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June 10, 2014

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Ex Parte Communication in *In Re Modernizing the E-rate Program for Schools and Libraries*, WC Docket 13-184

Dear Ms. Dortch:

On Tuesday, June 10, 2014, representatives of Bright House Networks, LLC (“BHN”) met with Commission staff to provide an overview of BHN’s operations and participation in the E-rate program, and discuss its views on some of the pending issues in the above-captioned proceeding. Specifically, the undersigned, along with Adam Shoemaker of Davis Wright Tremaine, met with Rebekah Goodheart, Acting Legal Advisor to Commissioner Clyburn on wireline matters.

The information discussed in the meeting is covered by the attached presentation and materials, which includes BHN’s comments filed in the docket on April 7, 2014.

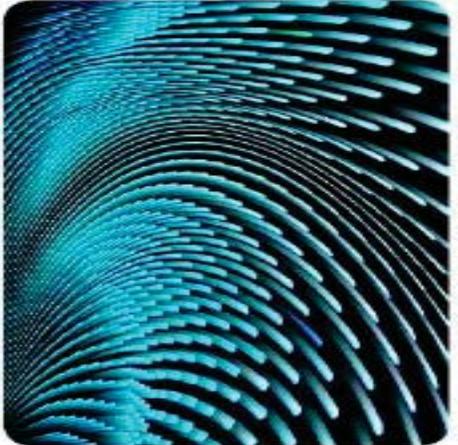
Please contact me should you have any questions.

Respectfully submitted,

A handwritten signature in blue ink that reads "Danielle Frappier". The signature is written in a cursive, flowing style.

Danielle Frappier
Counsel to Bright House Networks, LLC

Via Email: Rebekah Goodheart



Bright House Networks
Enterprise Solutions



**Committed to the Future
of Education**

VOICE | DATA | CLOUD | MANAGED SERVICES



WE'RE WIRED DIFFERENTLY.

About Bright House Networks



Our Company

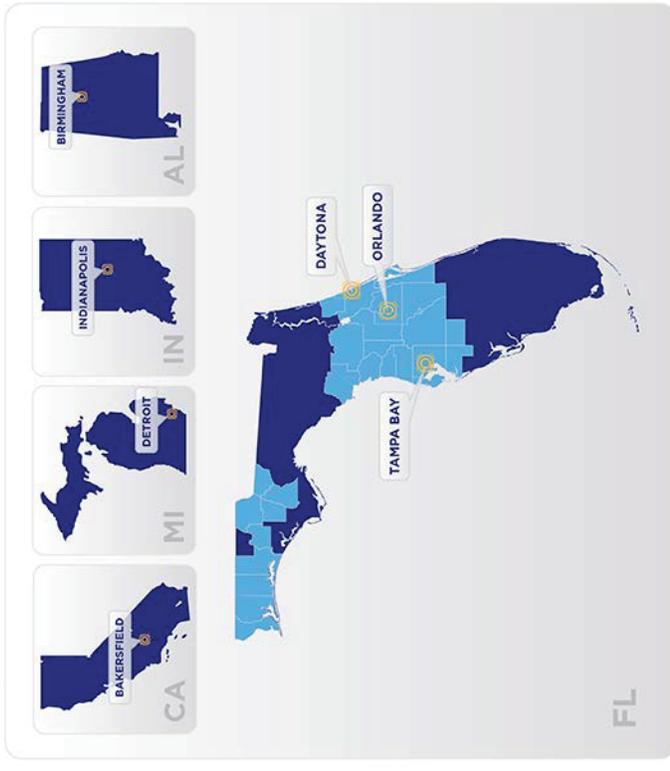
- Sixth largest owner and operator of cable systems in the U.S. and the second largest in Florida
- Leading service provider of advanced networking systems in Florida, Alabama, Indiana, Michigan, and California
- Over 2.5M customers for video, voice, and high speed data services
- Ranked highest in customer satisfaction 7 years in a row by J.D. Power and Associates

Enterprise Solutions

- Local leader in advanced communications and networking solutions
- Bright House Networks owns and operates its network and maintains full accountability end to end
- All fiber solutions provide secure and reliable Service Level Agreements that are 100% backed by Bright House Networks
- Dedicated and local sales executives and solutions engineers to service your business needs
- Industry leading voice, data, and video capabilities as well as managed services and cloud solutions to serve Enterprise needs at any scale

-  Over 1,700 fiber-based customers
-  Over 14,000 miles of fiber network
-  8,000 employees

Bright House Networks Enterprise Solutions Service Map



K-12 Solutions Experience



Some of the nation's largest school districts use Enterprise Solutions for advanced network technologies, including voice, data, and managed services—some of which is supported by the E-Rate program.

Top 10 Largest U.S. School Districts	
1. NY City Department of Education	New York
2. Los Angeles Unified School District	California
3. Chicago Public Schools	Illinois
4. Miami-Dade County Public Schools	Florida
5. Clark County School District	Nevada
6. Broward County Public Schools	Florida
7. Houston Independent School District	Texas
8. Hillsborough County Public Schools	Florida
9. Hawaii Department of Education	Hawaii
10. Orange County Public Schools	Florida
...	
26. Pinellas County Schools	Florida

Hillsborough County Public Schools

- Serving nearly 300 sites
- Data transport and Voice
- Exploring opportunities for managed WiFi and other managed network services

Pinellas County Public Schools

- Serving over 130 sites
- Data transport, Internet, and Voice
- Long lasting partnership in supporting the evolving needs of Pinellas schools

Orange County Public Schools

- Serving over 220 sites
- Data transport, Internet, and Voice
- Managed Wide Area Network—full router management
- Managed Internet Security—protection against malware threats
- Managed Content Filtering—compliance with CIPA

Enterprise Solutions Experience



More than 550 unique Florida educational sites rely on Enterprise Solutions for advanced communications services.

K-12 Public and Private Schools

Citrus County Schools
Pasco County Schools
Flagler County Public Schools
Orangewood Christian School
Jesuit
Winderup Preparatory School
The School District of Osceola County, FL

Colleges and Universities

Saint Leo University
The University of Tampa
Hillsborough Community College
University of Florida
Stetson University
Florida Southern College
PHCC
University of Central Florida
Eckerd College

Our Solutions



VOICE SOLUTIONS

Our Voice Solutions provide a secure, reliable and scalable solution that can be customized to your institution's needs. Whether you want to leverage your existing PBX-based voice infrastructure or are ready to move to the cloud, our innovative solutions will help you optimize the latest technology.

[Hosted Voice](#) | [Hosted Call Center](#) | [Enterprise Trunking](#)



DATA SOLUTIONS

Advanced Data Solutions that are robust and secure. Delivered over our leading-edge fiber network and backed by our advanced facilities-based IP core infrastructure, we can provide you with dedicated bandwidth to the Internet along with a secure private network to connect all your locations.

[Dedicated Internet Access](#) | [Metro Ethernet](#)



CLOUD SOLUTIONS

Harness the power of the cloud with our comprehensive portfolio of cloud-based solutions. Our hosted architecture provides a reliable and flexible platform that allows institutions to minimize network capital investments while reallocating IT resources to business critical activities.

[Hosted Voice](#) | [Hosted Call Center](#) |
[Hosted Applications](#) | [Infrastructure as a Service](#)



MANAGED SERVICES

A comprehensive suite of Managed Services to protect and manage your network infrastructure. From essential Internet firewall protection and advanced network defense systems to managing your network infrastructure and wireless capabilities, we can maximize your network's performance and efficiency while reducing your overall cost structure.

[Managed Security](#) | [Managed Network](#) | [Managed WiFi](#)

Situation Analysis



The impact of technology on Education

Trends

Impact

	Transformative Role of Technology	Schools must address the transformative role of technology by putting technology at the center of the classroom and building teaching curriculum around it.
	Preparing for the Internet of Everything	Although students need to be prepared for the increasingly competitive global marketplace of the future and the Internet of Everything, capital budgets remain tight.
	Future Innovations in Teaching	Educators must be prepared to leverage future innovations in teaching (and reaching) students via technology.
	Increasing Security and Regulatory Concerns	A school's network will need protection against threats, known and unknown; IT must be able to anticipate new attacks as well as address the increasing number of new requirements in governance, risk, and compliance.



Future Innovations in Teaching



BYOD (Bring Your Own Device)

Digital devices hold the attention of a generation dependent on gadgets. Schools will weigh whether or not students will be permitted (or even encouraged) to bring their own devices to school and how to monitor privacy, security, etc.



Adaptive Learning

“Personalized learning” (instruction/quizzes targeted at a student’s specific needs and skills) aims to transform the very nature of the classroom, turning teachers into guides instead of a lecturers, floating among students who learn at their own pace.



P2P Learning (Peer-to-Peer)

“Social learning” has gained attention in recent years as new technologies offer new methods for students to communicate and collaborate, whether they’re side-by-side in the classroom or thousands of miles away.



Game-Based Learning

Game-based learning and educational gaming apps continue to explode and are used by parents, teachers, etc. to reinforce needed skills in math and reading.



Open-Licensing

Open source technology, textbooks, educational resources, and data will present unique challenges for schools as traditional textbooks become obsolete.



Managed WiFi as Priority 1

Challenge

The use of wireless devices in the classroom is becoming increasingly critical to the success of teachers and students. As wireless device use grows from casual to essential, WiFi access points become critical telecommunications infrastructure that are complex and time consuming to manage, and must have constant up-time.

Solution

Funding Managed WiFi as a Priority 1 E-Rate service allows schools to invest in key infrastructure to modernize the classroom and improve the educational experience of students. Schools need to leverage high capacity bandwidth by unleashing fully covered and managed wifi in their school campuses.



Managed Security as Priority 1



Challenge

With the Internet now a core element in delivering classroom curriculum and in the overall operations of a school, protection against online security threats is vital. Schools are subjected to strict CIPA standards that require advanced Internet security techniques. Moreover, schools are particularly at risk of being victims of malware infections and denial of service attacks (ex: FCAT testing)

Solution

Funding Managed Internet Security as a Priority 1 E-Rate service allows schools to invest in necessary Unified Threat Management systems to ensure that high quality online curriculum will improve student performance and teacher effectiveness.



Downside to Statewide Consortia



Issue

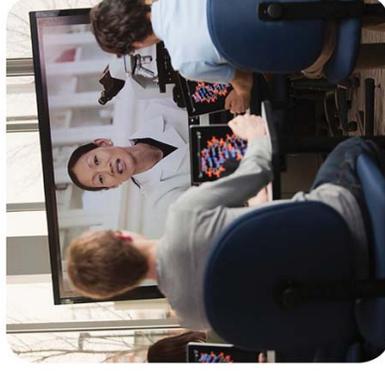
Some interests have advocated for statewide consortium models that would eliminate local school district control over communications network decisions in favor of centralized decision making and networks that are pieced together with numerous “type 2” last mile providers.

Position

Bright House Networks views statewide consortium models as ineffective for network deployment and management as well as more expensive than a facilities-based vendor having full control over and accountability for a school’s network.

Advantages of a facilities-based approach:

- Singular accountability; no finger pointing between integrator and network vendors
- Lowest cost of network operation; no overhead associated with third parties
- Local control by school districts; fosters innovation and customized local solutions



**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of

Modernizing the E-rate
Program for Schools and Libraries

WC Docket No. 13-184

COMMENTS OF BRIGHT HOUSE NETWORKS, LLC

Bright House Networks, LLC, (“BHN”) through its undersigned counsel, submits the following comments in response to the Public Notice released by the Commission on March 6, 2014, in the docket listed above.¹ BHN strongly supports the Commission’s efforts to reform and streamline the E-rate program and its focus on expanding access to high-speed broadband connections. BHN believes in order to truly reform and modernize the E-rate program, Commission rules must keep pace with industry standards for broadband services as well as the current competitive landscape. Program rules and the Eligible Services List (“ESL”) should be updated to ensure that raw broadband access is supported by industry-standard security and network management components that make broadband service a safe, secure, and reliable tool for school districts. BHN also supports providing E-rate funding for Wifi in order to provide access to broadband services within schools and libraries that is commensurate with what most

¹ *Wireline Competition Bureau Seeks Focused Comments on E-rate Modernization*, Public Notice, WC Docket No. 13-184, DA 14-308 (rel. March 6, 2014) (“Public Notice”).

Americans would envision as industry standard and further E-rate dollars by reaching more students and library patrons.

With respect to the competitive landscape, cable operators like BHN are well positioned to provide high quality, cost-effective broadband and other communications services to school and libraries, but they do not have state-wide territories. BHN encourages the Commission not to set a policy that unduly favors consortia and bulk buying, especially where they inhibit cost-effective regional providers from competitively bidding for E-rate contracts. Any program reforms must not result in a tipping of the competitive scales in favor of incumbent telcos.

In addition, as the Commission considers how to phase out E-rate funding for legacy voice services, BHN submits that support for voice services should not be distorted by the funding priority system and supports the proposal put forth by NCTA to limit funding for voice services to a benchmark rate set at the same price as corresponding voice over Internet Technology (“VoIP”) service. This would create an equitable step-down in E-rate support for legacy technologies while encouraging adoption of more cost-effective and efficient voice technology.

A. Broadband Service Provided to the Nation’s Schools and Libraries Should be Defined by Current Industry Standards which Include Wifi, Network Management, and Security.

The Public Notice seeks comment on “what services, software, or equipment are necessary to enable high quality, high-capacity networks inside schools and libraries, and whether such services, software and equipment should qualify for support.”² BHN submits that

² *Id.* at ¶ 12.

in order to effectuate the Commission's plan to bring the benefits of high-speed broadband to school districts and libraries, the E-rate program must recognize and support current industry standards of performance, delivery, security, and privacy when providing service to medium and large enterprises, whose needs are of similar scope and nature to schools and libraries. This includes Wifi access and network security and management components such as managed local area networks (Wifi and landline), managed routers for wide area networks, managed security services (including firewalls, content filtering, unified threat management, and distributed denial of service (DDoS) mitigation), and cloud services, all of which are necessary to provide the security, speed, and reliability expected of modern broadband offerings.

Wifi's importance is growing as schools are compelled to deliver more content digitally. For example, the state of Florida has mandated that its schools deliver half of their curriculum digitally by 2015 to replace paper textbooks.³ The state's Department of Education supports the switch, noting that electronic textbooks are easier to update. Students' use of digital textbooks will also ease the transition to online state assessment testing and will ensure that each student has experience with a computer before testing begins. Florida is not alone: initiatives like this are increasingly common across the country. In addition to ease of use by students, the most cost effective delivery mechanisms for digital curriculum are tablet computers and smart devices (e.g. iPad, Kindle, Android), all of which require Wifi to connect interactively to education networks. This is just one of the many reasons why funding Wifi as a Priority One eligible service is critical to advancing digital driven curriculum.

³ F.S.A. § 1006.40

Moreover, while the current E-rate ESL includes “basic firewall protection,” this phrasing can lead to confusion as to what level of protection USAC will fund, and worse, actively discourages funding for the type of firewall protection that would be provided to a non-school/library customer of similar size because it seems to encourage stripped down, non-standard firewall protection. This is contrary to the Commission’s goal of modernizing the E-rate program and would jeopardize educators’ goals and student privacy. Funding should be provided for “industry standard network protection,” which would contain appropriate firewall protection, intrusion prevention and detection, malware protection, application control, content filtering, DDoS mitigation, and similar Unified Threat Management technology. E-rate recipients need the flexibility to purchase cost-effective network protection that best fits their individual needs as digital curriculum requirements evolve.

Such funding should be based on the technological features of what is standardly provided in the industry, rather than factors such as pricing structure. When the Commission last considered funding for firewall services in 2010, it determined at that time to maintain the restriction of funding for “basic” firewall and pricing was mentioned as one possible indicator of whether such firewall protection is basic. Specifically, in paragraph 105 of that order, the Commission found that due to competing needs for program funds: “[w]e will continue to fund basic firewall protection, but we will not at this time extend E-rate support beyond basic firewall protection that is included as part of an Internet access service.ⁿ³¹⁶” Footnote 316 then states:

n316 Funding Year 2010 ESL at 8 (stating that eligible Internet access may include features typically provided for adequate functionality and performance when provided as a standard component of a vendor's Internet access service). When seeking comment on enhanced firewalls, *we had described them as*

'separately priced' firewalls. See 2009 Further ESL NPRM, 25 FCC Rcd at 6578-6579, para. 34.⁴

The reference to separate pricing in this footnote as a possible indicator of non-basic firewall has morphed into separate pricing being equated with basic firewall technology, despite the fact that the determinative factor in the operative language of the order is based on the functionality of the service. BHN submits that pricing structure should not be determinative, and rather, that support should be provided for firewall service that provides adequate and standard protection to the nation's schools and libraries. In many cases, this may require funding for firewall that is not fully integrated with the underlying broadband service. Whereas integrated basic firewall might feign to protect a single site school minimally, our nation's largest school systems absolutely require stand-alone security to ensure performance and protection for the tens of thousands of students and educators in such districts. (Bright House currently serves the eighth and tenth largest school systems in the country, Hillsborough County and Orange County respectively.)

Beyond firewall, modern network security should include malware protection, intrusion detection and prevention, application control, and content filtering in order to provide the same level of service to our nation's schools and libraries that medium and large enterprises receive. These features require managed services from providers like Bright House in order to be properly provided.

Another issue is that the current ESL does not prioritize standard modern network management techniques. For instance, the Children's Internet Protection Act ("CIPA") requires

⁴ *In re Schools and Libraries Universal Service Support Mechanism; A National Broadband Plan For Our Future*, Sixth Report and Order, CC Docket No. 02-6; GN Docket No. 09-51 (FCC rel. Sept. 28, 2010) at ¶ 105 & n. 316 (emphasis added).

schools and libraries to filter content. Compliance with CIPA is a requirement to receive E-rate support. Despite this, the services required to provide content filtering are not Priority One eligible. The Commission should adopt an order that makes it clear that content filtering and the other standard components necessary to guarantee performance of modern broadband services and protect student privacy will be supported by E-rate as Priority One eligible services.

B. The Commission Should Not Favor Consortia Over More Cost Effective Alternatives

The Commission has indicated that it is considering encouraging consortia and bulk buying as a means to drive down prices.⁵ While there may be instances in which consortium purchases could promote efficiencies of scale, BHN does not support a blanket policy of supporting consortia and bulk buying because such a policy would discourage schools and libraries from considering regional providers such as cable operators that provide innovative, high quality and cost-effective solutions. As NCTA wrote in its reply comments to the Notice of Proposed Rulemaking (“NPRM”), there are many situations where consortia are not the most cost effective option for purchasing the E-rate supported services.⁶ First, undue favoring of consortium purchasing could lead to groups of mismatched school districts joining together solely in the interest of expediency, without due regard to cost. Second, consortium buying can expand the geographic scope of requests for proposals to such a point that providers that could best address the needs of individual schools are disqualified because their less-than-statewide footprint precludes them from serving all school districts in the consortium. The policy increases

⁵ *Id.* at ¶ 35.

⁶ NCTA Reply Comments at 11; *In Re Modernizing the E-rate Program for Schools and Libraries. Notice of Proposed Rulemaking*, Notice of Proposed Rulemaking, WC Docket No. 13-184 (FCC rel. Oct. 16, 2013).

the risk that proposals may be written to favor state-wide providers. This in turn could cause consortia to rely exclusively on incumbent local exchange carriers whose legacy technology is often not subject to the pressure of market competition in price and technology that leads to the most cost effective service.

C. Voice Support Policies and the Priority System Should Encourage a Transition to VoIP Technology

VoIP technology is widely recognized as more cost effective than traditional legacy “plain old telephone services” (“POTS”). Yet the structure of the priority system can unduly favor POTS services. For example, some VoIP services are deployed via on premise equipment that requires maintenance. But because this maintenance is taking place on site rather than on the provider’s premises, this maintenance is not eligible for the same Priority 1 funding that supports the voice service itself. Hosted voice services are increasingly being used as a means to solve this issue by shifting the site of maintenance to the provider’s premises.⁷ But BHN submits that this is a distinction without a difference, except that the resulting E-rate funding can discourage the adoption of the most appropriate and most cost-effective solution. Following the Commission’s policy of technology neutrality, either type of VoIP service should be supported however it is deployed, or alternatively, on-premise maintenance should not be funded for VoIP or POTS.

BHN strongly supports the Commission’s proposal to use pricing for VoIP solutions as a benchmark for E-rate support provided for all voice services given that VoIP technology is

⁷ Cisco Customer Case Study, *School Simplifies E-rate Funding by Moving to Cloud Solution* (2013) available at http://www.cisco.com/c/en/us/products/collateral/unified-communications/hosted-collaboration-solution-hcs/case_study_c36-727329.pdf.

widely recognized as being more cost-effective than POTS.⁸ Using VoIP rates as a benchmark in this way will provide two significant benefits. First, it will allow the Commission to scale down support for voice services without unduly burdening schools and libraries that will be affected by the transition. Second, the benchmark will further the Commission's policy goal of modernizing the program by supporting current technology that promote cost effectiveness, while preparing for cloud-based hosted voice and unified communications technologies like distance learning, video calling, distance collaboration, and mobile device integration. These cloud-based VoIP and unified communications services create technology solutions that can be flexibly adapted to the varying needs of schools and libraries seamlessly and efficiently because the technology solutions are based in the service provider's cloud. Schools and libraries eliminate the costly and complex tasks associated with maintaining legacy premise-based phone systems and POTS lines and receive the numerous cost and operational benefits of a cloud-based service.

BHN supports the proposal put forth by NCTA to limit funding for voice services to a benchmark rate set at the same price as a corresponding VoIP service. This would create an equitable step-down in E-rate support for legacy POTS technology while encouraging adoption of more cost-effective and efficient voice technology. The comments filed in response to the NPRM were nearly universally supportive of eliminating POTS funding, but also recognized the need to avoid flash cuts of funding. A benchmark mechanism will provide an incentive for schools to transition to VoIP services while providing schools and libraries flexibility to determine the appropriate timeframe.

⁸ *Id.* at ¶¶ 48-49

CONCLUSION

For the foregoing reasons, BHN asks the Commission to proceed with reform that will streamline the E-rate program while supporting responsible management, operation, and protection of school and library broadband networks, implementing a reasonable phase-down of support for POTS voice service, and refraining from adopting a blanket policy of encouraging consortium purchasing without regard to the competitive landscape.

Respectfully submitted,

A handwritten signature in blue ink that reads "Danielle Frappier". The signature is written in a cursive style with a large initial 'D'.

Danielle Frappier
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Bright House Networks, LLC

April 7, 2014



FUTURISTIC FUNDAMENTALS

THE IMPORTANCE OF TECHNOLOGY IN THE CLASSROOM

IN THE AGE OF FLOURISHING TECHNOLOGICAL CAPABILITIES, schools must address the transformative role of technology in the classroom. Equipping students with access to computers and software is no longer enough. Technology must become the epicenter of the classroom and the forefront of the curriculum.

TECHNOLOGY IS EXPONENTIALLY PLAYING A KEY ROLE IN THE CLASSROOM

Technology in the classroom has expanded exponentially in the past decade as mainstream media devices, historically used for personal use, become prevalent in classrooms as effective tools of learning.

► MOST USED MEDIA DEVICES IN THE CLASSROOM:



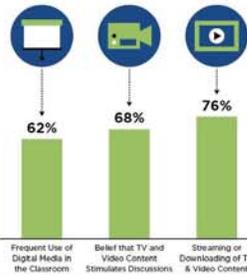
According to recent data from Pew Internet, 92% of teachers believe the Internet has a major impact on their ability to access content, resources, and materials.

► TOP 3 REASONS TEACHERS USE TECHNOLOGY IN THE CLASSROOM:



Additional data shows that traditional scholastic materials, such as textbooks and a printed syllabus, are quickly becoming more and more obsolete:

► HOW TEACHERS SUPPORT THE ROLE OF TECHNOLOGY IN THE CLASSROOM:



TEACHERS MUST ADJUST TO FUTURE INNOVATIONS IN EDUCATION

Educators must be prepared to leverage future innovations in teaching (and reaching) students via available technologies.



BYOD (BRING YOUR OWN DEVICE):
Digital devices hold the attention of a generation dependent on gadgets. Schools must decide if students are permitted to BYOD.



ADAPTIVE LEARNING:
"Personalized learning" transforms the nature of the classroom, turning teachers into guides instead of lecturers, and allowing students to learn at their own pace.



P2P LEARNING (PEER-TO-PEER):
"Social learning" uses technology to offer new methods for students to communicate and collaborate no matter where they are.



GAME-BASED LEARNING:
Game-based learning and apps are used by parents, teachers, and students alike to reinforce needed skills in math and reading.

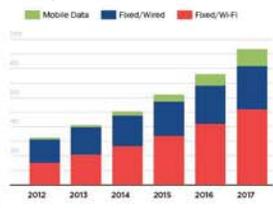


OPEN LICENSING:
Open source technology, textbooks, resources, and data present unique challenges for schools as traditional textbooks become obsolete.

BE PREPARED FOR THE INTERNET OF EVERYTHING (IoE)

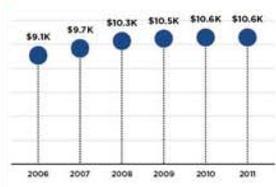
Although educators must prepare students for the increasingly competitive global marketplace and the IoT, capital budgets remain tight. A greater investment in technology is critical to success in the IoT.

► GLOBAL INTERNET TRAFFIC PROJECTIONS – 2012-2017:



While investments are certainly key, budgets unfortunately are now growing tighter, and staff resources are becoming thinner.

► ANNUAL U.S. EXPENDITURE PER STUDENT:



► ADDITIONALLY:



BANDWIDTH DEMANDS WILL ACCELERATE AS THE IMPORTANCE AND USE OF TECHNOLOGY CONTINUES TO GROW.

WE'RE WIRED DIFFERENTLY.

BRIGHT HOUSE NETWORKS ENTERPRISE SOLUTIONS CAN PROVIDE YOUR INSTITUTION WITH ADVANCED COMMUNICATIONS AND NETWORKING SOLUTIONS TO LEVERAGE THE RAPIDLY EVOLVING TECHNOLOGY LANDSCAPE AND BUILD EFFECTIVE TEACHING AROUND IT.

