

Infrastructure Advisory Council
Meeting Minutes
September 2, 2016

Attendees

- Tom Dillon – Council Chair
- Doug Casey, CET

- Colleen Bailie — West Haven Public Library
- Fred Kass — Trinity College
- Kerri Kearney — Manchester Public Schools
- Michael Mundrane — University of Connecticut
- Scott Taylor — Connecticut Education Network
- Bill Vallee — Connecticut State Broadband Office
- Rob Wilson — Somers Public Schools

Agenda

Meeting Minutes from May 20

CEN Updates

Digital Equity

- Needs Assessment
- Pilot Possibilities
- Alignment with Other Agencies (e.g., HUD, DECD, DOL, etc.)

School Technology Supports

- IT Support Needs
- Resource Sharing and Standards

CEN Value-Added Services

- Authentication (e.g., Eduroam or Enterprise Directory)
- Training and Awareness
- Other Bundled Services (?)

Meeting Notes

NOTE: The points below represent an assimilation of ideas rather than a verbatim or chronological record of points shared.

Meeting Minutes

- There was no comment on the minutes from the last Infrastructure Advisory Council meeting on May 2. Bill Vallee, who was unable to attend that meeting, appreciate having the minutes as a reference.

CEN Updates

- Scott Taylor provided updates to the group, highlighted by what he described as a “summer of changes,” as the CEN shifted its business model away from dependence on decreasing public funding to one that generates revenue from paying customers.
- Upgrades took place, mostly to increase capacity over core circuits that were already at 70 percent utilization.
- Following hundreds of calls to customers to explain the new rates, the CEN has strengthened relationships and seen the falloff of only four, relatively small libraries and no public schools.
- Scott submitted his recommendations for funding through the General Fund for next year at a minimum of \$1.3M to cover the recurring costs of indefeasible right of use (IRU) circuits charges the state assumed through federal (e.g., BTOP) grant funds.
- Traffic levels are already where they were at the close of school last year, suggesting higher levels of broadband use among schools this coming year.
- The dedicated denial of service (DDoS) mitigation services provided at no additional cost through CEN continue to have positive outcomes for schools. The CEN has seen multiple attacks on schools already, and we could garner some good endorsements from district technology directors. Some have shared that the cost of similar services from Comcast runs \$2,000 per month. CEN also provides free, detailed, post-incident reporting to districts on DDoS events.
- Scott mentioned one conversation with a district school business officer who was willing to drop CEN coverage. The district kept a lower-capacity CEN circuit, went with a commercial provider for its primary circuit, and soon thereafter suffered an outage from that commercial provider that lasted a number of days. CEN assumed full bandwidth provision for the district, which since expressed great appreciation for CEN’s services over those of the commercial provider.
- Another discussion between Scott and a district leader addressed the value of filtering, which costs \$4 per student per year at a minimum, which totaled more than the CEN circuit itself, including filtering. Discussions such as these help districts appreciate the great value they receive from CEN’s services.
- Tom Dillon urged CEN to “over-communicate” the value of these services to customers and the broader community. He noted the huge costs of similar DDoS mitigation services in the private sector, with companies charged huge overages in the midst of crisis situations. He also suggested that CEN assess the value of lost time to schools impacted by DDoS incidents and, conversely, the savings CEN’s services provide these schools.
- Colleen Bailie indicated that the Connecticut Library Association might offer a good audience, especially at its annual conference, for CEN to share the value

of these services. Doug Casey suggested a number of other organizations (CoSN, CECA, CASL, CAPSS, CCM) that should appreciate the value of what CEN provides. He also suggested that we mention this to Commission members at the September 12 meeting and urge them to underscore the value-added services, especially DDoS, of CEN in each member's professional circles.

Digital Equity

- Tom Dillon opened the discussion around providing students with access by highlighting this as a key priority for the Advisory Council. Ensuring access at home (or away from school) remains critical in supporting personalized, blended learning experiences and eliminating inequities from socio-economic conditions.
- Tom shared a summary of his meeting with Pete Giammarco, Verizon government account manager for the states of Connecticut and Rhode Island, on the wireless hotspot service his firm offers through their channel partner, Kajeet. Doug added that he had engaged with Pete's team on a regional solution last year when he was with CREC.
- The Kajeet solution provides a mobile hotspot to students at two different price levels, depending on broadband need. Prices start at \$10 per device per month. Kajeet tries to contain costs through the minimization of broadband use by preventing the download or streaming of video. Several members of the Advisory Council, notably Fred Kass and Kerri Kearney, expressed serious concern about this practice, given the huge amount of digital learning materials delivered via video, such as Khan Academy.
- Kajeet also offers a [program that install wireless access points on school buses](#), allowing students to get online to and from school. These programs can also benefit families when districts park school buses in neighborhoods with a high percentage of families without broadband access, allowing them to log into bus-based access points if their residences are in close enough proximity to take advantage of these mobile hot spots. Secondary benefits of these programs include reductions in violence on board buses (e.g., [Huntsville, Alabama program](#)).
- Kerri Kearney shared that she has spoken with representatives from Sprint and T-Mobile, who have offered rates as low as \$8 per month per device.
- Doug suggested that, as part of a broader digital equity initiative, the Infrastructure Advisory Council could aggregate and communicate information about access programs for low-income families, such as Comcast's Internet Essentials program, which offers qualifying families broadband at \$10 per month, \$100 refurbished computers, and free technical training. Other telecommunications providers have similar programs. The federal Lifeline program was also expanded this spring to include the provision of financial offsets to allow low-income families to pay for broadband (formerly, offsets just paid for land-line connections).
- Tom received recommendations to contact the heads of technology for Greenwich Public Schools, Philip Dunn, and Bridgeport Public Schools, Erik Haakonsen. In his conversation regarding equity with Phil Dunn, he learned that

Greenwich had assessed needs, identified a small number of families (a few dozen) in need of home broadband connections, budgeted for these costs, and provided home access for the families. While Tom did not receive word back yet from Erik Haakonsen, Bill Vallee did indicate that at a meeting on equity in Bridgeport this spring, a total of 40 percent of students were estimated *not* to have home broadband access.

- The group discussed the need to collect data on home broadband needs and agreed that this remains a first step in a nuanced and challenging initiative. For example, some families may have more means to afford home access (devices and broadband) but spend their money elsewhere, and some families make broadband a priority. Assuming that lack of access equates to financial need, therefore, does not necessarily make sense.
- Regarding the need for a baseline assessment of home broadband (A) need and (B) access, Bill Vallee mentioned discussions he has had with the Connecticut Economic Resource Center (CERC), an organization that has expressed interest in conducting a survey that, broadly based, supports education in the state. This organization, as well as the Connecticut Data Collaborative, may have resources to offer the CET in gathering baseline data. Bill and Doug agreed to follow up on this opportunity. Bill also mentioned conversations with Elliot Ginsberg, CEO of the Connecticut Center for Advanced Technology (CCAT), around digital equity. Bill feels that, based on prior discussions, CCAT would be a strong advocate for home access not just as a “nice-to-have” resource but a constitutional right in an era of digital learning.
- The group explored means of gathering home access data, with Somers and Manchester discussing surveys sent to families. Conducting district-based access and needs assessments remains one approach, and Kerri suggested “pushing in” questions about need and access into student registration materials (paper-based or online through tools such as [InfoSnap](#)) each fall.
- If state data collections required information on family need and access, this could serve as an effective lever for collecting information on home broadband provision. Doug agreed to speak with Ajit Gopalakrishnan, the state’s Chief Performance Officer, who oversees data collections and reporting, about this possibility (preferably without requiring legislation). One argument for this type of data collection is that it would support theories of lack of broadband contributing to the state’s achievement gap by socio-economic, racial, and ethnic groups.
- Doug asked about broadband access for higher education, and Fred responded that Trinity students have sound coverage. He mentioned a “Posse Program” that addresses the needs of lower-income students, including broadband provision. Trinity also provides financial and informational supports to students looking to buy computing devices. Fred and Michael Mundrane stated that the vast majority of universities do a fine job of supporting the device and broadband needs of students, especially full-time, residential students. Part-time or commuting students will often leverage lab computers or wireless available

virtually ubiquitously across campuses, so online access has not posed a challenge to these learners.

- Doug suggested that, from an economic perspective, districts could look at funding home broadband programs by finding efficiencies elsewhere in their budgets (e.g., leveraging free and open, digital learning materials and even low-cost open textbooks from providers such as [OpenStax](#)). Michael pointed out that per-pupil expenditures may appear more fungible than they actually are. Doug agreed, highlighting the often 75%+ of most district budgets fixed in staff salaries and benefits, plus additional fixed costs such as utilities. That said, a ~\$100 per pupil cost when districts can average upwards of \$15K - \$22K per student or more may be feasible (less than 1% of total per-pupil spend).
- The group highlighted the importance of any digital equity program to include supports for families. Existing models may prove valuable for any Connecticut initiative, and Doug has already engaged with leaders such as Deb Socia of [Next Century Cities](#) and formerly [Tech Goes Home](#), a nonprofit with successful family-engagement and digital literacy programs.
- The group discussed tie-ins to other state and federal agencies (e.g., HUD, DECD, DOL, etc.) and pointed to initiatives such as the requirement of low-income housing units to have Ethernet wiring. As Bill Vallee pointed out, these programs, while well-intentioned, are often behind the times in terms of technology. One Ethernet drop to an apartment, for example, would not allow multiple handheld, tablet, or other forms of computers to get online, as many require a wireless connection.

Next Steps

- Tom Dillon closed out the meeting with a summary of next steps:
 - Sharing the discussion today around the CEN and digital equity with the CET members at the upcoming September 12 meeting
 - Moving forward with an initiative to conduct data collection on broadband need and access statewide
 - Continued engagement with the Infrastructure Advisory Council members on a broader strategic initiative around digital equity as part of the CET's long-range strategic plan