Statewide Education Technology Infrastructure Network

Science, Technology & Telecommunications Legislative Committee

August 24, 2021

*PSFA Presenters:*

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Ovidiu Viorica, Broadband and Technology Program Manager

Partnering with New Mexico's communities to provide quality, sustainable school facilities for our students and educators.
Agenda

- PSFA Broadband Program - Background.
- SB144 - What is it?
  1. Student Connectivity.
  2. Statewide Education Network.
- Preliminary Framework.
- Next Steps / Timeline Review.
- Questions.
PSFA Broadband Program Background

- Number of projects: **270 (2016 - 2020)**.
- Value of upgrades: \(\sim \$100M / 88\% \text{ E-rate}\).
- NM K12 Rank Nationwide (E-rate): **Top 3/5**.
- NM K12 Broadband unit price reduction: **80\%**.
- Increase in average K12 broadband speed: **6X**.
PSFA Broadband Program: Progress
Most of NM is remote, rural, and sparsely populated.

IT expertise (qualified manpower) is not uniformly available.

Large geographic areas with few locations purchasing high-speed internet is a challenge for market providers of network connectivity, services, and equipment.

Statewide technology infrastructure network will provide better connectivity and expert network management services to all areas of NM.
SB144 - Broadband / Ed Technology

1. Connect students and teachers wherever they are (home).

2. Create a Statewide Education Network (SEN).
   - “The council shall develop guidelines for a statewide education technology infrastructure network that integrates regional hub locations for network services and the installation and maintenance of equipment.”
Student and Teacher Connectivity: Immediate Solution

1. Connect students and teachers wherever they are (home).
   - PED is leading this effort – responding to Yazzie/Martinez.
     - EBB: $3.2B (Started May – until money runs out) – Monthly service.
       - ISP – Families.
       - NM has ~800,000 households.
       - 41,500 (~5%) x $60 = ~$2.5M / Mo.
       - 70% of NM students are eligible for EBB.
     - ECF: $7.2B (June 30 – August 13) – Modems & one year of service.
       - ISP – Schools.
       - No forms 470: negotiated or RFP (over $60,000).
       - E-rate pays schools or ISPs.
2. Create a Statewide Education Network (SEN).

- PSCOC approves guidelines and state (PSCOF) funding.
- Create advisory committee/governance framework.
- Connect school sites together within districts and regionally.
- Expansion of regional consortia model for internet services and network infrastructure projects.
- Provide network management and cybersecurity expertise.
- Phased approach to begin with ready/interested school districts.
- Maximize access to federal E-rate funding for NM.
SEN: Preliminary Org Chart
### SEN: Preliminary Roles and Responsibilities

<table>
<thead>
<tr>
<th>Organization</th>
<th>Roles and responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCOC</td>
<td>Approves guidelines, implementation framework and expenditures.</td>
</tr>
<tr>
<td>PED</td>
<td>Provides Education Technology and Cybersecurity funding (currently $1.5M) &amp; leadership (Chief Information Security Officer).</td>
</tr>
</tbody>
</table>
| Statewide Education Network (SEN – Name TBD) Advisory Board | Provides strategic input and operational recommendations to the PSCOC and PSFA, on behalf of all the SEN members. Membership: thirteen seats representing members as follows:  
- Five members from school districts (one large; over 15,000 students; one medium: 8,000 – 15,000 students, three small: less than 2,000 students  
- One charter school  
- Two Higher Ed (one University, one College)  
- One library  
- One tribal  
- PED CIO  
- Office of Broadband and Expansion Director  
- PSFA Director |
| Network Operations | Provides technical resources (contract, collaboration with other organizations or own staff) to professionally run the Statewide Education Network. |
| Internet Service Providers (ISPs) | Provide cost-effective, E-rate eligible commodity Internet and Data Transport circuits. Could also provide contract E-rate eligible Network Management services. |
| Core Sites | Locations where the SEN connects to the internet. |
| Regional Hubs (collocation) | Aggregation sites established regionally where network equipment is installed and maintained and network services are performed for all members. Could be shared with other state network efforts. |
| CHECS | The New Mexico Council for Higher Education Computing/Communication Services is a non-profit consortium whose members are professionals from the computing services divisions. CHECS currently provides Internet Access to multiple Higher Education organizations. |
| Tribal/Pueblo Education Network | Network collaboration between pueblos / tribes and Santa Fe Indian School. Partner effort to the New Mexico Statewide Education Network. |
| Public K12, REC’s, State Libraries, Colleges and Universities, Tribal K12, Tribal Colleges, possibly museums | Potential members of the collaborative between the Statewide Education Network (SB144), CHECS and the Pueblo/Tribal Education Network |
SEN: Preliminary, Conceptual Map

Legend:

**Blue dot:** District Point of Presence (POP)/Equipment Location.

**Blue line:** 1 Gbps Fiber Circuit.

**Black dot:** Regional Network Equipment Aggregation/Colocation Site.

**Black line:** 10+ Gbps Fiber Backbone.
# SEN: Preliminary Financial Plan

**SB144 (Statewide Education Network) - Implementation**

Preliminary financial plan

(All projected amounts in $Millions)

<table>
<thead>
<tr>
<th>Number of member districts</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
<th>FY26</th>
<th>Total State five years</th>
<th>Potential E-rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Statewide Education Network Initial setup and operations (100% State)*</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$2.5</td>
<td>$-</td>
<td>$2.5</td>
</tr>
<tr>
<td>2 Backbone fiber construction (State share of E-rate match)**</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$0.5</td>
<td>$-</td>
<td>$-</td>
<td>$4.5</td>
<td>$30.0</td>
<td>$34.5</td>
</tr>
<tr>
<td>3 IA and Data Transport Cost including pre-K (State share of E-rate match)***</td>
<td>$1.0</td>
<td>$1.5</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$8.5</td>
<td>$56.7</td>
<td>$65.2</td>
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<td>4 Aggregation hub development**** (100% State)</td>
<td>$0.5</td>
<td>$1.0</td>
<td>$1.0</td>
<td>$-</td>
<td>$-</td>
<td>$2.5</td>
<td>$-</td>
<td>$2.5</td>
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<tr>
<td>5 Equipment replacement (State share for potential E-rate match)</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$1.0</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$6.0</td>
<td>$40.0</td>
<td>$46.0</td>
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<tr>
<td>6 Network Management (State share for potential E-rate match - shown @ 50%)</td>
<td>$1.5</td>
<td>$2.0</td>
<td>$2.5</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$12.0</td>
<td>$24.0</td>
<td>$36.0</td>
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<tr>
<td>7 Cybersecurity* ($1.5M PED match and potential future appropriations)</td>
<td>$1.0</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$1.0</td>
<td>$-</td>
<td>$1.0</td>
</tr>
<tr>
<td>8 BDCP regular projects (Cat1 &amp; Cat2 upgrades - State share for E-rate match)</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$2.0</td>
<td>$10.0</td>
<td>$66.7</td>
<td>$76.7</td>
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<td>9 Contingency</td>
<td>$1.0</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$0.5</td>
<td>$3.0</td>
<td>$-</td>
<td>$3.0</td>
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<td>10</td>
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<td>$10.0</td>
<td>$10.0</td>
<td>$10.0</td>
<td>$50.0</td>
<td>$217.3</td>
<td>$267.3</td>
</tr>
</tbody>
</table>

* Includes: Non-profit setup and contract engineering, procurement support etc...

** Fiber construction to connect Aggregation sites without other options

*** Provide the E-rate match for IA and Data transport as incentive for participants

**** Aggregation hubs remodel to ensure power, cooling, security
**SEN: Next Steps**

Timeline – First Phase:

- August – October 2021: High-level, statewide engineering / conceptual planning, and procurement development.
- January – February 2022: Contracting for E-rate eligible services and projects.
- March 2022: E-rate funding application deadline.
- July 2022: Begin implementation of Phase 1 contracts for services and projects.
Questions

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Thank You!