

**Private-Side LAN/WAN  
Bandwidth Allocation Policy – Version 6  
Effective July 1, 2015 (FY 2015-16)**

**Background**

This policy is intended to create an equitable method of determining how much private-side bandwidth is funded for each public school and library in South Carolina. The following factors were considered in establishing this bandwidth allocation policy:

**A. Private-Side LAN/WAN Bandwidth Allocation Policy for Schools**

**1. Funded Bandwidth**

For FY 2015-16 we will continue to make an effort to provide all schools with a minimum 100 Mbs bandwidth funded. Bandwidth at Hub/Aggregation Points/ Multi-School complex sites will be determined by the Division of Technology (DT) Network Design group based on the technology available. Individual school locations with a reported \*student headcounts above 1,000 the following *optional* bandwidth tiers are applicable and subject to available funding.

<u>Tier</u>	<u>Individual School Headcount</u>	<u>Bandwidth Option (Up to, Tier Max)</u>
1	1,000 to 2,500	1 Gbs
2	above 2,501	2 Gbs

\*Refer to the Internet Bandwidth Allocation Policy section A “Funded Bandwidth” for data reference information.

**2. Unfunded Bandwidth**

If a district/library wants more than the funded baseline bandwidth, they will be responsible for the difference in cost of that additional bandwidth. The amount paid by the district/library is referred to as the “Cost Share” and is calculated as described in Item 3 below.

**3. Cost Share Calculations**

The monthly Cost Share is the portion of the Total Cost of the bandwidth above the funded baseline for Private-Side Ethernet-type service that is not covered by E-Rate funding.

**The Cost Share formula is:**

$$\text{Cost of Requested Bandwidth} - \text{Cost of Funded Bandwidth} = \text{Cost Difference}$$

$$\text{Cost Difference} * \text{District Non-Discount \% (100\% - District \%)} = \text{Monthly Cost Share}$$

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**Example 1** – School A (90% District) is approved for 20 Mbs & wants 50 Mbs:

Current 50 Mbs cost	\$ 932.33	(Spirit Avg for 50 Mbs)
Minus baseline 20 Mb cost	\$ 766.94	(Spirit Avg for 20 Mbs)
= Difference	\$ 165.39	
Times 10% (100%-90%)	\$ 16.54	Monthly Cost Share

**Example 2** – School B (80% District) is approved for 20 Mbs & wants 50 Mbs:

Current 50 Mbs cost	\$ 932.33	(Spirit Avg for 50 Mbs)
Minus baseline 20 Mb cost	\$ 766.94	(Spirit Avg for 20 Mbs)
= Difference	\$ 165.39	
Times 20% (100%-80%)	\$ 33.08	Monthly Cost Share

## B. Private-Side LAN/WAN Bandwidth Allocation Policy for Library Systems

### 1. Funded Bandwidth

For FY 2015-16, private-side bandwidth for Library Systems will be based on a funded baseline maximum of 50 Mbs at each branch, where available. Bandwidth provide for Hub/Aggregation points will be determined by the Network Design group at DSIT with consideration of the bandwidths at each feeder/branch site.

*\* Bandwidth for Hubs/Aggregation points considers the bandwidth of feeder branches. This will be determined by the DSIT Network Design group based on the technology available. Any additional hardware and/or software required for the agreed upon network design will be the responsibility of the Library System.*

*\*\* Note: 10 Mb Ethernet may be provided where it is more economical than multiple T1's or MPLS service*

### 2. Unfunded Bandwidth

If a Library System wants more than the funded baseline bandwidth, they will be responsible for the difference in cost of that additional bandwidth. The amount paid by the library is referred to as the “Cost Share” and the process for determining if a Cost Share will apply is described in Item 2 of **Section A. Private-Side LAN/WAN Bandwidth Allocation Policy for Schools.**

### 3. Cost Share Calculations

Cost Share calculations for Library Systems will use the same formula as described in Item 3 of **Section A. Private-Side LAN/WAN Bandwidth Allocation Policy for Schools.**

## **C. District/Library System Responsibilities**

1. All required E-Rate documents and a current approved Technology Plans Letter must be on file with Division of Technology (DT) and/or SC Department of Education (SDE), State Library.
2. District/Library must be in good financial standing with DT (no past due invoices).
3. Annual Block 4 Inventory Verification Documents submitted to DT by November 15th each year.
  - Any District/Library site not listed on this inventory will be direct billed to the District/Library until the start of the next funding year. (DT cannot be reimbursed for sites not listed in the Block 4 section of the statewide E-Rate Applications.)
  - Districts/Libraries must notify DT of site disconnects as soon as possible. Failure to do so could result in a charge to the District/Library for 100% of the ineligible charges paid by DT for an inactive location plus any audit re-payments required.
  - For school or library moves or replacements, the state can only fund one circuit; therefore, simultaneous services at both the old site and the new site will only be provided for a maximum of thirty days. After thirty days, the old site will be disconnected or direct billed to the school district or library
  - Full cooperation with the DT Security Staff is required for any Dedicated Internet Access (DIA) or Managed Internet Service (MIS) bandwidth upgrade.

## **D. Security and Traffic Monitoring Activities to be performed by the South Carolina Chief Information Security Officer's staff:**

### **1. Real-time Monitoring of the K-12 Schools & Libraries Network.**

- Network entry point monitoring using an Intrusion Detection System (IDS) on district networks
- Internal and DMZ monitoring
- Reporting of most critical security events based on IDS events
- Notification of critical security events based on SOC monitoring
- Notification of configuration or hardware issues that may be affecting correct IDS operation

### **2. Real-time visibility / insight over critical assets and bandwidth usage.**

### **3. Periodic baseline scans of public-facing IP space.**

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**4. Optional service. Some of these services may incur additional costs for hardware, licensing and/or time billed.**

- Security consulting, training, and implementation assistance
- Security implementation assistance
- Security policy management, including formulation and review
- Security system design and planning
- Network scanning to identify some forms of unauthorized access
- Incident consulting & law enforcement coordination
- Assistance with forensic analysis & reporting
- Web application testing
- Periodic vulnerability and compliance assessment
- Caching proxy server installation and host server/reports management. Host server management may be done by network members via their own servers. Where feasible, IDS and proxy may be combined in a transparent in-line configuration for SC-ISAC owned servers.
- Bandwidth management/improvement consultation

**Summary of Previous Policy Revisions**

**1. Version - 1 of this policy established the following:**

1. New bandwidth baselines
  2. New Private-Side Cost Share Formula for schools and libraries
  3. District/Library System Responsibilities
- a. All required E-Rate documents (CIPA and Technology Plans) must be current and on file with the Division of State IT (DSIT) and/or SC Department of Education (SDE).
- b. District/Library must be in good financial standing with DSIT (no past due invoices).
- c. Annual Block 4 Inventory Verification Documents submitted to DSIT by November 15 each year.
- Any District/Library site not listed on this inventory will be direct billed to the District/Library until the start of the next funding year. (DSIT cannot be reimbursed for sites not listed in the Block 4 section of the statewide E-Rate Applications.)
  - Districts/Libraries must notify DSIT of site disconnects as soon as possible. Failure to do so could result in a charge to the District/Library for 100% of the ineligible charges paid by DSIT for an inactive location plus any audit re-payments required.
  - For school or library moves or replacements, the state can only fund one circuit; therefore, simultaneous services at both the old site and the new site will only be provided for a maximum of thirty days. After thirty days, the old site will be disconnected or direct billed to the school district or library

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**Version - 2 of this policy established the following:**

1. **Optional Security Monitoring Available to Districts and Libraries See Section C. Security and Traffic Monitoring Activities to be performed by the SC Chief Security Officer's Staff.** This Policy includes the functions and/or services that may be provided through the existing Intrusion Detection System (IDS) unit provided by the state at no cost to the district or library. The original purpose of the IDS is to continue to monitor Internet traffic and utilization; however, it can also be used to monitor the private-side network services at the request of the district or Library System.

**Version - 3 of this policy established the following:**

**1. District/Library System Responsibilities (Revisions)**

- a. Modified titles, and statements to include the words "School" and "Career and Technology Education centers (CATE)".
- b. Added the following statements regarding CIPA compliance requirements to remain an active member of the K-12 Schools & Libraries Network:
  - All schools/districts/libraries/CATEs residing on the K-12 Schools & Libraries Network must be 100% compliant with the "Protecting Children in the 21<sup>st</sup> Century Act" by July 1, 2012 as required by the FCC E-Rate Program rules.
  - Any school/district/library/CATEs that is noncompliant with E-Rate CIPA rules may be removed from the K-12 Schools & Libraries Network. This will result in direct billing for services rendered.
  - Request to be returned to the network will require proof of compliance before approval can be granted.
  - Full cooperation with the DSIT Security Staff is required for any Dedicated Internet Access (DIA) or Managed Internet Service (MIS) bandwidth upgrade.

**2. Funded Bandwidth Baseline for Schools (Revisions)**

- a. All school will have a minimum of 100 Mbs bandwidth funded regardless of student head counts.
- b. All districts will now be eligible to acquire up to GIG funded bandwidth at Hub/Aggregation Points. This qualification will be determined by the DSIT Network Redesign Group.

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**3. Security and Traffic Monitoring Activities to be performed by the SC Chief Security Officer's staff**

- a. Updated information added to this section of the policy.

**Version 4 of this policy updated the following title**

- a. **South Carolina Chief Information Security Officer**

**Version 5 of this policy approved revisions:**

- a. Remove "No "grandfather clause" will apply under this policy; therefore, sites that already have more than their 2012 baseline bandwidth will begin paying the Cost Share for any bandwidth above their 2012 baseline on July 1, 2013."
- b. Remove "Since there is no student headcount that can be applied for libraries, an alternative basis is the number of personal computers (PCs) with Internet access at each site. The State Library collects this information from Library Systems and shares it with the Division of State IT (DSIT)."
- c. Revise section "B. Private-Side LAN/WAN Bandwidth Allocation Policy for Library Systems" section
  1. Remove "Since there is no student headcount that can be applied for libraries, an alternative basis is the number of personal computers (PCs) with Internet access at each site. The State Library collects this information from Library Systems and shares it with the Division of State IT (DSIT)."
  2. Change the funded baseline from 10 mbs to 20 mbs maximum
  3. Remove all "PC/PCs count" references: "and the number of computers with Internet access at each site report to DSIT in November 2012. Sites having more than 82 PCs are eligible for additional bandwidth based on 128 kilobits (kbs)/PC." , "PC counts as well as", "*PC counts as well as*"
  4. Remove tiers chart.

"The following chart shows the FY 2013-14 Tiers breakdown for Library sites:

	Funded
PC Count	Bandwidth*
0 to 82	10 Mbs
83 to 160	20 Mbs
161 and above	50 Mbs"

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**Version 6 of this policy approved revisions:**

- a. "Background" section change "SC" to "South Carolina"
- b. Replace all "DSIT" references to "DT" (Division of Technology)
- c. Change all "FY 2014-15" references to read "FY 2015-16"
- d. "Funded Bandwidth" section, add two funded tiers and the following statement.  
Individual school locations with a reported \*student headcounts above 1,000 the following optional bandwidth tiers are applicable and subject to available funding.

<u>Tier</u>	<u>Individual School Headcount</u>	<u>Bandwidth Option (Up to, Tier Max)</u>
1	1,000-2,500	1 Gbs
2	above 2,501	2 Gbs

\*Refer to the Internet Bandwidth Allocation Policy section A "Funded Bandwidth" for data reference information.

- e. Changed the "Funded Bandwidth" section B for libraries to increase the maximum funded base from "20" Mbs to "50" Mbs.
- f. Update "Unfunded Bandwidth" section 4 "Cost Share Calculations", Example 1 and Example 2 to reflect current pricing per reference bandwidth speed.
- g. District/Library System Responsibilities" section C, **Change:** "All required E-Rate documents (CIPA and Technology Plans) must be current and on file with the Division of State IT (DSIT) and/or SC Department of Education (SDE)." **To:** "All required E-Rate documents and a current approved Technology Plan Letter must be on file with the Division of Technology (DT) and/or SC Department of Education, State Library."