Benjamin Herold
Staff writer, Education Week

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Explore Education Week’s three-part series: Reversing a Raw Deal
Wiring Rural Schools

Expert Presenters:

Zac Chase, ConnectED Fellow, National Ed Tech Plan, U.S. Department of Education

Keith Krueger, CEO, Consortium for School Networking

Related three-part story series: Reversing a Raw Deal

Chapter 1: The Slowest Internet in Mississippi
Chapter 2: ‘They Rake Us Over the Coals’
Chapter 3: ‘Washington Gave Us Leverage’
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
CoSN Mission

Serving K-12 technology leaders who through their strategic use of technology, improve teaching and learning

Core Value
The primary challenge we face in using technology effectively is human, not technical

Audience
School system technology and education leaders

CoSN focuses on Leadership and Policy

Keith Krueger, CEO
keith@cosn.org
2015 CoSN/AASA Infrastructure Survey
cosn.org/infrastructure2015

1.) Affordability is most significant barrier to broadband in schools, especially ongoing expenses.

National survey of 531 school district leaders from 48 states in fall 2015. +/- 4.3% reliability
Significant Barriers to Increasing Internet Connectivity in School Systems
## Rural vs. Other answers

<table>
<thead>
<tr>
<th>Significant barriers to increasing Internet connectivity</th>
<th>Urban</th>
<th>Suburban</th>
<th>Rural</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography that limits competition</td>
<td>8%</td>
<td>18%</td>
<td>74%</td>
<td>23%</td>
</tr>
<tr>
<td>Lack of need (we are not using what we have)</td>
<td>6%</td>
<td>34%</td>
<td>59%</td>
<td>8%</td>
</tr>
<tr>
<td>Internet provider at capacity and cannot provide more bandwidth</td>
<td>17%</td>
<td>27%</td>
<td>56%</td>
<td>12%</td>
</tr>
<tr>
<td>Our transport connection type is at capacity and must be replaced (e.g. we have copper vs. fiber connections)</td>
<td>14%</td>
<td>35%</td>
<td>51%</td>
<td>10%</td>
</tr>
<tr>
<td>Inability to pay for the capital or up-front, non-recurring expense</td>
<td>22%</td>
<td>27%</td>
<td>51%</td>
<td>34%</td>
</tr>
<tr>
<td>Cost of monthly recurring ongoing expenses</td>
<td>17%</td>
<td>32%</td>
<td>51%</td>
<td>46%</td>
</tr>
<tr>
<td>WAN transport between buildings</td>
<td>27%</td>
<td>34%</td>
<td>39%</td>
<td>14%</td>
</tr>
<tr>
<td>Wireless to classrooms</td>
<td>25%</td>
<td>27%</td>
<td>48%</td>
<td>28%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>21%</td>
<td>45%</td>
<td>34%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Extremely High Costs for Internet

20% of districts pay $50/Mbps or more per month for their Internet connection.

18% pay the same high amount for their WAN connection.
# High Rural Costs for Internet

<table>
<thead>
<tr>
<th>Internet Connection</th>
<th>Urban</th>
<th>Suburban</th>
<th>Rural</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cost - $4.99/Mbps</td>
<td>52%</td>
<td>39%</td>
<td>29%</td>
<td>36%</td>
</tr>
<tr>
<td>$5.00 - $49.99/Mbps</td>
<td>33%</td>
<td>46%</td>
<td>48%</td>
<td>45%</td>
</tr>
<tr>
<td>$50.00/Mbps or more</td>
<td>15%</td>
<td>15%</td>
<td>23%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
2.) Network Speed & Capacity – Overall Challenges

• **Incomplete Connection Speeds:** ¼ of all school systems have reached only 10% of the FCC’s short-term broadband goal (100Mbps per 1000 students).

• **1 in 3 Districts Not Using Current Wireless Standards.**

• **Insufficient Bandwidth:** More than 2/3rds of school systems report insufficient Internet bandwidth for today through next 18 months. Despite the current state, 1 out of 4 between 100 – 500% Internet growth.

• **Internet Downtime:** 1 out of 4 reported unplanned Internet downtime in their school system for at least three days during the year.
Rural Network Speed & Capacity Challenges

14% of rural districts report that their Internet provider was at capacity and could not offer additional bandwidth.

Pinch Point: Rural districts reported slower WAN and LAN speeds. 36% of rural (vs. 28% for all) reported WAN connection speed of 100 Mbps or less.
3) Lack of Competition

**Few Qualified Bids:** Nearly one-third of school systems received one or fewer qualified bids for E-Rate connectivity services in 2015 (Category 1)...no progress over past year.

**Lack of Rural Internet Providers:** 54% of districts reported only one Internet provider in their area.
Limited Competition for E-Rate Services in Rural Districts
Digital Equity

3 out of 4 districts report no off-campus strategies for connecting students at home and after school.

56% of rural districts said that lack of Internet availability outside of school was a key barrier (vs. 42% overall).

www.cosn.org/blog
## Priorities

### CoSN 2015 Leadership Survey

<table>
<thead>
<tr>
<th>Priorities</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>BYOD</td>
<td><strong>Assessment Readiness</strong></td>
<td><strong>Assessment Readiness</strong></td>
</tr>
<tr>
<td>#2</td>
<td><strong>Assessment Readiness</strong></td>
<td>Mobile Learning</td>
<td>Wireless Access</td>
</tr>
<tr>
<td>#3</td>
<td>Broadband Access</td>
<td>Wireless Access</td>
<td>Mobile Learning</td>
</tr>
</tbody>
</table>
Early Bird Registration Ends **Friday, January 8.**

Keith Krueger
keith@cosn.org
BREAKING NEWS:  
E-rate Update

E-rate Filing Window Extended
• 471 Window to open mid January
• 471 Window will close no earlier than March 31
  - May go into April
• This means YOU have time to apply & get funded!

E-rate Rollover Funds made available for 2016
• FCC Making an **additional $1.9 Billion** for 2016
• Total E-rate 2016 Budget: **$5.8 Billion**

FCC wants all Schools & Libraries to APPLY in 2016
Education Week Webinar: Wiring Rural Schools (6 Jan. 16)

Zac Chase, ConnectED Fellow
Office of Educational Technology • US Department of Education

@MrChase
The 2016 National Education Technology Plan (NETP16) has three key foci:

- Equity
- Active Use
- Leadership
Increasing Rural Connectivity

Federal - State - Local
Increasing Rural Connectivity

Federal

ConnectED Initiative

ConnectHome

Broadband Opportunity Council
Increasing Rural Connectivity

State
Increasing Rural Connectivity

Federal - State - Local
Key Features

• Visual, intuitive class roster
• Easy onboarding of students
• Easily assign teaching resources
• Like view of student’s screens
• Keep students on task

Voted Best In Show @ ISTE 2015
Best of all: It’s FREE!
Evaluation AP

Qualification Rules

• **Cannot** be a current, **paying** Aerohive customer
• Must be **an IT professional** with a **valid corporate email** address
  - i.e. personal emails such as Gmail and Yahoo are disqualified from this offer
• Recipient must reside in an **Aerohive certified country**
• Company must have **a wireless project planned** and budgeted in the next 12 months with 10 or more Aps
• **Resellers, partners, and distributors** do not qualify for this offer
• Limit one per company
  - The 1st IT contact to meet eligibility from a company will receive the AP
• Eligibility will be **confirmed by an Aerohive representative** before shipments are authorized
• This AP **is intended for testing purposes** only and the value of the AP cannot be used as a discount on any future Aerohive order
Aerohive E-rate
Resources and Contacts

Resources
• E-rate Hub: www.aerohive.com/e-rate
• Webinars: http://www.aerohive.com/resources/webinars
• E-rate Weekly Webinars
  - January 14, 2016 @10:00AM PT
  - Register http://bit.ly/1R4ATqI
  - Repeating every Thursday through March 2016

Contact
• Jeff Jennings
  - jjennings@aerohive.com
Thank you
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
Wiring Rural Schools

Required Reading from *Education Week*:

**Spotlight on E-Rate**
The recent overhaul of the federal E-rate program promises wide-reaching implications for schools’ Web connectivity. In this Spotlight, review the historic E-rate funding increase, consider the winners and losers of these changes, and explore the continued relevance of the program for K-12 schools.

**Education Week Press**

*21 Trends for the 21st Century*
In this go-to-guide for thinking and planning, futurist Gary Marx provides concrete strategies for engaging students, staff, and colleagues in active learning and keeping up with rapid changes in schools and communities.