DDOS ATTACKS IN 2017:
BEYOND PACKET FILTERING

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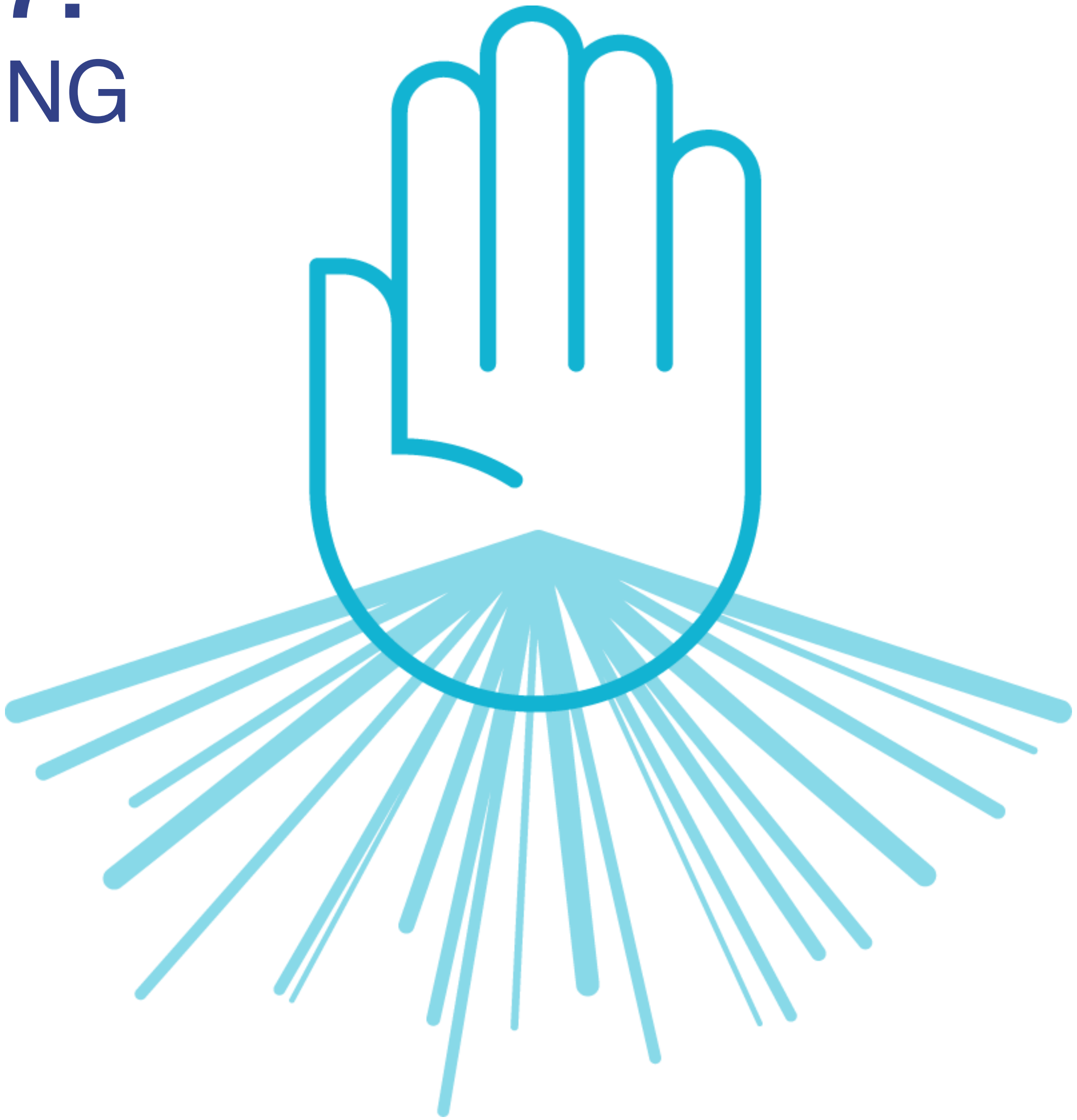


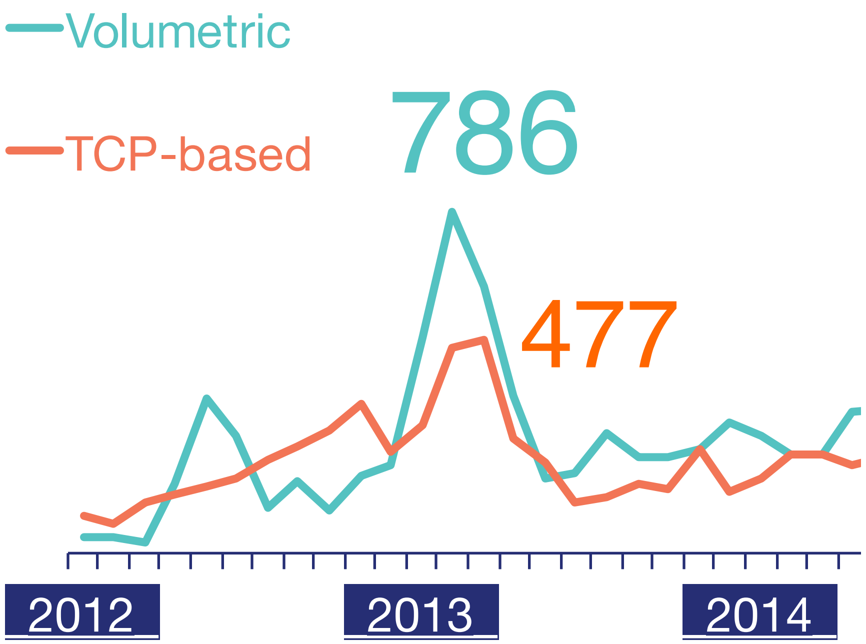
QRATOR

PARENTAL

ADVISORY

EXPLICIT CONTENT

HERE BE DRAGONS



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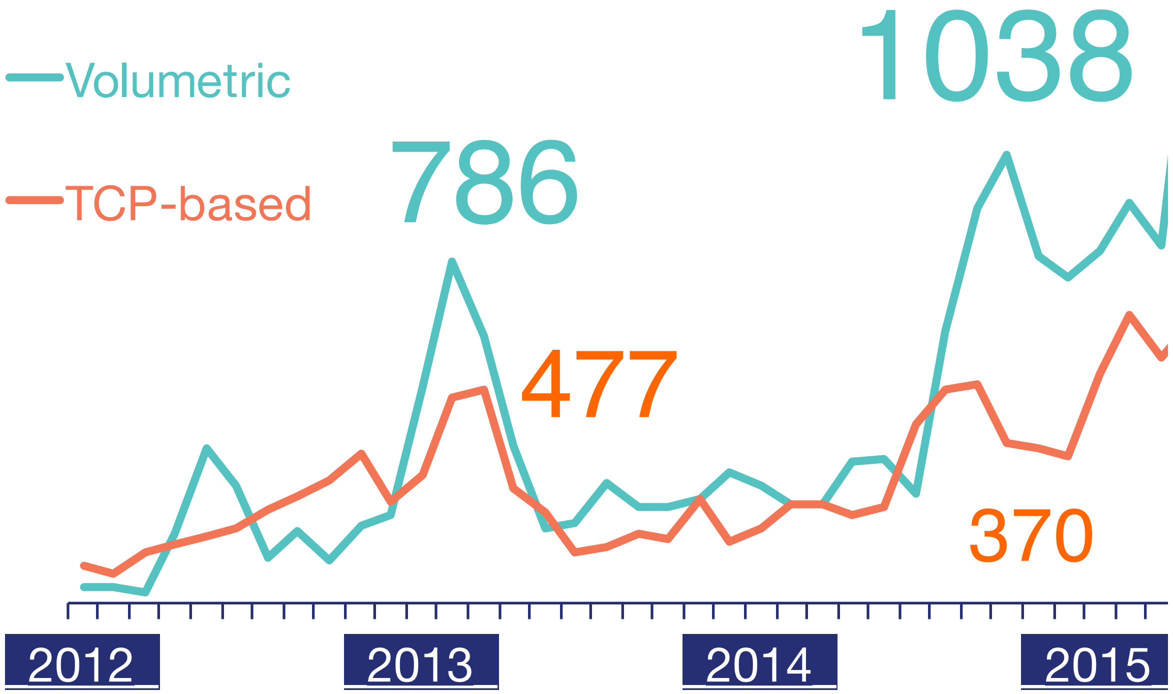

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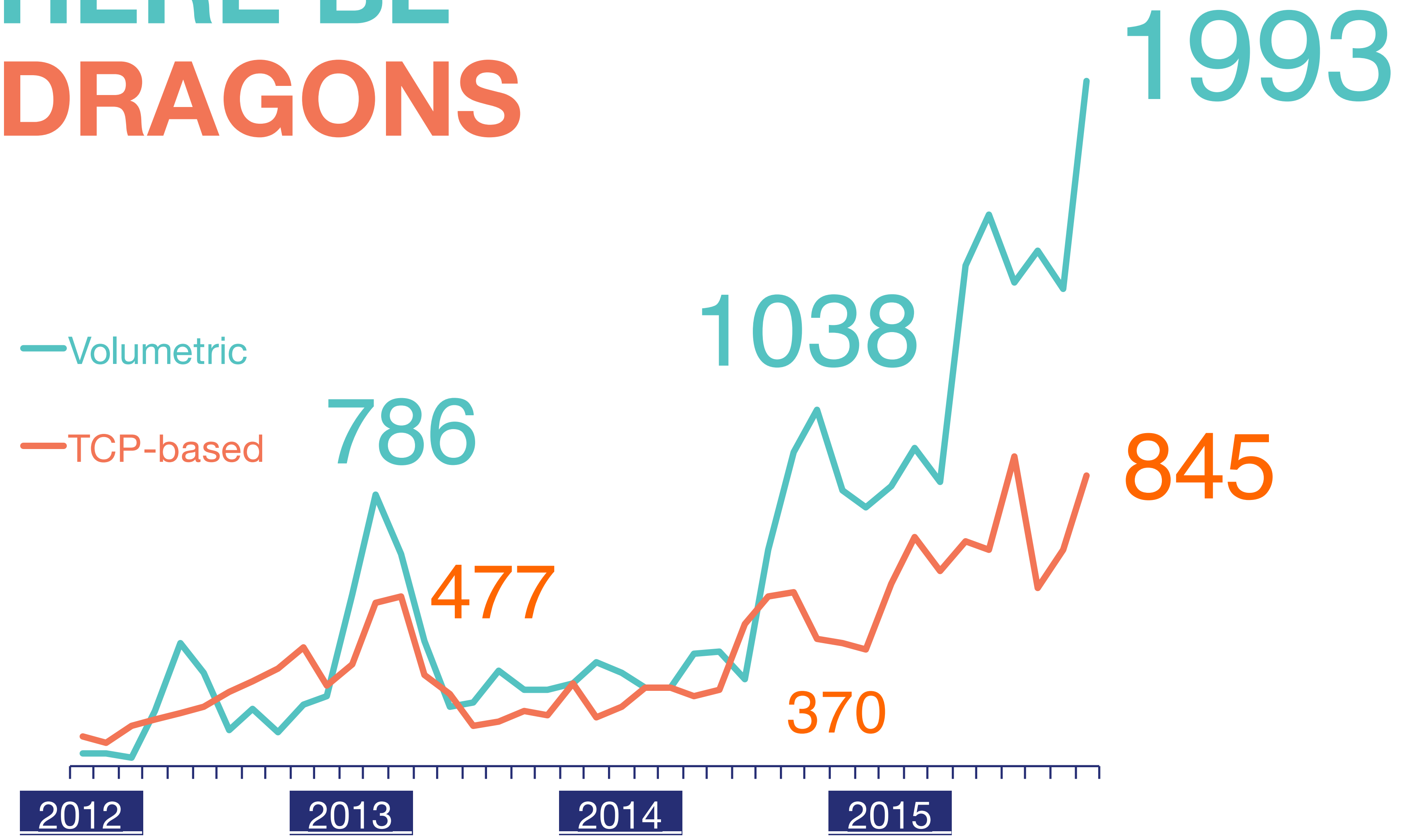

Distributed Denial-of-Service attack

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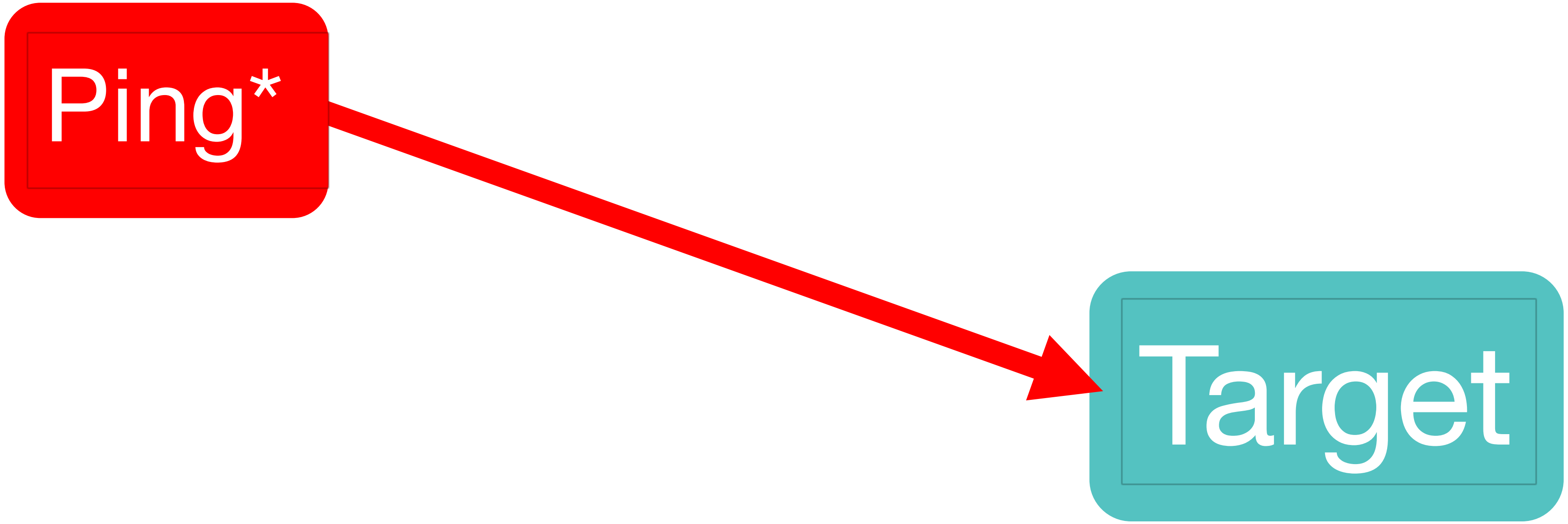
  - Application-specific bottlenecks (HTTP server, DBMS, caches, etc)

Packet-based DDoS



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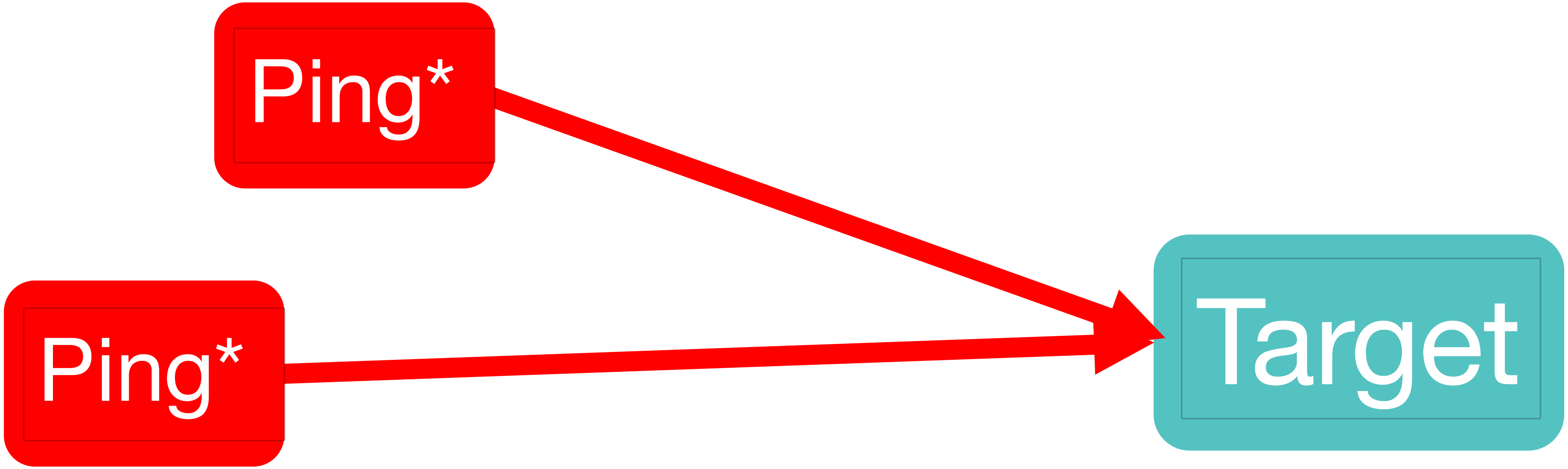

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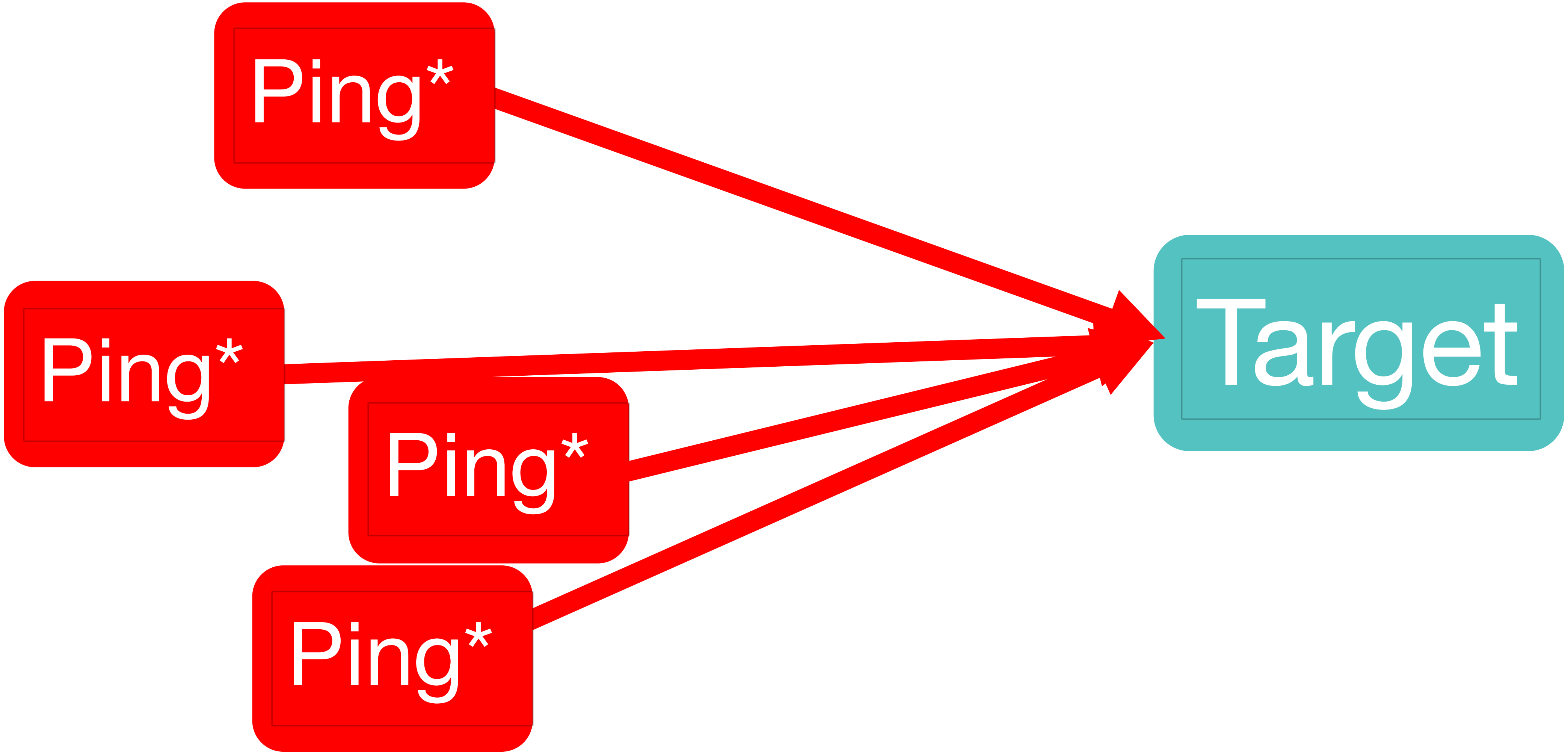

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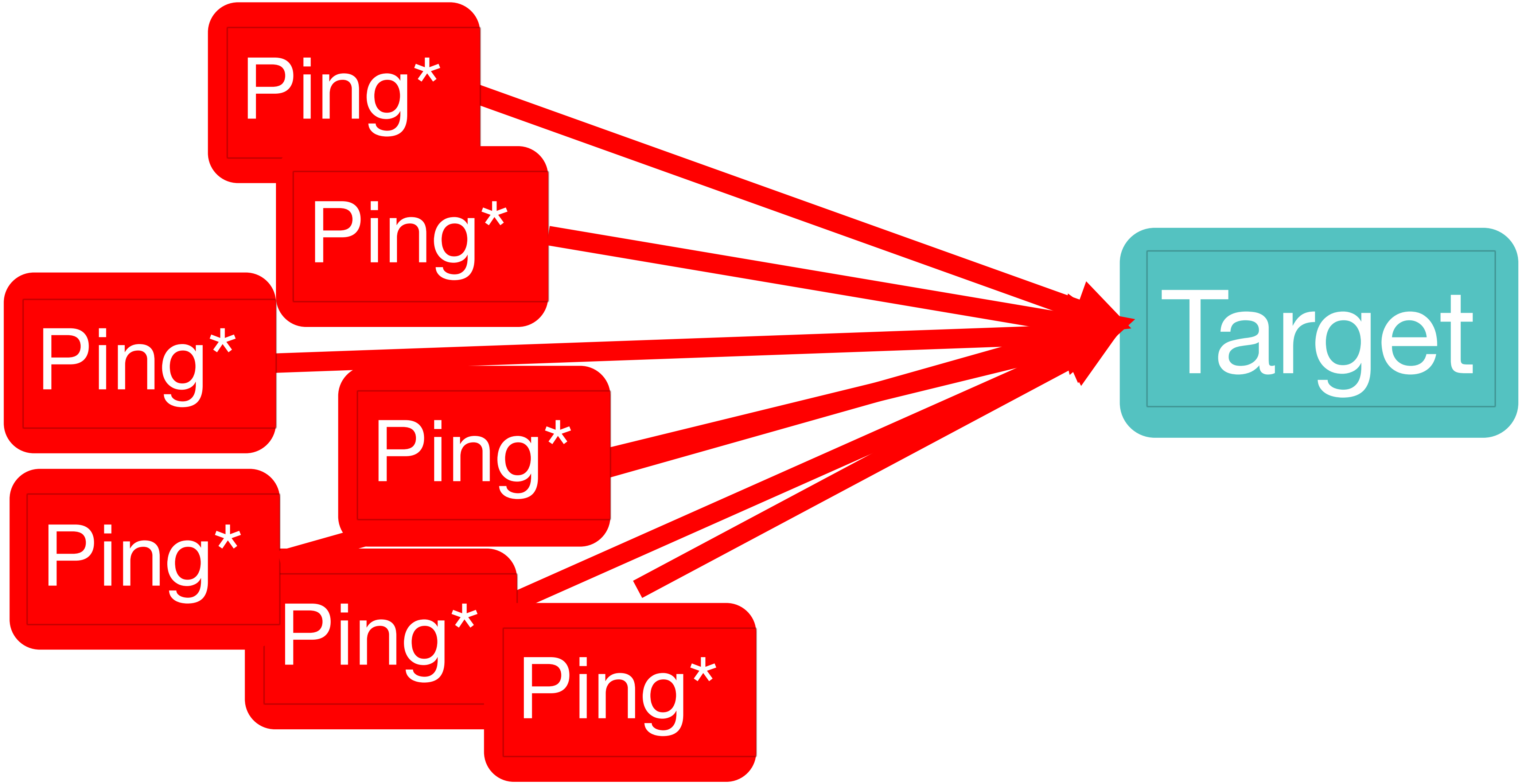
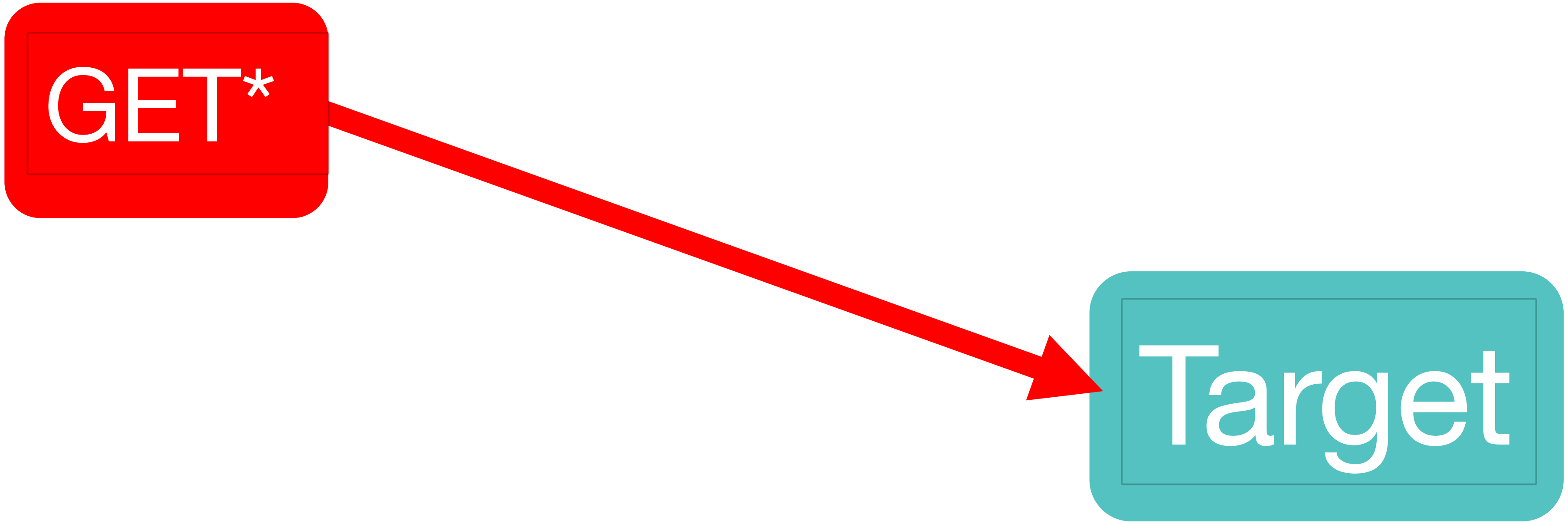


L7 DDoS



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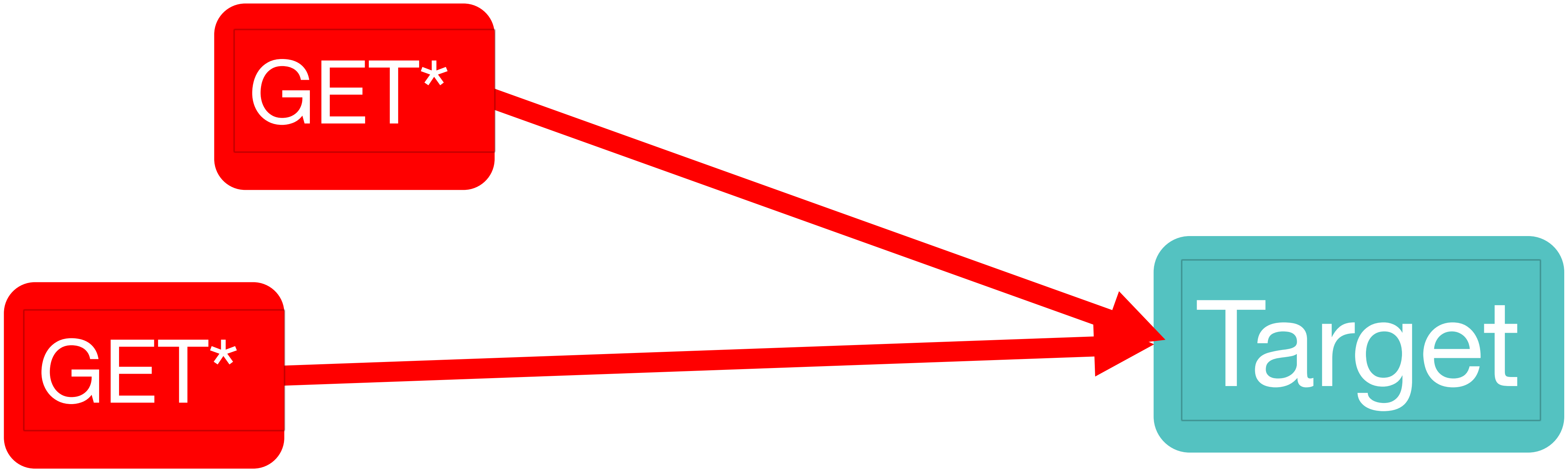

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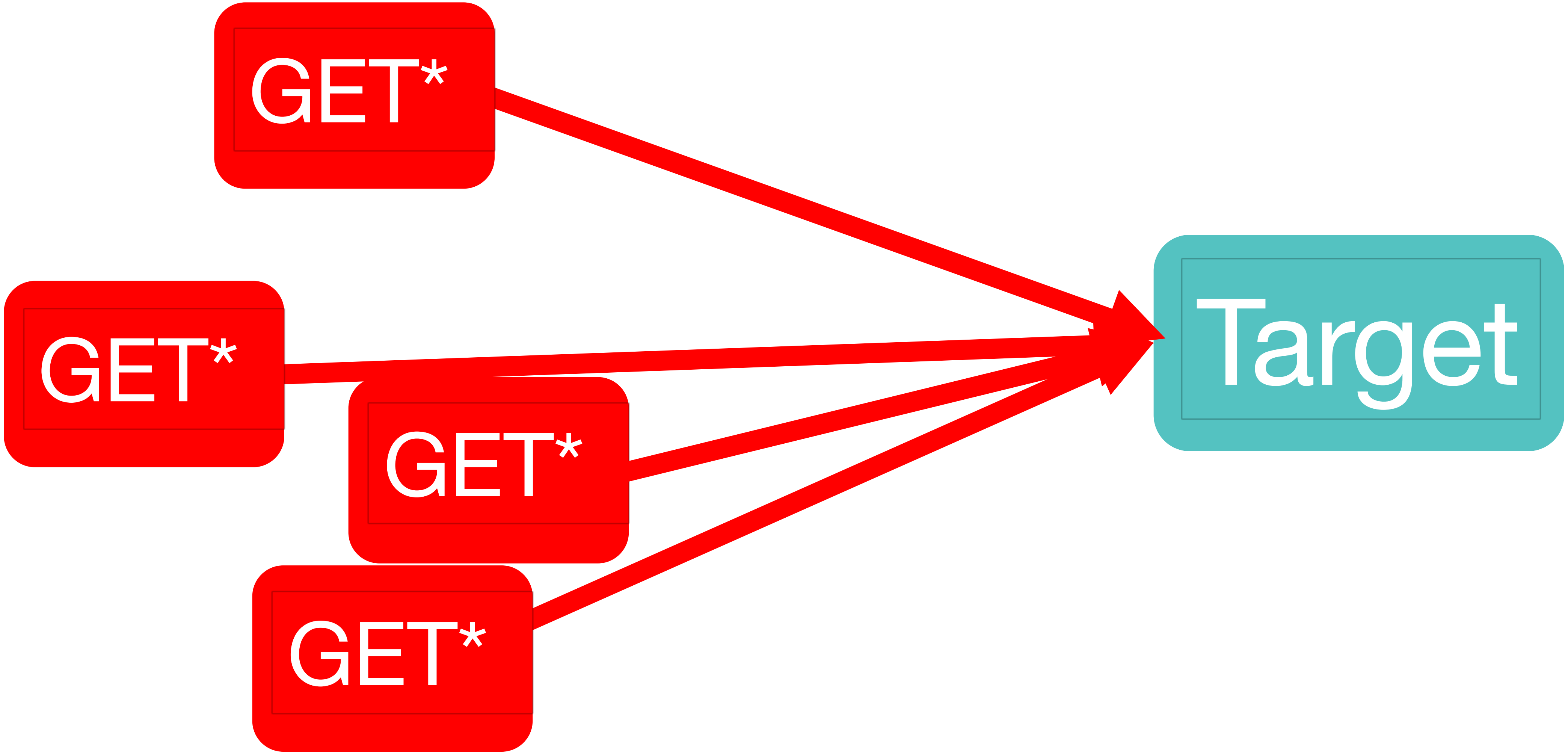

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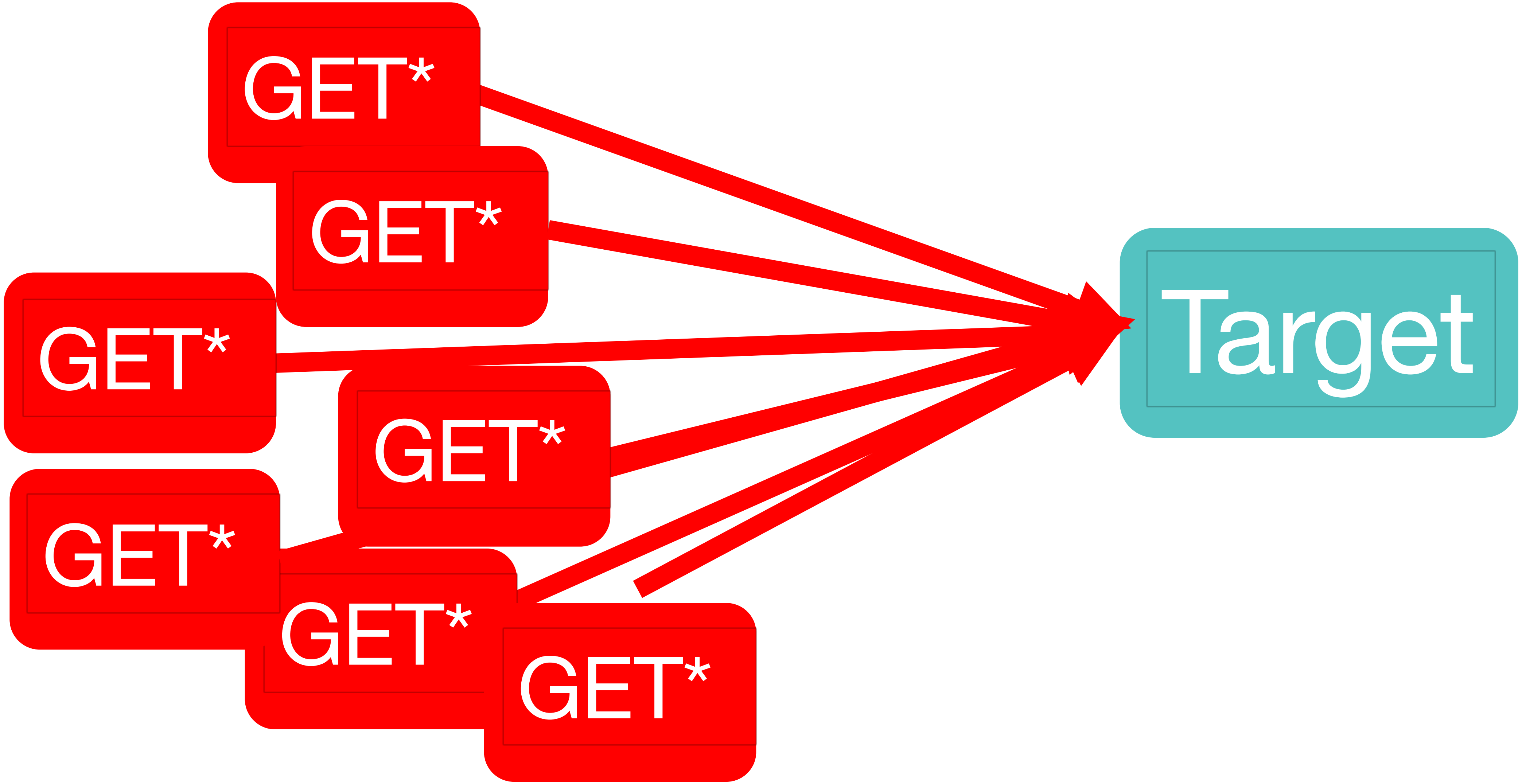

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  => SYN cookies
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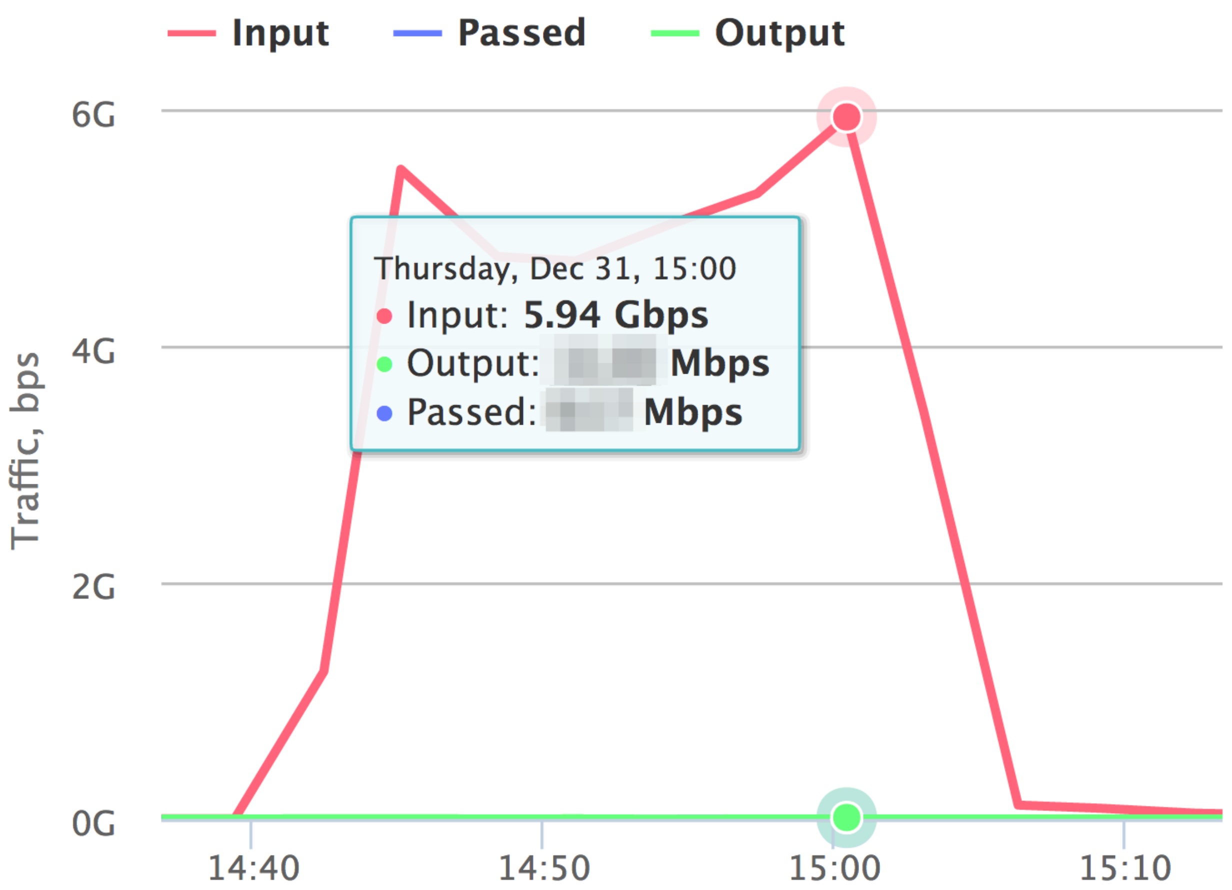
Wordpress Pingback

```
GET /whatever
User-Agent: WordPress/3.9.2;
 http://example.com/;
 verifying pingback
 from 192.0.2.150
```

- 150-170 vulnerable servers at once
- SSL/TLS-enabled



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ModX?

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TinyCMS?

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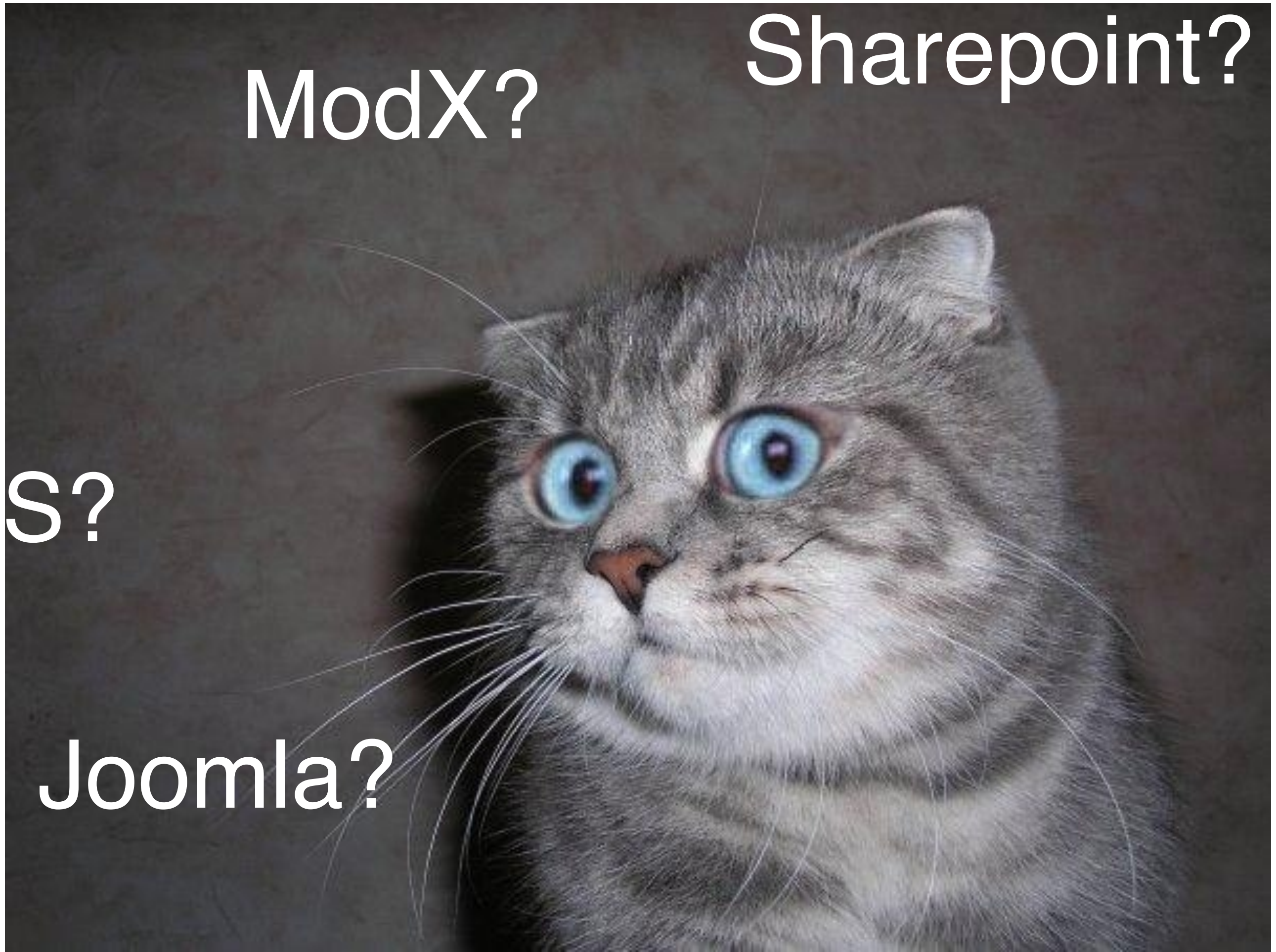

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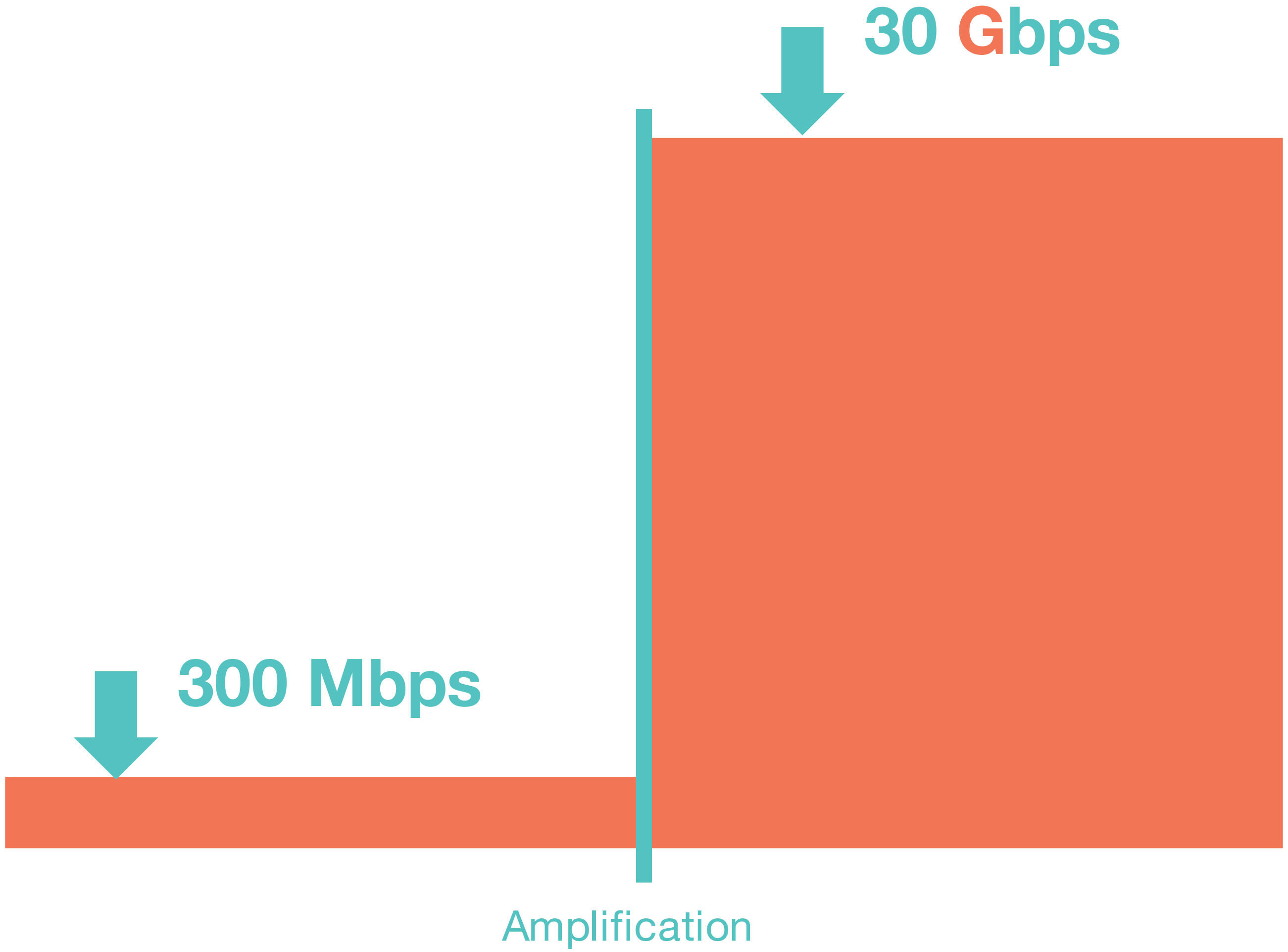
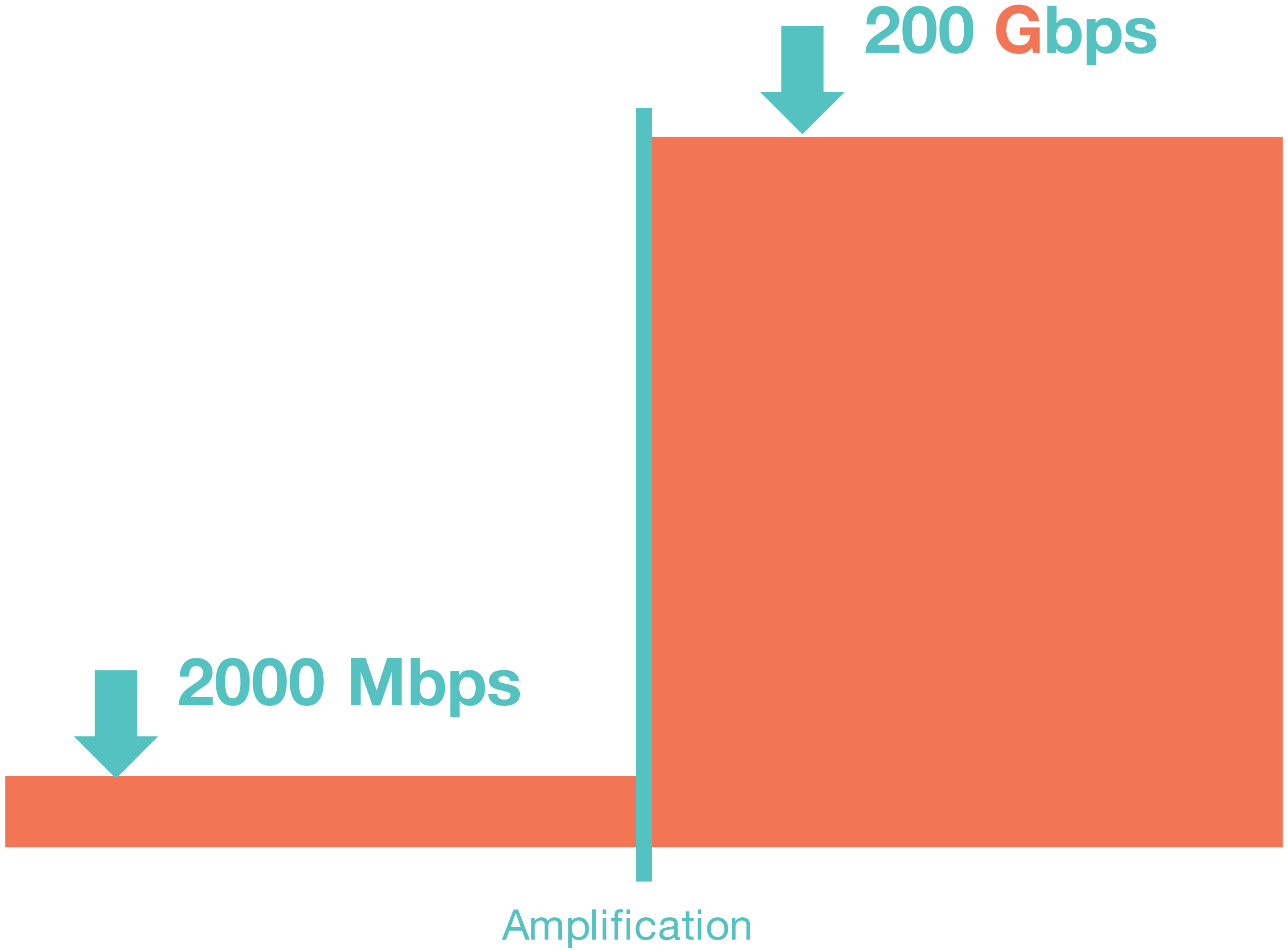
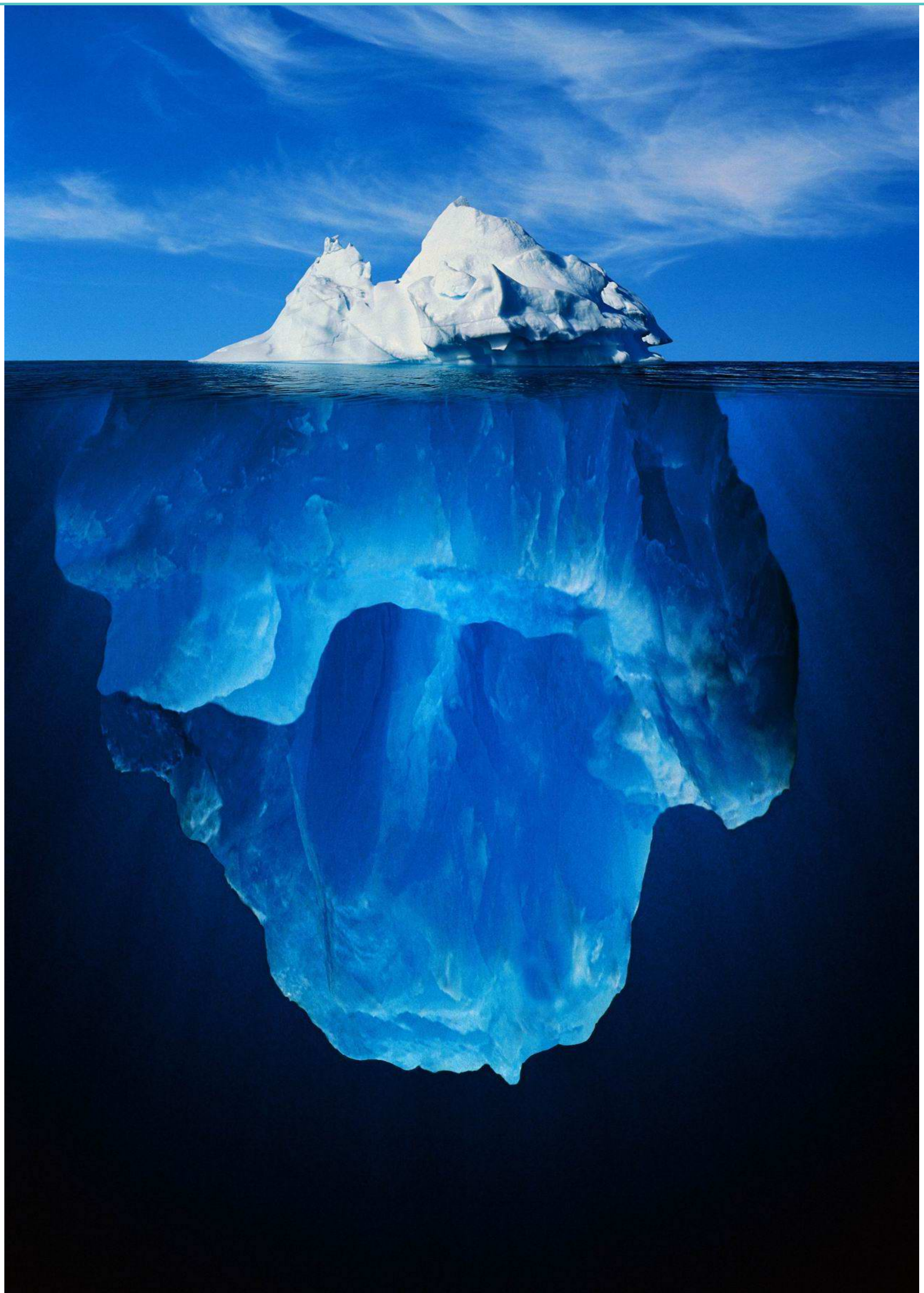
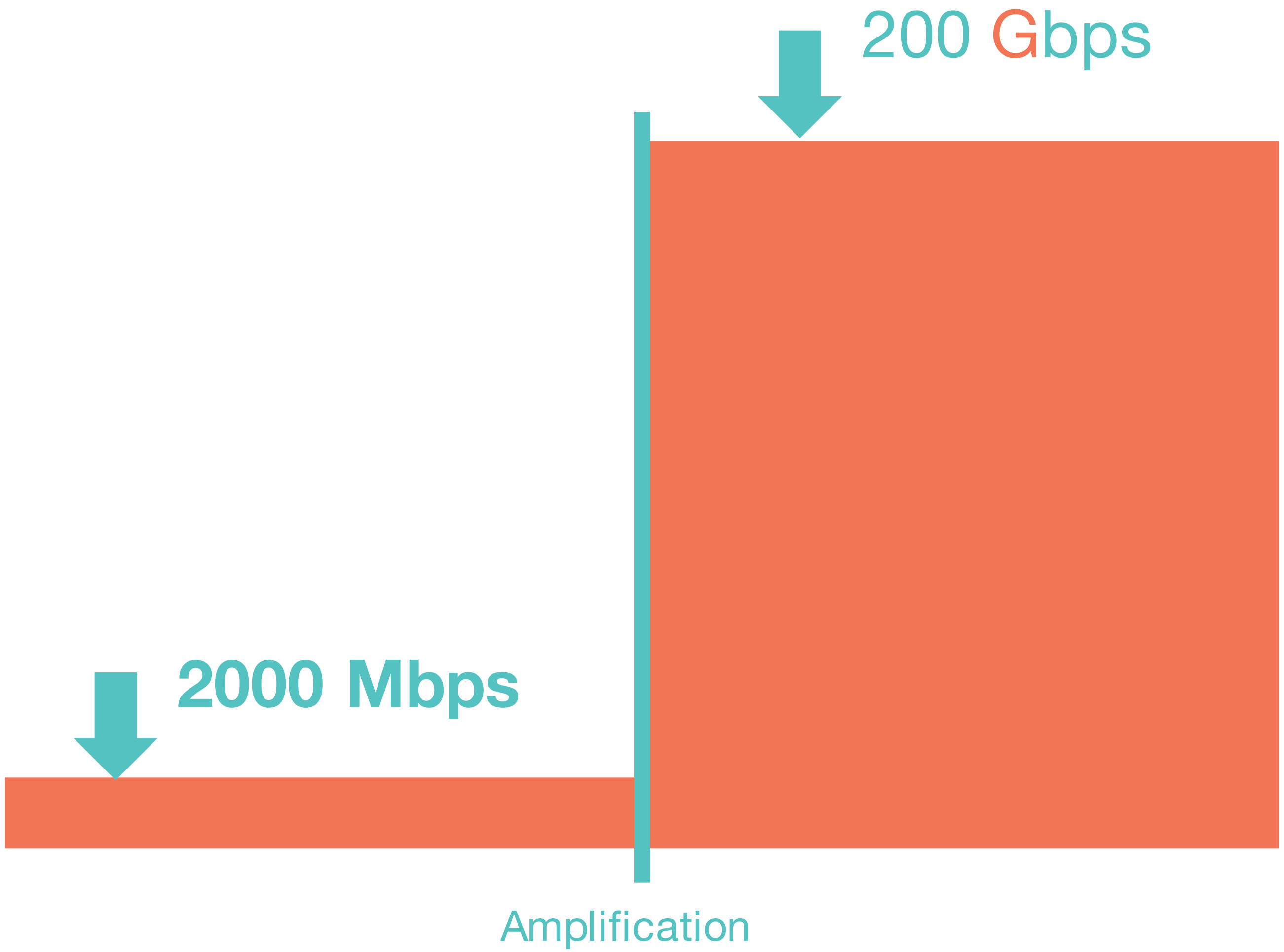

30 Gbps
300 Mbps
Amplification


200 Gbps
2000 Mbps
Amplification

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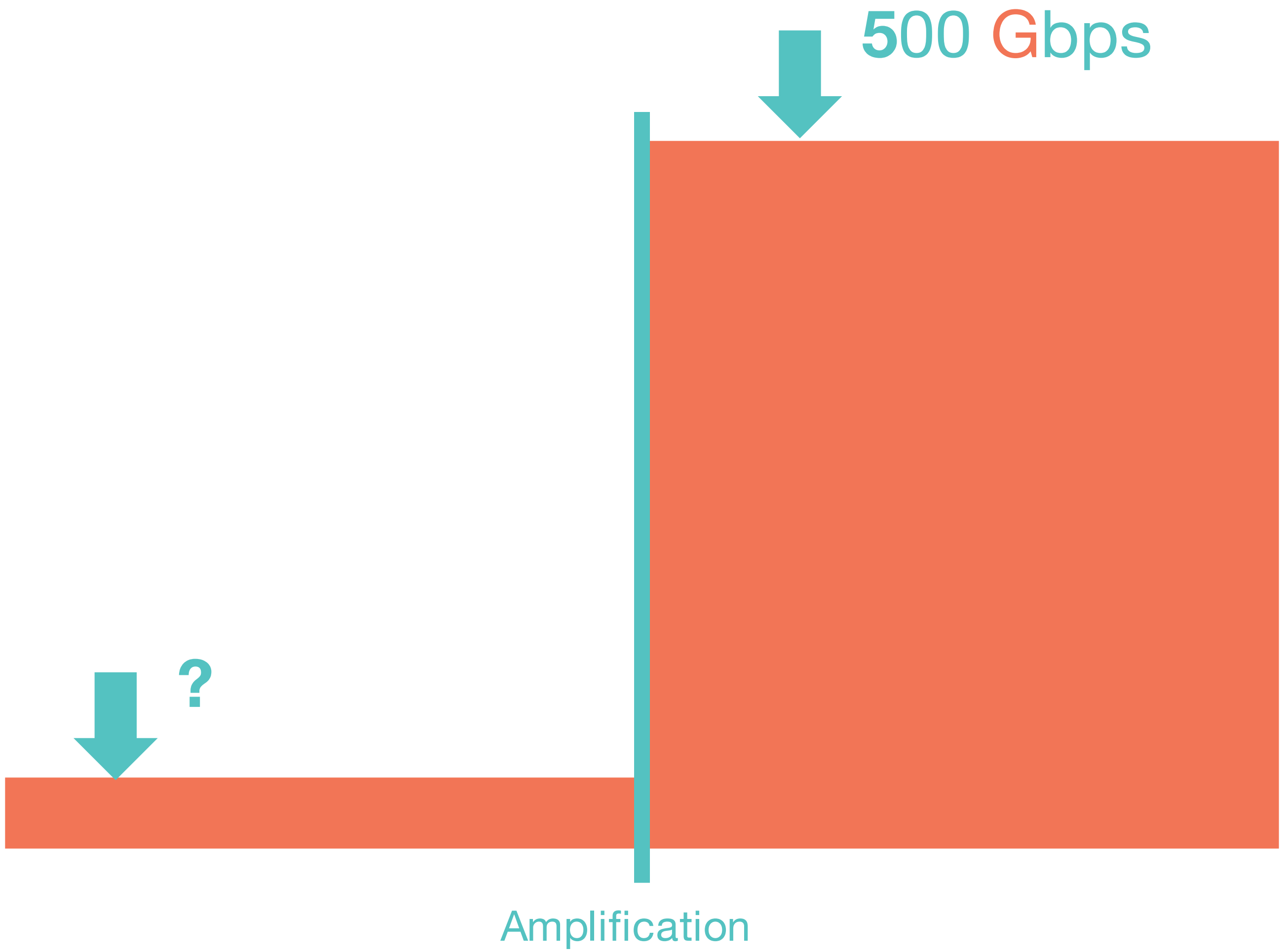
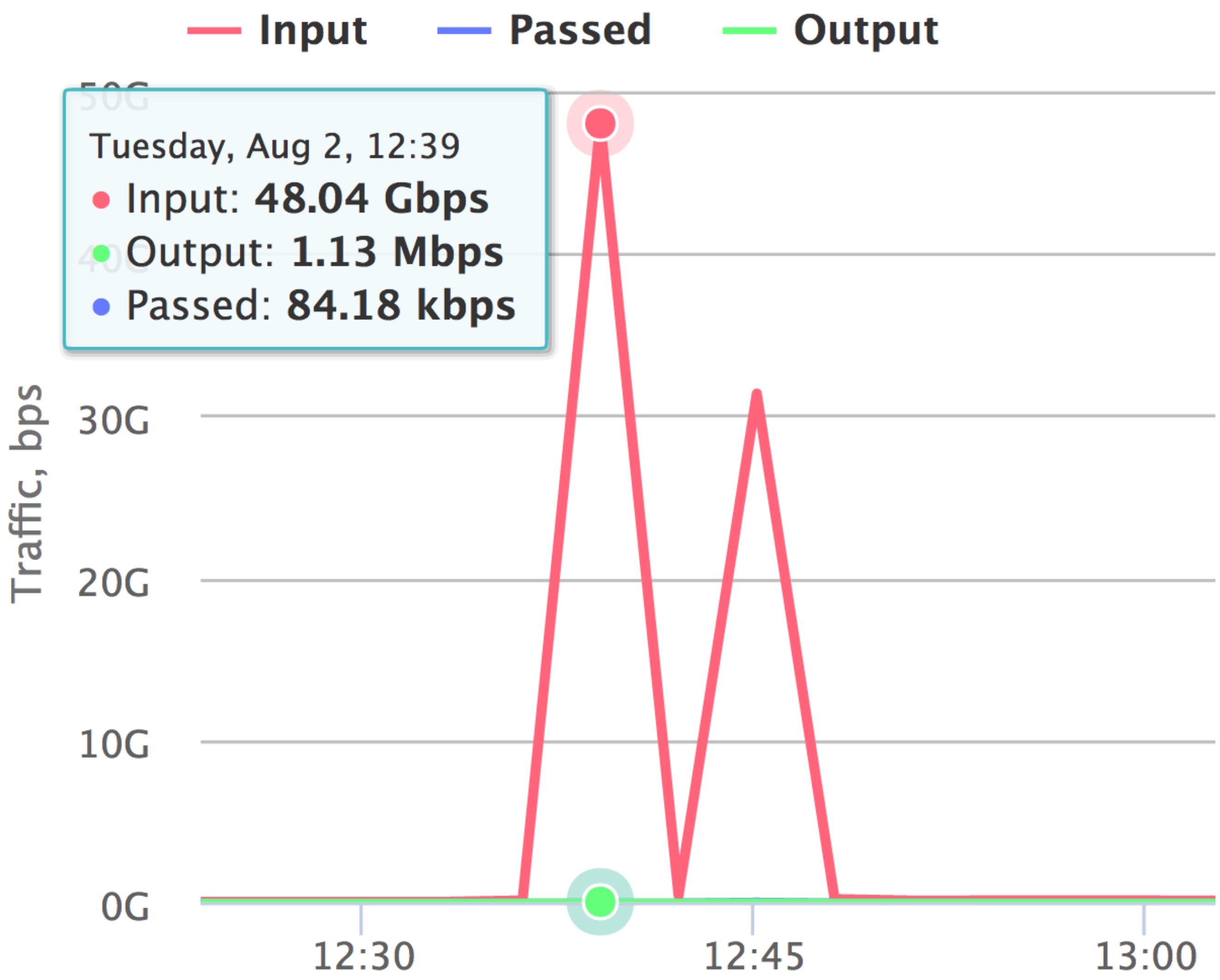

500 Gbps
?
Amplification

Pure TCP-based attack **today**



The **Void**

- To survive TCP- and HTTPS-based attacks,
  one needs a **session-capable** and **TLS-capable DPI**
- To survive large botnets,
  one needs a **behavioral analysis** and
  correlation analysis built into that DPI
- That’s **extremely expensive** for a large network

The **Void**

- Any service offering SLA **must** do all of this
- A service lacking any of those features is **best effort**
- **No one likes best effort services**

The **Cure**

- BCP 38 is **no cure***
- **IPv6 is no cure**
- Time to fight for yourselves
- Care about other customers
- It’s **every man for himself** now

The Future

the open Net

sine qua non

Vulnerability Risk management for everyone

arkenoi@gmail.com

ENOG12

Thank you, and good luck!

mailto: Artyom Gavrichenkov <ag@qrator.net>