

DDOS ATTACKS





Hacking

● This article is more than 4 years old

DDoS attack that disrupted internet was largest of its kind in history, experts say

Dyn, the victim of last week's denial of service attack, said it was orchestrated using a weapon called the Mirai botnet as the 'primary source of malicious attack'

● Major cyber attack disrupts internet service across Europe and US

Nicky Woolf in San Francisco

@nickywoolf

Wed 26 Oct 2016 21:42 BST



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▲ Dyn estimated that the attack had involved '100,000 malicious endpoints', and the company said there had been reports of an extraordinary attack strength of 1.2 terabits (1,200 gigabytes) per second. Photograph: Alamy



DISTRIBUTED DENIAL-OF-SERVICE ATTACK

**A MALICIOUS ATTEMPT TO
DISTURB THE NORMAL TRAFFIC
OF A TARGETED SERVICE**



Attacker



Bot



DNS Resolver



DNS Resolver



DNS Resolver



DNS Resolver

Target
Victim



**10 MILLION
DDOS ATTACKS
PER YEAR**





VOLUMETRIC ATTACK

**A BOT OVERWHELMS THE NETWORK'S
BANDWIDTH BY FLOODING
IT WITH FAKE REQUESTS**



65%
OF DDOS ATTACKS
ARE VOLUMETRIC



APPLICATION-LAYER ATTACKS

**TARGET THE *APP ITSELF*, FOCUSING
ON *SPECIFIC VULNERABILITIES*,
RESULTING IN THE *APP* NOT
BEING ABLE TO *DELIVER CONTENT***



Attacker



Bot



Bot



Bot



HTTP GET /index.php

Targeted
Victim



PROTOCOL ATTACKS

*ARE TYPICALLY DIRECTED AT
NETWORK COMPONENTS USED TO
VALIDATE CONNECTIONS*

✓ SYN FLOOD

✓ PING-OF-DEATH

✓ SMURF DDOS

✓ FRAGMENTED PACKET



Attacker



Bot



Spoofed SYN Packet

Spoofed SYN Packet

Target



SYN-ACK
SYN-ACK
SYN-ACK
SYN-ACK





Attacker



Visitor



Open port. Waiting for 'ACK'.

Open port. Waiting for 'ACK'.

Open port. Waiting for 'ACK'.

Open port. Waiting for 'ACK'.



Connections
exhausted



Attacker



Target

Echo request with
spoofed source IP



IP broadcast network



BOTNETS



Demonstration



The background is a dark teal color with a complex network of thin, light teal lines connecting small dots. Some dots are larger and have a soft glow, while others are smaller and more distant. The lines form various geometric shapes, including triangles and polygons, creating a sense of depth and connectivity.

THANKS

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