

Got Bandwidth?

SC EdTech 2012
Hitech Adventure
Session-81 (MR 102-C)

The State of Bandwidth in SC Public School Districts

Presented by

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Background Information

How did the state K-12 Public Schools & Library Network get started?

- The South Carolina K-12 School Technology Initiative was founded in 1996.
- The Committee – Steered by a unique public/private partnerships.
 - Role – guides the distribution of funds appropriated by the Governor and General Assembly.
 - These funds collectively help to meet the state’s schools need for software, hardware, connectivity, digital content, instructional technologies and professional development.
- The Initiative
 - Progress - Development and implementation of educational technology. Providing infrastructure initiatives designed to produce more successful students in South Carolina.
 - Future - Hope that the leaders of the Palmetto State will continue their history of using this initiative to guide the provision of high-quality, information-rich education for all students.

Background Information

What do we do?

- Collect, Evaluate, and Approve District Technology Plans
- Competitively Bid State Master Contracts
- Pilot Programs
- Federal E-Rate Program Administration
- K-12 Budget Tracking
- K-12 Schools & Libraries Network Administration

Background Information

South Carolina K-12 School Technology Initiative Website

The screenshot shows the website's home page with a dark red navigation bar at the top containing links for Home, News, Publications, E-Rate, About Us, Contact Us, and Meetings. Below the navigation bar, the page is divided into several sections. On the left, there are two vertical menus: 'Related Links' with items like E-Rate News, E-Rate Deadlines, E-Rate Info for South Carolina Applicants, E-Rate Program Information, and E-Rate Resources; and 'Site Information' with links to About Us, News, Publications, E-Rate, Links, and Contact Us. The main content area features a 'Home' heading, a photograph of diverse young children smiling and waving, and a 'WELCOME TO THE INITIATIVE'S NEW WEB SITE!' message. Below the photo, there is a paragraph of text explaining the website's purpose and a call to action for user feedback. On the right side, there is a 'Login/Register' link, a 'Follow Us' button, and a Twitter social media icon.

south carolina k-12 school technology initiative

Home News Publications E-Rate About Us Contact Us Meetings

Related Links

- E-Rate News
- E-Rate Deadlines
- E-Rate Info for South Carolina Applicants
- E-Rate Program Information
- E-Rate Resources

Site Information

- About Us
- News
- Publications
- E-Rate
- Links
- Contact Us

Home

Home



WELCOME TO THE INITIATIVE'S NEW WEB SITE!

The South Carolina K-12 School Technology Initiative is pleased to offer this Web site with you in mind.

Taking your comments and feedback into consideration, we have developed what we hope will be a "new and improved" site offering not only a new design, but also improved navigation and increased functionality as well.

Please take a look around and let us know what you think. You can e-mail any questions, ideas or suggestions to [Mike Shelton](#). Your input is always welcome!

Login/Register

Follow Us



<https://sck12techinit.sc.gov/node>

Background Information

South Carolina State Technology Plan (2009-2013)

Digital Resources Enabling Achievement

Submitted by SCDE November 2008

“LEARNERS AND THEIR ENVIRONMENT: Any Time, Anywhere Access-

Wireless technology gives increased flexibility and opportunities for tailored learning experiences. Additional broadband capacity is needed to keep pace with technology demands. Current broadband use is approaching capacity although the state and districts are already using caching and other mechanisms to optimize use. Broadband and wireless are both needed in our schools.”

Source document: <http://ed.sc.gov/agency/programs-services/188/>
“Digital Resources Enabling Achievement”

Background Information

South Carolina State Technology Plan (2009-2013)

Digital Resources Enabling Achievement

Submitted by SCDE November 2008

“SNAPSHOT OF CURRENT TECHNOLOGY USE

Demand is growing because many districts and schools are only now beginning to integrate information systems into their curriculum.

In addition, the need for additional bandwidth is driven by increasing requirements for data, both from and by our schools; as well as increasingly sophisticated education software that requires higher performance rates. The state is implementing its virtual school and many districts use on-line diagnostic testing with their students. The TechThink Group recommended that broadband access is expanded so that every district has 100 Megabit Internet links.”

Source document: <http://ed.sc.gov/agency/programs-services/188/>
“Digital Resources Enabling Achievement”

K-12 Schools Technology Initiative

Moves Taken to Address K-12 Broadband Needs

- **K-12 School Technology Initiative approved revision to its Bandwidth Allocation Policies**
 - School Districts statewide receive an increase from 10 mbps to 100 mbps of both Internet and network services funded bandwidth effective July 1, 2012.
 - State network upgrades made possible as a result of contract negotiations for reduced service rates.

- **Why more bandwidth?**
 - The evolution of public education infrastructure learning platforms move to a technology-rich environments.
 - Online curriculum standards and resources
 - Implementation of innovative technological tools
 - Bring Your Own (BYO) device to school
 - 1 to 1 (1 computer/device to each child)
 - Cloud Computing & Instruction
 - Streaming Video

K-12 Schools Technology Initiative

Obstacles

▣ Underserved District Locations

- ▣ Wireless Access Service
- ▣ Limited Multiple Protocol Label Switches (MPLS) or Metro Ethernet (ME) service area coverage
- ▣ Lack of fiber infrastructure

▣ Safeguarding Internet Bandwidth

- ▣ Network Utilization Efficiency and Security

K-12 Schools Technology Initiative

Obstacle: Districts with Underserved Bandwidth Locations

Wireless Services or costly MPLS Services

Before: [7/1/2012](#)

Internet Access	WAN Network Access
Barnwell 29	Aiken
Hampton 1	Anderson 3
Hampton 2	Barnwell 29
Orangeburg 3	Charleston
	Colleton
	Hampton 1
	Kershaw
	Orangeburg 3
	Orangeburg 4
	Union

K-12 Schools Technology Initiative

Obstacle: Districts with Underserved Bandwidth Locations

Wireless Services or costly MPLS Services

Progress As of: 10/19/2012

Internet Access	WAN Network Access
*Hampton 2	*Anderson 3
	Barnwell 29
	Charleston
	Colleton
	*Hampton 1
	*Kershaw
	*Orangeburg 3
	Orangeburg 4
	*Union

* Fiber solution identified, implementation in progress.

K-12 Schools Technology Initiative

Obstacle: Safeguarding Internet Bandwidth

▣ Statewide K-12 Schools & Libraries Network Security Project

- Began in 2008 with the deployment of Cyber - Sentry servers to all school districts

Objectives

- ▣ Ensure that bandwidth is being utilized for legitimate business needs
- ▣ Ensure unauthorized traffic or malware is kept to a minimum
- ▣ Minimize wasted bandwidth due to configuration issues
- ▣ Ensure measures are being taken to anticipate and minimize security issues.
- ▣ Promote bandwidth efficiency by the use of caching proxy servers

K-12 Schools Technology Initiative

Obstacle: Safeguarding Internet Bandwidth

▣ Statewide K-12 Schools & Libraries Network Security Project

Progress

- ▣ Bandwidth Efficiency
- ▣ Improved management of potential security threats
- ▣ Decline in unauthorized traffic and malware

State of Bandwidth

Before July 1, 2012 K-12 Bandwidth Allocation Policy Revisions

District Internet Access

District Internet Bandwidth	Number of Districts
9 MBPS	4
10 MBPS	28
20-50 MBPS	35
60-100 MBPS	9
110-200 MBPS	6
250-300 MBPS	2
Total Districts	84

State of Bandwidth

After July 1, 2012 K-12 Bandwidth Allocation Policy Implementation

FY 2012-13 Projections

District Internet Access

District Internet Bandwidth	Number of Districts
Below 100 MBPS	0
100 MBPS	66
120-150 MBPS	3
200- 500 MBPS	6
700-1,000 MBPS	7
Total Districts	82

State of Bandwidth

Before July 1, 2012 K-12 Bandwidth Allocation Policy Revisions

WAN Network Access

School WAN Bandwidth	Number of Sites
1.5 to 9 MBPS	16
10 MBPS	389
20 MBPS	51
50 MBPS	58
100 MBPS	261
250 MBPS	6
500 MBPS	87
GIG	47
Leased Dark Fiber	53

Note: Not all schools participate in the State Consortium for school WANs

State of Bandwidth

After July 1, 2012 K-12 Bandwidth Allocation Policy Implementation

(FY 2012-13 Projections)

WAN Network Access

School WAN Bandwidth	Number of Sites
Below 100 MBPS	10
100 MBPS	759
250 MBPS	20
500 MBPS	48
GIG	86
Leased Dark Fiber	53

Note: Not all schools participate in the State Consortium for school WANs

State of Bandwidth

District Response to New Bandwidth Allocation Policies

“100 mbps for all districts? Yay, Valarie!! This is like Christmas for our district!”

-Tom Taylor

(Spartanburg 5 School District)

“I know that most schools in most states of the union have to fend for themselves for internet connectivity. We are privileged that our state provides this.”

-James Reynolds

(Greenwood 51 School District)

“...feels almost like Christmas. Thank you for your efforts along with the K-12 Committee and everyone else involved.”

-Donnie Elders

(Spartanburg 3 School District)

State of Bandwidth

District Response to New Bandwidth Allocation Policies

“Thank you, the K-12 Committee, and all your colleagues!! You made my day!”

-Wally Meggs

(Laurens 55 School District)

“I went screaming down the hall to the superintendent and almost did a cartwheel...”

-Jay Lindler

(Lexington 4 School District)

“Excellent, this is great news”

-Hattie Pendergrass

(Williamsburg School District)

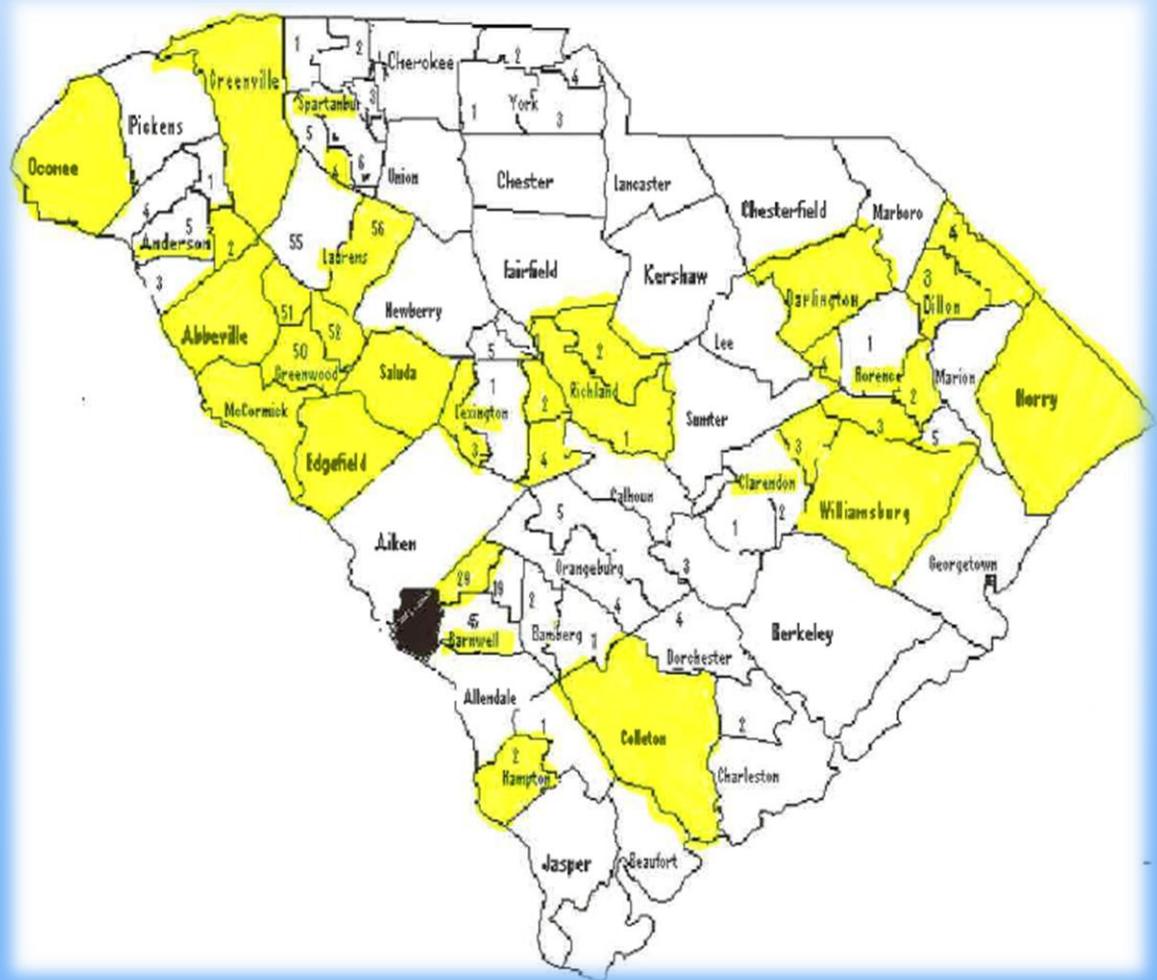
State of Bandwidth

Broadband Bandwidth Expansion Projects

- ▣ Entrance Facility Projects
 - ▣ Replace copper facilities with fiber
- ▣ Direct Fiber Placement Projects
 - ▣ Decrease statewide network cost
 - ▣ Improve bandwidth availability

Districts with Direct Fiber Locations Placed by the District/County/City

- Abbeville 60
- Anderson 2
- Barnwell 29
- Clarendon 3
- Colleton
- Darlington
- Dillon 3, 4
- Edgefield
- Florence 2, 3, 4, 5
- Greenville
- Greenwood 50, 51, 52
- Hampton 2
- Horry
- Lexington 2, 3, 4
- McCormick
- Oconee
- Richland 1, 2
- Saluda
- Spartanburg 4
- Williamsburg



State of Bandwidth

Got Bandwidth?

State Agencies
Internet Access

vs.

School Districts
Internet Access

2.5 GIG

16.7 GIG

Yes!

State of Bandwidth

K-12 Schools Technology Initiative Priorities for FY 2012-13

- Increase access to educational resources.
- Support smart device initiatives implemented by schools and libraries.
- Continue to increase administrative applications available through the Internet.
- Continue to increase bandwidth available to schools and libraries.
- Reduce network cost for Internet and WAN bandwidth services.



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