



ONENET CYBERSECURITY STRATEGIES, SERVICES & SOLUTIONS

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OneCyberShield

Cybersecurity is a critical priority for OneNet and the Oklahoma State Regents for Higher Education. OneNet's OneCyberShield team deploys a layered strategy for promoting cybersecurity and security best practices across all end-users, including higher education institutions, K-12 schools, libraries, technology centers, government agencies and health care providers. In fact, security is the core goal of everything OneNet does, from our network architecture to our hosted services. In addition to our layered security, we work to identify vulnerabilities, combat security threats and protect the integrity of our network and the connections to our end-users. OneCyberShield's cyber defenses and next-generation technologies help to mitigate malicious activity, denial of service attacks (DDoS), malware and other cyberthreats.



Connected devices worldwide are projected to grow to more than 75 billion by 2025.



Approximately 5 million DDoS attacks occur worldwide annually.



A 1Gbps attack will knock most organizations offline.

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Cybersecurity Threat Intelligence

The OneCyberShield team monitors threat intelligence from leading cybersecurity organizations in order to identify imminent threats to our network and our end-users. The team receives active threat intelligence and activity reports from the following sources:

- Research Education Networking Information Sharing and Analysis (REN-ISAC)
<http://www.ren-isac.net>
- Multi-State Information Sharing and Analysis (MS-ISAC SOC)
<https://msisac.cisecurity.org/>
- InfraGard
<https://www.infragardok.org/about-us.html>
- Federal Bureau of Investigation (FBI)
<https://www.ic3.gov>

In addition, OneNet collaborates with several research partners, such as Internet2, The Quilt, Great Plains Network, Southern Crossroads Network, Western Regional Network and National Research Platform, to ensure the OneCyberShield team is aware of external threats facing our partners.

Cybersecurity Operations

OneCyberShield team members monitor current threat intelligence and distribute information to the affected end-users, offering them assistance to respond as needed. We provide:

- Alerts and assistance for end-users on malware communication, copyright infringement, DDoS attacks, spam and credential compromises
- External threat intelligence and internal metrics analysis
- Incident response assistance as needed and escalation with third-party security organizations, if available



Without OneNet's help in mitigating DDoS attacks, many schools would not be able to successfully complete their state testing.

Distributed Denial of Service Mitigation

Distributed denial of service (DDoS) attacks are an increasing security challenge for the organizations OneNet serves. These attacks block access to an organization's network, so legitimate internet traffic cannot enter or exit the network. The OneCyberShield team has developed leading-edge DDoS mitigation strategies to efficiently eliminate or reduce the business impact of DDoS attacks for our end-users. OneNet mitigates multiple DDoS attacks each week through a comprehensive solution and is continually looking for innovative technologies to combat these attacks.

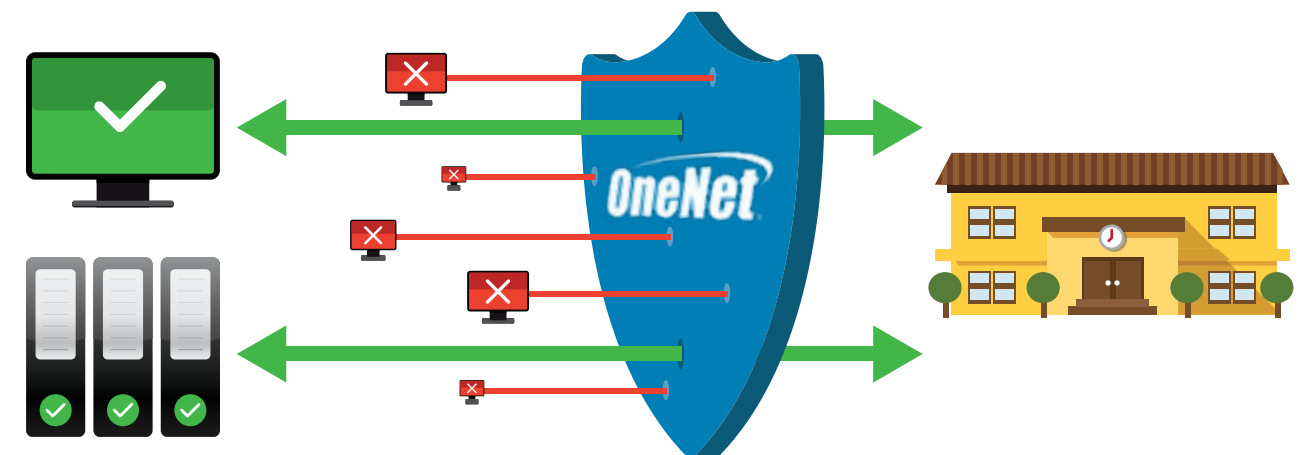
OneCyberShield's DDoS system provides automatic mitigation for in-progress DDoS attacks against OneNet end-users

Analysis and reporting tools provide real-time traffic alerts and visibility

OneNet partners with Internet2 and other vendors for additional DDoS scrubbing centers

Use Case

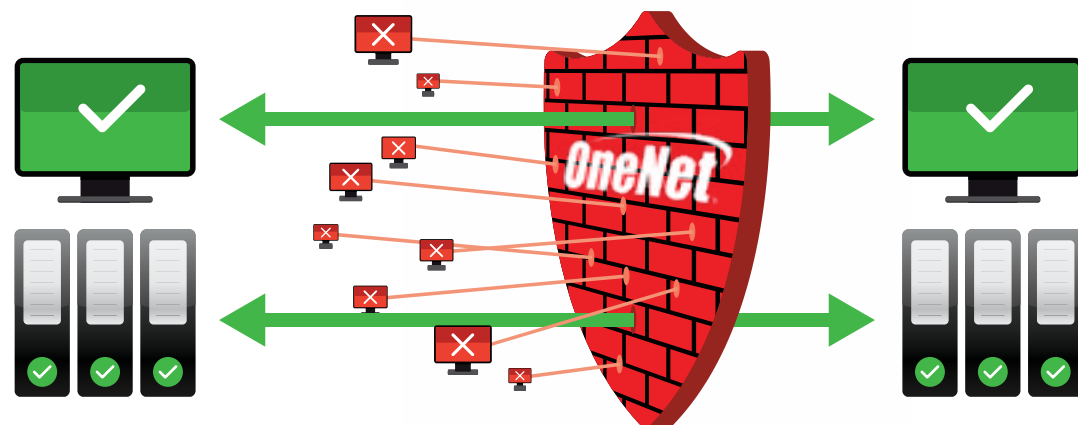
An example of the importance of DDoS mitigation occurs during state testing for K-12 schools. State testing periods are high activity times for OneNet in defending DDoS attacks on the schools we serve. Thanks to the strategies and proactive security controls we've implemented, we can often detect a DDoS attack before a school recognizes an impact on its network. Without OneNet's help in mitigating DDoS attacks, many schools would not be able to successfully complete their state testing.



Secure Infrastructure and Operations Architecture

OneNet's secure network architecture facilitates and augments our strategic cybersecurity initiatives. OneNet end-user services are built and deployed upon this secure architecture, providing necessary controls for security and assurance. The OneCyberShield team deploys the following security controls to ensure an enhanced security posture.

- Internet service provider secure architecture and engineering planning and reviews
- OneNet firewalls for centralized services
- Service provider routers with separation and security
- Infrastructure best practices for change management
- Best practice controls for information and cybersecurity
- SSAE 18 SOC 2 third-party audit
- Intrusion Detection System (IDS) and Intrusion Prevention System (IPS) for threat mitigation
- Dedicated logging architecture for identifying possible security events
- Periodic assessments of infrastructure, including penetration and vulnerability testing by OneNet and third-party vendors
- Network monitoring
- Industry accepted infrastructure configurations
- 24/7 service desk support



OneNet's end-user services
are built upon a secure
network architecture.

National Science Foundation Campus Cyberinfrastructure: Infrastructure, Innovation and Engineering Program

OneNet has partnered with Oklahoma institutions to garner cyberinfrastructure grants from the National Science Foundation.

Through these partnerships, OneNet has helped design a Science DMZ to interconnect researchers and facilitate projects within Oklahoma. The Science DMZ is a secure network designed to handle big data transfers and high performance computing. This network supports a wide variety of scientific explorations from weather prediction to genome sequencing.

Participants include:

- Cameron University
- East Central University
- Langston University
- Northeastern State University
- Oklahoma Christian University
- Oral Roberts University
- Oklahoma State University
- Oklahoma State University Institute of Technology
- Oklahoma State University - Oklahoma City
- Redlands Community College
- Rogers State University
- Southeastern Oklahoma State University
- Southwestern Oklahoma State University
- University of Tulsa
- University of Central Oklahoma
- University of Oklahoma
- University of Science and Arts of Oklahoma





Managed Security and Infrastructure Services

OneCyberShield offers the following services to facilitate secure communications and mitigate risks for end-users.

- Managed next-generation firewall services (anti-virus, malware, URL filtering, threat mitigation, DoS and application filtering)
- Managed next-generation end-point security solutions
- External vulnerability assessments
- Secure customer configurations and secure deployments of all network designs

For more information about OneCyberShield services, visit: <https://onenet.net/services/cybersecurity-services/>.

End-User Hosted Services

OneCyberShield ensures security measures are deployed to protect end-user hosted services.

- Trusted OneNet Domain Name System (DNS) service
- Secure configurations for centralized hosting services
- Dedicated next-generation firewall protecting hosted web services
- Multi-site replication and disaster recovery
- Storage options for off-site backups
- OneNet engineer VM security consultation
- Highly redundant colocation service for availability and monitoring
- Secure MPLS services and design, with physical and OneNet colocation services

Managed Contracts Offering Security Solutions

OneNet has negotiated vendor contracts to provide discounts on security solutions for end-users.

Current vendor product offerings include:

- Network routers, switches, firewalls, etc.
- Information security and compliance consulting for network and application security, compliances and audit, risk management and incident response services
- Big data network visibility and detection



Contact OneNet's OneCyberShield Team

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