	\$1,400	\$1,100	\$146,400	\$1,220
2001-3000	\$1,600	\$1,300	\$170,400	\$1,420
3001-4000	\$1,800	\$1,500	\$194,400	\$1,620
4001-6000	\$2,000	\$1,500	\$204,000	\$1,700
6001-8000	\$2,100	\$1,700	\$223,200	\$1,860
8001-20,000	\$2,200	\$1,900	\$242,400	\$2,020
20,000-50,000	\$2,400	\$2,000	\$259,200	\$2,160
50,000 +	\$2,400	\$2,000	\$259,200	\$2,160

# District Options

- A district can participate and purchase the circuit and Internet Access
- A district can participate and purchase a circuit only to multiple district network hubs (I.E. Region 20 as a Data Recovery Site)
- Due to the minimal cost difference between 1 Gigabit Network Equipment, and 10 Gigabit Network Equipment, **All Network Equipment Edge Devices installed will support up to 10 Gigabit Service**
- **The Edge Device installed at the district NOC will support up to 10 Gbps Bandwidth to ESC Region 20.**
- Consortium Member Monthly Circuit Cost including Internet Access is based upon Student ADA.

# Pro/Con

- Pro
  - Fixed cost over 20 years to 500 Gig
  - E-rate irrelevant
  - Single Support point
  - Significant cost savings per MB to all ISD's
- Challenge
  - Don't know what we don't know
  - First time project, limited frame of reference
  - Possible Installation issues with local municipalities
  - Some Districts may be better suited for alternate options

# Who's in ?

ALAMO HEIGHTS ISD		HONDO ISD		POTH ISD	
BANDERA ISD		HUNT ISD		RANDOLPH FIELD ISD	
BOERNE ISD		INGRAM ISD		SABINAL ISD	
BRACKETT ISD		JOURDANTON ISD		SAISD	
CARRIZO SPRINGS CISD		JUDSON ISD		SCHERTZ-CIBOLO-U CITY ISD	
CENTER POINT ISD		KARNES CITY ISD		SOMERSET ISD	
CHARLOTTE ISD		LA PRYOR ISD		SOUTH SAN ANTONIO ISD	
COTULLA ISD		LA VERNIA ISD		SOUTHSIDE ISD	
CRYSTAL CITY ISD		LACKLAND ISD		SOUTHWEST ISD	
DEVINE ISD		LEAKEY ISD		STOCKDALE ISD	
D'HANIS ISD		LYTLE ISD		UTOPIA ISD	
DILLEY ISD		MEDINA ISD		UVALDE CISD	
DIVIDE ISD		MEDINA VALLEY ISD		COMAL ISD	
EAGLE PASS ISD		NATALIA ISD		JOHN H WOOD	
EAST CENTRAL ISD		NORTH EAST ISD		BROOKS ACADEMY	
EDGEWOOD ISD		NORTHSIDE ISD		KIPP SAN ANTONIO	
FALLS CITY ISD		PEARSALL ISD		JUBILEE ACADEMY	
FLORESVILLE ISD		PLEASANTON ISD		SOUTHWEST PREP	
FORT SAM HOUSTON ISD		POTEET ISD		NEW FRONTIERS	
HARLANDALE ISD				SCHOOL OF SCIENCE & TECH	

# Who's in ?

- Notional participation from 51 of 54 districts, and 7 of 7 feasible charters
- RFP to include 62 entities with 71 demarcation points
- Total of 73 + Circuits
- This is financially feasible based on notional participation
- Final commitment to first stage to occur when installations are scheduled Feb/Mar 2019



# ESC 20 Consortium E-Rate Timeline

June 19 – July 14th, 2017

Verify/Confirm Participation & Termination Address / ESC 20  
Send Address Forms to Districts / ESC 20

July 17<sup>th</sup> – 28<sup>th</sup>, 2018

Finalize Initial RFP List based upon response from School Districts (ESC 20 / VST)  
Follow up with any school districts that did not respond to initial request (ESC 20) Establish E-Rate Billed Entity Number for ESC 20 Fiber Consortium (VST / ESC 20)

August 1 – October 1, 2017

Prepare RFP Document – IA, Fiber, Network Eqpt (VST)  
Send Letter of Agency Documents to Districts  
VST Sends Template / ESC 20 E-Mails to distribution list  
Send Instructions to Districts to Add ESC 20 Consortium Number to Each School District E-Rate Profile  
VST Sends Instructions / ESC 20 E-Mails to distribution List

August 17<sup>th</sup>- 18th, 2017  
(ESC 20 Conference Room)

Finalize 10/3 and 10/4 Presentations  
VST Draft / VST & ESC 20 Finalize this meeting  
Review & Edit Draft RFP's

October 3rd, 2017

District TAC Meeting **Presentation – VST / ESC 20**

**October 4th, 2017**

**District Superintendent Meeting Presentation – VST / ESC 20**

October 11<sup>th</sup>, 2017

[Last Day a District may join ESC 20 Consortium for FY 2018](#)

October 12th, 2017

Release RFP for distribution

October 26th, 2017

Pre-Bid Conference

# ESC 20 Consortium E-Rate Timeline

Dec 18th, 2017	RFP's Response due to ESC 20
January 6th, 2018	Review and Evaluate RFP Responses
January 31st, 2018	No/Go Decision based upon Initial RFP Responses.
February 21 Board Meeting	Award Contracts
March 1, 2018	Update Member Districts with Final Max Cost Structure
March 1 – April 1, 2018	Review and Prepare FCC Form 471
May 1, 2018	Submit FCC Form 471 (FY 2018)
June 1 – 2018	Secure FCC Form 498 from Consortium Entities
June 1 – December 31, 2018	FCC Form 471 Review Process Three Levels of FCC / USAC Approval Estimated Approval Time Frame
January 1 – March 31, 2019	Begin Implementation
April 1, 2019	Submit FCC Form 471 (FY2019) – MRC + Any Consortium Member Additions (NOTE: New members will cost an additional 50K due to lost State fund match)
May 1, 2019	
July 1, 2019	Begin Invoices to Member Districts
June 30, 2020	Complete Implementation