CTEDTECH
Connecticut Commission for Educational Technology

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Infrastructure Advisory Council

Meeting Minutes

May 20, 2016

Attendees

- Tom Dillon, Flagship Networks – Council Chair
- Doug Casey, CET

- Colleen Bailie, West Haven Public Library
- Joe Campbell, CT Technical High School System
- George Claffey, Western Connecticut State University
- Fred Kass, Trinity College
- Kerri Kearney, Manchester Public Schools
- Michael Mundrane, University of Connecticut
- Sabina Sitaru, Metro Hartford Information Systems
- Scott Taylor, Connecticut Education Network (CEN)
- Rick Widlansky, Libraries Online (LION)
- Rob Wilson, Somers Public Schools

Meeting Outline and Notes

- Introductions (Tom Dillon)
- Meeting Logistics (Doug Casey)
    - Future Meetings
    - Teamwork.com
- CEN Update (Scott Taylor)
    - Currently operating at ~60 Gbps, up from 37 Gbps last year
    - Often see ~20 Gbps to Google alone, validating the need for a direct peering relationship, already in place
        - A question arose whether CEN was prepared for continued growth as in past years (averaging ~50 percent increase over the past four years)
        - Scott assured the group that CEN is poised to support upwards of 1 Tbps in bandwidth usage
    - Working to put in place 200-Gbps circuits from CT to New York and Boston
    - Direct connections in place or nearly in place to cloud and content providers such as Akamai, Amazon, Apple, Azure, etc.
    - Distributed Denial of Service (DDoS)
        - An increased number of attacks have taken place against Connecticut schools
        - CEN invested in and has deployed a Juniper Networks DDoS solution (hardware, software, and training)
        - Allows for ~90-second response and mitigation timeframe

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    - Update: First completely automated DDoS mitigation took place Wednesday, 5-26-16
- Member Introductions (Group)
- Possible Initiatives

Digital Equity

School-Based

- Support
    - Switching and network management (hardware and skills)
    - Wireless management (hardware and skills)
    - Consider a shared consultancy through CEN or CCAT to support schools
    - Share successful practices from districts across the state
    - FutureReady has a good digital learning model and exemplars
    - See also ConnectedNation
- Standards
    - Establish standards for access point configuration, footprint, etc.
    - Standards for intra-school circuits, especially with provision that these are points in time that change (increase) rapidly given current trajectories
    - Assess penetration rates in homes across the state, either through survey or other data-collection means
    - Define standards for connectivity at anchor locations, which could vary based on need, such as elementary and secondary schools, libraries, community centers, etc.
    - Compare with the 1 Mbps per student standard of the FCC and Education Superhighway

Home (Outside School)

- Need for metrics, broadband penetration in our communities
- Doug offered some models for gathering survey data
- Opportunities exist to create community wireless directories
- Explore one or more solutions with a group of agency stakeholders such as HUD, DECD, DOL, etc. (effect of broadband across all members of a household)
- Existing solutions:
    - Lifeline (through an FCC 3 – 2 vote March 31) allows low-income households to receive offsets that they can apply for broadband
    - Internet Essentials and similar programs (see www.everyoneon.org) to provide broadband to families for $10 per month (as well as refurbished PCs for $150) that qualify under the free or reduced lunch criteria and do not have an outstanding bill with Comcast
    - Mobile broadband (3G and 4G) enabled devices (tablets and laptops)
    - Have CEN mount antennas on top of community anchors (e.g., libraries) to broadcast a signal
    - Loaner Wireless Access Points
        - Programs such as Sprint's with Hartford Schools, Verizon with CT Technical High Schools, Queens Libraries, and others

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        - Explore different cost models by themselves and relative to other materials and instructional costs, especially with ESSA funding changes as well as potential use of UCOA data
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- Possible solutions:
    - Reach out to telecommunications providers to see if they would entertain educational use of their networks (e.g., leverage Xfinity wifi SSIDs wherever available (e.g., dump traffic onto CEN's network through a network-to-network interface – NNI)
    - Eduroam authentication platform to provision access to all students in a district, region, or state. Statewide licensing would be $0.10 per student and educator, likely ~$60K total. This could enable all students, teachers, etc. to get online at every college, municipal building, school, library, and any other location we could deem an "educational institution" (community centers, adult education centers, YMCAs, etc.) in the state.
        - And could we use this platform for other authentication purposes, essentially a state or district SSO?
    - 4G provisioning through spectrum purchasing (e.g., covers an 8-mile radius outside Charlottesville, Virginia), which requires significant technical expertise
    - WiMax deployment at community anchors (e.g., schools, libraries, town halls, etc.)

Filtering

- Consider best practices guidelines, a stance on filtering (philosophy) to encourage more open policies coupled with digital literacy training
- CEN can provide workshops for libraries in partnership with CASL, CLA
- Okay to publish and consider raising awareness among members of the Education Committee (legislation necessary?)