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# e-rate

10 years of  
connecting kids and  
community





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foreword from

## President of NCTET and the Chair of EdLiNC



**O**n behalf of the members of the Education and Libraries Networks Coalition (EdLiNC) and the National Coalition for Technology in Education and Training (NCTET), we invite you to celebrate with us ten successful years of the E-Rate program. When a few education organizations were asked to write a letter of support for a little known provision of what would become the Telecommunications Act of 1996, who knew that the program would become so critical to tens of thousands of schools and libraries seeking to access telecommunications services and the Internet? Together, public and private schools, libraries, technology organizations and industry groups wrote letters, made telephone calls, and walked the halls of Congress first to ensure the passage of the law, then to work with the FCC to enact regulations, and finally to assist with local and regional implementation. Relationships between these seemingly disparate associations and companies is not the way Washington usually works, but for this program, which we all continue to support together, it has become our standard operating procedure.

Without the leadership of Senators Snowe, Rockefeller, Kerrey and Exon, and Representative Markey, a few short paragraphs in a gigantic bill would never have become an essential and irreplaceable connectivity resource for public and private schools and public libraries. It is clear from the latest data showing the tremendous growth in connectivity in all classrooms and libraries — rural, suburban and urban; rich and poor; and majority minority or otherwise — that E-Rate truly does stand for education, equity, and equality for everyone.

However, much work remains for the E-Rate program. Schools and libraries must not only sustain their current access levels but expand their bandwidth capacities to ensure that students, teachers and community members keep pace with the ever expanding digital resources available online.

We appreciate all of the endless and tireless work that the members and supporters of these two coalitions have provided for this program from conception to implementation. Without the strong support of EdLiNC and NCTET members here in Washington and our constituents in schools, libraries and communities across the country, the tremendous strides that schools and libraries have made to fulfill the ongoing mission of this program would never have occurred. We can't begin to list the names of those who were most instrumental in this program, but we thank you all for your collegiality, friendship and hard work over the years.

We look forward to the next ten years and beyond.

**Kari M. Arfstrom**

Association of Educational Service Agencies  
The National Coalition for Technology in Education and Training (NCTET), President

**Amy Sechler**

National Association of Independent Schools  
The Education and Libraries Networks Coalition (EdLiNC), Chair ●

# Introduction

It has now been over ten years since the E-Rate program was created as part of the Telecommunications Act of 1996 and four years since the Education and Library Networks Coalition (EdLiNC) issued its last report: E-Rate — A Vision of Opportunity and Innovation. EdLiNC and its partner in this new report, the National Coalition for Technology in Education and Training (NCTET), believe that the time is right to revisit some of the public and private schools, libraries and consortia profiled previously to examine how E-Rate has benefited them. Additionally, this report examines how E-Rate supported connectivity will continue to help them implement their visions for educating students and life-long learners, providing professional development for educators and librarians, and assisting all to access resources and skills critical to compete in the 21st Century.

Since its formal launch in 1998, the E-Rate's deep discounts on telecommunications services, Internet access and internal connections, which total nearly \$19 billion to date, have helped transform America's schools and libraries into modern institutions. Its targeted funding has reached the poorest and most remote rural areas, opening up opportunities for millions of students, educators and library patrons to take advantage of the vast resources of the Internet and the power of distance learning. Thanks to the E-Rate, overall public school instructional classroom Internet access has jumped from 14 percent in 1996 to 94 percent in 2005. Connectivity levels for students in rural classrooms (95 percent), majority-minority school districts (92 percent), and the highest

poverty districts (92 percent) nearly equal or surpass that figure. Today, nearly 100 percent of public libraries provide some form of public internet access, thanks in part to the E-Rate program. Over 2,800 private K-12 schools have benefited from the E-Rate program.

EdLiNC and NCTET are certain that E-Rate's impact on our nation's schools, libraries, and communities, already felt strongly from Hawaii to Alaska, Maine to California, and Texas to Michigan, will only deepen and grow in the E-Rate's next decade. All recipients will continue to count on the E-Rate to ensure they can maintain ongoing connectivity costs. Most will look to the E-Rate to enhance their networks and access as the demand grows to connect to ever-more robust services and resources. The ten profiles of public and private schools and public libraries contained herein will bear out that the E-Rate is just getting started.

In honor of the first ten years of the program, we have commissioned and issued this report. The members of EdLiNC and NCTET look forward to the ongoing, continued success of this important federal program. ●

## Past Reports

- Report 1 (May 1999) • E-Rate: A Vision of Opportunity and Innovation
- Report 2 (July 2000) • Keeping the Promise
- Report 3 (July 2003) • Connecting Kids and Communities to the Future

For copies of these past reports, please go to: [www.edlinc.org/resources.html#edlincpubs](http://www.edlinc.org/resources.html#edlincpubs)





# State E-Rate Discount Totals over 10 Years

state	commitments	state	commitments
ALABAMA	\$276,548,245.52	NEBRASKA	\$62,498,130.27
ALASKA	\$132,325,881.84	NEVADA	\$38,098,370.02
AMERICAN SAMOA	\$15,069,354.46	NEW HAMPSHIRE	\$15,875,209.65
ARIZONA	\$439,350,044.06	NEW JERSEY	\$435,857,787.00
ARKANSAS	\$154,409,667.87	NEW MEXICO	\$343,259,838.56
CALIFORNIA	\$2,567,515,702.27	NEW YORK	\$2,538,425,055.05
COLORADO	\$157,759,130.77	NORTH CAROLINA	\$365,001,689.04
CONNECTICUT	\$226,175,994.20	NORTH DAKOTA	\$32,628,570.50
DELAWARE	\$11,044,977.87	NORTHERN MARIANA ISLANDS	\$9,649,490.87
DISTRICT OF COLUMBIA	\$107,469,140.76	OHIO	\$611,377,502.09
FLORIDA	\$572,258,695.16	OKLAHOMA	\$348,423,308.72
GEORGIA	\$578,706,451.26	OREGON	\$114,282,350.41
GUAM	\$18,821,557.31	PENNSYLVANIA	\$629,302,702.86
HAWAII	\$34,310,511.04	PUERTO RICO	\$253,966,137.72
IDAHO	\$37,227,179.75	RHODE ISLAND	\$58,958,887.48
ILLINOIS	\$832,208,260.99	SOUTH CAROLINA	\$390,242,756.96
INDIANA	\$204,167,820.50	SOUTH DAKOTA	\$42,258,447.15
IOWA	\$90,204,441.48	TENNESSEE	\$445,988,601.02
KANSAS	\$114,871,501.57	TEXAS	\$1,967,501,108.10
KENTUCKY	\$300,780,093.40	UTAH	\$92,393,623.27
LOUISIANA	\$375,261,812.60	VERMONT	\$15,714,480.43
MAINE	\$50,522,804.15	VIRGIN ISLANDS	\$25,194,699.88
MARYLAND	\$151,823,466.41	VIRGINIA	\$238,421,786.01
MASSACHUSETTS	\$305,670,686.08	WASHINGTON	\$198,200,572.34
MICHIGAN	\$537,033,368.31	WEST VIRGINIA	\$80,233,426.72
MINNESOTA	\$209,942,170.21	WISCONSIN	\$236,611,172.92
MISSISSIPPI	\$317,239,862.74	WYOMING	\$22,969,207.67
MISSOURI	\$351,148,588.74		
MONTANA	\$34,184,710.06		
		<b>total</b>	<b>\$18,817,387,034.09</b>



# Alaska: Anchorage School District

**Total E-Rate Funding: \$10,492,541.26 • Program Year 2006 Discount Rate: 56%**

While only the 89th largest school district in the nation, the Anchorage School District serves 50,000 students, employs 3,600 teachers, and occupies 100 schools. To call its student body diverse is an understatement: 44 percent of its students are members of identified minority groups, including Alaskan Native and American Indian (13 percent), Asian and Pacific Islander (11 percent), African American (8 percent) and Hispanic (6 percent); and students speak more than 90 different languages. The school district also has major pockets of poverty, receiving Title I schoolwide program funding for sixteen of its schools. Online communication and resources, courtesy of E-Rate support, have truly served as the glue that holds this district together.

Prior to the E-Rate, Anchorage had fairly minimal connectivity and no districtwide network, relying on voluntary efforts to pull wires through individual schools. Most schools had antiquated telephone systems, with one high school enduring a near complete voice service breakdown, and therefore facing a potential safety issue, in 2000. The arrival of E-Rate support transformed Anchorage's voice and data services. Today, all district schools are networked and connected to the Internet. Additionally, Anchorage expects to complete in June 2007 an E-Rate supported bandwidth upgrade that will

provide all of its elementary schools with Internet connection speeds of 9 megabytes and all high schools with 100 megabyte connectivity. Finally, Anchorage's schools will never have to encounter voice service cut-offs again because E-Rate helped support the installation of a modern Centrex system.

For Anchorage, though, E-Rate is about more than mere connectivity; it is about academics. Darla Jones, Anchorage's Secondary Education Technology Coordinator, indicates: "Online tools and resources have allowed us to move down an exciting path to differentiated instruction." She cited one online reading and math program, used by more than 2,000 students in the district, that delivers high-interest current event news articles to each student at his or her own reading level and that

*"If the Internet were taken away,  
we would be lost."*

constantly increases reading difficulty in order to improve student skill levels. She also pointed to another online product, which over 3,000 students in the district use, that enables teachers to draw from a pool of thousands of individual lessons in many subject areas to individualize

instruction for students. Aside from "off-the-web" products such as these, Anchorage has created its own online courses, including an Alaska Studies Course, which incorporates discussion boards, interactive map tests and video, to teach students about Alaska social and political history. Since Alaska Studies is a new state graduation requirement and Anchorage lacks sufficient instructors to meet the immense demand engendered by this requirement, Anchorage's online class is an important resource for the 350 students who have participated in it. The district has also embarked on a one-to-one project that provides all middle school students with wireless laptops. As Dr. Jones summarized: "If the Internet were taken away, we would be lost."

Anchorage's deployment of online materials and resources appears to be paying off academically. Its students' test scores are higher than the state and national averages. Moreover, Anchorage has seen its graduation rates improve and more of its high school students pass Alaska's required state graduation exam. "We attribute a lot of our recent success to the individualized learning and differentiated instruction that our online and digital instructional tools provide," states Dr. Jones. None of this would be possible without the E-Rate. ●

# California: San Bernardino Unified School District

**Total E-Rate Funding: \$75,314,971.05 • Program Year 2006 Discount Rate: 86%-89%**

Seven years ago, when EdLiNC first profiled San Bernardino Unified School District, public classroom Internet connectivity rates in urban schools stood at 66 percent, the E-Rate was in only its third year and No Child Left Behind (NCLB) had not become law. At that time, San Bernardino Unified demonstrated that it was already ahead of the curve in adopting technology, using its substantial E-Rate support to wire 97 percent of its classrooms for Internet access and incorporating technology into reading and mathematics courses. While much has changed over the past seven years, San Bernardino's faith in technology and participation in the E-Rate program has only deepened.

San Bernardino Unified School District is a large, low-income, predominately Hispanic school district in southern California. It is spread across more than sixty different sites, matriculates 58,000 students, and employs over 2,800 teachers. The district has used its more than \$75 million in E-Rate support to wire all of its classrooms at T1 levels, thereby expanding learning and professional development opportunities. Recognizing that technology skills are the key to individual professional advancement and the nation's competitiveness, the district requires that each student complete one semester in computer literacy in order to graduate. Neither the State of California nor its state university system has comparable requirements.

Like many urban districts, San Bernardino Unified has struggled to meet the requirements of NCLB. While some of its schools have shown academic growth in the state's exams, the district overall has not met the state's academic proficiency targets. San Bernardino Unified's administrators are using its extensive connectivity to stimulate student achievement and meet NCLB's goals.

*"All these programs are possible through E-Rate and would disappear without it."*

Specifically, the district has begun to implement systemic reform programs that incorporate significant technology components. Many of the student reading products used by the district, which include lessons, assessments and remediation, are online-based. Additionally, the district has launched its own formative assessment program that allows teachers to identify, analyze and address problem areas for particular students through regular online quizzes. Finally, the district's professional development initiative, which features a brand new professional development center and includes the foundational goal that teachers should not need to leave school grounds to receive quality

training, relies substantially on online access. As Paul B. Shirk, Assistant Superintendent for Research and Systems Analysis, concludes: "All these programs are possible through E-Rate and would disappear without it."

While San Bernardino Unified has done much with its current E-Rate supported connectivity, including running online video streaming programs, its bandwidth is rapidly being outstripped by demand. According to Dilip Patel, the district's E-Rate Coordinator, "the district already has to pick and choose which applications to run because our current T1 connectivity can only handle so much." This lack of bandwidth inhibits Mr. Patel's efforts to make available to students and teachers video-conferencing and distance learning courses. There is little question that at San Bernardino the need for E-Rate support continues. ●

# Hawaii: Ho'okena Elementary School

**Total E-Rate Funding: \$219,132 • Program Year 2006 Discount Rate: 80%**

On the southernmost tip of Hawaii's "Big Island," one hour's drive from the nearest town, sits Ho'okena Elementary School. The families of the school's 140 Pre-Kindergarten through fifth grade students, nearly all of whom are Native Hawaiian, subsist on the irregular wages that their migrant farming work yields. In the past, unemployment rates have reached as high as 70 percent. Some homes lack telephones, let alone computers and Internet connectivity. According to Kela Luczon, Ho'okena's technology coordinator, the E-Rate support that the school receives "brings equity to these kids."

Courtesy of the E-Rate, Ho'okena Elementary School has become an oasis of the latest technology for its teachers and students. The school has used its 80 percent to 90 percent E-Rate discounts to install in each classroom a working telephone, cable television access and Internet connectivity via a T1 line. Ho'okena's administrators have further leveraged the E-Rate by marshaling enough state funding to purchase five computers and one network printer for each PK-5 classroom and to outfit a computer lab with 30 computers. Ho'okena has also not forgotten about the need for tech-savvy educators, supplying each teacher with a laptop and hiring a technology coordinator to train teachers how to integrate new technology, including videostreaming and distance learning courses, into their lesson plans.

The E-Rate has also transformed Ho'okena's school operations. All school functions — attendance, school lunch counts, grading, and announcements — are now done electronically and instantaneously, rather than on paper. "This has really increased our efficiency," commented Ms. Luczon. "Teachers and students don't have to walk back and forth to the office all day." Additionally, rather than wasting an entire day to travel to district meetings, Ho'okena's teachers and its principal now routinely participate through E-Rate supported videoconferencing.

*"Our kids leave here knowing how to use scanners, digital cameras and e-mail and how to reach and interact with someone in another country. They have 21st century skills even though they're not necessarily growing up in a 21st century environment. The Internet has brought the world to Ho'okena."*

However, far and away the biggest beneficiaries of E-Rate supported learning have been Ho'okena's students. They engage in project-based learning, produce multimedia presentations for their classes and use web-based resources to make learning come alive in their classes. Ho'okena's administrators are very focused on instilling in their students technology skills critical to their academic and employment futures; they require that each student meet grade-level appropriate technology learning standards. Reflecting on this technology-rich environment, Ms. Luczon commented: "Our kids leave here knowing how to use scanners, digital cameras and e-mail and how to reach and interact with someone in another country. They have 21st century skills even though they're not necessarily growing up in a 21st century environment. The Internet has brought the world to Ho'okena." ●

# Kentucky: Fayette County Public Schools

**Total E-Rate Funding: \$6,376,428.23 • Program Year 2006 Discount Rate: 60%**

In the Fayette County Public Schools, “technology is our way of life” says Doug Gibson, the district’s Manager of Administrative Systems. Fayette County School District is a large school district with 35,000 students and 54 schools in Lexington, Kentucky. Its community is economically and culturally diverse, home to a heavy blue-collar worker population but also to the University of Kentucky. “Because of the university and all the technology that is there, though, students, parents and teachers all expect technology in the K-12 schools as well,” Mr. Gibson said.

Driven by this home-grown demand for technology, the district used local funds to connect its schools to the district office in 1994 — a few years before the E-Rate became a reality. Still, that initial network was quite slow, relying on fractional T1 connections. So, with the advent of the E-Rate in 1998, Fayette County immediately applied for and used its E-Rate support to install T1 level connectivity. Recently, the district updated its network with help from the E-Rate to one gigabit fiber levels — a long way from its first fractional T1 levels.

Fayette County has taken full advantage of this expanded connectivity. Computers and the Internet are a common part of classroom instruction in this school district. Videostreaming resources are available to all teachers in the district and supplement courses across

grade levels and subjects. Mr. Gibson reports that 70 percent of teachers have classroom/course websites, many of which have links to course material and provide homework instructions and help. Students attending district

*“None of this would be possible without E-Rate.”*

high schools that do not offer AP Calculus or Physics can take them virtually via two-way videoconference classes. Fayette County students and teachers also take part in distance learning courses through Kentucky Virtual High School, which offers district elementary and high school students opportunities to take courses in all major subject areas and electives as well as faculty professional development opportunities. “None of this would be possible without E-Rate,” said Gibson.

E-Rate supported connectivity has helped Fayette County students observe and interact with scientists across the country. Currently, the district is participating in a grant program through the National Science Foundation that allows Fayette County students and teachers to work with staff from the University of California, Los Angeles (UCLA) Medical School to develop online science lessons geared

toward problem solving and critical thinking. These lessons are then posted on the district’s website. “One of the central requirements for this project was the Internet. Without Internet access, this wouldn’t have been possible and because of it, our kids in Kentucky got to work with scientists at UCLA,” noted Gibson.

In addition to connecting with California scientists, E-Rate supported connectivity is strengthening parent links to the school. Parents routinely and frequently contact their children’s teachers via e-mail. Moreover, the district’s student information system allows parents to access their children’s attendance records and grades. Concluded Mr. Gibson: “We do everything, it seems, via our district network. I can’t imagine life without it.” ●

# Maine: Maine School & Library Network

**Total E-Rate Funding: \$14,421,491.15 • Program Year 2006 Discount Rate: 63%**

As Janet McKenney, the E-Rate Coordinator for the Maine Schools & Libraries Network (MSLN), puts it: "In Maine, we have so many great things going on, but you've got to have everybody connected or it doesn't work." From Maine's groundbreaking one-to-one laptop initiative in all its schools to its wireless connected libraries, Ms. McKenney is certainly correct that Maine is a cutting-edge technology state and that its ambitious technology initiatives require a strong effort to connect everyone. Fortunately, MSLN has great E-Rate program support to help these and many other crucial educational and community-oriented technology initiatives succeed.

Maine's large geographic size, widely dispersed population, mountain ranges and remote islands conspire to make travel and communication challenging. Be that as it may, the Maine School & Libraries Network has taken-up the cause of networking the state's 272 libraries, which serve 1.3 million Maine citizens, and its 804 public and private schools, which matriculate 198,000 students. Established by the state Public Utilities Commission in 1995 and initially funded through the proceeds of a telephone rate settlement case, MSLN turned to the E-Rate for support in 2001 when the rate settlement funds ran dry. Since then, MSLN has received more than \$14 million in E-Rate support, which it is using to provide all schools

and libraries with a minimum of T1 level connectivity. According to Linda Lord, Deputy State Librarian for the Maine State Library, "The E-Rate saved-us. Every major initiative we have rides on us being connected and our connectivity rides on the E-Rate."

Beyond supporting the statewide laptop initiative, MSLN's E-Rate support delivers exceptional distance learning opportunities to Maine's students that would not be available by any other means. For instance, the state's public schools have very few teachers qualified to teach Japanese. With E-Rate supported high-speed Internet access and videoconferencing technologies, all of the

*"The E-Rate saved-us. Every major initiative we have rides on us being connected and our connectivity rides on the E-Rate."*

state's high school students now have the option of taking fully interactive classes in Japanese I and II from a Farmingdale, Maine teacher. Additionally, the Maine Distance Learning project is using advanced video-confer-

encing technology (ATM) to target special education students and students with disabilities in their home schools. Currently, the project uses its ATM technology to offer access to courses from the Baxter School for the Deaf to students across the state.

Maine's libraries also play critical roles for their patrons, many of whom have no high speed internet access in their homes. According to Ms. Lord, one college student, lacking home Internet access on isolated Cranberry Island, actually was permitted to sleep in the local library while she completed a paper. Ms. McKenney points to the positive impact on tourism, an important part of Maine's economy, that high speed Internet access in libraries is having: "Tourists who needed to rely on the Internet for business purposes often had to leave early. Now, they can use our library connections and stay longer." In sum, according to Ms. McKenney, "Our libraries are becoming the gathering places for their communities. We are really filling a need here." And the E-Rate is helping them do it. ●



# Michigan: Woodland Library Cooperative

**Total E-Rate Funding: \$545,073.90 • Program Year 2006 Discount Rate: 40%-80%**

Spanning sparsely populated southern Michigan, the Woodland Library Cooperative's 36 public library branches serve roughly 535,000 patrons across an 11 county, 4,600 square-mile area. Among other uses, the Cooperative's E-Rate support has allowed library patrons to communicate with friends and family serving in Iraq and permitted patrons suffering from particular illnesses to connect with others suffering from the same diseases. With southern Michigan enduring unemployment rates of 7 percent, which outpaces the national average, the Internet access provided by Woodland's libraries has allowed job seekers to develop marketable skills, file for unemployment benefits, and search and apply for positions online. For this rural area, E-Rate truly is a lifeline.

In 1998, when the E-Rate began, only one of Woodland's 36 libraries had a high-speed, broadband connection. Today, after 9 years of infusions of E-Rate support, only 3 libraries lack broadband connectivity. The combination of E-Rate and up-to-date hardware, furnished courtesy of two Gates Foundation grants that total more than \$700,000, have allowed the Cooperative to use the Internet for many of its major operational processes, such as web-based inter-library loan systems, web pages and electronic card catalogs. Further, E-Rate supported connectivity has allowed libraries to provide its patrons with electronic, downloadable books, video and audio-streaming resources, and research databases. The Cooperative is also looking to add online continuing education courses for library employees.

The Cooperative's high-speed connectivity has led to its libraries serving as technology leaders and drivers within southern Michigan. For many residents of this area, the local library offers the only high-speed internet connection for miles around. According to the

*"The library computers are always full. And patrons of all ages, from senior citizens to teenagers, flock to them."*

Cooperative's Director, James Seidl, "The library computers are always full. And patrons of all ages, from senior citizens to teenagers, flock to them." Mr. Seidl believes that the libraries' high-speed connectivity has helped drive down the cost of broadband and convinced other community entities to provide similar access.

Within the libraries themselves, E-Rate supported Internet connectivity, according to Mr. Seidl, "has created a demand that never existed before and is allowing libraries to fill needs within the community that are integral, and that no other entity can." In some communities, local professionals use the library to conduct business because they know it is the most reliable connection they can find. For the unemployed, who must create resumes to qualify for unemployment benefits as well as apply for those benefits online, the library is often their only option for

accessing computers and the Internet. In some Woodland libraries, demand for computer time is so great that librarians have begun reserving particular computers for resume-writing and unemployment applications.

Modern technologies have also spawned technology skills courses in libraries for patrons and staff. Many libraries now offer courses that range from teaching patrons the basics (e.g., Internet usage, word-processing, Excel) to more advanced topics, such as uploading and processing digital pictures and making investments online. Mr. Seidl summarized the revolution that the E-Rate started in his area by saying: "Our libraries are facilitating the general population within these communities to acquire 21st Century skills. Businesses realize this and appreciate that employees from within these communities will have these skills and knowledge — will be able to use the Internet — and they find this attractive."

The Woodland Library Cooperative, the member libraries of which have bandwidth capacities mostly below T1 levels, expects to seek more E-Rate support to keep pace with expected bandwidth needs. Mr. Seidl foresees upgrading the smaller libraries in the cooperative to T1 to 5 megabyte speeds and the larger libraries to 6 to 20 megabyte speeds. "With so many federal, state and local services and functions migrating online, including the statewide interlibrary loan system and state and federal tax forms and records, our patrons need high speed connectivity," Mr. Seidl said. ●



## Texas: SUPERnet Consortium

**Total E-Rate Funding: \$1,703,516.75** • **Program Year 2006 Discount Rate: 61%-90%**

Eastern Texas' SUPERnet Consortium comprises 17 rural districts and 91 schools. For the 50,000 students that reside in these districts, high-speed home internet connectivity is a luxury that is hard to come by. Only 50 percent of students have computers in their homes and only 30 percent have Internet access. Prior to 1996, students also had little access to computers or the Internet in their classrooms: the student-to-computer ratio across all 17 districts held at 50 to 1; and what little Internet access that existed was limited to a single dial-up connection in each school library. The advent of the E-Rate in 1998 changed all of that.

Between 1998 and today, the Consortium has used its E-Rate support to connect 98 percent of its member districts' classrooms to the Internet, with 70 percent enjoying broadband speeds. Additionally, these districts have used their savings from E-Rate discounts to reduce dramatically their student-to-computer ratio to 3 to 1. SUPERnet Consortium schools and districts have taken full advantage of this connectivity and hardware: students at all grade levels can participate in distance learning courses; teachers in all subject areas and grade levels employ videostreaming lessons with partner organizations such as NASA; and teachers, parents and students communicate with each other via email and website announcements.

Beyond simply connecting these teachers and students to the Internet, though, E-Rate supported connectivity has helped establish a vibrant learning community among the districts participating in the SUPERnet Consortium. Teachers and students hailing from different districts

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within the Consortium collaborate on projects and professional development activities and engage in a steady stream of communication via email, videoconferencing and other web-based applications. Developing this type of extended but close-knit community is especially important in rural areas where the distances between schools are great and collaboration opportunities are rare. A terrific illustration of this phenomenon is the four year-old SUPERnet Virtual High School, which offers distance learning classes in advanced science, math, foreign languages and history to many students in the Consortium's districts. The courses offered through the virtual high

school have allowed these rural districts, many without teachers for these subjects, to comply with the highly qualified teacher provisions of No Child Left Behind (NCLB). Approximately 575 students have taken courses through the Virtual High School since its inception.

Beyond meeting NCLB's mandates, E-Rate is helping SUPERnet's rural students acquire knowledge and skills that will help them compete. Donna Bogue, SUPERnet's coordinator, neatly summarized the E-Rate effect: "The incorporation of technology into lessons and the use of the Internet to deliver a more up-to-date approach to learning is absolutely giving our kids 21st Century skills. And, if we plan to compete globally, our students need to have these skills; they need to be technology 'savvy.'"

Currently, the SUPERnet Consortium shares 40 megabytes of bandwidth but hopes to use the E-Rate to increase that to 200 megabytes of bandwidth down the line. This additional bandwidth will allow SUPERnet members to make greater use of streaming video applications and allow districts to administer online tests. According to Miss Bogue, "With the State of Texas's Long Range Plan for Technology pushing for 24/7 access to school information, expanded bandwidth is an absolute necessity for SUPERnet. Unfortunately, the state is offering almost no funding to support that goal. This is why SUPERnet relies so heavily on the E-Rate." ●

# West Virginia: Roane County School District

**Total E-Rate Funding: \$409,683.58** • **Program Year 2006 Discount Rate: 80%**

The six schools serving 2,200 students in the Roane County, West Virginia School District have become renowned for their innovative, child-centered, technology-driven instructional approaches. The district has a rich distance learning curriculum, allowing students to take otherwise unavailable foreign language courses, including Spanish, Japanese and Latin. Roane students routinely perform virtual science experiments and access online materials for research purposes. The district ensures that those students struggling in particular subject areas have online homework remediation tools targeted both to their specific areas of need and their ability levels. And Roane's teachers gain credits by taking online professional development courses.

These facts alone make Roane a shining example of a modern school district. What is even more impressive is that Roane has accomplished so much located amid an impoverished, rural area where students rarely encounter computers or Internet in their homes. The E-Rate program has made the difference here.

Over the past decade, Roane has received over \$400,000 in E-Rate funds, which has allowed it to connect all of its classrooms with T1 lines. It has leveraged E-Rate support by using money it has saved from E-Rate discounts to lower its student-to-computer ratio to five to one. But Roane has not relied on the E-Rate alone to

support its technology program. Several years ago, it won a Beaumont Grant, which provided its schools with mobile carts that contain 30 laptops and wireless Internet connections. Most recently, the US Department of Agriculture awarded Roane a \$500,000 grant to expand its distance learning course offerings and its videoconferencing capabilities.

This technology infusion into the Roane County schools — which Bill Chapman, E-Rate coordinator for the district and Principal of Spencer Middle School, describes as “vital to the district” — has translated into tangible academic successes within the district. Homework completion rates have soared with the implementation of the online remediation tool. And overall, state test scores have continued to rise thanks to resources

*“E-Rate is also critical to ensuring that our students are competitive in the 21st Century job market.”*

made available through E-Rate funds. In just the past three years, Roane has made substantial scoring gains in reading, math, social studies and science on West Virginia's state exams. “We see these gains as a direct

result of the presence of the hardware and software in our schools — of the heavy integration of technology in the teaching of our math, science and English classes from second to eighth grade,” said David Kinison, Assistant Superintendent for Instructional Support.

With today's students destined to become tomorrow's workers, the E-Rate delivers much more than improved student achievement. According to Mr. Chappman: “E-Rate is also critical to ensuring that our students are competitive in the 21st Century job market. Internet skills are vital for workers in today's economy and, with advancements in technology, this need will only grow.” ●

# About EdLiNC

**The Education and Libraries Networks Coalition (EdLiNC)** was formed in 1995 to advocate for the interests of schools and libraries in the 1996 Telecommunications Act and the subsequent FCC rulemakings that implemented the E-Rate. Since that time, the Coalition's mission has been threefold: to educate the school and library community about the opportunity presented by the E-Rate and to facilitate widespread participation in the program; to inform and educate policymakers about the value of the program; and to advocate for continuous improvement in the administration of the program. To that end, EdLiNC provides current information about the E-Rate on its web site, closely monitors the administration of the E-Rate and advocates for changes in rules and procedures that will limit the burden on applicants, ensure fair and equitable distribution of program benefits and

ensure program integrity. EdLiNC has participated in every FCC inquiry and rulemaking related to the E-Rate since the program's inception. EdLiNC also provides information and analysis about the E-Rate program to Congress and the Administration.

EdLiNC has been instrumental in shaping the E-Rate program at the FCC. Among other things, the Coalition successfully advocated for the inclusion of Internet access and internal connections as eligible services. It also urged the FCC to allow for flexibility in the eligible services and functions in order to meet the diverse needs of schools and libraries and to adopt the principle of competitive neutrality to promote robust competition among service providers. Finally, EdLiNC also promoted a graduated discount rate to ensure that those low income

and rural communities most in need were able to take advantage of E-Rate discounts.

Today, EdLiNC continues to advocate for the program and for policies and procedures that limit the administrative and procedural burdens on schools and libraries. To this end, EdLiNC seeks to simplify the program and allow for local control and flexibility. Most importantly, EdLiNC has been a consistent voice for maintaining the Congressional focus on equity in the E-Rate program and for ensuring the program's integrity.

For more about EdLiNC, including a list of members, go to: [www.edlinc.org](http://www.edlinc.org). ●

# About NCTET

**The National Coalition for Technology in Education and Training (NCTET)** is a nonprofit, non-partisan organization that examines and supports the use of technology to improve education and training in America.

NCTET's membership includes education associations, nonprofit organizations, corporations, and expert practitioners who are committed to advancing life-long learning through the use of innovative, digital technologies.

Founded in 1994, NCTET has served as an influential convener and advocacy catalyst in the Nation's Capitol, rallying support for critical federal policy initiatives affecting technology utilization in learning. These initiatives have included the Technology Literacy Challenge Fund, the Technology Innovation Challenge Grant Program, the Preparing Tomorrow's Teachers To Use Technology Program, the Enhancing Education Through Technology Program, and the E-Rate program.

NCTET organizes policy briefings, conducts institutes and develops analyses on salient issues affecting learning with technology. In 2005, it helped launch

the Mission Critical Campaign designed to win greater congressional support for federal learning technology investments in schools. Additionally, NCTET hosts a presidential inaugural gala celebrating the indelible contributions of technology in education and training to the economic and cultural vitality of American society, and other celebratory events, such as the 10th anniversary of the E-Rate program.

For more about NCTET, including a list of the board of directors, go to [www.nctet.org](http://www.nctet.org). ●

# Sponsors Notes

## **Best Buy Government and Education:**

Best Buy Government and Education (Best Buy Gov, LLC) is a wholly owned subsidiary of Best Buy Co., Inc. Our mission is to provide the best of Best Buy's products and services to public sector customers in government and education organizations. Best Buy Government and Education strongly believes technology can engage children and have a positive impact on their ability to learn. That's why the Best Buy enterprise is proud to support K-12 schools using interactive technology to make learning fun through the te@ch awards program. In 2006, more than \$3.5 million in awards ranging from \$2,500 to \$250,000 will be awarded to K-12 schools in the United States through the te@ch program. Best Buy Government and Education delivers the best of Best Buy for the government and education marketplace.

## **Cox Communications:**

For Cox, education is more than just a commitment – it's a way of life for our employees and our business. Cox is a full service provider of telecommunications products, including advanced digital video programming services, local and long-distance telephone services, high-speed Internet access and commercial voice and data services. Cox is proud to have been involved with the E-Rate program since its inception in 1998. To date, we have partnered with more than 300 of our customers on E-Rate related projects. Beyond our partnerships on E-Rate, Cox helps support schools and libraries in our service areas by providing complimentary cable television service and high-speed Internet access and investing more than \$50 million each year in cash and in-kind contributions to schools and youth education groups. The E-Rate program has allowed our children and our communities to make great strides in

communications, learning and pedagogy over the past 10 years but we know that its mission is not yet accomplished. At Cox, we are committed to continuing the E-Rate program, thereby improving the lives of students, educators and library patrons throughout the nation. ●

**ENA:** ENA is a leading Managed Internet Service Provider that provides managed network and technology solutions for schools and libraries. Since 1996, we have established a reputation as experts in the design, deployment and operation of broadly distributed networks that effectively complement the goals of the E-Rate program. ENA designed and deployed one of the first statewide K-12 networks in the US, called ConnecTEN, connecting all schools and school districts in the State of Tennessee. In cooperation with our customers and the E-Rate program, ENA currently manages multiple statewide education and library networks successfully serving over 450 school districts, 2,000,000 students, educators and administrators, and over 170 library branch sites. Over the last decade, the E-Rate program has been the catalyst for "networked education" helping education become personalized, equitable, relevant and cost-effective benefiting all students. ENA applauds E-Rate's "decade of progress" and accomplishments and we look ahead to continue making the E-Rate program a success for the education and library communities we serve. ●

**Verizon:** The E-Rate program has done much more than successfully wire nearly all of America's schools and libraries; it has connected our young people to each other, their communities and most important ... their futures. This public-private partnership that gives young people

access to broadband and the Internet also is enabling many of the great school and library programs and initiatives that we sponsor with our education partners. Thanks to the E-Rate, students from all regions of the country, from diverse backgrounds and with a variety of interests, are being empowered to connect to the tools that are creating the information age economy. As America's leading broadband company, Verizon is a proud supporter of the E-Rate program and the goal it is achieving – empowering our young people to succeed today so they are ready to shape our future. ●

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## Acknowledgments

EdLiNC and NCTET commissioned this report from the Bernstein Strategy Group. Without the vision, perseverance and fortitude of Jon Bernstein and Erin Martin of BSG, this report would not have been possible.

Special thanks to Paula Ashley and Andrea Colón of Next Year's News, Inc. for design and support of this project.

Thank you to the members and supporters of EdLiNC and NCTET for the support, suggestions, editing and fundraising skills in making this fourth report possible.

In particular, EdLiNC and NCTET would like to acknowledge Kari Arfstrom, David Byer, Hilary Goldmann, Mary Kusler, Mark Schneiderman and Amy Sechler for proofreading drafts of the report and offering valuable suggestions. ●



National Coalition for **Technology**  
*in Education and Training*

