

# Leveraging E-Rate to transform learning

An essential guide  
for K-12 leaders

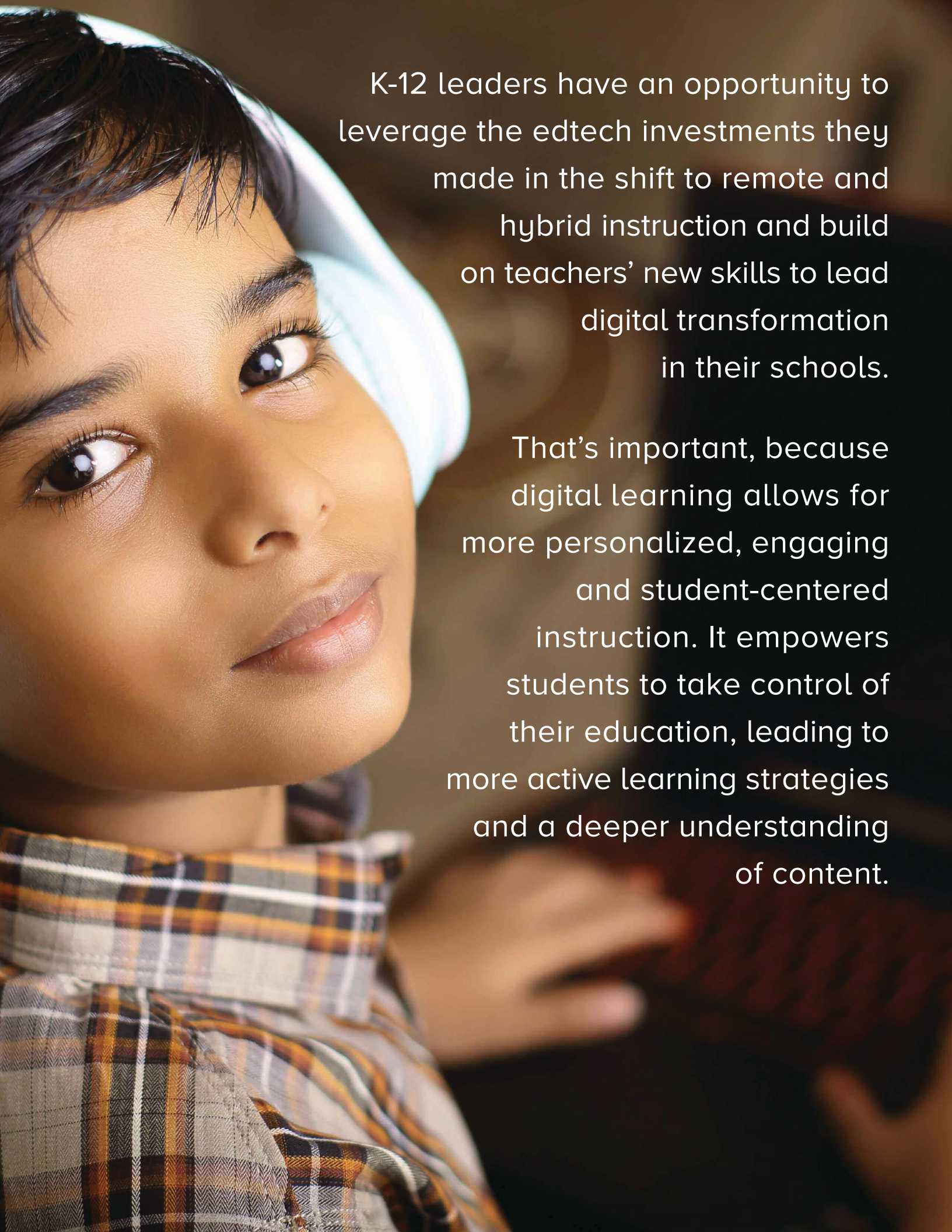


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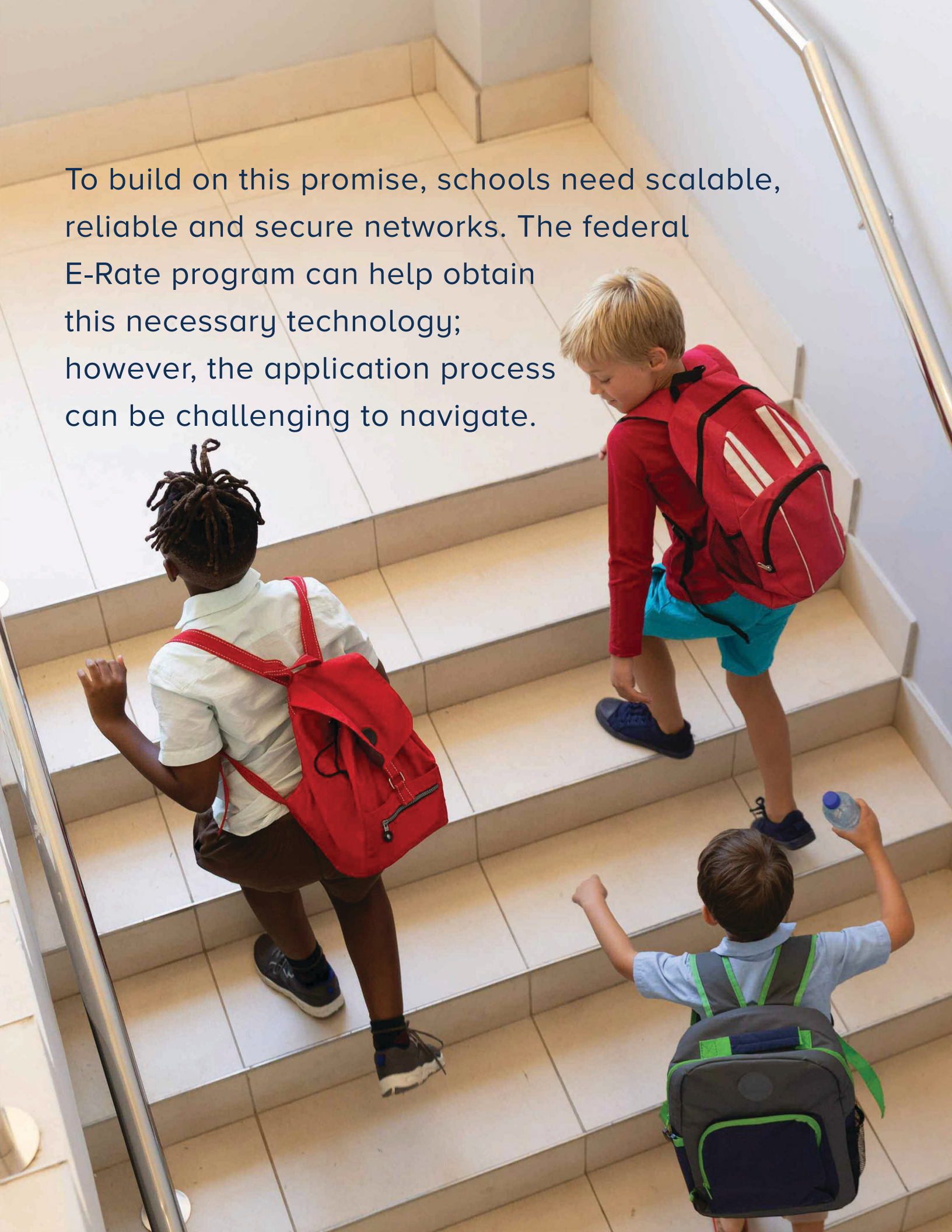


K-12 leaders have an opportunity to leverage the edtech investments they made in the shift to remote and hybrid instruction and build on teachers' new skills to lead digital transformation in their schools.

That's important, because digital learning allows for more personalized, engaging and student-centered instruction. It empowers students to take control of their education, leading to more active learning strategies and a deeper understanding of content.



To build on this promise, schools need scalable, reliable and secure networks. The federal E-Rate program can help obtain this necessary technology; however, the application process can be challenging to navigate.





This guide offers a roadmap to help K-12 leaders successfully leverage E-Rate funding to expand digital learning opportunities for their students. It provides an overview of the program, insights on the application process and strategies to help districts secure the discounts they're entitled to.

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## **Broadband** isn't a luxury; it's a necessity

The annual Speak Up survey from the nonprofit group Project Tomorrow confirms the value of K-12 digital learning. With the help of technology...

# 65%

of teachers say they're creating more interactive and participatory learning experiences for students.

# 60%

of teachers say their students are developing college and workforce skills.

# 44%

of teachers say they're addressing inequities in education.<sup>1</sup>

To realize technology's full potential to transform instruction, school systems must invest in the infrastructure needed to support digital learning effectively.

The Federal Communications Commission (FCC) recommends 1 Gbps of bandwidth per 1,000 students to support digital learning. A survey of school district chief technology officers (CTOs) by the Consortium for School Networking (CoSN) reveals that a majority of school districts (61 percent) have now achieved this goal—up from just under 50 percent in spring 2020.<sup>2</sup>

However, CoSN's annual survey suggests that even as schools have increased their bandwidth, their needs have continued to grow exponentially. For instance, network infrastructure and broadband capacity rank among the top three issues for K-12 CTOs — and 58 percent say bandwidth continues to pose a challenge for video conferencing in education.<sup>3</sup>

In a separate survey of E-Rate applicants, 88 percent say they'll need more bandwidth within three years — and more than half say they'll need at least 50 percent more in that amount of time.<sup>4</sup>

## E-Rate can help

The federal E-Rate program was created to help schools meet their connectivity needs. The program annually provides billions of dollars in discounts on internet access (Category 1 services) and network infrastructure (Category 2 services) to eligible schools and libraries.

Recent changes to the program's rules make it easier for school systems to deploy WiFi, fiber and other network solutions in a way that meets their needs, while providing more opportunities for the very smallest schools in particular.

# E-Rate by the numbers

**\$3.26 billion** in E-Rate requests for Funding Year 2022<sup>5</sup>

**More than 132,000** schools and libraries applied for discounts in 2022.<sup>6</sup>

**95%** of applicants say E-Rate funding is “vital” to their success.<sup>7</sup>

## Success in Connecting K-12:

**97%** of applicants say they connect more students because of E-Rate.<sup>8</sup>

**88%** of schools have faster internet connections because of E-Rate.<sup>9</sup>

**84%** drop in the average cost that districts pay for bandwidth since 2015.<sup>10</sup>

## More work to be done:

**79%** of applicants will need to upgrade their WiFi within three years.<sup>11</sup>

**56%** of high school students say a lack of consistent, high-bandwidth connectivity is the biggest barrier to using technology in school.<sup>12</sup>

**21%** of districts haven't met the FCC's broadband goal in any of their schools.<sup>13</sup>



## A brief history of E-Rate

Signed into law as part of the Telecommunications Act of 1996, the Schools and Libraries Program of the Universal Service Fund (known colloquially as “E-Rate”) required telecommunications companies to provide services to K-12 schools and public libraries at discounts ranging from 20 to 90 percent, based on economic need (as measured by the percentage of students eligible for the National School Lunch Program).

When the program began, only 14 percent of K-12 classrooms in the U.S. had access to the internet. E-Rate helped change that. But needs within school buildings — including the growing demand for wireless access points as mobile device use exploded — often went unmet as a result of limited funding that often reached only the neediest districts.

Originally, E-Rate supplied discounts on telecommunications services, internet access and the network services and other internal connections needed to bring the internet into classrooms. Telecommunications services and internet access were considered “Priority One” services and were funded first. Any leftover funding was distributed for internal connections (“Priority 2” services) starting with the poorest schools and libraries (those qualifying for 90 percent discounts) and continuing down the discount scale.

However, the limited amount of funding available — coupled with the high demand for Priority 1 services — meant that funding for internal connections rarely reached even the 70 percent discount band. This contributed to what then-FCC Chairman Tom Wheeler called “the WiFi gap” and, ultimately, a revamping of the program that has had wide-ranging consequences.

## E-Rate’s alphabet soup: Key acronyms and agencies

**EPC:** E-Rate Productivity Center, the web portal districts use to apply for and manage E-Rate funding requests.

<https://portal.usac.org/suite/>

**FCC:** Federal Communications Commission, the federal agency that manages the E-Rate program. <https://www.fcc.gov/>

**USAC:** Universal Service Administrative Company, the organization that administers funding for the E-Rate program. <https://www.usac.org/>

**USF:** Universal Service Fund, provides funding for E-Rate discounts through mandatory contributions from telecom providers. <https://www.fcc.gov/general/universal-service-fund>

## E-Rate 2.0: Designed for the digital age

In 2014, the FCC took significant steps to modernize E-Rate. These sweeping changes increased funding from \$2.4 billion to roughly \$4 billion per year and targeted nearly half of this figure for WiFi and other internal connections, including fully managed internal broadband services that support connectivity within schools and libraries.

The FCC also changed E-Rate rules to extend funding for network upgrades to more applicants. For instance, it eliminated the two-tiered priority system for services, referring to Priority 2 services as “Category 2” services instead. The agency also capped the maximum discount on these services at 85 percent instead of 90 percent and limited the amount of funding that applicants could request on Category 2 services within a five-year period.

The new regulations adopted a phasing out of subsidies for traditional phone services — both landline and wireless — to focus instead on closing broadband and WiFi gaps. Today, the E-Rate program no longer supports any voice-related services.

## The new reality

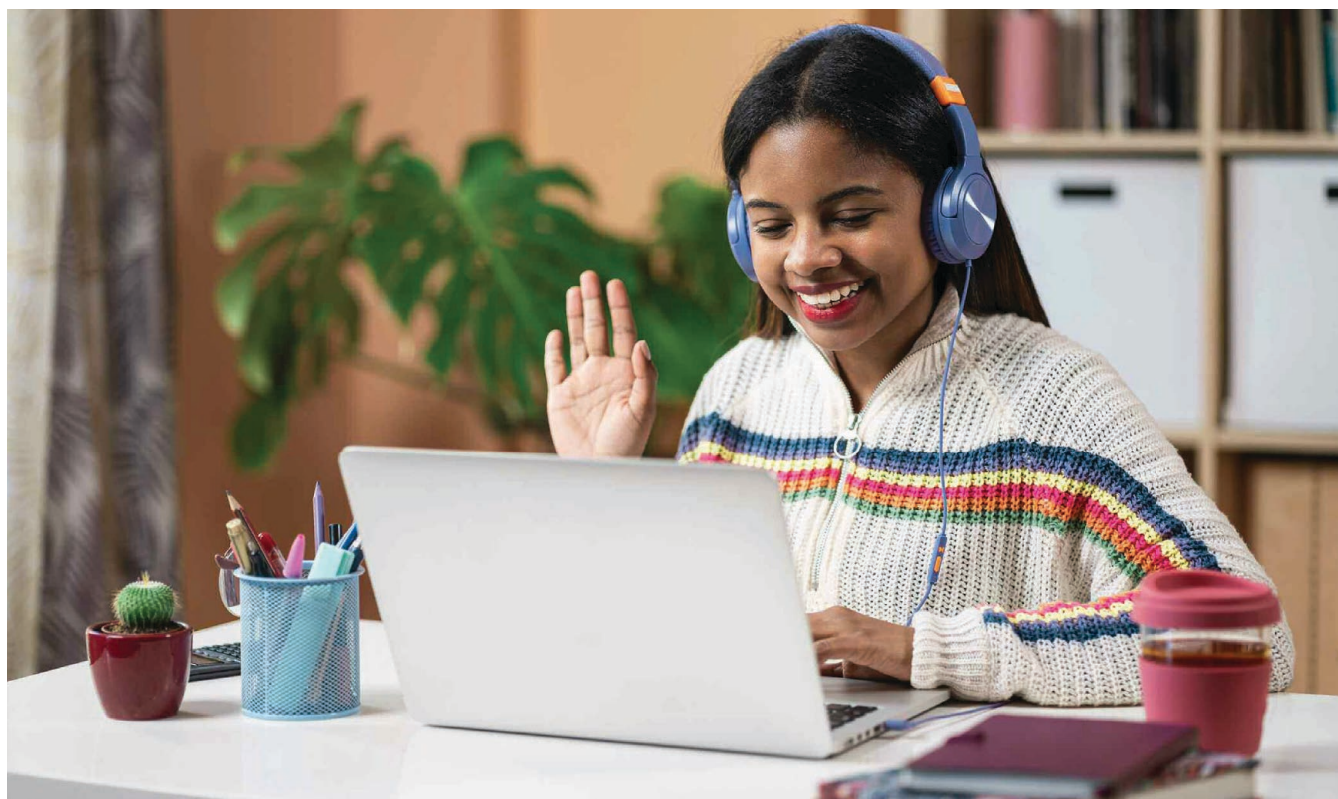
The E-Rate’s impact over the past two decades has been dramatic. More than 99 percent of schools are now connected to the internet by fiber, and bandwidth costs have fallen dramatically. E-Rate 2.0 also met its goal of ensuring that more schools received funding for network services.

However, the program has had its challenges as well. E-Rate requires extensive documentation, advanced planning and, importantly, a share of district money. Efforts to streamline the application process have been mixed. According to a 2021 survey from E-Rate consulting firm Funds for Learning (FFL), 55 percent of applicants said the program is meeting its goal of improving efficiency.<sup>14</sup> While that’s up from 36 percent in 2016, it means 45 percent of applicants believe there is still much work to be done.

Yet the program remains vital. “You’ve got a lot riding on these E-Rate applications,” says FFL Chief Executive John Harrington. “For many districts, it’s keeping the lights on.”

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## Empowering students to learn outside of school

The pandemic revealed there are still many students who lack internet access at home, and this so-called “homework gap” is a significant issue for 86 percent of E-Rate applicants.<sup>15</sup> Until 2021, E-Rate had never covered off-campus internet access for students before. However, that changed with the creation of a temporary funding opportunity in summer 2021 called the Emergency Connectivity Fund (ECF).

The ECF was created by the \$1.9 trillion American Rescue Plan passed by Congress and signed into law by President Biden in March 2021. Overseen by the FCC and administered through E-Rate, it provided nearly \$7.2 billion for mobile devices and off-campus internet connections bought by schools and public libraries to support remote learning.

Intended to support educational activities taking place off campus only, the ECF reimbursed schools and libraries for the cost of one mobile learning device per student (up to \$400) and one broadband connection per remote learning location. Fixed broadband connections within school or library facilities weren’t eligible for support through the program.

The broadband connections could include one mobile hotspot per user (up to \$250 in value), or one fixed connection to a household or other remote location. There were no minimum standards for the broadband speeds or services.

Schools and libraries requested a total of \$8.5 billion in ECF support across three separate filing windows in 2021 and 2022. This total surpassed

the amount earmarked for the program. Because the demand for Window 3 applications was higher than the available funds, the FCC indicated that Window 3 funding would be allocated to schools and libraries with the greatest need first.<sup>16</sup>

“We know there is a huge need for closing the homework gap, and the ECF is a good first step,” said FFL’s Harrington. “But this is not a one-and-done challenge, and \$7.2 billion in one-time support is not going to solve the problem.”

With this in mind, three members of Congress introduced legislation to extend the ECF by five years and provide \$8 billion a year to help schools and libraries support students’ home connectivity.

In addition, FCC Chairwoman Jessica Rosenworcel announced a proposal to make WiFi on school buses eligible for E-Rate funding in future funding years in an effort to help close the homework gap.<sup>17</sup> The proposal had not been ratified as of press time.

## More funding (and flexibility) for WiFi

Under the 2014 E-Rate Modernization Order, schools were eligible to receive discounts on up to \$150 for WiFi and other network costs per student, per school site, over a five-year period (adjusted slightly each year for inflation).

In December 2019, the FCC issued a Report and Order that made this five-year budget cap a permanent feature of E-Rate. The new rules also gave school systems much more flexibility in how they could deploy WiFi services starting with the 2021 program year.

In 2021, the five-year budget cap reset at \$167 per student on the pre-discount cost of WiFi and other network services through 2025. However, the cap now applies district-wide rather than for each individual school site.

This change should result in a streamlined application process and a more efficient use of E-Rate funding, because K-12 leaders won’t have to calculate and manage a separate budget cap for each building. Instead, E-Rate applicants can simply multiply the total number of students in their district by the per-student cap to arrive at a

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In addition, the 2019 rule changes raised the five-year budget floor on Category 2 services from \$9,200 to \$25,000. This change allows very small schools to qualify for more E-Rate support than before.



## Support for fiber construction projects

In January 2020, the FCC issued an E-Rate ruling that could bring fiber internet service to more schools. The ruling makes it easier for school districts to receive E-Rate funding to offset the upfront, nonrecurring cost of what are known as “special construction” projects to install new fiber lines.

Under the old rules, E-Rate funding for special construction projects costing \$500,000 or more had to be spread out, or amortized, over a period of at least three years. That meant school systems had to apply for funding to cover these costs separately for each year of the amortization period — with no guarantee that these requests would be approved.

This requirement created a lot of uncertainty and complexity for E-Rate applicants, which had a chilling effect on special construction projects. Many districts (and service providers) were reluctant to invest in new fiber construction, because they weren’t sure they would recover their costs.

In 2014, the FCC suspended this amortization requirement, and the January 2020 ruling permanently eliminates the requirement. As a result, all E-Rate eligible special construction costs can be charged to USAC in a single program year.

### Special construction explained

Special construction charges, which are eligible for E-Rate support as a Category 1 service, are the up-front costs associated with building and deploying new fiber networks to bring broadband service to schools and libraries. There are three components eligible for E-Rate funding: (1) network facilities, (2) design and engineering and (3) project management.

Special construction does not include charges for network equipment — that is, the modulating electronics and other equipment needed to make a fiber service functional (those charges may be eligible for Category 1 support).

## Special construction charges:

There are three components eligible for E-Rate funding:

1

network  
facilities

2

design and  
engineering

3

project  
management

Applicants can receive E-Rate support for special construction projects that begin up to six months before the start of the program year in which they're applying (so, January 1 or later), as long as the construction project is necessary for fiber internet service to begin on or after the July 1 start of the funding year. In order to receive support for special construction costs, the project must be completed and eligible services commenced before the end of the funding year (June 30). If construction is unavoidably delayed as a result of weather or another emergency, applicants can request a one-year extension. As with all E-Rate eligible services, applicants solicit bids for special construction through the usual competitive-bidding process in choosing a service provider.

### Greater certainty, more choices

Typically, applicants must pay the non-discounted share of E-Rate supported services within 90 days of receiving a service. If applicants are seeking support for special construction charges, they can request that service providers allow them to pay the non-discounted share of these charges in installments up to four years from the first day of the relevant funding year. This request for installment payments must be included in an applicant's FCC Form 470.

Bidders aren't required to offer installment payments, but if they choose to do so, they must disclose the payment terms in their bid submission.

The rules give school and district leaders greater certainty and more favorable options for financing fiber construction projects — making these projects much more attainable.





## Navigating the application process

Applying for E-Rate discounts is a multistep process that involves filing several forms and providing a great deal of documentation. The process can be intimidating for those who haven't experienced it before. What follows is an overview of the application cycle; for more detailed information, be sure to review the USAC website (<https://www.usac.org/e-rate>).

### The process in a nutshell

To apply for E-Rate discounts, you must create an account within the E-Rate Productivity Center (EPC) and receive an applicant entity number. You should also understand what products and services are eligible for discounts. Each year, USAC publishes a new Eligible Services List (ESL) that is approved by the FCC; applicants will want to become familiar with this list annually.

To ensure that schools and libraries are receiving services at competitive prices, USAC requires applicants to go through a 28-day competitive-bidding process for all new products and services for which they're requesting E-Rate support. Services provided under tariff or on a month-to-month basis require applicants to go through this process each year. However, if a multi-year contract results from a completed bidding process, it isn't necessary to go through this process in subsequent years until a new contract is required.

Once you have evaluated the bids, chosen a service provider and signed a contract, you can apply to USAC for E-Rate discounts on those eligible services. Assuming USAC approves your application, you will either pay your service provider the discounted rate for services or pay for services at the regular rate and invoice USAC for a reimbursement on the discounted amount.

## Understanding the various forms

**Form 470:** Used to describe products and services requested for funding through the E-Rate program; required to open the 28-day competitive bidding period.

**Form 471:** Once service providers are chosen, this form is used to request funding and to identify all contracts and services for which the applicant is requesting E-Rate discounts.

**Form 472:** This form is used to seek reimbursement from USAC on the discounted amount when applicants have paid in full for E-Rate approved services.

**Form 486:** This form is used to confirm to USAC that services have started; it is required to be filed before most payments can be made.

**Form 500:** This form is used by applicants to make adjustments to funding requests, modify dates for receipt of service or file for extensions.

## An overview of eligible services

The following is a general overview of products and services that are eligible for E-Rate support. However, USAC updates this list every year, so be sure to consult the most recent ESL before applying — and don't hesitate to contact USAC if you have any questions about the eligibility of services.

### *Category 1: Data transmission and/or internet access*

- Asynchronous Transfer Mode (ATM)
- Broadband over Power Lines
- Cable Modems
- Digital Subscriber Line (DSL)
- DS-1 (T-1), DS-3 (T-3), and Fractional T-1 or T-3
- Ethernet
- Integrated Services Digital Network (ISDN) (Note: Dedicated voice channels on an ISDN circuit are no longer eligible)
- Leased Lit Fiber
- Leased Dark Fiber (including dark fiber indefeasible rights of use, or IRUs, for a set term)
- Microwave Wireless
- Self-Provisioned Broadband Networks (applicant owned and operated networks)
- Frame Relay
- Multi-Protocol Label Switching (MPLS)
- OC-1, OC-3, OC-12, OC-n
- Satellite internet
- Switched Multimegabit Data Service

Eligible costs include monthly charges, special construction, installation and activation charges, modulating electronics and other equipment necessary to make a Category 1 broadband service functional ("Network Equipment") and maintenance and operation charges. Network equipment, maintenance and operation costs for existing networks are eligible as well. All equipment and services, including maintenance and operation, must be competitively bid.

Applicants who seek bids for leased dark fiber must also seek bids for leased lit fiber service and fully consider all responsive bids. Staff salaries and labor costs for personnel are not E-Rate eligible.





## Category 2: Internal connections

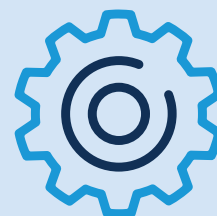
- Antennas, connectors and related components used for internal broadband connections
- Cabling
- Caching
- Firewall services and firewall components separate from basic firewall protection provided as a standard component of a vendor's internet access service
- Racks
- Routers
- Switches
- Uninterruptible Power Supply (UPS)/Battery Backup
- Access points used in a local area network (LAN) or wireless local area network (WLAN) environment (such as wireless access points)
- Wireless controller systems

Software supporting the components on this list is also eligible, as are virtual services that shift routing and switching functionality to the cloud. A manufacturer's multiyear warranty for a period up to three years that is provided as "an integral part of an eligible component, without a separately identifiable cost," may be included for support.

### ***Managed Internal Broadband Services are also E-Rate eligible.***

These are defined as "services provided by a third party for the operation, management and monitoring of eligible broadband internal connections" (such as managed WiFi). Eligible expenses include the management and operation of the LAN or WLAN, such as installation, activation and initial configuration of eligible components and on-site training on the use of eligible equipment.

In addition, E-Rate support is available for basic maintenance and technical support on eligible broadband internal connections. This includes repair and upkeep of eligible hardware; wire and cable maintenance; configuration changes; basic technical support; and software upgrades, bug fixes and security patches.



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## Timelines for applying

Although specific dates vary from year to year, here's a summary of the application process.

Process	Steps involved
<b>Competitive bidding</b>  <b>Time frame</b> <b>Fall-Winter</b>	Request services by submitting FCC Form 470. Wait at least 28 days while entertaining bids. Evaluate bids as they're received. Choose a service provider and sign a contract.
<b>Applying for discounts</b>  <b>Time frame</b> <b>Winter-Spring</b> (Form 471 deadline is typically mid to late March)	After waiting at least 28 days to choose service providers and sign contracts, file FCC Form 471 to request E-Rate discounts on eligible services. Work with service providers to choose an invoicing method: Pay the full cost of services and invoice USAC for reimbursements, or pay only the discounted cost (in which case the service provider would invoice USAC for the difference). USAC reviews applications and issues Funding Commitment Decision Letters. File appeals of USAC decisions within 60 days, if applicable.
<b>Services begin</b>  <b>Time frame</b> <b>Summer</b>	Once the new program year begins July 1, file FCC Form 486 confirming that services have started and reporting compliance with the Children's internet Protection Act.
<b>Invoicing</b>  <b>Time frame</b> <b>Summer-Fall</b>	If requesting reimbursement from USAC for services paid in full, submit FCC Form 472 (BEAR). Complete invoice review; correct errors and resubmit forms if necessary. Receive BEAR reimbursement from USAC.



## How schools can benefit from managed network services

Doing more with less has become almost a cliché. But for most K-12 IT departments, it's just business as usual.

With E-Rate eligible Managed Internal Broadband Services, school districts can extend the capabilities of overworked IT staff and keep up with rapidly evolving network needs without investing in costly equipment that can quickly become obsolete.

Here are five key benefits of taking a managed approach to network services:

**Flexibility.** When you buy your own equipment, you're investing in a specific network infrastructure with a fixed capacity. If your needs change faster than you anticipated, or if you underestimated the demands on your network, you're stuck until you have the additional capital needed for enhancements. In contrast, a managed solution lets you easily add more capacity as necessary. It also gives you the assurance that as technology evolves, you'll have access to the latest innovations.

**Reliability.** When you own your IT infrastructure, you're responsible for all maintenance and repairs. With a managed solution, you have the peace of mind that comes from having service level agreements (SLAs) in place guaranteeing network uptime and a fast resolution to any problems that might occur.

**Security.** Cybersecurity is the No. 1 technology priority of K-12 IT leaders.<sup>18</sup> When you purchase and install your own network infrastructure, you're also accountable for implementing patches and upgrades to keep these systems secure. With managed services, security patches and firmware changes are installed for you to keep your systems continually secure and up to date.

**Staff capacity.** Hiring skilled IT staff is one of the top challenges facing K-12 school systems today, and one in four lack the staff to manage their network systems adequately.<sup>19</sup> Managed services solve this problem. By offloading hardware installation, system configuration, maintenance, updates and network administration to an experienced partner, IT departments don't have to worry about whether they have the expertise on staff to handle these tasks — and they can focus their time and effort on supporting students and teachers more effectively.

**Predictable costs.** Managed services also make budgeting for IT modernization simpler. Instead of incurring a large up-front expense for new technology through a capital expenditure, school systems pay a fixed monthly rate for managed services as an operating expense. This ongoing charge includes all maintenance and support, so there are no costly surprises if any equipment should malfunction.



**Flexibility**



**Reliability**



**Security**



**Staff capacity**



**Predictable costs**

## Tips for success

A significant number of schools are denied E-Rate funding because they miss a deadline or fail to conform to the program's complex rules. Here are five strategies that can simplify the process and reduce the risk of having your application denied.

### Map out a plan.

"The most successful applicants are those who sketch out a plan before each E-Rate season begins," says Brian Stephens, a senior compliance analyst for FFL.

Your plan should be unique to your own school or district and should be built around how it operates, Stephens says. However, there are a few common elements that each plan should contain:

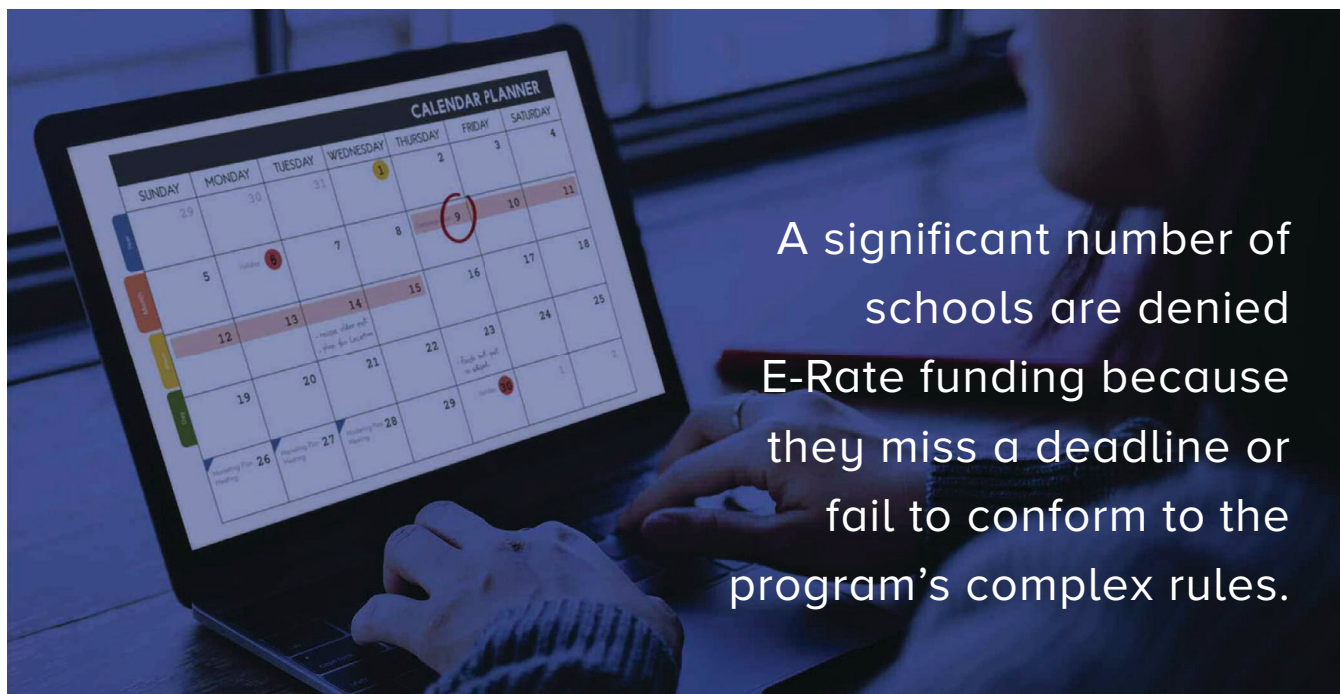
- A calendar of all application deadlines for the coming program year, so you can refer to these easily and aren't surprised at the last minute. Based on these deadlines, plan out key milestones and target dates

by which you should finish certain E-Rate tasks to keep on schedule. For instance, you should know the last date by which you can file a Form 470 and still meet the deadline for filing a Form 471 after waiting the required 28-day bidding period.

- A list of all information you'll need to complete the application process, such as enrollment information and National School Lunch Program data (to calculate your discount percentage). Make sure you know where this information resides and whom you need to speak with — or which databases you need to consult — in order to retrieve it.

### Give yourself plenty of time.

When planning out target dates and milestones, make sure you build in enough time to allow for contingencies. USAC, the agency that oversees E-Rate, is unforgiving about the program's deadlines.



“Schools typically wait until the deadline to file their E-Rate forms, but we recommend that you file early,” Stephens says. “This gives you the opportunity to refile a form in case you need to add to or amend your request.”

### Pay attention to document retention.

One aspect that’s often overlooked is how you’ll store E-Rate documentation. USAC requires E-Rate applicants to save all documentation for 10 years after the final service date in case of an audit. “That’s longer than you have to keep your tax documentation,” Stephens notes.

Because this retention period is typically longer than schools have to save any other files or documents by law, you might have to create special processes just for storing E-Rate information. But if you’re ever audited, you’ll be glad you did. School systems that aren’t able to produce the information required in an audit can be forced to return millions of dollars in E-Rate discounts. USAC conducts dozens of E-Rate audits each year to curb instances of waste, fraud and abuse.

### Be responsive to program administrators.

E-Rate administrators will often reach out to applicants by phone or email if they have a question or need more information. This communication might occur during the summer or another school vacation period.

When program administrators send questions, they request a response by a certain date — often 15 days from the date of their email. If you don’t respond by the date they indicate, your application will be denied. Be on the lookout for such communication, and respond in a timely manner when prompted.

### Stay informed.

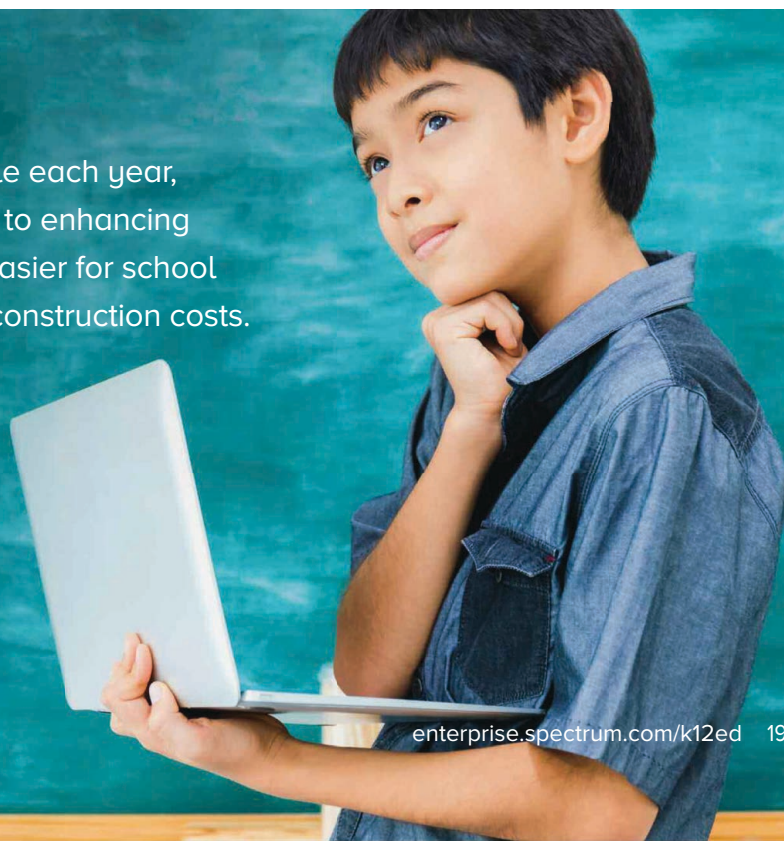
There are frequent changes to E-Rate rules and procedures. For instance, USAC issues a new Eligible Services List every year. Therefore, it’s critical to remain as educated as possible about the program.

Leverage as many resources as you can to stay current. USAC offers free E-Rate training sessions each year, as do most state E-Rate coordinators. FFL offers a free email newsletter with program information and updates.

## Final thoughts

With billions of dollars in discounts available each year, the E-Rate program provides a critical path to enhancing K-12 networks — and recent rules make it easier for school systems to deploy WiFi and offset special construction costs.

Even with these rules in place, applying for E-Rate discounts and keeping up with ever-changing policies can be tricky. To leverage E-Rate effectively, you’ll need dogged determination and a long-term strategy for making the most of program opportunities.





- <sup>1</sup> *Beyond the Homework Gap: Leveraging Technology to Support Equity of Learning Experiences in School*, Project Tomorrow (2022). <https://tomorrow.org/speakup/pdfs/Beyond-the-Homework-Gap-2021-Equity-in-Education-Report.pdf>.
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- <sup>18</sup> *The State of EdTech Leadership 2021 Survey Report*, Consortium for School Networking. <https://www.cosn.org/tools-and-resources/resource/edtech-leadership-survey-report-2021/>.
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