OSINT Reconnaissance Report - Target: nmap.org

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Executive Summary

This OSINT (Open-Source Intelligence) investigation was conducted on the public-facing infrastructure of **nmap.org**, the official website for the Nmap Security Scanner project. The goal was to gather publicly available technical and security-related information without engaging in intrusive activities, in order to demonstrate reconnaissance capabilities using open-source tools.

The assessment followed a structured workflow covering **domain intelligence**, **DNS mapping**, **IP and hosting analysis**, **service enumeration**, **geolocation**, and **breach history verification**.
Key tools included: **Whois, nslookup, dig, DNSDumpster, Shodan, IPinfo.io, Nmap, and HaveIBeenPwned**.

Key findings include:

- **Domain Registration** – Registered with Dynadot Inc., privacy-protected via Super Privacy Service LTD, using Linode name servers.
- **DNS Infrastructure** – Mail services hosted by Google; multiple subdomains including www.nmap.org and ack.nmap.org.
- **Hosting & Network** – Infrastructure hosted on Linode (Akamai Connected Cloud) in Fremont, California, ASN AS63949.
- **Open Services** – SSH (22), SMTP (25), HTTP (80), HTTPS (443) detected; banners indicated Apache HTTPD and Postfix SMTPD.
- **Breach History** – Publicly documented project email (fyodor@nmap.org) found in four historical data breaches (2017–2020), with some breaches exposing passwords and personal identifiers.

The results show that nmap.org's public infrastructure is **well-maintained and secured against major misconfigurations**, but historical data exposure through third-party breaches poses potential social engineering and phishing risks.

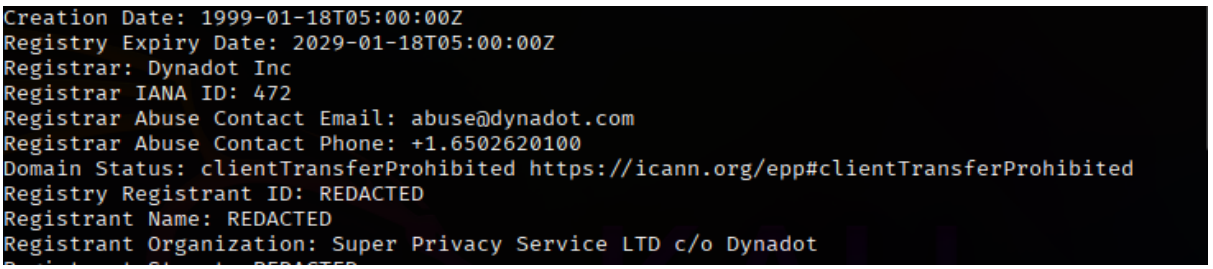
1.WHOIS Lookup

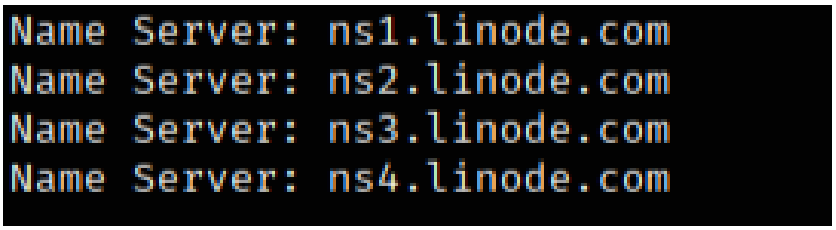
Tools used: Whois command line tool/ whois.domaintools.com

Findings:

Registrar : Dynadot Inc
Registrant Organization : Super Privacy Service LTD % Dynadot
Registration Date: 1999-01-18T05:00:00
Expiry Date: 2029-01-18T05:00:00Z
Name Servers:

- ns1.linode.com
- ns2.linode.com
- ns3.linode.com
- ns4.linode.com
- ns5.linode.com





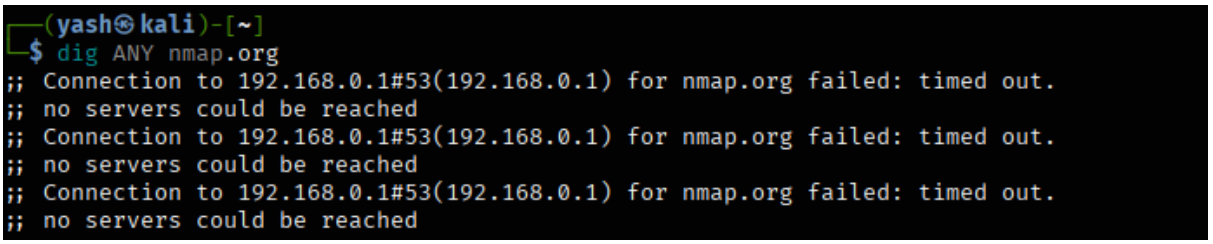
2. DNS Enumeration

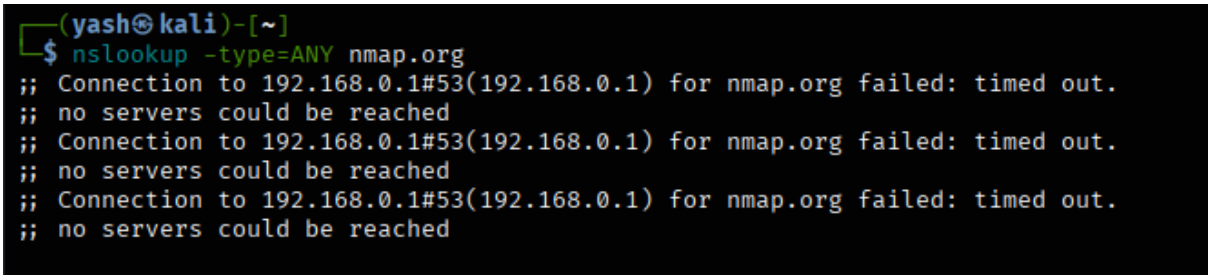
Tools Used: nslookup, dig, DNSDumpster

Findings :

nslookup and **dig** commands were executed for nmap.org to retrieve DNS records.

No additional DNS records were retrieved directly via these tools beyond those visible from DNSDumpster.





DNSDumpster revealed the target's DNS infrastructure including:

- A records (IPv4 addresses)
- MX records (Mail servers)
- TXT records (SPF, DKIM, DMARC Policies)

MX Records

10 aspmx3.googlemail.com	173.194.76.27 ws-in-f27.1e100.net	ASN:15169 173.194.76.0/24	GOOGLE United States	⋮
5 alt2.aspmx.l.google.com	173.194.76.26 ws-in-f26.1e100.net	ASN:15169 173.194.76.0/24	GOOGLE United States	⋮
10 aspmx2.googlemail.com	172.253.116.26 dj-in-f26.1e100.net	ASN:15169 172.253.116.0/24	GOOGLE United States	⋮
1 aspmx.l.google.com	172.253.63.27 bi-in-f27.1e100.net	ASN:15169 172.253.63.0/24	GOOGLE United States	⋮
5 alt1.aspmx.l.google.com	172.253.116.26 dj-in-f26.1e100.net	ASN:15169 172.253.116.0/24	GOOGLE United States	⋮

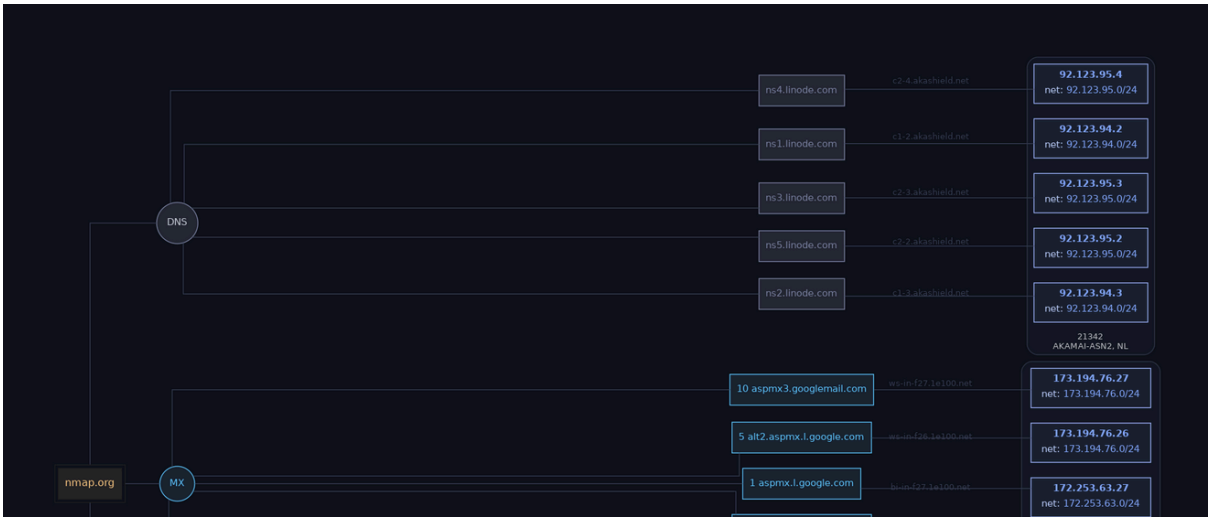
NS Records

ns4.linode.com	92.123.95.4 c2-4.akashield.net	ASN:21342 92.123.95.0/24	AKAMAI-ASN2, NL The Netherlands	⋮
ns1.linode.com	92.123.94.2 c1-2.akashield.net	ASN:21342 92.123.94.0/24	AKAMAI-ASN2, NL The Netherlands	⋮
ns3.linode.com	92.123.95.3 c2-3.akashield.net	ASN:21342 92.123.95.0/24	AKAMAI-ASN2, NL The Netherlands	⋮
ns5.linode.com	92.123.95.2 c2-2.akashield.net	ASN:21342 92.123.95.0/24	AKAMAI-ASN2, NL The Netherlands	⋮
ns2.linode.com	92.123.94.3 c1-3.akashield.net	ASN:21342 92.123.94.0/24	AKAMAI-ASN2, NL The Netherlands	⋮

TXT Records

"google-site-verification=SrtYpJGxZzMTcczZG44XtLVK-sEPit9bputDjWc0lF4"
"v=spf1 a mx ptr ip4:50.116.1.184 ip6:2600:3c01::f03c:91ff:fe98:ff4e ip6:2600:3c01:e000:3e6::6d4e:7061 include:_spf.google.com ~all"

This diagram visualizes the DNS and mail server architecture for nmap.org. It shows the domain's name servers (managed by Linode), mail servers (hosted by Google), subdomains (such as www.nmap.org and ack.nmap.org), and their associated IP addresses. The flow illustrates how DNS queries are routed and displays the infrastructure behind nmap.org's web and email services.



These diagrams are useful for:

- Visualizing the registration and DNS configuration of nmap.org.
- Quickly identifying the providers responsible for core services (DNS, mail, hosting).
- Assessing the security posture by reviewing DNS organization, subdomain exposure, and network segmentation.

3. IP & Service Information

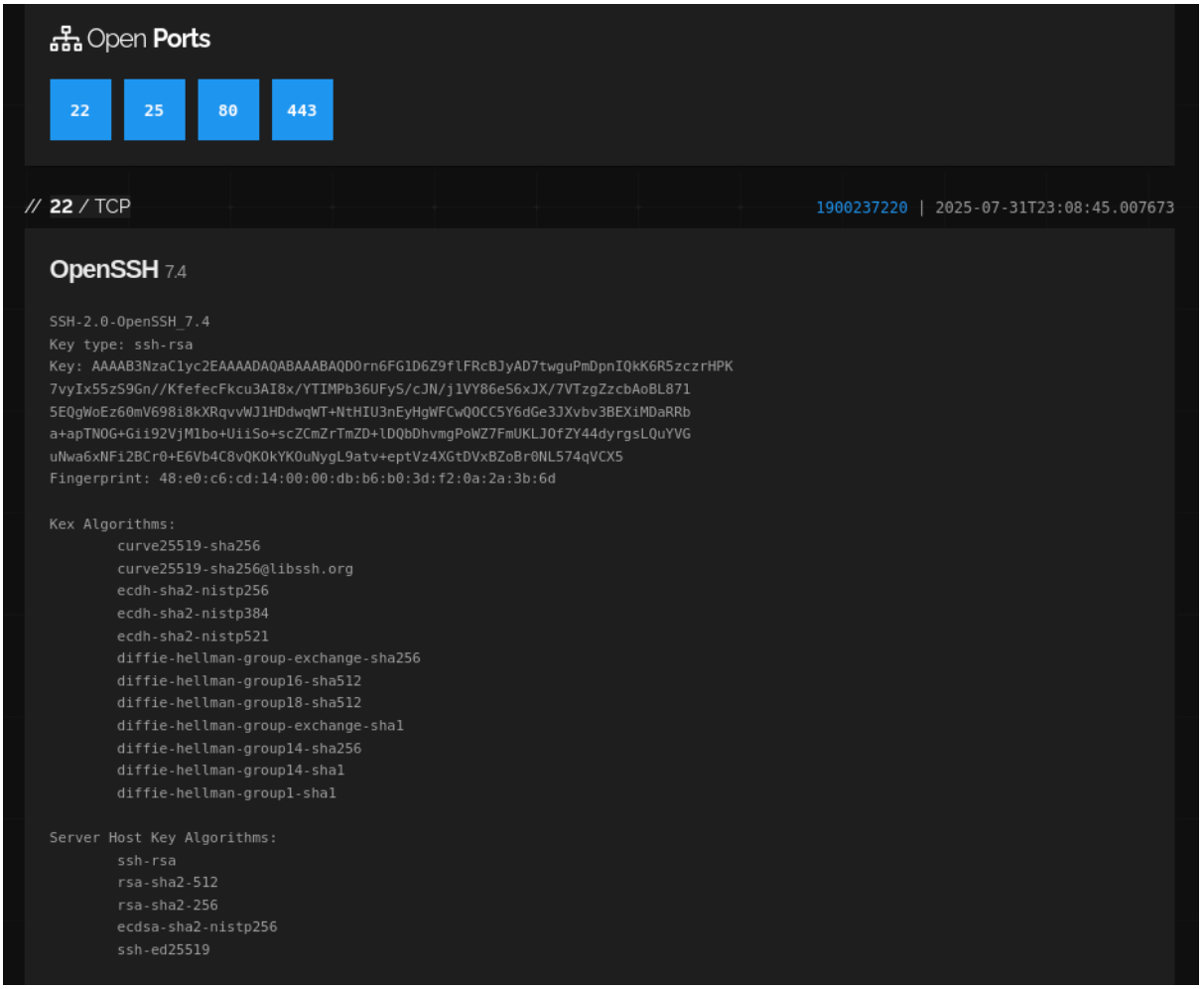
Tools used : Shodan.io

Findings :

The IP address 50.116.1.184 hosts the target infrastructure.

Shodan identified open ports such as : port 22, 25, 80, 443

Detected Service : OpenSSH, Postfix smtpd, Apache httpd



// 80 / TCP 1526930258 | 2025-08-06T04:38:09.466531

Apache httpd 2.4.6

403 Forbidden

```
HTTP/1.1 403 Forbidden
Date: Wed, 06 Aug 2025 04:38:09 GMT
Server: Apache/2.4.6 (CentOS)
Content-Length: 398
Content-Type: text/html; charset=iso-8859-1
```

Vulnerabilities

18	33	42	3	0

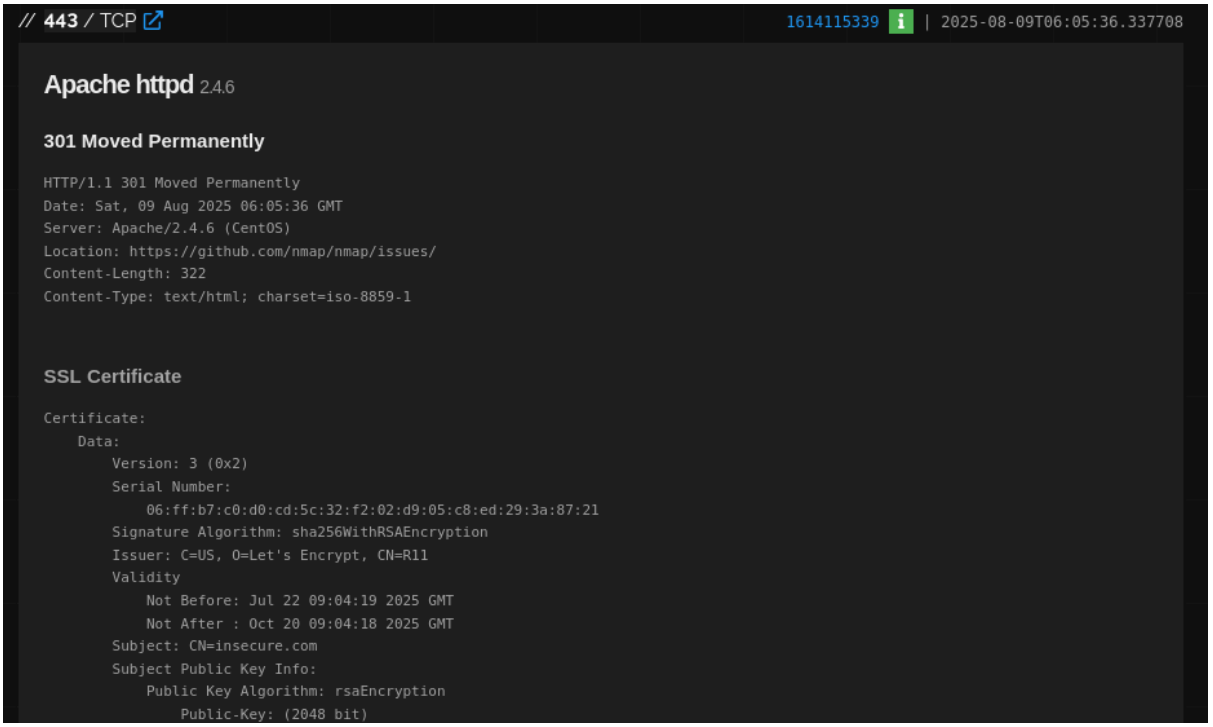
// 25 / TCP 868566298 | 2025-08-05T02:57:09.442403

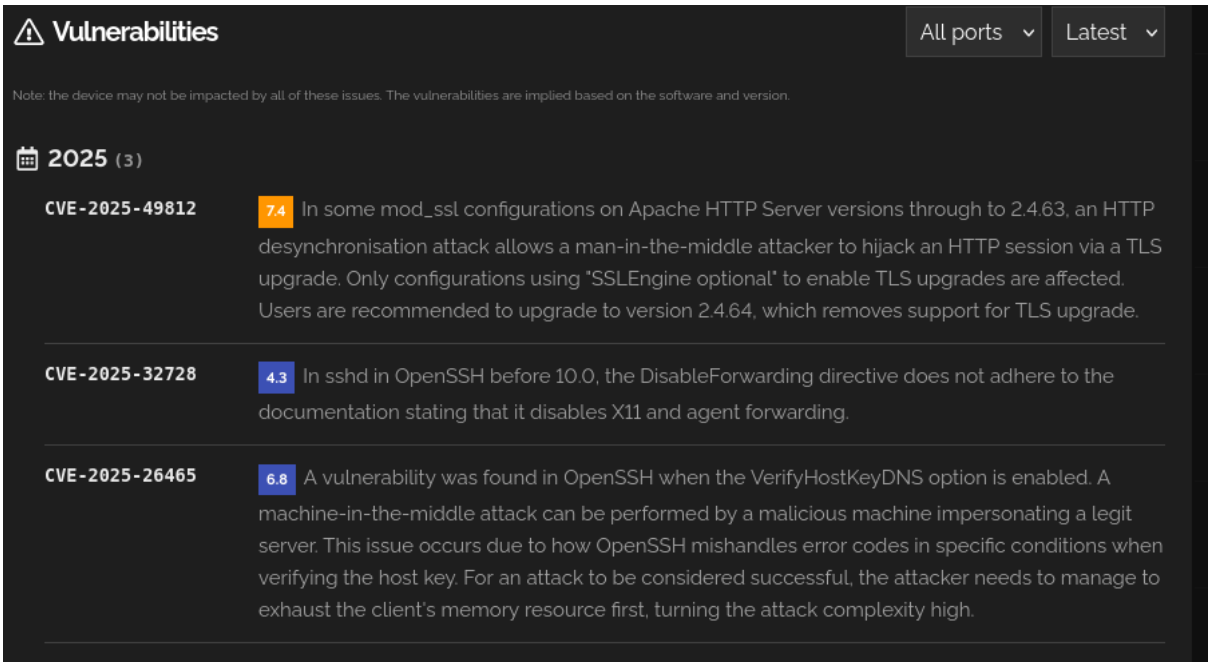
Postfix smtpd

```
220 ack.nmap.org ESMTP Postfix
250-ack.nmap.org
250-PIPELINING
250-SIZE 102400000
250-VRFY
250-ETRN
250-STARTTLS
250-ENHANCEDSTATUSCODES
250-8BITMIME
250 DSN
```

SSL Certificate

```
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number:
            06:ff:b7:c0:d0:cd:5c:32:f2:02:d9:05:c8:ed:29:3a:87:21
        Signature Algorithm: sha256WithRSAEncryption
        Issuer: C=US, O=Let's Encrypt, CN=R11
        Validity
            Not Before: Jul 22 09:04:19 2025 GMT
            Not After : Oct 20 09:04:18 2025 GMT
        Subject: CN=insecure.com
        Subject Public Key Info:
            Public Key Algorithm: rsaEncryption
                Public-Key: (2048 bit)
```





These images display network security scan results for a server, highlighting detected vulnerabilities from 2025 and the server's open ports and SSH configuration details.

4. IP Geolocation

Tools Used ： IPinfo.io

Findings :

ASN : AS63949 – Akamai Connected Cloud

Hosting Provider: Linode

Location : Fremont, California, United States

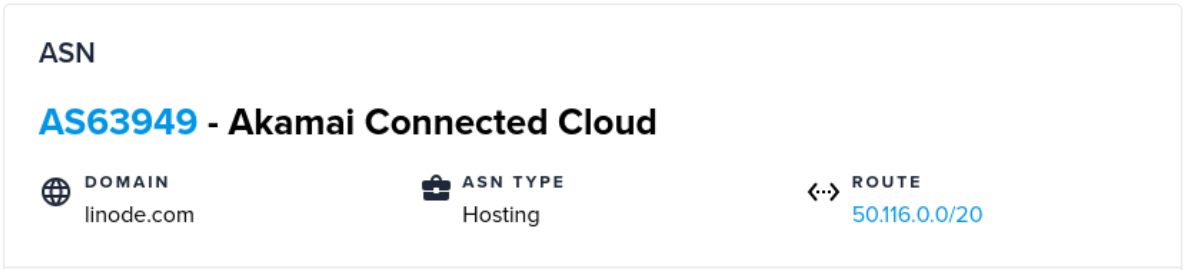
Summary

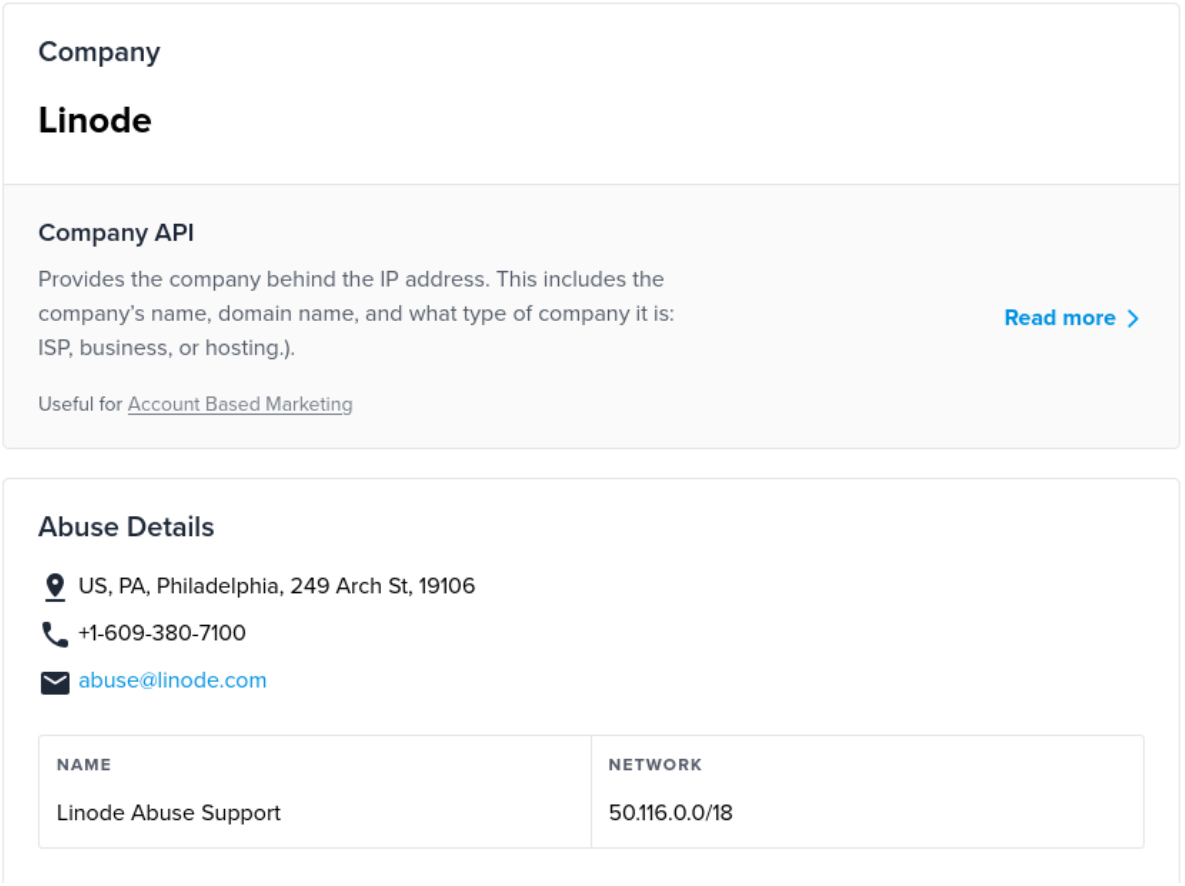
ASN	AS63949 - Akamai Connected Cloud
Hostname	ack.nmap.org
Range	50.116.0.0/20
Company	Linode
Hosted domains	287
Privacy	True
Anycast	False
ASN type	Hosting
Abuse contact	abuse@linode.com

IP Geolocation

City	Fremont
State	California
Country	United States
Postal	94536
Local time	12:24 AM, Saturday, August 09, 2025
Timezone	America/Los_Angeles
Coordinates	37.5483,-121.9886

37.5483,-121.9886





These images provide an overview of the hosting and network details for the observed IP range. The ASN (AS63949 – Akamai Connected Cloud) is associated with Linode, the hosting provider for the infrastructure. The geolocation indicates the servers are based in Fremont, California, USA, ensuring clarity on both network ownership and physical server location for documentation purposes.

5. Port Scanning

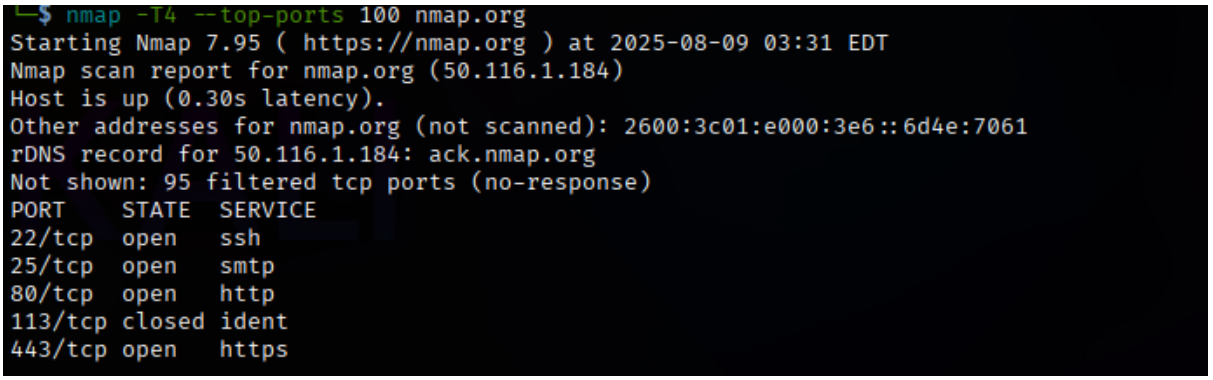
Tools used : Nmap

Open Ports Detected :

- 22/tcp
- 25/tcp
- 80/tcp
- 443/tcp

Services Running :

- 22/tcp: ssh
- 25/tcp: smtp
- 80/tcp: http
- 443/tcp: https



This screenshot displays the results of a network scan on nmap.org, revealing four open ports—22 (SSH), 25 (SMTP), 80 (HTTP), and 443 (HTTPS). Each open port is associated with a standard internet service, indicating that the server is configured to allow secure shell access, email transfer, and web services over both HTTP and HTTPS protocols.

6. Breach Search

Tools used : HaveIBeenPwned

Findings :

The publicly available email address fyodor@nmap.org was identified through the Nmap project's official documentation.

A HaveIBeenPwned search revealed that this email address was found in 4 separate data breaches.

Breaches Identified:

1. **Gravatar (October 2020)** – A scraping technique exposed 167M names, usernames, and MD5 hashes of email addresses. 114M hashes were cracked, revealing the original emails and associated details.

   Compromised data: Email addresses, names, usernames.

2. **Covve / db8151dd (February 2020)** – An exposed Elasticsearch server linked to the Covve contacts app revealed extensive personal and contact interaction data.

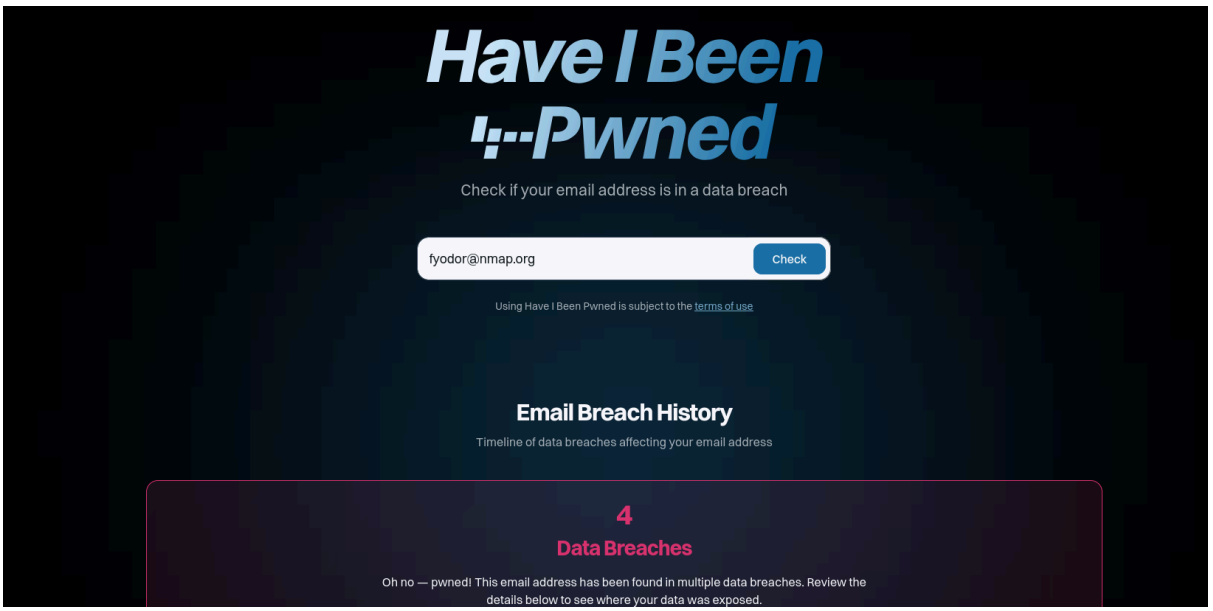
   Compromised data: Email addresses, job titles, names, phone numbers, physical addresses, social media profiles.

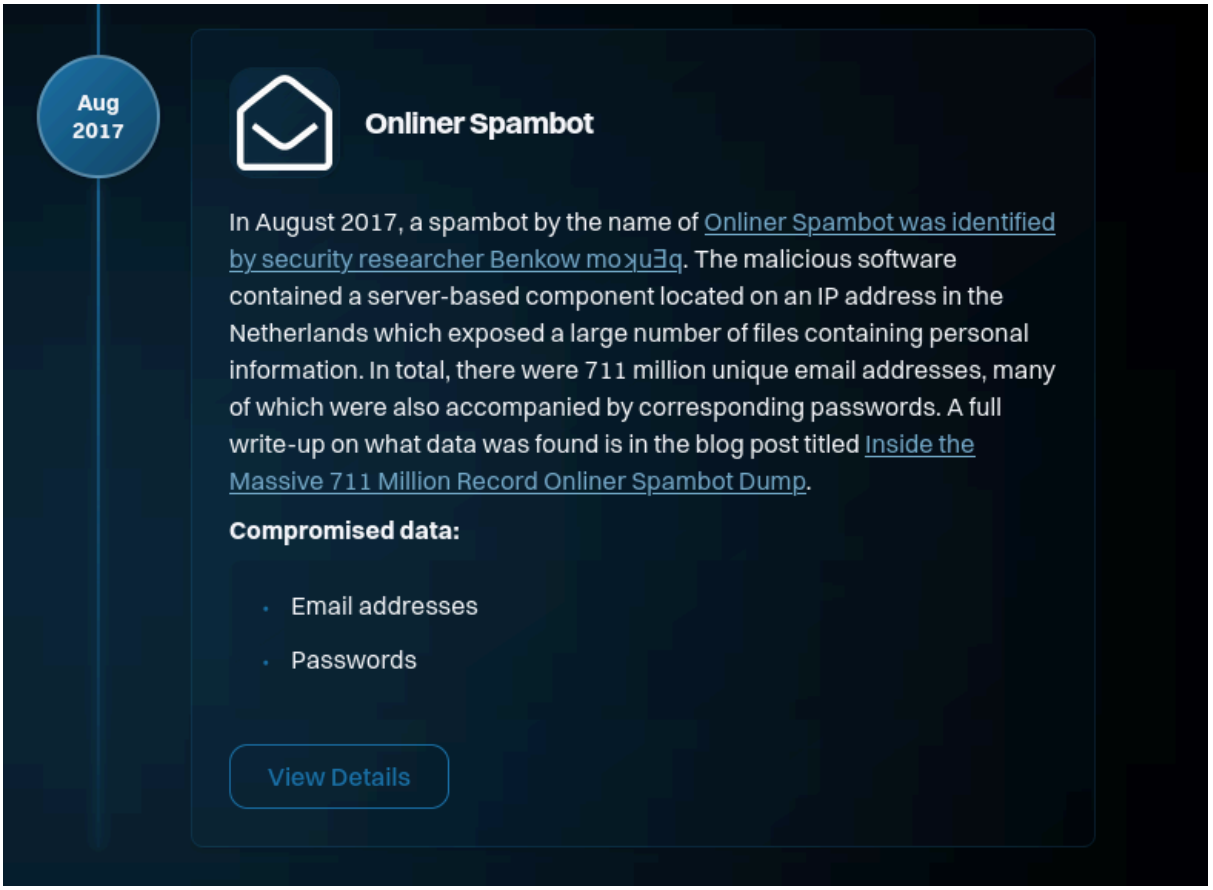
3. **Verifications.io (February 2019)** – An unsecured MongoDB database exposed 763M email addresses and personal information. No passwords were included, but the dataset contained multiple identifying attributes.

   Compromised data: Dates of birth, email addresses, employers, genders, geographic locations, IP addresses, job titles, names, phone numbers, physical addresses.

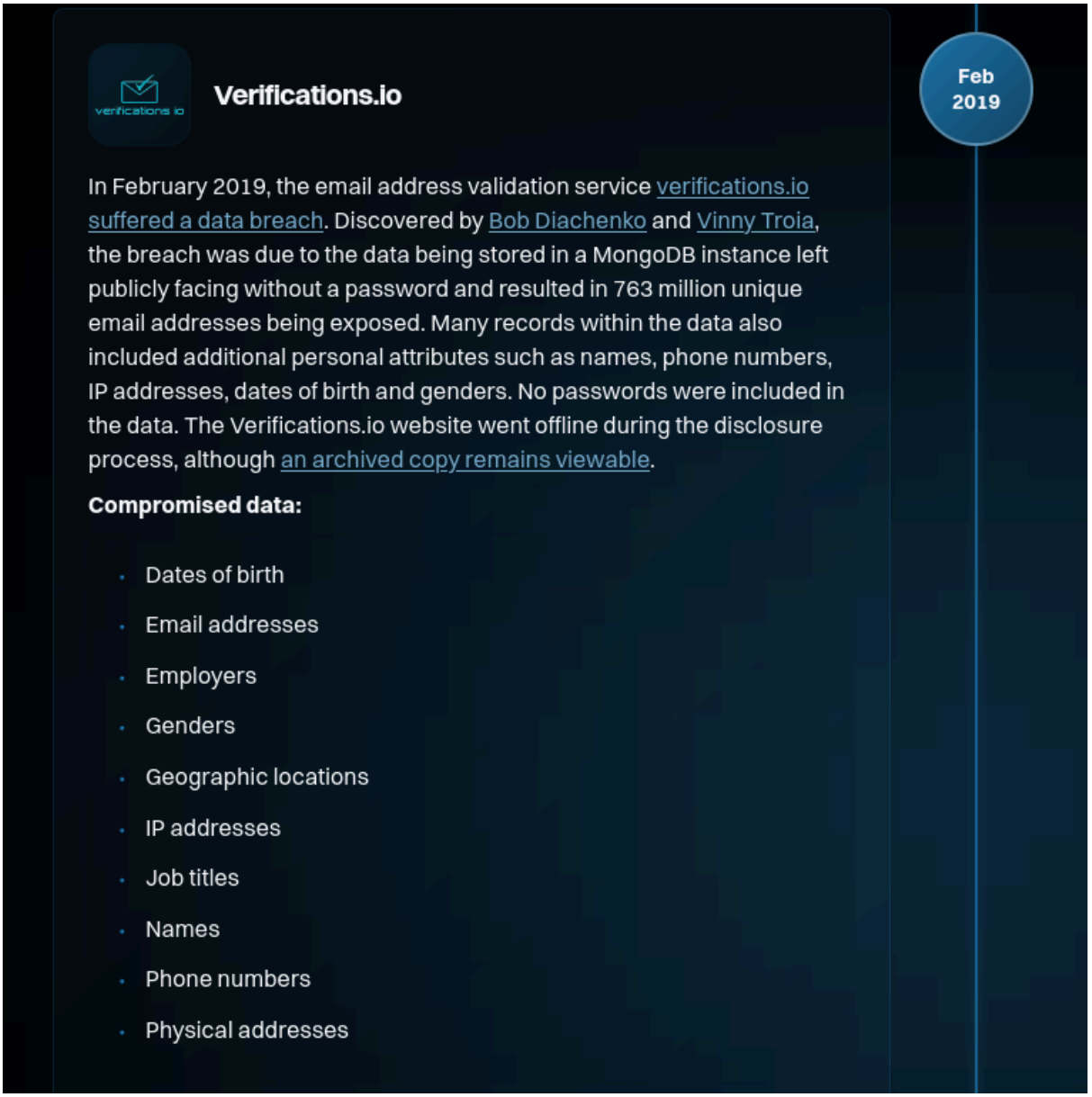
4. **Onliner Spambot (August 2017)** – A spambot campaign exposed 711M email addresses, many with associated passwords, through a server-based component hosted in the Netherlands.

   Compromised data: Email addresses, passwords.

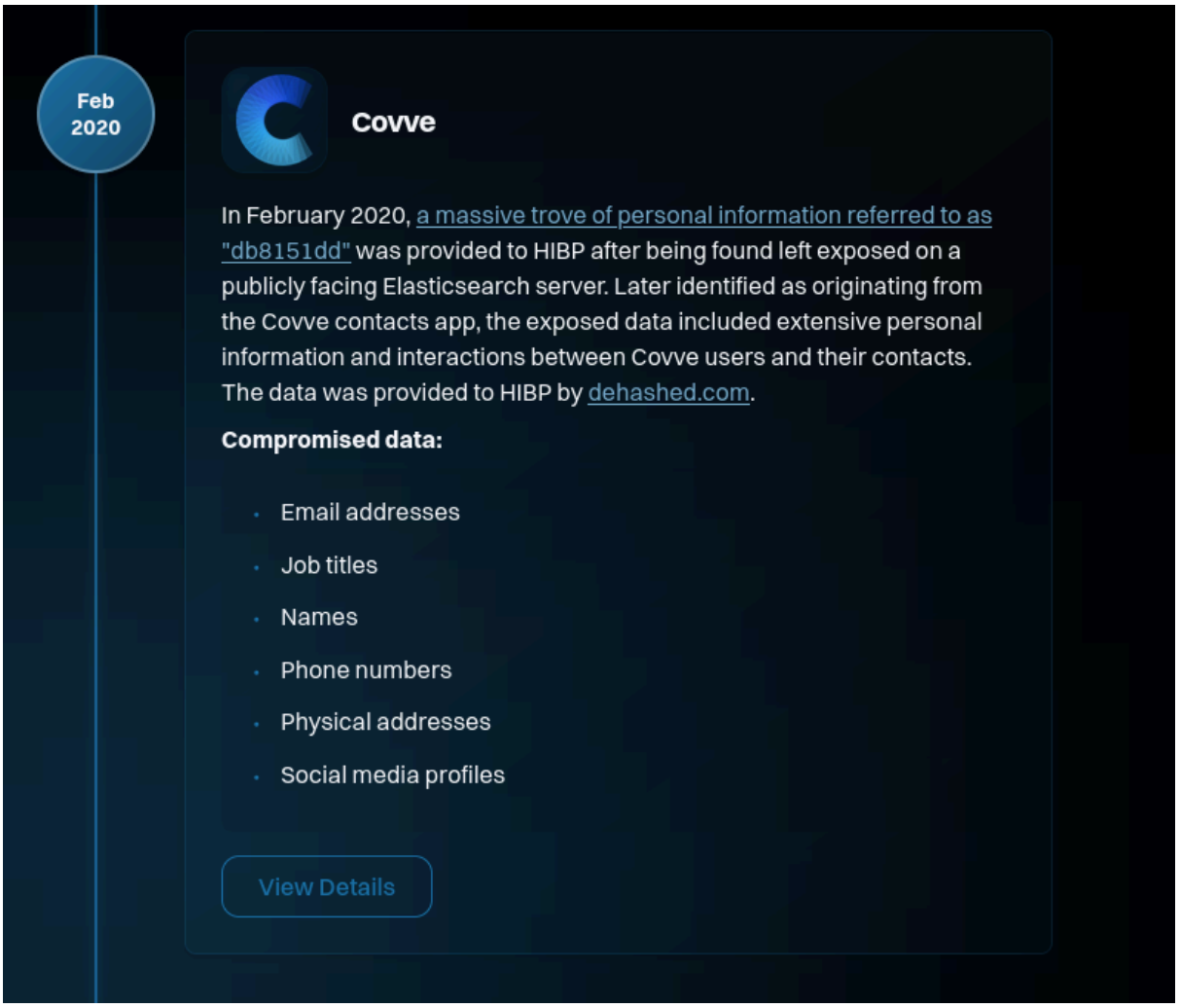




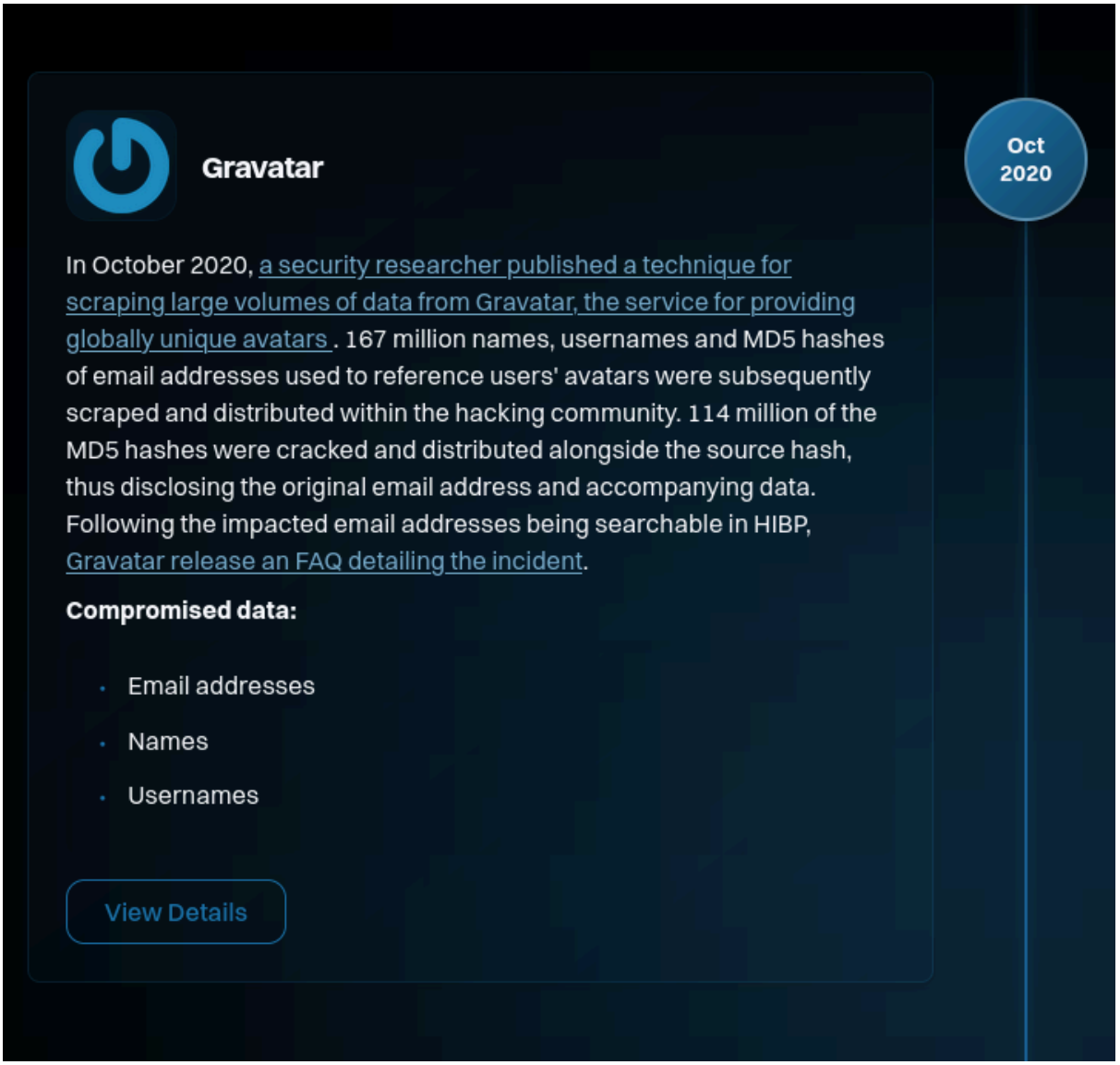
This image summarizes the 2017 Onliner Spambot breach, which exposed 711 million unique email addresses and passwords. It provides details about the compromise, its discovery, and the type of data affected.



This image details the February 2019 data breach of Verifications.io, an email validation service, where an unsecured database exposed 763 million unique email addresses. Security researchers Bob Diachenko and Vinny Troia discovered the breach. The exposed data included personal information such as names, phone numbers, email addresses, dates of birth, employers, and IP addresses. No passwords were leaked, but the sheer volume and sensitivity of the data posed substantial privacy risks. Following the breach, the Verifications.io website was taken offline as details were disclosed to the public.



This image describes the Covve data breach that occurred in February 2020, where a massive collection of personal information from the Covve contacts app was left exposed online due to an unsecured Elasticsearch server. The leaked data included email addresses, job titles, names, phone numbers, physical addresses, and social media profiles—affecting both Covve users and their contacts. Security researchers discovered the breach and provided the data to Have I Been Pwned via dehashed.com. The breach highlighted significant risks to personal privacy, as comprehensive contact and interaction details were inadvertently made public. This incident is an example of how the misconfiguration of cloud services can lead to large-scale data exposures. It serves as a reminder of the need for robust data security practices around sensitive personal information.



This image summarizes the October 2020 Gravatar data breach, where a security researcher scraped 167 million names, usernames, and MD5-hashed email addresses from Gravatar profiles. Of these, 114 million MD5 hashes were cracked, revealing the original email addresses and associated usernames to the hacking community. The breach exposed sensitive identifying information, raising significant privacy concerns for affected users.

Conclusion

The OSINT investigation of **nmap.org** successfully demonstrated the ability to gather actionable intelligence using open-source tools. The findings confirm:

- The infrastructure is hosted on **Linode (Akamai Connected Cloud)** in Fremont, California.
- Open services include **SSH, SMTP, HTTP, and HTTPS**.
- No additional DNS records were found beyond those revealed by DNSDumpster.
- The public email address fyodor@nmap.org is linked to four historical breaches, some exposing personal data and passwords.

Overall, the target demonstrates a relatively secure network configuration, but the exposure of historical credentials linked to an official project email address may pose ongoing risks.

Recommendations

1. **Breach Monitoring** – Continuously monitor for new breaches involving official project email addresses to detect possible compromises early.
2. **Credential Hygiene** – Ensure any exposed passwords from historical breaches are no longer in use and have been changed.
3. **Limit Service Exposure** – Restrict SSH and SMTP access to trusted IP ranges to minimize attack surface.
4. **Regular DNS Audits** – Conduct periodic reviews of DNS records to detect and remove any unused or vulnerable subdomains.
5. **Employee Security Awareness** – Train staff on phishing risks, especially when emails are publicly accessible.