



**DEPARTMENT OF ADMINISTRATIVE SERVICES
BUREAU OF ENTERPRISE SYSTEMS AND TECHNOLOGY
Legislative Office Building Room 1A
210 Capitol Avenue, Hartford, CT 06106
1:00 – 3:00 PM**

MINUTES

December 4, 2017

Commission Members in Attendance

Raymond, Mark – Commission Chair, CT DAS-BEST, Chief Information Officer
Casey, Doug – Executive Director, CT Commission for Educational Technology
Baillie, Colleen – Director, West Haven Library (Connecticut Library Association)
Caruso, Nick – Senior Staff Associate for Field Service, CAFE
Cohn, Ellen – Deputy Commissioner, Connecticut State Department of Education
Dillon, Thomas – Founder, Flagship Networks (Minority Leader of the House)
Dumais, Charles – Superintendent, Amity (Region 5) Public Schools (Office of the Governor)
Elsesser, John – Town Manager, Town of Coventry (CT Council of Small Towns)
Mundrane, Michael – Chief Information Officer, University of Connecticut
Shanley, Scott – Town Manager, Town of Manchester (CT Conference of Municipalities)
Stanco, Bart – Vice President, Gartner (Office of the Governor)
Vallee, Bill – State Broadband Coordinator (Office of Consumer Counsel)
Vittner, John – Director of Information Technology Policy, Office of Policy and Management
Wiggin, Kendall – State Librarian, Connecticut State Library
Zak, Scott – Senior Director of Learning Technologies, Board of Regents

Facilitators, Presenters, Guests, and Others in Attendance

Kocsondy, Ryan – Director, Connecticut Education Network

Note on Video Access

As of the publication of these meeting minutes, a video archive of the meeting was available through the Connecticut Network (CT-N) at the following address:

<https://www.ct-n.com/ctnplayer.asp?odID=14784>



Agenda Items

Welcome

Chairman Mark Raymond greeted the attendees and called their attention to the Legislative Office Building safety information for visitors. He also shared that the Connecticut Network (CT-N) was recording the meeting and asked all members to introduce themselves for those in attendance and watching remotely. He thanked the members for their continued work in supporting teaching and learning through the effective use of technology.

Motion to Amend Agenda

Mark called attention to the addition of one topic for discussion, Net Neutrality, to the meeting agenda that members had received prior to the meeting and asked for motion to approve the agenda. Scott Shanley of Manchester motioned to approve the amended agenda, and Nick Caruso of CABE offered a second. With a unanimous vote of approval, the motion to approve the amended agenda passed.

Approval of Meeting Minutes, September 11, 2017

After presenting the minutes from the Commission's previous meeting for approval, John Vittner of the Office of Policy and Management made a motion to accept the [September 11](#) minutes as written, and John Elsesser of Coventry seconded the motion. Having no discussion, the members unanimously approved the minutes, with abstentions from Ellen Cohn of the State Department of Education (SDE) and Scott Shanley, who were not present at the meeting.

Executive Director's Report

Executive Director Doug Casey provided a report that included the following items:

- SETDA Reports
 - Doug shared three executive summaries of reports from the State Education Technology Directors Association (SETDA) that inform the work of the Commission:
 - [Navigating the Digital Shift](#): Provides guidance to districts on transitioning from the use of print to digital materials, with special attention to accessibility and the use of open education resources (OER).
 - [Broadband Imperative II](#): Underscores the importance of broadband to enable digital learning, with a case study on the Connecticut Education Network.
 - [State K – 12 Procurement](#): A set of best practices and case studies from other states, with models of efficiencies in collective purchasing around software and hardware for K – 12 education.



He encouraged members to view the reports as a set, highlighting the importance of integrated infrastructure, purchasing, and instructional efforts to support digital teaching and learning.

- Annual Report
Doug mentioned briefly that he would draft and share over the next few weeks the Commission's Annual Report to share progress made against the state [Educational Technology Goals and Plan](#). He encouraged suggestions and input ahead of time to inform the Report.
- [Charting New Frontiers in Student-Centered Learning](#)
On November 15, the Commission released the aforementioned report, developed in partnership with the Connecticut Association for Public School Superintendents (CAPSS) and Innovation Partners (Lisa Duty, Principal). The research was intended to reveal current best practices as well as barriers to adoption of technology-enhanced, personalized learning in Connecticut's public K – 12 schools. If research and effective practice support personalized and mastery-based learning, why are we not seeing a more systemic adoption of these approaches in our schools?

The authors reached out to more than 40 educational leaders from across the state as well as researchers familiar with Connecticut education and offered five recommendations:

- Develop a common vision of the graduate, of what mastery of content and competencies looks like by 12th grade
- Use this new vision to drive an intentional framework for state and local policy, recognizing the need for different pathways to success for a diversity of learners
- Encourage collaborative work that brings about more educational research and development in the state
- Identify and amplify the work of cross-sector, student-centered pioneers toward defining and supporting the graduate of the future
- Identify and analyze untapped resources in Connecticut, in regional and national networks, and online

Doug called attention to the map of statewide relationships and assets on pages 31 and 33 of the report, really intended to start a dialog around potential partnerships to support innovation. Site metrics show more than 1,100 downloads of the report, and Doug encouraged feedback that will inform the work of the Commission and that of CAPSS.

In a brief discussion, Scott Shanley noted the order of the recommendations and asked if they were intentional. Doug confirmed that was the case, with a vision for the graduate guiding policy, research, and collaboration. Ellen pointed to the



document as a great report and noted that Suzanne Loud of the SDE serves as the lead consultant for mastery-based learning. She highlighted the work of the SDE in partnership with the Nellie Mae Foundation and CAPSS around mastery-based learning as contributing significantly on state progress in this practice area. Mark mentioned the difficulty of bringing about innovation, of embracing a “fail fast” approach to trying new approaches to improve education without negatively affecting instructional continuity. He highlighted the case studies in the report as points of departure for work that will certainly continue in our state.

- **Hub Feedback and Progress**
The Commission launched the Connecticut Educational Software Hub in August. The Web site offers educational software providers the opportunity to learn about Connecticut’s student data privacy law and digitally sign the [CT Student Data Privacy Pledge](#), indicating their compliance with our state’s statute. District users, now totaling nearly 800 across the state, can then log into the Hub and view the list of software titles from companies that have taken the Pledge. Throughout the fall, the Hub has seen heavy usage, with 105,000 page views during November.

Over the last several months, Doug has spoken to groups at meetings and conferences around the state about the Hub as a lever to support compliance. He underscored that the law identifies compliance through contracts between boards of education and “operators,” a concept that many district representatives still seek clarification to understand.

Providers that many districts use have signed the Pledge through the Hub, most notably Microsoft and, recently, PowerSchool, the student information system that the vast majority of schools in Connecticut use. Doug mentioned ongoing discussions with the Google Education leadership team, with hopes that they will develop a Connecticut addendum soon to bring the “G Suite” of apps into compliance. As a point of reference, 500,000, or about 94 percent, of Connecticut K – 12 public school students have district-issued G Suite accounts, with schools investing heavily in Chromebooks and depending on broader Google educational platform.

Mark acknowledged the role that the Hub plays in supporting districts and providers and underscored the Commission’s activity as a facilitator of conversations between schools and the companies they choose as service providers. While the need exists for legal counsel around this important topic, the Commission does not have the capacity to provide this support.

- **Trusted Learning Environment**
The Trusted Learning Environment (TLE) framework (www.TrustedLearning.org) comes out of the work of the Consortium for School Networking (CoSN) in



partnership with major national educational organizations such as ASBO, NASBE, ASCD, and AASA. The Commission has endorsed the framework as the basis for K – 12 schools to develop a privacy and security program, addressing the practice areas of Leadership, Business, Data Security, Classroom, and Professional Development.

As part of this work, the Commission promoted an all-day session hosted by the Connecticut CoSN chapter, Connecticut Educational Technology Leaders (CTLETL). At the event, the CoSN lead for TLE, Linnette Attai, led representatives of 27 districts through the framework and encouraged them to join the first state TLE cohort. That group of districts will work together to assess and provide evidence for proficiency across the five TLE practice areas. Doug referenced the free resources through TLE, including a handbook and self-assessment that schools can use as the basis for their privacy and security program or simply as a means of calibrating their current practices. The cost of joining the cohort and pursuing a TLE certification remains cost effective (between \$100 and \$400, depending on district size).

- Education SuperHighway Partnership
The Commission and the Office of the Governor have partnered with national non-profit EducationSuperHighway (ESH, www.EducationSuperHighway.org) to help schools maximize E-rate funding awards that offset broadband costs. Known as the “Connecting Connecticut Classrooms (C3)” initiative, the partnership will provide information and support services through ESH to Connecticut school leaders. This effort directly supports the Commission’s initiative in its Goals and Plan around maximizing E-rate reimbursements for Connecticut schools and libraries.

The first wave of outreach, beginning in early December 2017, includes an e-mail campaign to district leaders with information about C3 and information about a series of Connecticut-specific Webinars that ESH will host. Topics will include how to file for Category 2 funds to offset the costs of classroom (wireless) and local-area network connections, preparation of E-rate forms, and evaluating vendor bids.

Following that campaign, ESH will approach districts directly, concentrating on those schools that have not fully leveraged their Category 2 funds in the past. Consultants from ESH will address concerns and barriers to applying and offer support in the areas of network design and procurement. Doug clarified that all of the services provided by ESH come at no cost to the state or our districts.

Michael Mundrane of the University of Connecticut acknowledged the importance of connecting schools but reminded the group that such work represents just the start of supporting digital teaching and learning. Mark echoed



these comments and reminded the members that basic connectivity remains central to the Commission's work and that it enables innovation in ways previously discussed, such as the Frontiers report and through other initiatives such as open education resources.

CEN Updates

Following the Executive Director's Report, Mark turned the floor to Ryan Kocsondy, Director of the Connecticut Education Network (CEN), for his updates. Ryan referred to the [one-page handout](#) for details on the topics he planned to share, as follows.

- **Personnel**
Rick Cheung has settled in nicely, acclimating himself to the Network and beginning to envision the next generation of CEN. A position search for a marketing and publicity specialist continues.
- **Budget**
While CEN received its appropriation but an accompanying sweep of funds, resulting in a net loss for the fiscal year. Ryan noted that the CEN team was able to adjust by assessing and reducing soft expenses for the current fiscal year. Growth in the form of new customers over the past few years has helped offset the decrease in General Fund appropriations. These expansions speak to the strength of the CEN team and viability of the Network moving forward.
- **Fiscal Year 2019 Pricing**
Members reviewed a draft of the proposed circuit rates for the next fiscal year, with current charges remaining largely unchanged. Rates appeared under three general classes of handoff, based on customer usage and needs, 1 Gigabit per second (Gbps), 10 Gbps, and 100 Gbps. Ryan underscored that the ability to offer highly competitive rates has resulted from the Network's expansion to new customers, with efficiencies through shared costs among members.
- **Value-Added Services**
Efforts are underway to identify services that members need but do not put a burden on CEN staff to support. A proof-of-concept offering for managed firewall service is underway, with a formal announcement coming in the spring. Ryan pointed to a recent example of a district firewall that could not respond to the types of cyber attacks that more current appliances can offer, and this new offering should help members with similar security needs.
- **CEN Engagement**
The Network has identified a need for an external Advisory body to inform the expansion of services as well as technical concerns around expanding and supporting CEN. Outreach will begin soon to recruit subject-matter experts to



serve in as Advisory Council members.

- **Web Site**
Efforts are underway to update the CEN Web site (cen.ct.gov) using the State's new content-management system.
- **Threat Management and Distributed Denial of Service (DDoS)**
Efforts by CEN have resulted in the mitigation of more than 100 DDoS attacks since July 1. The size and scope of these incidents vary, but it is not unusual to see a 5 Gbps attack. As an example, a CEN member recently experienced ongoing attacks over the course of two weeks that would have cost approximately \$500K to mitigate. CEN's notification and mitigation services filtered the "junk" traffic to this customer's network and ensured its ongoing educational and operational continuity.
- **New York City Network Buildout**
The project remains on target for completion in the spring of 2018, though the initiative has seen some delays outside of CEN's control. Connecting to the City will provide more commodity network and peering options, helping to address the growing demand and usage, with the network growing approximately 50 percent year over year.
- **CT Library Fiber Consortium**
Work on the first three phases of buildout should conclude in the May – June 2018 window. Ryan's team is bidding on the Consortium request for proposal for the next round of connections. To date, CEN has connected 136 of 193 libraries statewide. Often connections to branch libraries takes place through a hub and spoke approach, lighting up a central location that can connect to its branches via fiber. Ryan touched on the importance of educating library leaders on how to leverage E-rate and the requirement to provide content filtering. He commended the work of Maria Bernier of the Connecticut State Library for providing this training and support to our state's libraries.
- **New Members**
The addition of 24 new K – 12, public safety, library, municipal, and open access locations since the September meeting speaks to the viability and strength of CEN and its members.
- **Questions and Comments**
Nick Caruso asked for details on how the Network maintained service delivery during a storm in November that resulted in widespread power outages statewide. He commended the team for its work and outbound communications during the storm. Ryan indicated that communications to members came through e-mails regarding the status of the Network, communicated succinctly in



lay terms to ensure accessibility. His plan is to build a notification section into the new CEN Web site.

On the topic of funding, Scott Shanley noted the zero-ing out of General Fund supports, in contrast to multi-million dollar funding from the State in past years. He commended Chairman Raymond for his assurances in years past that, through growth in the Network's membership and connections, CEN could absorb the reductions now in place. Scott raised the question of whether CEN could protect balances in revenue funds from future sweeps and offered the advocacy support of the Commission members if such sweeps were to take place again.

Mark clarified that the account that was swept was the EdNet fund, from which the Network conducts its billing. He pointed out that by billing schools and libraries for the circuits they procured, and thereby having them bill for offsets through E-rate, the new "self-sustaining" model of CEN resulted in the state as a whole garnering far more federal (E-rate) dollars than it had before. Shifting to the new model also raised awareness among members and state leaders of the Network's value, which he cited as a "gem" in the eyes of other states. Commendations from outside of Connecticut also come with a friendly dose of "jealousy" about what we can do through the Network for our education community.

John Vittner pointed to the importance of articulating the value of the Network to the open access customer base, those not in the K – 12, library, higher education, or municipal communities. Michael Mundrane offered the perspective that the State has supported, and continues to support, CEN by serving as the signatory of the long-term fiber agreements. John Vittner echoed these thoughts and stressed the importance of not only looking at the operating expenses but also the capital costs of running and expanding the network. Initial funds as well as those garnered through the Broadband Technologies Opportunities Program (BTOP) that came from the American Recovery and Reinvestment Act. Ryan underscored these comments and assured the membership that he and his team are designing scenarios for expanding the Network to prepare for future federal or other funding opportunities. Bill commended this approach and stated that having a list of "shovel-ready" projects worked well when the Network applied for funding through BTOP.

Ken Wiggin of the State Library touched on the importance of protecting the accounting funds that CEN uses and articulated the impact that local libraries have had in assuming the cost of connections formerly covered by the State. He also called attention to the need for town and library officials to understand the value of the connections to local branches, of the role broadband provision plays in serving patrons.



Bill Vallee of the State Broadband Office qualified broadband provision as a public utility essential to all citizens and echoed Mark's comments that CEN has gained national recognition for efficiency and service delivery. On the state level, he shared that communities have begun to understand the value of broadband for its citizens because of the work of the Network and advocates such as the State Broadband Office.

Nick reminded the other members of early estimates to build the Network in meetings of the Joint Committee for Educational Technology, which preceded the Commission. He noted that building the Network incrementally has provided advantages, namely, that CEN has leveraged emerging best practices in design and technology over time, rather than developing the Network all at once and being locked into "old technology."

Digital Learning Advisory Council Report

To provide highlights on the Advisory Council's November meeting, minutes of which appear on the [Commission's Web site](#), Nick summarized their work and discussions on a few ongoing initiatives. He began by sharing input that members of the Advisory Council provided on the Commission's joint report on student-centered learning ("Frontiers"). At that meeting, Doug was able to share the asset map (see report, page 31) and recommendations, given that the final document had not yet been released. The members felt the topic and recommendations were a strong departure point for an ongoing dialog around how technology can support student-centered, mastery-based learning. Nick shared that the Digital Learning Advisory Council will discuss the report's contents and recommendations in more detail at its next meeting. Of note, even among the broad diversity of constituents they represent — schools, libraries, higher education, and adult and continuing education — the topics and findings resonated with all of the members of the Advisory Council.

Before sharing updates from the Advisory Council on standards adoption, Nick asked for clarification on the likely timing of State Board of Education (SBE) approval of the ISTE Standards. Doug confirmed that he and Deputy Commissioner Cohn were executing against a plan to expedite public input, review by the SBE Standards Subcommittee, and formal review by the full SBE.

Continuing his summary of the November Advisory Council meeting, Nick shared that the group discussed possible ways to bring about broad application of the ISTE Student and Educator technology standards, endorsed, respectively, in September 2016 and September 2017 by the Commission. Among the ideas that Advisory Council members found most promising were an educator self-assessment that she or he could use to determine areas of strength and deficiency, with accompanying resources to support professional learning and growth. The group also discussed tighter integration with broader institutional accreditation standards, such as those of the New England Association of Schools and Colleges (NEASC). Some concerns arose on this topic



around ways to support schools that had deficiencies in the integration of technology, that accreditation not become simply punitive in this regard. Reflecting on his earlier comments about the diversity of stakeholder on the Advisory Council, Nick pointed to the importance of advocacy and awareness across a broad range of institutions. Drafting and lobbying for legislation mandating technology competency against the standards for students and educators remains an option, though certainly not the first or one the Commission should consider in the short term. Another lever to support adoption of the standards comes in the form of updated district policies, most of which follow those developed and maintained by Nick's organization, CAFE.

In addition to the ISTE Student and Educator standards, Nick stated that the importance of supporting Administrator standards, currently in redesign. Doug serves on the ISTE technical working group drafting these standards, which ISTE will release in June of 2018. Nick expressed hope that the Commission would approve the Administrator standards, making Connecticut the first state to endorse all three sets of ISTE standards.

On a topic related to the standards, Chip Dumais briefly summarized the discussion of the first meeting of the recently formed Digital Citizenship, Internet Safety and Media Literacy Advisory Council under the SDE, established from last session's passage of [Public Act 17-67](#). Melissa Hickey of the SDE leads that group, comprised of members of parent-teacher associations and boards of education, library media specialists, educators, and one superintendent. Much of the work the group may address parallels the work of the Commission, with a specific focus on K – 12 students. The first meeting included a discussion around common terms and vocabulary, existing resources to support schools and students, and possible work of the group moving forward.

Nick concluded his report with a brief discussion around open education resources (OER), one of the Commission's eight initiatives. The Advisory Council members discussed ways to ensure that materials created and shared through the proposed state OER platform are of high quality. They proposed different approaches to accomplish this goal, including peer review or oversight at the district level. He also suggested that a conference or "edcamp"-style event where professionals gather to learn about OER (content creation, use, licensing, etc.) would help promote the work in this area.

Doug mentioned his presentation at the December 1 meeting of the Executive District Leadership Roundtable, a professional group run through CAPSS for K – 12 curriculum directors. Attendees expressed enthusiasm for the OER initiative, and Doug had several follow-up conversations in response for his call for district involvement in designing the state's OER platform solution. To illustrate how districts are already engaged in OER, Doug mentioned the work of the educational technology team in Ellington under Assistant Superintendent Erin McGurk. In that district, educators receive training and support from the educational technology coaches using the simple but powerful Google Education tools to create and share curriculum materials among teachers. He



noted that while many districts such as Ellington are not necessarily calling these “open education resources,” they have already adopted an OER culture. The work of the Commission around OER will be to link and amplify such efforts statewide.

Infrastructure Advisory Council Report

The work of this group has largely concentrated on addressing inequities of access to broadband in and outside of educational institutions. To that end, Tom shared the draft [Digital Equity Toolkit](#), which Commission members received for review in advance of the meeting. The Toolkit serves as a compendium of best practices, drawing on Connecticut and national sources, to equip rural, suburban, and urban communities to address the “homework gap.” As context, he mentioned that he and members of the Infrastructure Advisory Council have engaged with community leaders around this issue, and their needs have informed the draft Toolkit.

The document starts by encouraging communities to form a diverse leadership team from education, libraries, business, and non-profits who can speak to the particular challenges of their city or town. These teams can use the Toolkit’s resources to design student and family surveys that help identify gaps in coverage. Beyond providing sample questions, the guide offers direction on how to message these forms to address potentially sensitive family issues (e.g., financial resources, digital literacy, etc.). The Toolkit provides information on known equity programs from commercial providers as well as less conventional but powerful solutions such as equipping school buses and downtown areas with wireless access.

Tom underscored the context of the challenge, noting that approximately 58 percent of middle schools and 71 percent of high schools in Connecticut run one-to-one computing programs, according to an informal survey earlier this year. With this strong dependency on Internet-connected devices and cloud-based educational resources, communities need to address broadband provision outside the home as part of one-to-one program design. Tom noted that in Connecticut, approximately 8 percent, or 40,000, K – 12 students do not have home broadband access, totals that reflect U.S. Census and Pew Internet Study data. He noted that many school leaders have not fully considered the issues surrounding digital equity. At the recent CBE-CAPSS Convention (November 17), Mark, Nick, Doug, and he presented on the Commission’s work and asked the 40 or so session attendees, mostly members of boards of education, about their equity programs. Most did not have initiatives underway to address the homework gap, but many discussed the matter afterward with interest in leveraging the Toolkit’s resources to help get students online.

Questions and comments followed Tom’s report, starting with John Elsesser’s inquiry into the proposed buildout of 5G micro-antennas, which many of his colleagues in municipal leadership oppose. He asked if the Commission might weigh in on the assurances that the Connecticut Public Utilities Regulatory Authority (PURA) will demand from carriers looking to build 5G networks. Specifically, he suggested that PURA push



these carriers to provide open educational access in exchange for using town rights of way to build their networks.

At the Chair's prompting, Bill Vallee addressed this question by clarifying that PURA does not have jurisdiction over mobile devices or networks themselves but does have virtually unlimited statutory authority over rights of way in the form of poles, cell towers, etc. He suggested that until national bodies such as the Federal Communications Commission (FCC) weigh in on 5G network governance, state agencies such as PURA will not do so either. He did encourage members of the Commission to exercise their subject-matter expertise through advocacy to argue for open Internet access for educational purposes through commercial providers.

Ken offered his commendations for the work behind the Toolkit and reminded the members that not all learners are enrolled in public K – 12 schools. He called attention to the importance of access for adults, home-schooled children, charter school students, and the broader community of learners of all ages. Doug echoed this point and noted that the diversity of voices from K – 12, higher education, and libraries led to the "community-centric" approach of addressing digital equity that the Toolkit outlines.

Scott Shanley stated that the work of the Commission around digital equity has influenced the development of low-cost solutions from service providers. Doug closed the conversation by soliciting feedback from the Commission members on behalf of their constituents by Friday, December 15, in order to make changes and share the document with the broader educational community. He noted interest already from leaders in Stratford and Manchester in using the resources in the Toolkit to develop approaches to closing the homework gap. Future iterations of the Toolkit will likely include lessons learned from and resources developed by communities that have used the guide.

Statewide Access to Online Research

Ken Wiggin introduced this topic, brought to the fore through a series of e-mail exchanges and conversations with a Connecticut educator engaging his students in rigorous coursework requiring research into STEM areas of study. His initial request for support to Doug and then Ken for paid resources raised several important issues related to research. As Ken shared, many free search engines, including the one this educator was using, PubMed, are free but refer users to research materials that require a one-time purchase or paid subscription. He underscored the importance of educators receiving proper training in research methods that they can model for their students.

In terms of solutions, the State Library cannot currently expand its list of paid research, given cuts of more than 50 percent since 2009 to funds that pay for researchIT (formerly iCONN), still a model of efficiency in delivering more than \$30M in annual subscription licenses for the State Library's \$1M investment. Ken did encourage schools to partner with their local colleges to access paid (subscription) materials unavailable from many



public school libraries. He also mentioned that patrons can access research through inter-library loan provisions.

Michael Mundrane supported these suggested approaches, noting that the terms of most paid subscriptions to institutions of higher education afford access rights to any member of the community on site at the college or university (e.g., a resident of Storrs accessing UCONN-subscribed materials when visiting that campus).

Colleen Bailie of West Haven Public Library noted that many K – 12 and college students visit public libraries looking for materials that they may have already in their home institutions. This type of scenario underscores points made earlier about the need for proper training and support around research methods and resources. Many local librarians reach out to and visit their town schools to provide this type of instruction and to build stronger school – library partnerships.

Speaking to the nature of primary and secondary research approaches, Michael pointed to scenarios in which teachers and professors direct students to access particular articles requiring a paid subscription, though the relevant content in these resources is available from other free sources. On the topic of resource sharing, he suggested that institutions might want to develop subscription contract language that affords the sharing of resources among “CEN-connected institutions,” as long as such language can ensure that such sharing does not constitute the dominant behavior or means of access.

Rounding out the conversation, Ellen acknowledged the need for training around proper research methods. While the SDE does not have a technology consultant, she did offer the expertise of her science, social studies, mathematics, and other subject leads to help support awareness of access to materials through local resources such as community colleges. She and Ken agreed to continue the conversation around training at a later point.

Net Neutrality

With no further discussion around online research materials or methods, Mark introduced the amended item for consideration, Net Neutrality. As background, Doug shared that the FCC Commissioners had scheduled to vote on a repeal of these protections at their upcoming December 14 meeting, reclassifying Internet service providers from “common carriers” to “information service providers.” Concern over Internet service provision would thereby shift from the FCC to the Federal Trade Commission (FTC). Given that open access to education depends on open access to the Internet, Doug suggested that the Commission discuss a possible statement regarding Net Neutrality in advance of the FCC’s vote.

Ken opened the discussion with a question regarding the impact on CEN of the proposed repeal. As context, Ryan explained that CEN peers with tier-1 providers that



do not and would not likely throttle or prioritize content, aside from current practices of blocking nefarious content. Because of this relationship, CEN could benefit from an end to Net Neutrality if commercial providers begin to prioritize the delivery of content, or charge premiums for delivery. For this reason, current and potential customers of the Network would see the use of CEN as preferable to procuring circuits from commercial providers.

Michael pointed out the problem of having two regulatory agencies (FTC and FCC) with oversight of Internet service provision, leading to potential conflicts in governance. He noted that Internet carriers have not provided differential services (e.g., prioritization of content), whereas content providers have engaged in this practice. Many complexities exist in the relationship between and among the agencies, carriers, and content providers, making the topic challenging to understand and address.

Following these remarks, Bill Vallee stated that the repeal would likely take place but that this step would not constitute "the end of the Internet," as some pundits have expressed. Instead, he felt that access to the Internet would likely become more expensive and limited. Scenarios could include providers offering a basic level of access, with premium charges to access Facebook, Amazon, and streaming media sites. Industry "throttling" of content following the repeal of Net Neutrality might also make it harder for small businesses, which may not be able to afford surcharges to carriers to ensure a "fast lane" of content delivery to customers, whereas larger, established firms might be more likely to pay these fees and so garner increasing segments of the market.

Bill continued his remarks by stating that the repeal would take place along party lines in a 3 to 2 vote, the opposite of what happened in the 2015 "Open Access" hearing under Chairman Tom Wheeler. Following the vote, we will likely see law suits filed in the federal appeals (DC circuit) court, which could delay the repeal.

Arguments against net neutrality hold that the policy hampers capital investment by Internet service providers, but Bill cited the 5% growth among providers since the net neutrality provision in 2015. Conversely, the cable industry has seen a decrease in 1 million subscribers in just the past quarter of 2017, an indicator of continuing trends as subscribers depend more on the Internet for content and entertainment. He stated that assigning to the FTC all regulatory aspects of the Internet represents not just a shift from one agency to another but a departure from guiding policy over the Internet to a more litigious, reactionary environment where the FTC responds to complaints. He underscored the importance of the issue, given that access to the Internet remains a requirement for the broader citizenry. He concluded with stating his support for the Commission to develop a statement and offered his assistance in doing so.

Bill offered two examples of carrier statements that raise concerns over their practices following a repeal of net neutrality. He quoted AT&T's Chair from a 2005 statement:



"Why should they be allowed to use my pipes? The internet can't be free in that sense, because we and the cable companies have made an investment and for a Google or Yahoo or Vonage or anybody to expect to use these pipes free is nuts." Verizon filed a federal court brief stating that it had the right to charge online services like Yelp access fees simply to work on its network and should be able block those sites from Verizon subscribers if those service providers would not pay. He also cited recent polls indicating that the vast majority of respondents, across party lines, favored the continuation of net neutrality rules.

Nick Caruso reflected on the original development of the Internet to be open for use by the education, research, military, government, and private sector communities. He stated that he felt he needed to understand the underlying issues more prior to endorsing a statement. He raised the question of whether the repeal of net neutrality would negatively affect CEN, given the Commission's oversight role of the Network. He also asked the group to consider the repeal's effect on the broader educational community. John Elsesser echoed this need to understand the potential impact more and expressed strong concern over the potential for censoring content. He posed the question of whether CEN or other providers of Internet access would see pressure from outside bodies to block or slow delivery of content based on its social or political stance.

In reiterating his earlier concern, Michael pointed to the potential conflicts between, or lack of oversight by, the FCC and FTC following a reversal of net neutrality. He cautioned the group to address the facts behind the potential repeal versus speculation as to what may result from the proposed change. He stated that carriers to date have largely provided content in a neutral manner and did not see these practices changing. For example, despite the comments from the AT&T chair, that company has for the last 10 years delivered content in a completely neutral manner. He did call attention to the example of cell phone companies slowing delivery after subscribers reach their monthly data limits, but those practices are now transparent. Ironically, the best example of content control has come out of the federal E-rate program, which requires content filtering in exchange for eligibility to receive financial offsets to pay for access.

John Vittner also expressed support for filing a statement from the Commission to preserve net neutrality practices among carriers. He recalled the Commission submitting a similar statement in 2006. He also reminded the group that CEN's founders designed the Network to eliminate barriers between the educational community and content, deferring governance of usage to individual institutions. That model has worked successfully, as witnessed by the continued growth in usage of 50 percent year over year.

Ken echoed these sentiments, supported a statement from the Commission, and pointed out that efforts around equity, such as developing the Digital Equity Toolkit,



depend on the basic principal of open access. He also expressed concern over the impact that the repeal would have over paid content delivery. The State Library cannot afford additional costs passed along from publishers forced to pay premiums for the delivery of their research.

Mark offered his appreciation for the points previously shared. He expressed concern, given recent mergers and acquisitions, over how the convergence of content providers and carriers could affect both the costs and quality of content delivery. Doug concluded the discussion by suggesting that releasing a letter from the Commission would serve as a statement to our constituents that this body takes seriously concerns over the equitable access to content for learning.

John Elsesser made a motion to issue a statement that reaffirms the Commission's position to promote net neutrality, because issues related to equity of education are important to this body. John Vittner seconded this motion. Michael asked for a point of clarification, whether the motion was to issue a statement reaffirming the Commission's position on neutrality or that the FCC should maintain its net neutrality policy. John Elsesser clarified that the Commission should state its support for the continuation of net neutrality policies, regardless of which agency, the FCC or FTC, would have oversight. Bill clarified that the FCC's proposal would remove it from oversight, deferring to the FTC and letting market forces drive practices behind content delivery. Ken reiterated the basic tenet of the Commission to advocate for preserving the practice of net neutrality, regardless of who sets or enforces such policies. Michael Mundrane offered a distinction between carriers and providers and expressed strong support of the Commission taking a position of neutrality in general, regardless of the governing body and regardless of who, in practice, ensures neutrality (carriers or providers).

To summarize the discussion, Mark suggested that the Commission create and share a reaffirming statement that the Connecticut Commission for Educational Technology supports and advocates for open, equitable access to the Internet and its benefits to our constituents. Ken agreed that the statement should support neutrality across carriers and providers, especially concerning student access. Regarding a statement in support of neutrality assurances rather than specific recommendations to the FCC, Doug mentioned that other educational technology organizations have made similar pronouncements.

With no further comments from the group, Mark called a vote in support of issuing a statement, as he previously summarized. The members unanimously voted in favor of the motion, with no oppositions or abstentions.



Public Comment

Mark welcomed input from members of the public, turning the floor over to Supriyo "SB" Chatterjee. SB provided a brief background of his work in healthcare IT and his research into the impact of the Internet on public policy, with applications in government technology, civic technology, and smart cities. His experience with the commercial and public policy aspects of Internet access have informed his work. He reminded the group of CEN's value, describing it as a "gem in Connecticut's crown." He saw tremendous potential in the use of CEN to support healthcare as well. He pointed to a study from 2016 that draws connections between broadband access and quality of healthcare. Connectivity enables promising practices such as remote and telemedicine, especially to underserved communities. Mark thanked him for his comments and joining the Commission's meeting.

Future Meeting Dates

- Monday, March 5
- Monday, June 4
- Monday, September 10
- Monday, December 3

Adjournment

After calling attention to the scheduled meeting dates for 2018, Mark called a motion to adjourn. Nick offered the motion, with a second from Ken. The members unanimously approved the motion, and Mark adjourned the meeting at 3:30 p.m.

Respectfully submitted,

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A handwritten signature in black ink that reads "Douglas Casey".