Neustar DNS Shield Network Securely Delivers High-speed Web Performance

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DNS Shield^{TM} Network Reduces Latency, Enhances Security, and Increases Reliability for Neustar UltraDNS;

A Private Network of DNS Connections that Re-engineers the Internet to Reduce Dependency on Public Networks

November 16, 2016 – **STERLING, Va**. – Neustar, Inc. (NYSE: NSR), a trusted, neutral provider of real-time information services, today announced the public launch of its DNS Shield^{TM}, a worldwide network of secure private domain name system (DNS) connections between Neustar and its partners. Neustar's DNS Shield^{TM} network is independent of public internet networks and embodies an industry-first approach to eliminating latency and security vulnerabilities for DNS traffic within its partner network.

"DNS is the backbone of the Internet, but the original protocol design was slightly flawed and failed to take in to account some of the potential security issues, which now make it an attractive target for attacks," said Rodney Joffe, SVP and Distinguished Fellow, Neustar. "Optimizing and protecting DNS is a mission-critical task since an outage can result in downtime, network latency, lost revenue, and a negative brand experience."

The recent emergence of the Mirai botnet, which compromised insecure Internet of Things (IoT) devices, created the perfect environment for massive DDoS attacks on DNS servers, which resulted in major Website outages. The DNS Shield^{TM} network forms a secure connection between Neustar UltraDNS authoritative servers and the recursive servers of its partners, minimizing the vulnerable points of compromise targeted in distributed denial of service (DDoS) attacks and DNS Spoofing, while lowering the latency of DNS transactions and improving the reliability of query responses significantly.

Neustar's DNS Shield^{TM} network supplements a global IP Anycast Network by adding scores of private nodes to the existing 30 public nodes across six continents to answer more than 33 billion queries per day. The Neustar network already includes a purpose-built DDoS mitigation solution that protects its UltraDNS network, but the addition of the DNS Shield^{TM} network will harden its defenses against attacks by removing traffic entirely from the public Internet domain.

Key benefits and features of the DNS Shield^{TM} network include:

- **Lower Latency –** Delivers superior Website performance through its private DNS Shield^{TM} network, enabling DNS traffic to circumvent general public Internet networking connectivity that is frequently slow and congested, ensuring that even holiday traffic or massively scaling users cannot cause outages or delays. In most cases the DNS Shield^{TM} network nodes are located within 100 feet of partner recursive servers, reducing network latency to single digit milliseconds – the fastest in the world.

- **Enhanced Security –** The DNS Shield^{TM} network creates a private network for DNS resolution within its partner network, eliminating security threats, such as DDoS attacks and cache poisoning attempts by shielding direct DNS connections from public view and excluding public Internet traffic.

- **Better Reliability –** In the event of a DDoS attack or significant network outage, DNS queries will continue to resolve within the private networks where DNS Shield^{TM} technology is deployed. This resiliency ensures an optimal network experience for Neustar partners and customers to ensure maximum uptime.

"DNS remains constantly threatened by DDoS attacks, cache poisoning assaults, spoofing attempts, and innocently enough, high volume website traffic, which can all lead to service disruptions for a significant portion of the Internet," said Joffe. "Neustar is hardwiring the Internet with private network connections between our authoritative servers and our partner's recursive servers, limiting the potential for our UltraDNS network to succumb to these attacks."

For more information about the Neustar DNS Shield^{TM} network, please visit here.

About Neustar

Every day, the world generates roughly 2.5 quadrillion bits of data. Neustar (NYSE: NSR) isolates certain elements and analyzes, simplifies and edits them to make precise and valuable decisions that drive results. As one of the few companies capable of knowing with certainty who is on the other end of every interaction, we're trusted by the world's great brands to make critical decisions some 20 billion times a day. We help marketers send timely and relevant messages to the right people. Because we can authoritatively tell a client exactly who is calling or connecting with them, we make critical real-time responses possible. And the same comprehensive information that enables our clients to direct and manage orders also stops attackers. We know when someone isn't who they claim to be, which helps stop fraud and denial of service before they're a problem. Because we're also an experienced manager of some of the world's most complex databases, we help clients control their online identity, registering and protecting their domain name, and routing traffic to the correct network address. By linking the most essential information with the people who depend on it, we provide more than 12,000 clients worldwide with decisions—not just data. More information is available at https://www.neustar.biz

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