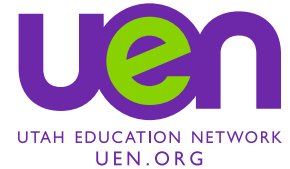


UEN Network Security



UEN provides reliable, robust broadband to public education, higher education and libraries. Our infrastructure serves more than 860,000 students and educators throughout the state. Like other large networks in Utah and throughout the world, UEN is under constant attack and continuously responds to mitigate those attacks.

Thanks to our two full-time security staff (2 FTE) and their expert use of sophisticated tools, UEN tracks this onslaught 24/7/365. Here's what we see:

- 1500 attacks per second on the entire UEN Network, a five-fold increase from approximately 300 per second only two years ago.
- Nearly 8% of our backbone traffic can be attributed to malicious attacks sourced from and targeted at the UEN Network and its connected customers.
- An average of 12-15 servers are compromised each day on the entire UEN Network. These statistics vary as vulnerabilities change day-to-day.

UEN responds to all major issues and incidents. On a daily, monthly and annual basis UEN proactively monitors and maintains security through a variety of approaches:

DAILY

- Logs and analyzes all NetFlow traffic coming to/from the UEN Network.
- Compiles a dynamic list of compromised machines on the UEN network and contacts the impacted entity.
- Assists UEN customers in security engineering and design of their networks.

MONTHLY

- Blocks 6.9 million attempts to compromise our network infrastructure.
- Blocks 42.7 million reconnaissance attempts for our network.
- Manages high-level security for the entire UEN Network, over 1400 connected sites.
- Scans 6,920 hosts for vulnerabilities within the UEN enterprise and mitigates risks on about 4% or 315. Of those an average of 25 have high risk vulnerabilities that require immediate remediation.
- Processes 246 Copyright/DCMA takedown requests related to misuse of our network by connected customers.

ANNUALLY

- Provides Security Training to 200+ of the Public Education Security and IT Professionals throughout the State of Utah.
- Conducted Security Assessments of all public institutions of higher education over the past five years, but had to cease this service due to resource issues.

UEN does all of this with two full-time security professionals on an annual ongoing budget of \$311,000, which includes costs for staff. This is somewhat like building an extensive statewide highway system and then only providing a couple of troopers to patrol it. UEN's top priority in the upcoming legislative session is to obtain adequate funding for network security.

UEN Infrastructure Map

CONNECTING 1396 LOCATIONS THROUGHOUT UTAH

- 100 GIGABITS/SECOND BACKBONE
- 10 GIGABITS/SECOND BACKBONE
- 1 GIGABIT/SECOND BACKBONE
- 1 GIGABIT/SECOND
- 1 GIGABIT/SECOND ETHERNET
- - - 155 MEGABITS/SECOND MICROWAVE
- - - 45 MEGABITS/SECOND MICROWAVE
- NAME POINT OF PRESENCE (POP)

