Attack Trends and Mitigation

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Akamai Technologies
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The Akamai Intelligent Platform

The world's largest on-demand, distributed computing platform delivers all forms of web content and applications

The Akamai Intelligent Platform:

175,000+ Servers	2,000+ Locations	1,300+ Networks	700+ Cities	108+ Countries

Typical daily traffic:

- More than **2 trillion** requests served
- Delivering over **30+ Terabits/ second**
- **15-30%** of all daily web traffic

Note

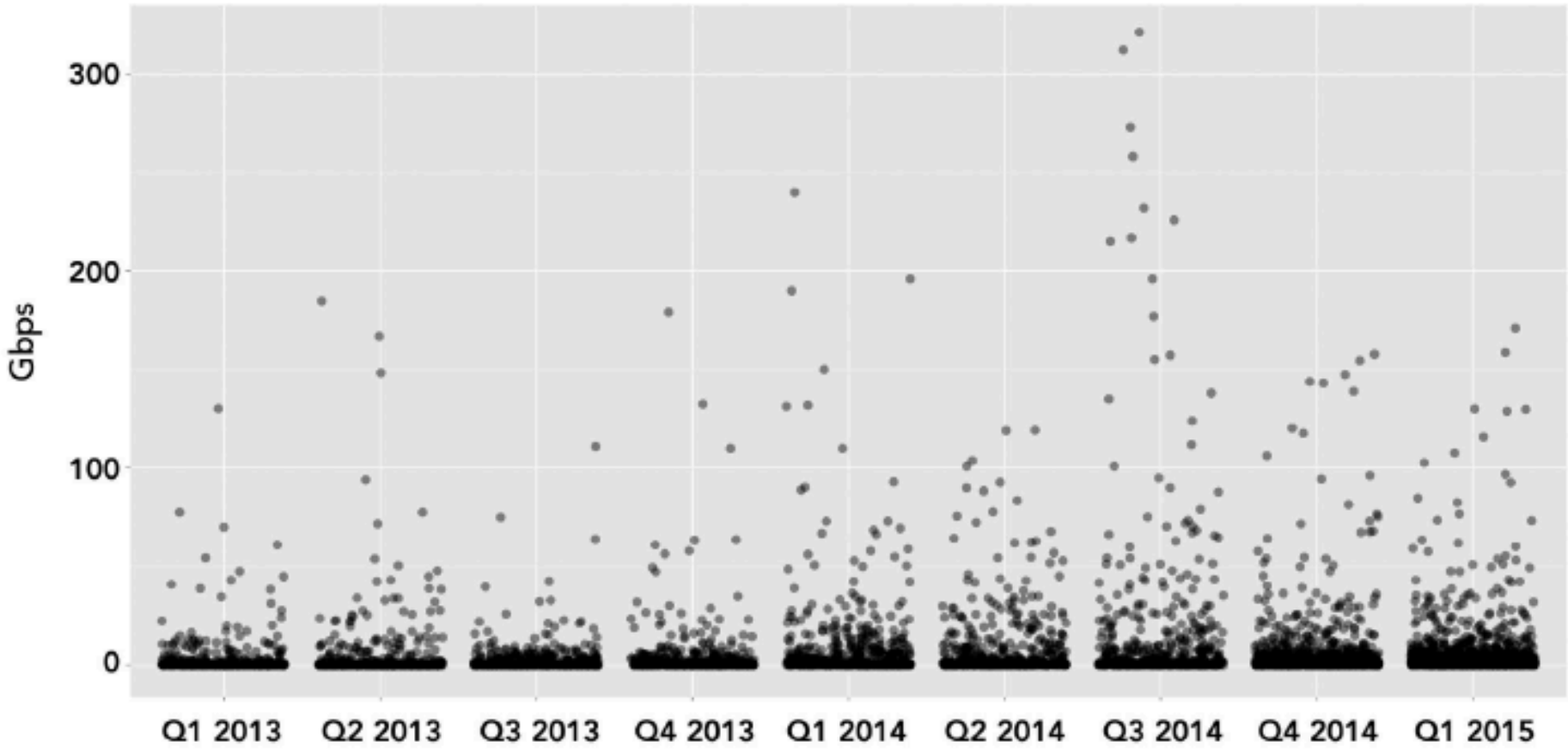
The datapoints in the following slides are primarily derived from attacks seen on Akamai's CDN, DNS and Scrubbing Center platforms.

While those are very large scale and do see a significant amount of attacks those are not necessarily representative of all global traffic, and are biased towards those targeted at the set of customers using Akamai's services.

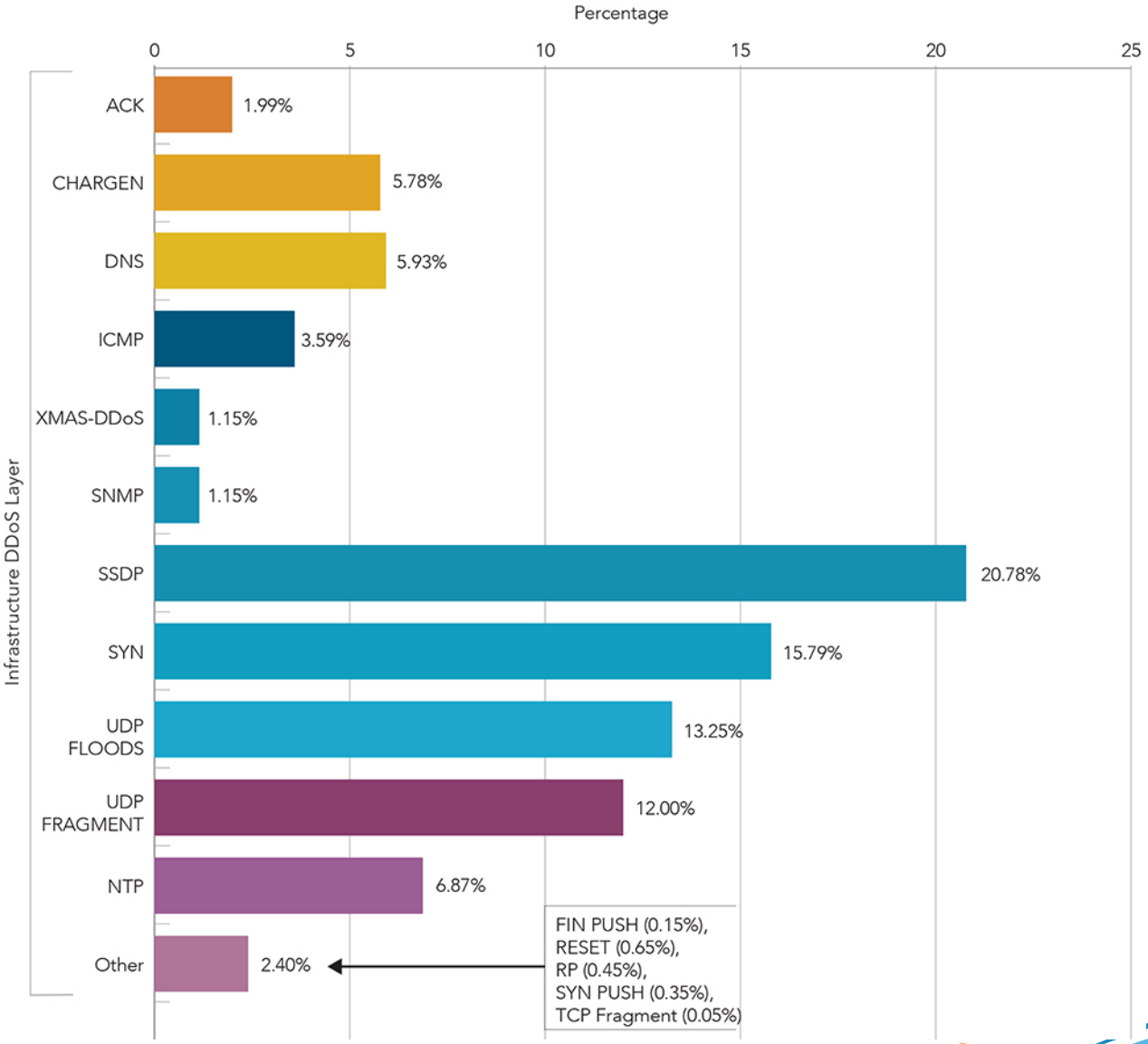
Attack Trends 2015

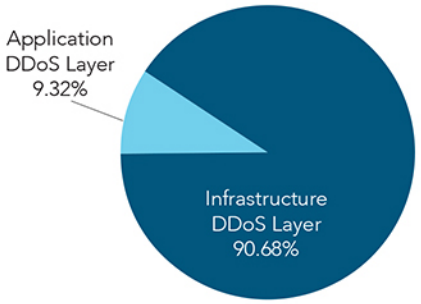
- significant increase in number of DDOS attacks
  - More than double YoY
  - 35% compared to q4 2014
- average peak volume decreases
  - function of there being more attacks
  - does not mean there's less big attacks!
- average duration increases
  - now over 24hrs
- DDOS for hire
- Online gaming platforms still top target

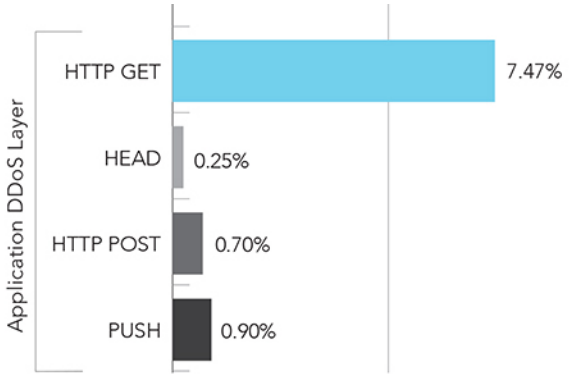
Attack Trends 2015 – Size distribution



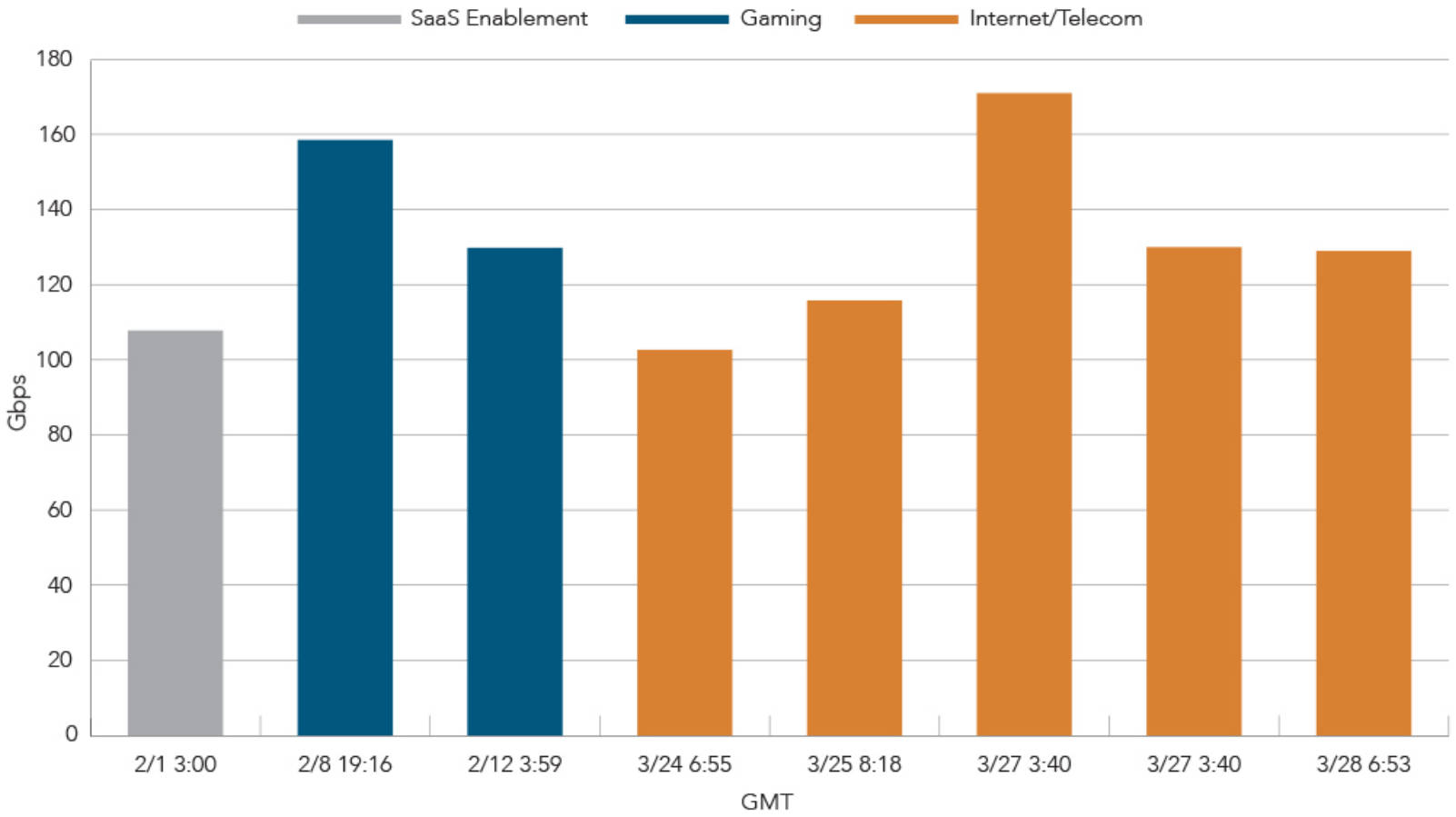
Attack Trends 2015 – Attack Types



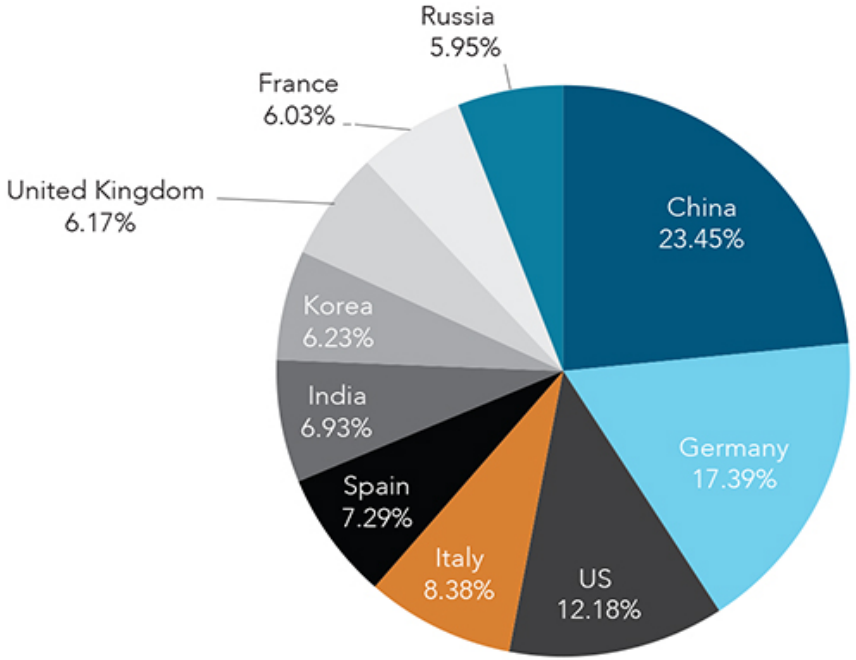




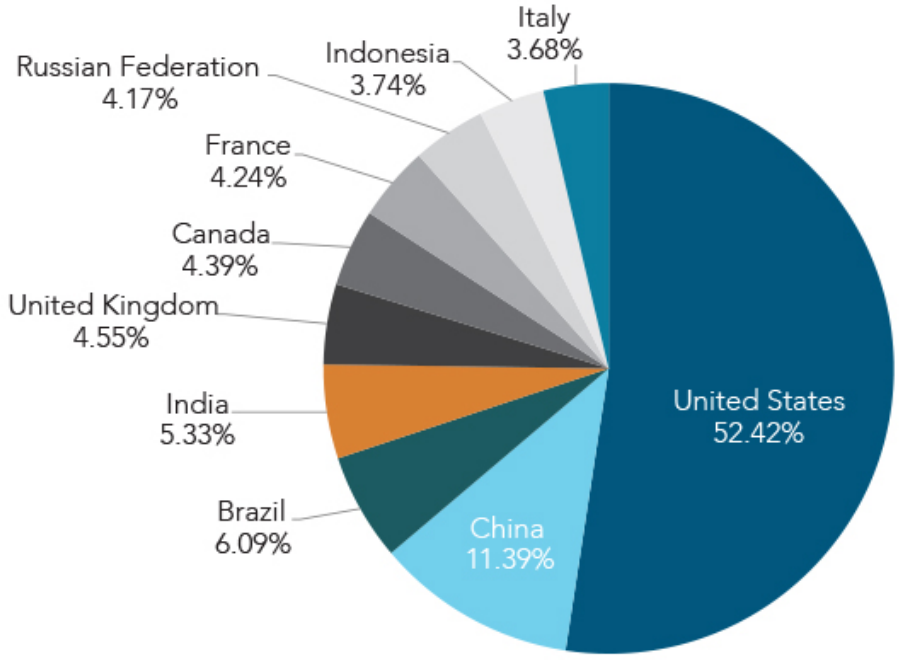
Attack Trends 2015 – Mega Attacks



Attack Trends 2015 – Source Countries



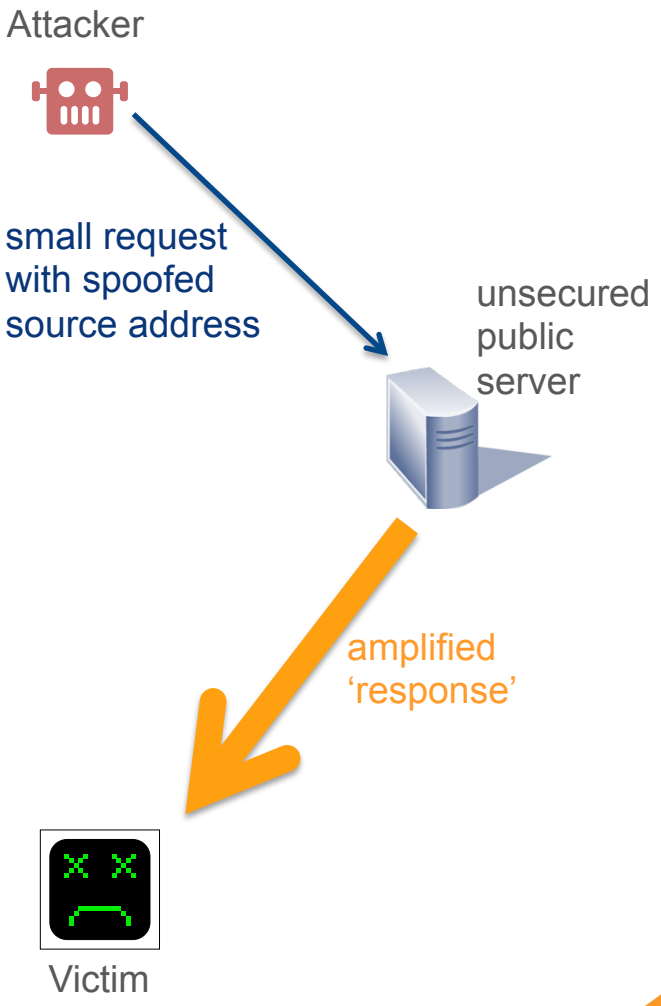
DDOS Attacks
(non spoofed addresses)



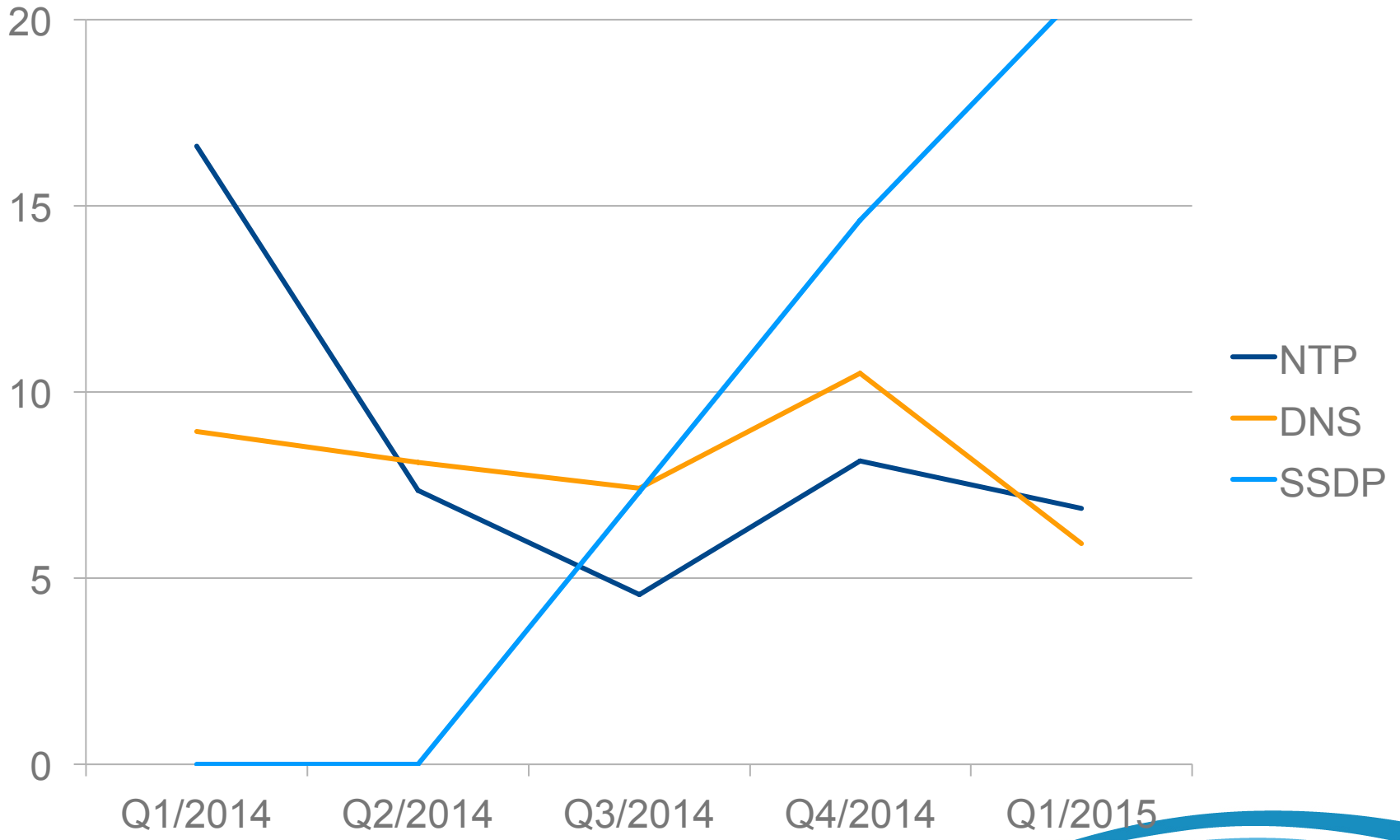
Web Application Attacks

Reflection Attacks

- hides origin, difficult to attribute
  - preserves botnets longer
- amplifies attacks
  - less resources needed by attacker
- uses ‘legitimate’ protocols
  - harder to detect/filter
- have been around for a long time
- target protocols shifting
  - SSDP new top vector (consumer devices)
  - NTP/DNS declining



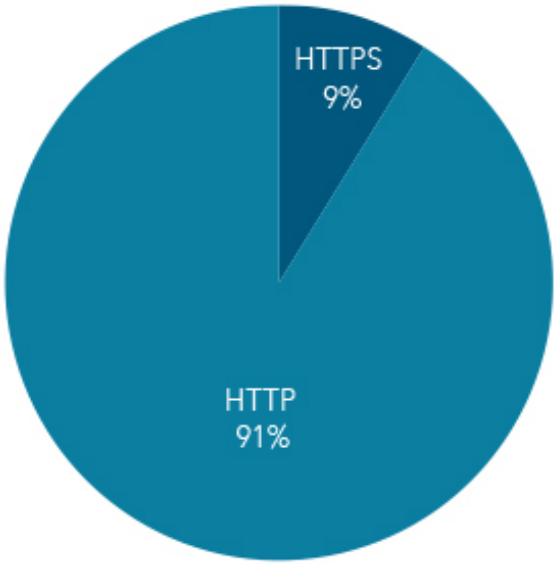
Reflection Attacks



Complex Attack Example

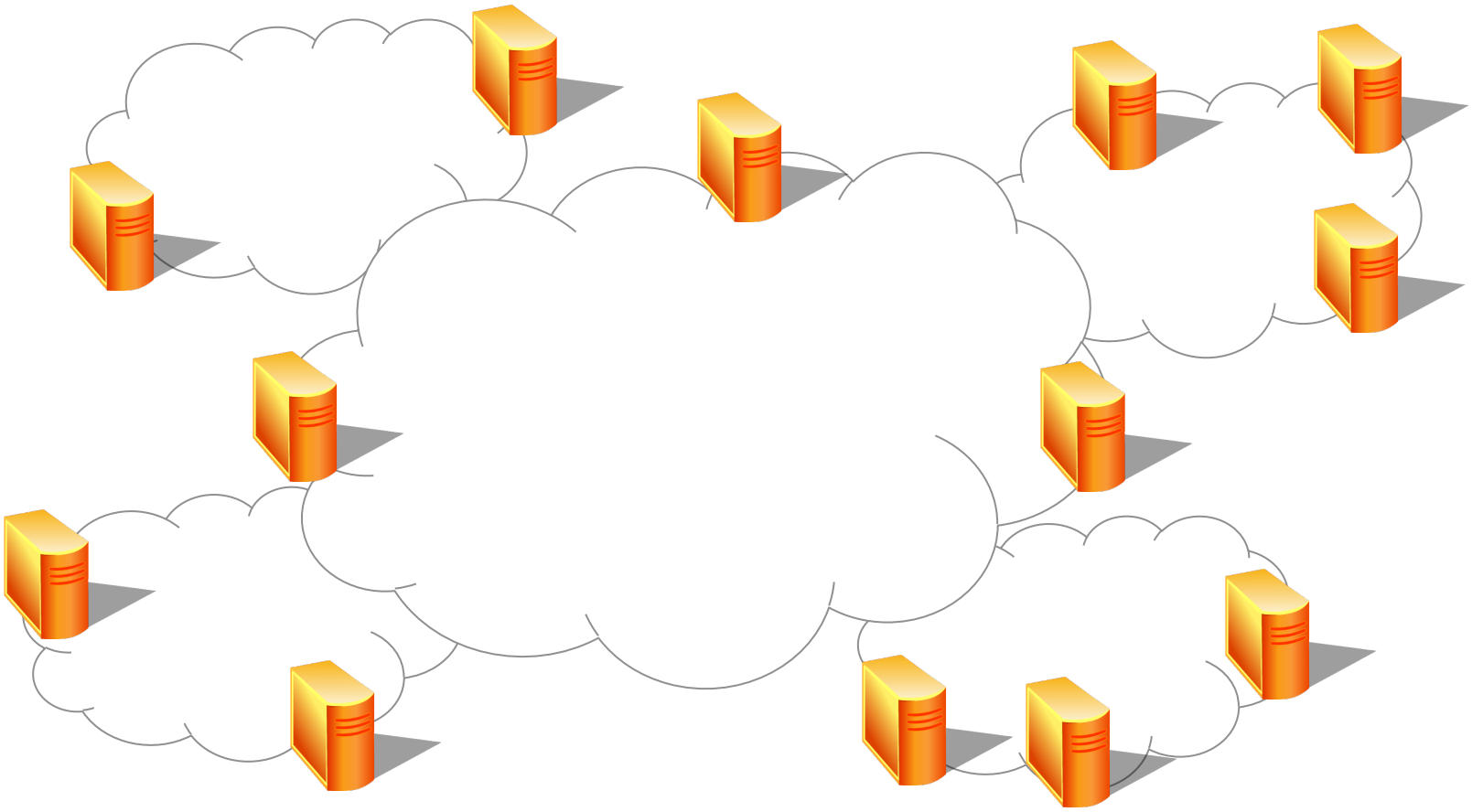
Web Application Attacks

- as seen by our CDN/WAF platform



IPv6 and Security

CDN Platform



CDN Platform

- ‘build in’ DDoS protection
- very widely distributed
- Web Application Firewall option

DNS Platform

- anycast based
- widely distributed
- custom DNS software

Scrubbing Center Platform

- anycast based
- redirecting traffic to protected prefixes via scrubbing center
- clean traffic gets delivered to customer via GRE tunnel/MPLS IPVPN/dedicated link

Peering and Security

Questions?

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