CT Education Network:
CT Commission for
Educational Technology
Quarterly Update

CEN
Connecticut's Trusted Internet Partner

June 7, 2021
1:00PM – 3:00PM
Virtual Meeting
Connection Detail in Invite

Categories have been arranged for alignment with CEN's 2019-2024 Strategic Plan.
2020 Annual Report

1. Provide Value

- DDoS Mitigation Summary Review
  - 2020-2021 Academic Year (August 1, 2020 – Now)

Number of TMS Mitigations	Volume of Traffic Passed by TMS	Volume of Traffic Dropped by TMS	Volume of Largest TMS Mitigation	Rate of Largest TMS Mitigation	Duration of Longest TMS Mitigation
863	33.60 TB	79.30 TB	6.49 TB	30.06 Gbps	26d 4h 58m
↑19.69%	↑452.41%	↑207.55%	↑74.39%	↑50.04%	↑10005.58%

Bottom row indicates increase or decrease from prior period (September 24 2019 9:51 - August 01 2020 0:00).

  - 2021 Calendar Year (January 1, 2021 – Now)

Number of TMS Mitigations	Volume of Traffic Passed by TMS	Volume of Traffic Dropped by TMS	Volume of Largest TMS Mitigation	Rate of Largest TMS Mitigation	Duration of Longest TMS Mitigation
384	15.18 TB	44.31 TB	5.98 TB	30.06 Gbps	25d 0h 40m
↓20.17%	↓15.54%	↑29.93%	↓5.78%	↑50.36%	↓35.19%

Bottom row indicates increase or decrease from prior period (July 25 2020 9:37 - January 01 2021 0:00).

- CT Library Fiber Consortium Project
  - Project to connect libraries through federal E-rate and matching State Library bonded 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 1-4: savings of $1,392,000 (FCC/USAC E-Rate dark fiber IRU savings)
  - Phase 5: 17 sites committed and 15 out of 17 sites are completed
  - Phase 6: 2 sites committed and 1 out of 2 sites are completed
  - Phase 7: Awarded on January 14, 2021. 5 committed and waiting for E-rate approval
  - The current project across all phases (1–7) will bring total fiber-connected libraries to 171 (including 47 branches), representing 72% of all 239 libraries statewide
- Judicial Branch Connectivity Project
  - Project to provide Internet and layer 2 network connectivity across the Judicial branch system
  - 58 sites, 32 courthouse buildings, 26 administrative / support locations
  - 56 of the 58 sites have completed fiber construction and network provisioning by CEN
  - 27 of the 58 sites have been completed on Judicial' s side and are in production
  - Judicial team is turning up more every week as their schedule allows for on-site activities
- New Members/Customers since the last Commission meeting (in order of turn up)
  - Saint Thomas More Catholic Chapel
  - Sodexo (CCSU Dining)
  - Branford Fire Department
  - Janet Carlson Calvert Library
  - Wadsworth Athenaeum Museum of Art
  - Town of Thompson
  - Waterbury Police Department
- Current Member Count = 656

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2. Ignite Innovation

- Eduroam https://www.eduroam.us/
  - o Goal is to address digital divide issues impacting students learning and provide more seamless network access experience for students
  - o Tom Dillon helping coordinate activities as CET Infrastructure Advisory Council Chair, with CEN resources and fiscal support
  - o New Haven Schools implemented as part of COVID WiFi roll out response (SCSU assistance)
  - o Internet2 Support Organization program application for January
- Additional services are in development and will be prioritized based on community feedback
  - o With help of SMAC Chair(s), items are categorized and prioritized
  - o UConn procurement will assist 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

- Annual Member Conference; May 11-14, 2020. https://ctedunet.net/annual-conference/
  - o 3 Day virtual event, 3 Keynotes, 34 total sessions, 2 community meetings
  - o 473 people registered; 420 people attended; 25 Supporting Sponsors; 52,977 page views
  - o Recordings of all sessions will remain active until February 24, 2022 for all registered participants to access here: CEN Virtual Member Conference
  - o 9th Annual Member Conference on Thursday, May 5, 2022 – in person at CT Convention Center!
- EDAC - Engagement and Development Advisory Council
  - o Co-Chairs: Rebecca Osleger & Karen Warren
  - o Very active remotely, meeting once per month and sometimes bi-weekly.
  - o Planed the Virtual Member Conference and discussing quarterly training opportunities
  - o The next quarterly training: AI and Proctoring & Alternative Assessments will take place remotely on September 23, 2021. https://ctedunet.net/engagement-events/
- SMAC- Service Management Advisory Council
  - o Co-Chairs: Matt Ross & Jon Garbutt
  - o Next meeting will be held on Friday, June 18, 2021 (Virtually) from 10am-12pm.
  - o Meetings will continue quarterly on the 3rd Friday of the 3rd month.
  - o Members of the council met to form two sessions for the CEN Virtual Member Conference.
    - ▪ Community RFP for Unified Communications
    - ▪ Network Border Hardening & Segmentation

4. Promote Advocacy

- Everyone Learns Initiative - WiFi Hotspot Project https://ctedunet.net/everyonelearnswifiinitiative/
  - o Leverage CEN network and member locations to provide WiFi Hotspots across 40 target towns
  - o Original scope was $2.2M; $1.7M authorized to provide walk-up/drive up WiFi service through external/on-building mounted 802.11AX wireless access points.
  - o Cost includes software licensing, equipment, enclosures, wiring, material, labor, project management, bandwidth for 1 year, etc.
  - o APs and installation are donated to the participating member location; CEN will manage for the first year.

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- o Project delays due to scheduling and COVD related access delays at participating sites
- o 103 sites online, 51 pending
- o March 1 – June 3 Usage stats across all sites
    - TOTAL DATA TRANSFERRED   3.84TB
    - TOTAL DATA DOWNLOADED   3.42TB
    - TOTAL DATA UPLOADED   433.36 GB
    - TOTAL UNIQUE CLIENTS   6534
    - AVERAGE # OF CLIENTS PER DAY   159
    - AVERAGE USAGE PER CLIENT   616.6MB
- Member Spotlight Articles https://ctedunet.net/spotlightarticles/
    - o The CEN Member Relations Team conducted a series of interviews with Members to better understand how CEN services are being utilized and what value it provides.
    - o Two completed: Central Connecticut State University, The Open Hearth
    - o Several draft articles are under review: Mystic Aquarium, Connecticut Science Center, CT State Library, and The Bushnell.
    - o Submit concepts / proposals for articles here: https://ctedunet.net/spotlightarticleproposal
- Minds We Need https://mindsweneed.org/
    - o Advocating for investing in Research and Education Infrastructure within $1.9T ARPA funds
    - o $4.989 Billion one-time investment to expand the nation's research and education infrastructure extending R&E leading-edge capabilities
    - o Higher Ed centric though could easily be expanded to all learning institutions

5. Enhance Core Resources

- CEN Staff
    - o CEN currently has 11 full-time staff members, 2 part-time student workers, and 1 volunteer (1 day /week)
    - o Job searches
        - Financial Assistant 1 – Filled
        - Network Security Analyst 2 – Advertising
        - Program Assistant 1 – Repost
        - Network Engineer 2/3 – will post in FY 22
- Hub/Distribution Layer Equipment Upgrades
    - o $1.5 M bond allocated to replacing devices at distribution layer of the network that are end of life/end of support.
    - o Implementations underway, roughly 1/3 deployed
    - o COVID related challenges include travel, scheduling, and access to site facilities
- iBoss Capacity Increases
    - o Issues surfaced in early January where the on-net iboss clusters became unstable
    - o Consultation with iboss ensued, no RFO was identified, general recommendation made to increase capacity
    - o Implemented new load balancers to better distribute traffic across the clusters. This stabilized the environment. Looking to upsize the load balancers over summer.
    - o Three step plans to course correct
        - Stabilize the current/legacy environment by replacing old 2U appliances (complete)
        - Implement new, more scalable, load balancing on the NBC-28 chassis for greater efficiency and capacity (complete)
        - Lessons learned and member forum on filtering for the future (projected in summer)