CT Education Network:
Commission for
Educational Technology
Quarterly Update

September 14, 2020
1:00PM – 3:00PM
Virtual Meeting
Connection Detail in Invite

Categories have been arranged for alignment with CEN's 2019-2024 Strategic Plan.

1. Provide Value

- COVID Bandwidth Bonus Program
  - Providing K-12 members additional bandwidth to meet the demands of their hybrid instructional models at a one-time charge of $500 and no charge for the additional bandwidth
  - Maintains their full E-Rate eligibility
  - Over 40 school districts participating to date, more inquiring and likely coming.
- Filtering, 1:1 Support, Student Safety
  - Addition of iBoss Cloud to Core licensing agreement supporting 1:1, at home CIPA compliance, and students at risk module. 33 K-12 Member Districts Leveraging.
  - Securly aggregation model purchase and redistribute licenses and cost to level set pricing across all districts for net savings. 22 K-12 Member Districts Leveraging.
- COVID-19 Field Hospital Support
  - CCSU, SCSU, WCSU, CT Convention Center, Webster Arena
  - Helping represent DAS and State in supporting field hospital connectivity & logistics
  - Collaborations with State affiliated institutions were extremely smooth, connections were up in manner of days for local clinical affiliated to use.
  - Field hospitals decommissioned; connections at state universities are being re-used for clinical providers administering COVID tests.
- CT Library Fiber Consortium Project
  - Project to connect libraries through federal E-rate and matching State Library bond funds.
  - Many project sites connect underserved communities where connectivity options have remained relatively unchanged for decades. This project provides high quality service at reasonable costs to bridge gaps in the digital divide and help libraries continue to thrive as community assets.
  - Phase 5: 18 sites have library/town approval to move forward.
  - The current project across all phases (1–5) will bring total fiber-connected libraries to 168 (including 47 branches), representing 70% of all 239 libraries statewide.
  - Total savings on funding years 1-4 is $1,392,000 (FCC/USAC E-Rate dark finder IRU savings).
  - Awarded Phase 6 on January 14, 2020 targeting remaining eligible libraries. 2 committed.
- PEGPETIA Grant (http://www.ct.gov/pura/cwp/view.asp?Q=490944&puraNav_GID=1702)
  - CEN awarded $64,417 towards video conferencing head end equipment; roughly 1/3 the total requested amount.
  - Amount requested for funding based on reduced scope and CEN will bridge the remaining funds to purchase the system.
  - The intent is to revive current offering for video conferencing for all on-net members.
  - Three (3) community anchors have accepted awards for fiber builds to connect to CEN under the Educational Technology Initiative organization type.
- New Members/Customers since the last Commission meeting
  - Stonington Free Library
  - Town of Washington (ISP for town center WiFi Project)
  - Acton Public Library – Old Saybrook
  - East Hampton Public library
  - Town of Winchester
  - Stonington Police Dept.
  - Mystic & Noank Library
  - Quinebaug Valley Emergency Communications, Inc.
  - Global Jet Services
  - Newfield Branch Library Bridgeport
  - Pomfret Library Public
  - Sprague Public Library

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- o East Side Branch Library Bridgeport
- o Harry Bennett Branch Library Stamford
- o South End Branch Library Stamford
- o Weed Memorial & Hollander Branch Library Stamford
- o Cross Street Fire Department Middletown
- o Litchfield Historical Society
- o Connecticut Judicial Branch
- o North Branford Police Department
- o North Branford Fire Department
- o Hayward Volunteer Fire Co. Colchester

- o EdAdvance Terryville, Danbury, and Torrington
- o Newington Community Television
- o University of Saint Joseph School of Pharmacy
- o University of Saint Joseph School for Young Children

- Disconnects
  - o Perkin Elmer
  - o Village Mortgage
  - o Elm City Prep (Achievement First)

2. Ignite Innovation

- Firewall Service https://ctedunet.net/managed-firewall/
  - o Goal is to provide a high quality, high capacity, next generation firewall experience that can scale with member bandwidth growth and provide a front-line defense for our organizations.
  - o Value proposition: With DDOS protection, security is an arms race, and CEN can leverage economies of scale to procure a solution larger and more feature-rich than what members may otherwise afford.
  - o Two versions offered:
    - ▪ Virtual firewall (vFirewall) - member managed rulesets and policies
    - ▪ Managed Firewall (mFirewall) partner Managed Security Services provider managing rulesets and policies on behalf of members
    - ▪ Both E-Rate eligible
  - o 15 members leveraging the service.
- Cloud Connect Service https://ctedunet.net/cloud-connect/
  - o Goal is to provide connectivity to cloud providers to enable more advanced and robust services at scale to benefit member business and service needs.
  - o In partnership with Internet2, no-cost transport for community anchor institutions to Amazon Web Services, Google Cloud Platform, and Microsoft Azure Express Route. 5Gbps limit
  - o Since announced in April, four members committed and are in various stages of progress
- Rapid Private Interconnect (RPI) Service
  - o Dedicated ports, bandwidth, and cross connects to any NEREN and/or Internet2 POP location regionally or nationally.
  - o For members who require dedicated physical connections for capacity, diversity, and/or increased security.
  - o Fee based model, 10Gbps connection/min commit + cross connect fees; 2 Members using.
  - o Website in development.
- Eduroam https://www.eduroam.us/
  - o Goal is to help with digital divide issues impacting students in learning areas and provide more seamless network access experience for students.
  - o Tom Dillon helping coordinate activities as CET Infrastructure Advisory Council Chair, with CEN resource and fiscal support.

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- o Pilot districts and neighboring Higher ed include: Metro Hartford Information Systems (MHIS) and Trinity College; Middletown Public Schools, Library, and Wesleyan University; New Haven Pubic Schools and SCSU; Stratford Public Schools.
  - o City of New Haven Committed and is rolling out as part of COVID response.
  - o Discussions with Internet2 on programmatic approach to rolling out the service across a state.
- Other services are in development and will be prioritized based on community feedback
  - o With help of SMAC Chair, items categorized and prioritized
  - o UConn procurement assisting with RFP development
  - o Aligning initiatives with existing UConn RFP cycle where possible to make more efficient use of time and effort

3. Foster Collaboration

- Engagement and Development Advisory Council (EDAC)
  - o Chairs: Karen Warren (Wesleyan); Rebecca Osleger (Suffield)
  - o UN-Conference Program https://ctedunet.net/engagement-events/ . Sessions Include:
    - ▪ Keeping Students Safe at Home
    - ▪ Network Recommendations in the Age of COVID
    - ▪ Data Privacy and Contact Tracing
    - ▪ Effective Vulnerability Management
    - ▪ Using Personas for Accessible Design
  - o Annual Conference; May 12, 2020.
    - ▪ Dual path planning for in-person as well as virtual.
- Service Management Advisory Council (SMAC) & Technical Advancement Advisory Council (TAAC)
  - o Combining the two advisories into one due to overlap
  - o Chairs: Matt Ross (Farmington Public Schools), Jonathan Garbutt (SCSU).
  - o Survey for additional services and prioritization complete.
  - o Procurements groupings complete for RFP prioritization and development.
  - o Developing technical criteria for NextGen CEN network
- CEN Cyber Corps and Mutual Aid Pact in scope development, on hold.
  - o Framework for technical mutual aid & training amongst the membership & related community.
  - o Communicating and collaborating with DESPP Region 3 where initiatives overlap.
  - o Layered approach based on incident scale and response needed.
  - o Focused on training, assessments, remediation if/when incidents happen.
  - o Compliment forensic analysis efforts by public and private companies.
  - o CEN and Region 3 agreed to put on joint efforts on hold and participate in the newly formed *Volunteer Cyber Incident Response Team* subcommittee of the State Cybersecurity Committee.

4. Promote Advocacy

- Office of the Governor – Broadband Deployment Group
  - o Participating in Governor's initiative to address broadband issues
  - o Near term goal was to provide solutions to address remote learning, telehealth, business and other activities through the COVID crisis
  - o Groups first output is the Everyone Learns Initiative
  - o Group strategizing around mapping, policy updates, minimum bandwidth requirements, technologies,

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- Member Spotlight Articles
  - Article series highlighting member success stories and how they can leverage advanced networking towards transformative change. CCSU e-Sports program.
  - https://ctedunet.net/spotlightarticles/

- CEN COVID-19 relates statements and pledges
  - https://ctedunet.net/2020/03/10/cen-assistance-during-covid-19-crisis-2/
  - https://ctedunet.net/covid-19updates/
  - https://ctedunet.net/2020/03/18/cen-assistance-during-covid-19-crisis-2-2/

5. Enhance Core Resources

- CEN Staff
  - CEN currently has 10 full-time staff members, 4 part-time student workers, and 1 volunteer (1 day /week).
  - Added - Fiscal Manager 1 – Split position with ITS – 40%
  - Added - Special Payroll – Marketing - Deanna Lavoie
  - Network Engineer 3 re-post. Reviewing resumes.
  - Financial Assistant 2 re-post. Interviewing.
- Server Infrastructure Replacement Project
  - New compute infrastructure acquired to replace ageing and save staff management time, increase capacity, lower power consumption, and reduce rack space.
  - Nutanix solution implemented and server migrations nearly complete.
- Policy Review (on hold)
  - Incremental progress. Plan is to revise / update as needed, circulate to CEN Advisory councils for comment, submit to CET for the June meeting.
- Hub Site Upgrades
  - $1.5 M bond allocated to replacing devices at distribution layer of the network that are end of life/end of support.
  - Design complete, equipment ordered, schedule tentative. COVID related shipping delays for MAC Sec enabled hardware. Expect all hardware in December, project to begin at that time.
  - Note: Federal tariff on network hardware products manufactured in China resulting in a 10-25% increase in hardware equipment costs.
- Extranet Projects
  - NEREN Collaboration (MA, ME, NH, NY, RI, VT) for increased connectivity into NYC and Boston areas as the busiest telco areas in the Northeast, increasing CEN's capability and reach.
  - Will result in more diverse options and lower commodity Internet rates, increase commercial peering to reduce costs, backhaul opportunities to Ashburn (VA) and Chicago, and peering partnerships with other Regional Optical Networks (RONs) within the research and education network space.
  - Will align a Tier 1 Carrier/Backbone Internet Service Provider and Internet2 to each of the 3 Core sites at 100Gbps handoff each.
  - Massachusetts – Boston and Cambridge
    - 2x100 Gbps link turned up in Cambridge, Ma (300 Bent Street)
      1. 3x10 Gbps peering to Mass-IX
      2. Direct peering with NEREN partners
    - 2x100 Gbps link turned up in Boston, Ma (1 Summer, Markley Building)
      1. GTT (Tier 1 Backbone Internet Provider) – 20 Gbps Commit on 100Gbps Handoff

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- o New York - Manhattan -32 Avenue of the Americas
  - ▪ 2x100 Gbps connectivity online as of Feb 28, 2020
  - ▪ DE-CIX Global peering exchange, 40G commit on 100G handoff, online as of March 15
    1. 10G to Apple – April 8th
    2. 10G to Microsoft – April 27th
  - ▪ Second Internet2 link - 100G commit and handoff – online as of April 28th
- o RFP for IP transit still in progress. Reviews complete, all proposals evaluated and scored, moving to contracting with individual companies.