

Categories have been arranged for alignment with CEN's [Strategic Plan](#).

# 1. Provide Value

- DDoS Mitigation Summary Review

- 2023-2024 Academic Year (August 1, 2023 – March 1, 2024)

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
<b>189</b> ↓27.03%	<b>5.10 TB</b> ↓48.91%	<b>19.91 TB</b> ↓29.78%	<b>5.65 TB</b> ↓65.99%	<b>154.65 Gbps</b> ↑512.18%	<b>0d 13h 13m</b> ↓44.34%

Bottom row indicates increase or decrease from prior period (January 05 2023 6:58 - August 03 2023 4:00).

- 2023 Calendar Year (January 1, 2023 – December 1, 2023)

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
<b>41</b> ↑412.50%	<b>3.45 TB</b> ↑206.65%	<b>11.77 TB</b> ↑1539.72%	<b>5.65 TB</b> ↑219.77%	<b>154.65 Gbps</b> ↑12.84%	<b>0d 1h 5m</b> ↓84.01%

Bottom row indicates increase or decrease from prior period (November 04 2023 7:43 - January 03 2024 5:00).

- Year Over Year Summary, 2019 – 2023

Year	Number of TMS Mitigation	Volume of Traffic Passed by TMS	Volume of Traffic Dropped by TMS	Volume of Largest TMS Mitigation	Rate of the Largest TMS Mitigation	Duration of Longest TMS Mitigation
2023	408	10.52 TB	35.85 TB	16.63 TB	25.26 Gbps	0d 23h 45m
2022	242	40.36 TB	22.93 TB	18.32 TB	29.75 Gbps	58d 7h 42m
2021	537	25.41 TB	59.74 TB	6.00 TB	38.42 Gbps	150d 2h 20m
2020	844	20.84 TB	45.83 TB	6.49 TB	19.99 Gbps	88d 10h 47m
2019	978	2.18 TB	12.04 TB	3.74 TB	20.03 Gbps	2d 17h 54m

- CT Library Fiber Consortium – Internal Connections (FTTL-IC) <https://ctedunet.net/fttl-ic/>

- The goal is to help libraries with internal network infrastructure to better serve library operations.
  - Libraries will receive assessments, prioritized remediation plans, and awards to assist each.
  - Phase 1 – Assessments: 41 libraries in program; 41 assessments complete & delivered.
    - State library prioritized awards using standardized assessment, total funds available, and Adjusted Equalized Net Grand List per Capita (AENGLC) rank. AENGLC, more specifically AENGLC rank, is used in determining the state support percentages for reimbursement under adult education, school construction and health services. <https://portal.ct.gov/SDE/Fiscal-Services/AENGLC>
    - Of the 41 assesses, 5 have refused Phase 2 funds, 36 are proceeding. Those who refused took recommendations and implemented them themselves, some with American Rescue Plan (Act (ARPA) State and Local Fiscal Recovery Funds (SLFRF) from their municipalities.
  - Phase 2 – Remediations: State library has authorized funding recommendations and is in process of getting award contracts signed to release releasing funds to individual libraries for equipment and labor to remediate issues.

- Libraries have been sent funds from the State as of mid-January. CEN/Novus Insight is working with them to review equipment lists, update as needed, initiate purchases, and schedule work dates.
  - All projects must be completed by April 30, 2025; any funds not fully expended by then must be returned to the State Library; extensions can be requested.
- New Member-Customers since the last Commission meeting (in order of turn up)
  - Prospect Fire Department
- New *connections* to existing CEN members since the last Commission meeting
  - Fairfield University, 1720 Post Road
  - Vernon Center Middle School
  - Department of Transportation (DOT) - *CEN is providing transport connectivity to DOT Headquarters and 62 Maintenance facilities and garages over a period of two years. Sites will be listed as they are completed. 19 sites were completed as of the last report. Sites will be listed as they are completed.*
    - Darien Maintenance Repair Garage
    - North Canaan Maintenance Garage & Office
    - Milford Maintenance & Repair Garage
    - Winchester Maintenance/Repair Garage
    - Cornwall Maintenance Garage
    - Old Saybrook Maintenance Repair Garage
    - East Windsor Maintenance Garage
    - West Willington Maintenance Garage
- Exiting Member-Customers since the last Commission meeting disconnecting (in order of turn down)
  - Rensselaer Polytechnic Institute (RPI) – shuttered and sold the building/campus.
  - Wall Street Theatre – Bankruptcy / failure to pay. Business & name was later sold to another entity.

Current Member Count = 687

\*Effective 12-1-21 member count process has been adjusted to reflect multi-site organizations as one member throughout the community.

## 2. Ignite Innovation

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- PerfSONAR Servers
  - perfSONAR is the **performance Service-Oriented Network monitoring Architecture**, a network measurement toolkit designed to provide federated coverage of paths, and help to establish end-to-end usage expectations, ensuring friction free use of networks for scientific applications. This open-source infrastructure helps to identify and isolate problems as they happen, making the role of supporting network users easier for engineering teams, and increasing productivity when utilizing network resources.
  - Scope is to install 100Gbps PerfSONAR servers at the hub and extranet sites to provide independent tooling for measurement of capacity and throughput helping ensure the highest quality of network experience for the membership and will make these available to the community to run diagnostics from any member site.
  - 3/4/24 Update – Servers received, configuring, and staging for deployment.
- eduroam <https://www.eduroam.us/>
  - Goal is to address digital divide issues impacting Internet access and provide a more seamless and secure network access experience for students, faculty and staff at learning institutions and affiliate locations.

- CEN's application for the Internet2 eduroam [Support Organization](#) program was accepted and will be one of 5 across the country. <https://internet2.edu/internet2-announces-new-eduroam-support-organizations/>
- eduroam Support Organization (eSO) contract agreement between CEN and Internet2 is complete. New CEN member organizations can be onboarded at will without signing an I2 agreement. CEN has a member subscriber agreement for new eduroam subscribers and will work with the early adopters to convert their I2 based agreements to CEN based agreements.
- Current subscribers and users: New Haven Public Schools, Darien Public Schools, Suffield Academy, Waterbury Public Schools, Middletown Schools, Choate Rosemary Hall, and ACES. Sterling PS in process.

### 3. Foster Collaboration


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- EDAC - Engagement and Development Advisory Council
  - Co-Chairs: Karen Skudlarek, UCONN; Cathie Drury, Coventry Public Schools
  - Annual Member Conference, *CEN Connect 2024*
    - 2-day event on May 8-9, 2024, at CT Convention Center
      - Day 1: 8 Long-form pre-conference workshops, vendor exhibition, after hour social event at CT Science Center for all attendees on day 1 and 2.
      - Day 2: Traditional format, AM welcome and keynote, 30 sessions, all-day vendor exhibition, after hours social.
    - Full program released on Feb 29, 2024: <https://cvent.me/qLbMDM>
    - Early bird registration ends March 31, 2024: <https://cvent.me/D09E0G>
    - Total registrations (as of 2.28.24): 172; total registered sponsors (as of 2.28.24): 39
    - Sponsorships opportunities still available:  
<https://custom.cvent.com/E81EB1CD29C94DD494BEE637F372776B/files/8ca2771368c2457ba75ab3ed25380dac.pdf>
  - Member Trainings
    - *Transitioning to IPv6 as a Preferred Network Protocol*
      - Location: Microsoft Teams webinar,
      - Target Date: late summer/early fall
      - Presenter: Jason Healy, Suffield Academy
- SMAC- Service Management Advisory Council
  - Co-Chairs: Ken Sayers & Jonathan Garbutt
  - Committee members are organizing around aggregated services available for members.
    - Unified Communications - with DAS procurement, initial kickoff complete, SMAC detail work will be edited into state contracting format.
    - Security Services - building new survey feedback for community to help provide priority and direction for committee and CEN to pursue.
    - CIPA filtering - on hold, discussing options.
  - Services Reviews: We're beginning to walk through services to review service lifecycles and [https://ctedunet.net/wp-content/uploads/sites/2510/2021/12/2020-10-20\\_CEN\\_Service\\_LifeCycle\\_Process23.pdf](https://ctedunet.net/wp-content/uploads/sites/2510/2021/12/2020-10-20_CEN_Service_LifeCycle_Process23.pdf)
  - No change from last meeting
- Connecticut Higher Education Roundtable on Information Security (CHERIS) <https://ctedunet.net/cheris/>
  - Co-Chairs: Brad Tudisca, CEN; Owen Brandt, ECSU; John Schaeffer, Conn College
  - Forum of Higher Education IT security professionals that meets quarterly to collaborate on IT solutions, discuss best practices, and share security challenges.

- Meeting scheduling in process.
- Cyber Nutmeg <https://ctedunet.net/cybernutmeg/>
  - Cyber Nutmeg 2024 will build on the recent success of the CTNG:CEN partnership and continue the one-day event designed to heighten your awareness of cybersecurity threats and defenses you can deploy to protect your organization. This event is intended for state, municipal, and educational leaders, including but not limited to first selectmen, mayors, town managers, superintendents, and the IT and cybersecurity professionals who support them. Cyber Nutmeg consists of three main components: Threat Briefing from the FBI, Homeland Security, and CT Counter Terrorism and Intelligence (CTIC); Cyber Security Awareness Training/workshops; a National Guard led Tabletop exercise where blended groups can work collaboratively to focus on today's most prevalent threats.
  - Date: October 2024
  - Venue: TBA
  - Status: Reaching out to program committee core members to regroup and start the planning process for 2024

## 4. Promote Advocacy

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- CEN advocated for Community Anchor Institution connectivity statewide and developed a broadband infrastructure program renamed as CENConnect (Pronounced C.E.N. Connect). CENConnect is a program that provides direct investment in middle-mile broadband infrastructure in support of Connecticut's municipalities, schools, colleges, universities, libraries, healthcare, open access, and cultural arts institutions, through upgrades and expansion of the CEN (<https://ctedunet.net/cen-connect/>). In addition, the program offers grant funding opportunities to attach to the CEN platform for Community Wi-Fi access to CT citizens in need. Program funding is made available as part of Governor Lamont's Connecticut Plan for the American Rescue Plan Act of 2021.
  - Legislatively approved through PA 22-118 as amended by PA-22-146
  - All projects were submitted to US Department of Treasury on Sept 21, 2022; CEN Received programmatic approval on September 12, 2023! CT-OPM Allocated funds October 24, 2023
  - Office of the Governor announces program November 2, 2023. <https://portal.ct.gov/Office-of-the-Governor/News/Press-Releases/2023/11-2023/Governor-Lamont-Announces-Federal-Approval-of-CT-Education-Network-Broadband-Infrastructure-Plan>
  - Program Components include:
    - Next Generation Infrastructure (NGI) – *Comprehensive upgrade of CEN network electronics*
    - Connecting Connecticut's Communities Initiative – Municipalities, Libraries, and Charter Schools
    - Community WiFi Grant Program - Expansion of Public WiFiNote: IJA BEAD program administered by CT DEEP is *unsure if any funding* will be made available for Community Anchor Institutions, which is the 3<sup>rd</sup> priority after unserved and underserved residences and business; we want to encourage this program for these anchors to connect to an enterprise level solution vs waiting for BEAD.
  - CEN Connect community webinars / info sessions.
    - *CEN Connect - Where Connectivity Builds Community*
      - Feb 22, 2024; Registered: 16, Attended: 16
      - March 13, 2024; link to register: <https://events.teams.microsoft.com/event/5d15a6e4-c1ef-4ff4-ab1f-cd1f88b6d767@17f1a87e-2a25-4eaa-b9df-9d439034b080>
    - *CEN Next Generation Infrastructure - CT's First 400G Network*

- Feb 21, 2024; Registered: 115
- March 12, 2024; link to register: <https://events.teams.microsoft.com/event/743e10a8-9fde-4b4e-9144-3227a2739093@17f1a87e-2a25-4eaa-b9df-9d439034b080>
- Schools, Health, & Libraries Broadband Coalition (SHLB) Spotlight Presentation
  - CEN Executive Director Ryan Kocsondy presented to SHLB on December 18, 2023, in a 'Member Spotlight' describing the CEN Connect Program, the plans, goals, and outcomes. The online forum was very well attended nationally and many SHLB partners reached out to inquire more and what portions of the CEN may translate into their states and regional networks.
  - <https://www.linkedin.com/feed/update/urn:li:activity:7148714528963268608/>
  - <https://www.facebook.com/photo?fbid=762901522549079&set=a.553235530182347>

## 5. Enhance Core Resources

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- CEN Staff
  - CEN currently has 14 full-time staff members, 4 part-time student workers, 1 volunteer (1 day /week), 1 fellow, and 1 special payroll.
  - Upcoming Searches
    - Network Security Manager / ISO
    - Network Security Analyst
    - GIS Specialist (in development)
- Triangular Core Capacity Augment & 400G
  - 400Gbps technologies represent the latest in speed, capability, and capacity for advanced carrier and enterprise networks.
  - We are in the early planning stages to augment the triangular core with 400Gbps links adding capacity and resilience to current network infrastructure and in preparation for Next Generation Infrastructure upgrades.
  - Status: Links between core sites are up, will be put into production in March/April, services transitioned to them will be ongoing otherwise.
- Network Performance Tester and Training
  - CEN has acquired a network performance tester enabling high throughput protocol and load testing at up to 400G. This new capability enables the CEN Engineering team to better stress test network-based equipment and/or appliances before acquisition and move to production in the network. In addition, we completed a training session for the CEN Engineering team and invited our colleagues at DAS-BITS and OSHEAN (Rhode Island Regional like CEN) to attend.
- Next Generation Packet Equipment Selection Process
  - Staff are nearing completion of review and scoring of proposals for the Next Generation Infrastructure upgrades. Platform upgrades will modernize the network infrastructure and provide ample capacity, capability, and speeds for the next 7-10 years.
  - The vendor selected will perform the equipment upgrade as part of the ARPA-CPF project(s).
  - Status: POS issues for equipment. SOWs benign finalized for packet and optical projects.
- In partnership with the Northeast Research and Education Network (NEREN)
  - CEN is part of a collaborative effort to connect the Massachusetts Green High Performance Compute Center (MGHPCC) to the NEREN backbone. This connectivity will help CT based researchers and their institutions by providing high throughput connectivity and access to resources at the MGHPCC and beyond.
  - Status: NEREN has initiated fiber orders and is projecting completion in June 2024