Internet2 Protects Research and Education Networks with Radware's On-Demand Cloud DDoS Mitigation Service

Overview

Internet2® is a non-profit, member-driven advanced technology community founded by US higher education institutions in 1996. Internet2 serves over 400 U.S. universities, government agencies and regional and state research education networks. Through their members, Internet2 supports additional institutions, leading corporations, and research and education network partners from more than 100 countries.

Internet2 delivers a diverse portfolio of technology solutions that leverages the strengths of its members and helps support their educational research and community service missions. Internet2's core infrastructure components include the nation's largest and fastest research and education network that was built to deliver advanced, customized services that are accessed and secured by the community-developed trust and identity framework.

Challenges

Distributed denial-of-service (DDoS) attacks are increasing in size, frequency and duration.Institutions across the research and education community, including colleges, universities, research laboratories and K12 schools, are seeing an increase in attempts to disrupt their operations.

DDoS attacks experienced by educational institutions across the Internet2 community compromised confidential student information, interrupted statewide scholastic testing, prevented faculty and students from accessing online educational materials, and affected researchers from collaborating on timely experiments. Given that institutions are increasingly reliant upon network access for curricula, productivity tools, testing and other applications, DDoS attacks can have a crippling effect.

In conjunction with their community security working group, Internet2 developed commercial and technical requirements for a cloud-based DDoS mitigation service and issued a request for proposal. Based on superior security technology, Radware was selected to deliver DDoS mitigation service, based on Radware's Cloud DDoS Protection Service, to the research and education members.

Internet2's regional education network members required unlimited diversions as part of the mitigation service. After gathering data from Internet2, Radware was able to estimate the volume and frequency of diversions required and honor the unlimited diversions requirement by negotiating a new mitigation service agreement to provide comprehensive protection to the community.

> " *Radware listened to and then delivered on all of the detailed requirements of our regional network members for a cloud-based DDoS service, creating a custom offering specifically designed to meet the complex security demands of our membership, which includes higher education, research facilities and major healthcare systems across the country."*
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> **– George K. Loftus, Associate Vice President of Network Services, Internet2**

Solution

Radware's Cloud DDoS Mitigation Service provides scrubbing for commodity traffic and research and education traffic, including both IPv4 and IPv6 traffic. Internet2 regional network members or university members subscribe to the DDoS attack mitigation service by purchasing 1Gbps of clean pipe capacity which is returned on their Internet2 connection. When an attack is detected, the subscriber signals Radware's Emergency Response Team (ERT) with the specific subnet to be scrubbed using a BGP community.

Subscriber's downstream members (e.g., a university or K-12 district) have the option to obtain the same direct access services from the provider as the subscriber by choosing the tenant option. Subscribers and tenants have direct access to Radware's ERT to initiate mitigation, as well as access to the DDoS mitigation portal to review mitigation activity and subsequent reports.

Benefits

Radware's on-demand Cloud DDoS Mitigation Service helps secure Internet2's research and education members 24x7, regardless of which Internet Service Provider they use. Subscribers benefit from direct access to Radware's ERT to initiate mitigation and for support. Member subscribers also have access to the Cloud DDoS mitigation portal to view attack notifications, mitigation progress and service reports.