2600

How To Hack
The Internet For
Fun and Profit

By BUSHIDO



Hacking the Internet

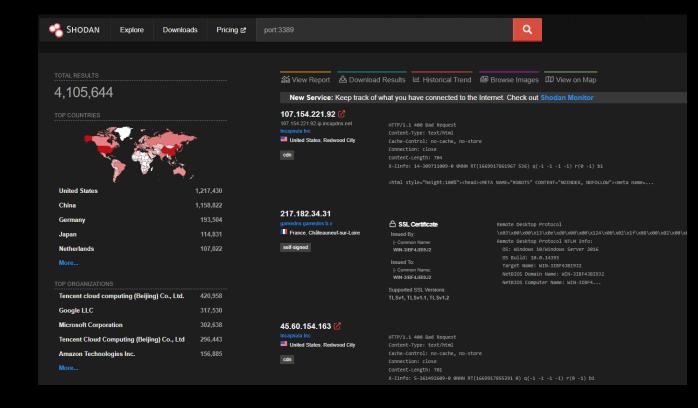
- Research
- Scanning
- Exploitation
- Post-compromise activities
- Action on Objectives



Introduction to Shodan

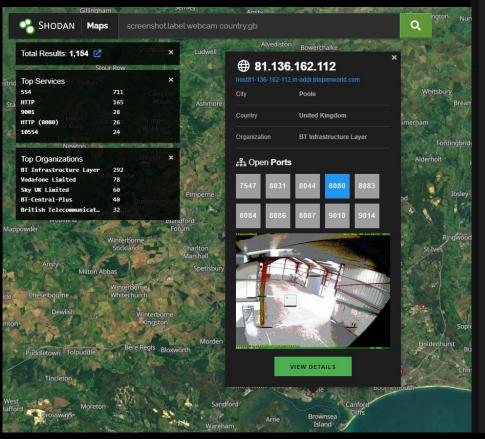
How does it work?

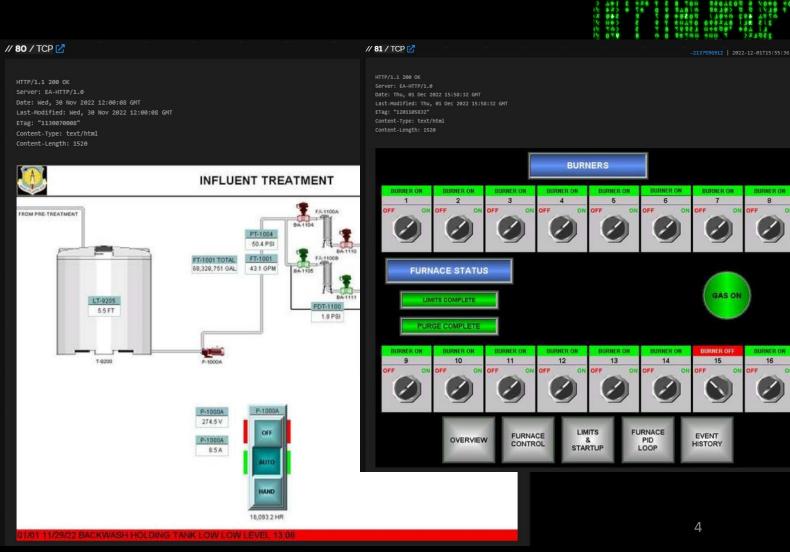
- Scanner (e.g. Nmap, Masscan)
- Database Index of Results (e.g. ElasticSearch)
- Pretty User Interface & Search Queries



Internet-of-Things (IoT)

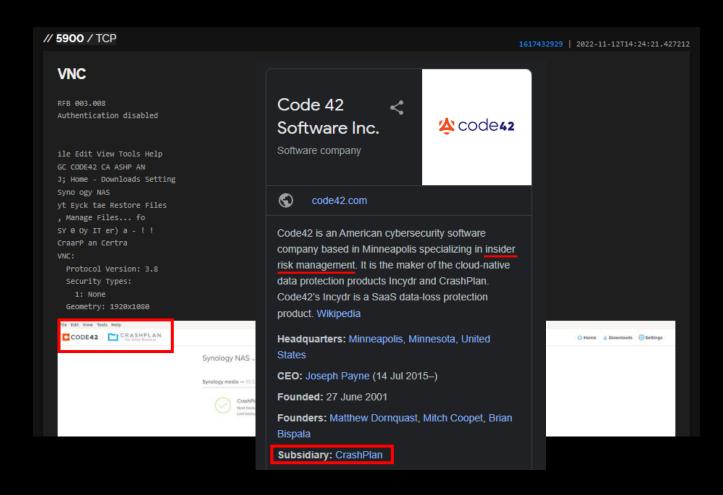
- Industrial Control Systems (ICS)
 - screenshot.label:ics
- CCTV cameras
 - screenshot.label:webcam

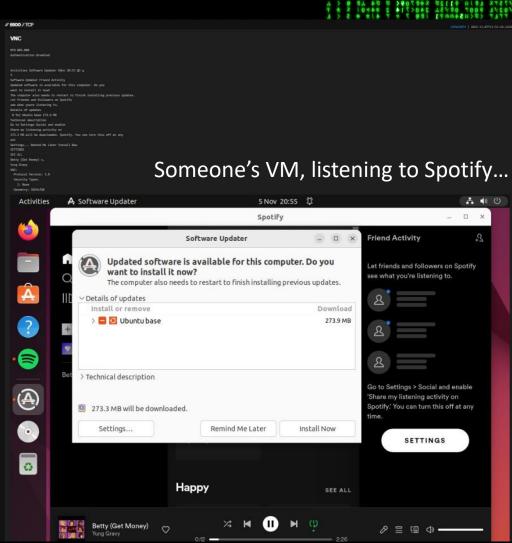




Internet-of-Things (IoT) continued

- Unprotected Stuff
 - "authentication disabled" port:5900,5901





2600

Attackers using Shodan

Mass Exploitation



```
Orange
This is Orange Speaking:)

2019年8月10日星期六
Attacking SSL VPN - Part 2: Breaking the Fortigate SSL VPN
```

```
        meh@ubuntu16:~/forti$ python exp.py https://sslvpn.fortigate

        [*] Web session at: https://sslvpn.fortigate:4433/www.magestate

        /..//////dev/cmdb/sslvpn_websession

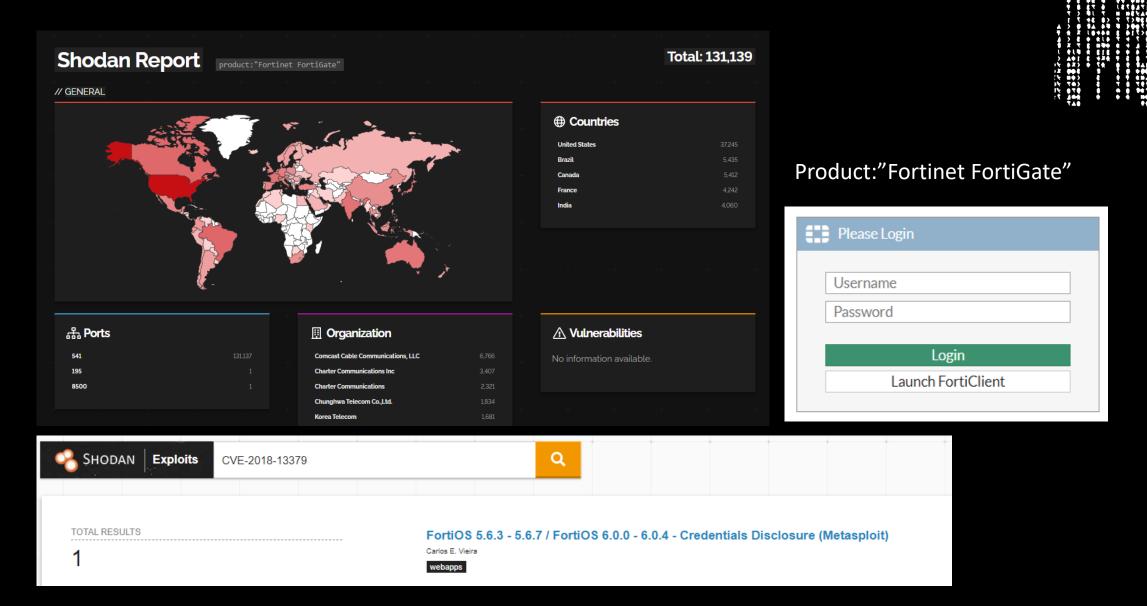
        ['var fgt_lang = \n\xd7\xde1]...\x02....\x04....\x01....\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E]...\xa08E
```

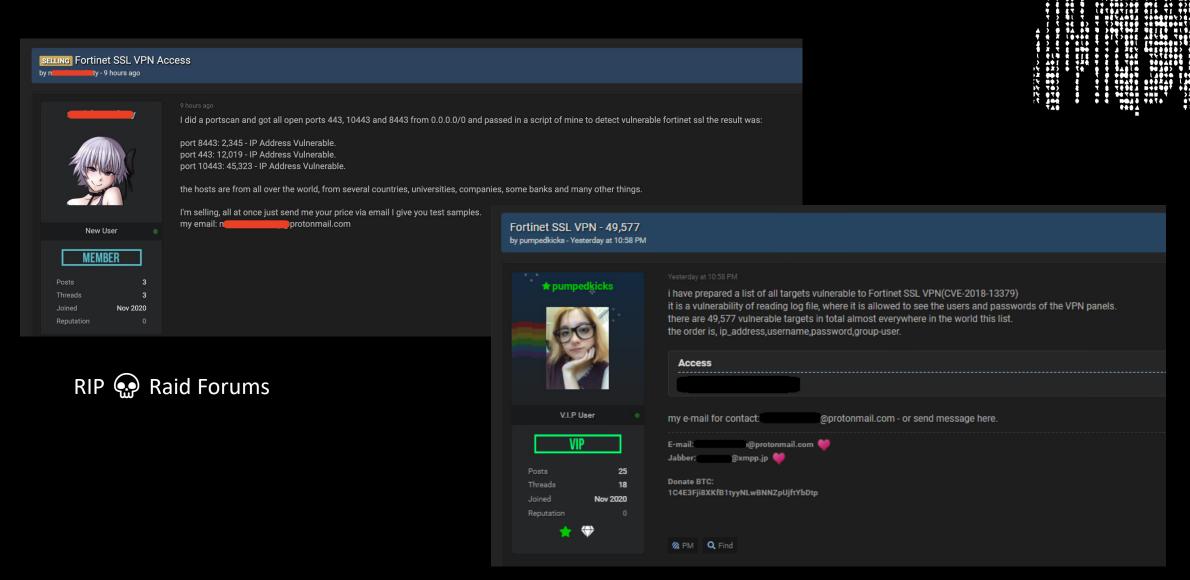
Infiltrating Corporate Intranet Like NSA

Pre-auth RCE on Leading SSL VPNs

Orange Tsai (@orange_8361) Meh Chang (@mehqq_)









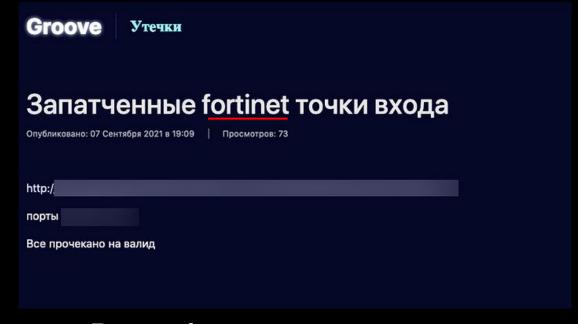
Iranian Government-Sponsored APT Cyber Actors Exploiting Microsoft Exchange and Fortinet Vulnerabilities in Furtherance of Malicious Activities

This joint cybersecurity advisory is the result of an analytic effort among the Federal Bureau of Investigation (FBI), the Cybersecurity and Infrastructure Security Agency (CISA), the Australian Cyber Security Centre (ACSC), and the United Kingdom's National Cyber Security Centre (NCSC) to highlight ongoing malicious cyber activity by an advanced persistent threat (APT) group that FBI, CISA, ACSC, and NCSC assess is associated with the government of Iran. FBI and CISA have observed this Iranian government-sponsored APT group exploit Fortinet vulnerabilities since at least March 2021 and a Microsoft Exchange ProxyShell vulnerability since at least October 2021 to

Actions to take today to protect against Iranian state-sponsored malicious cyber activity:

- Immediately patch software affected by the following vulnerabilities: CVE-2021-34473, 2018-13379, 2020-12812, and 2019-5591.
- Implement <u>multi-factor</u> authentication.
- Use strong, unique passwords.

gain initial access to systems in advance of follow-on operations, which include deploying ransomware. ACSC is also aware this APT group has used the same Microsoft Exchange vulnerability in Australia.



Russian ransomware

Iranian APTs

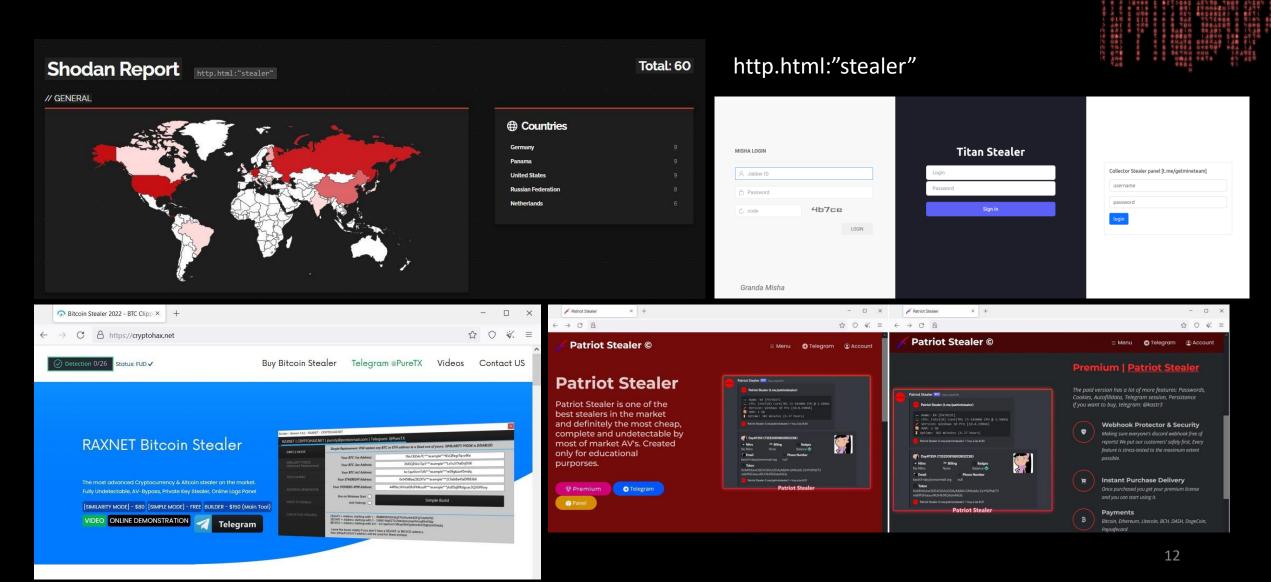
2600

Finding the Attackers with Shodan

Adversary Infrastructure



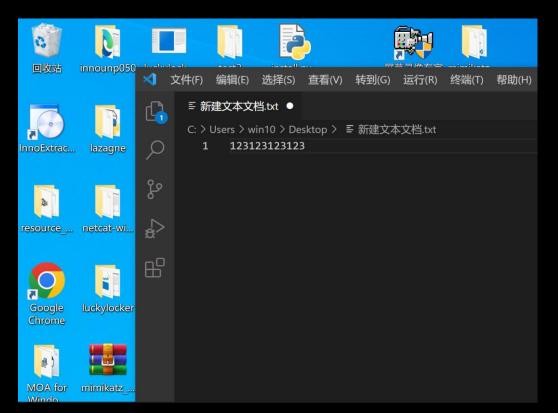
Adversary Infrastructure - Stealers



Adversary Infrastructure – Chinese Red Team

Directory listing for /

- bash history
- bashrc
- .cache
- _cloud-warnings.skip
- · .config/
- gnupg
- .lesshst
- local
- -10001
- mysql history
- pip
- profile
- pydistutils.cfg
- <u>python history</u>
- <u>rediscli history</u>
- selected editor
- sliver/
- sliver-client/
- <u>sqlite_history</u>
- sqlite_history-41801.tmp
- _ssh/
- _venv/
- · .vim
- <u>.viminfo</u>
- Xauthority
- chisel_linux
- cs4.4/
- CVE-2022-26134/
- daxiang_cookies/
- <u>ew</u>/
- eyes.sh
- goby-linux-x64-2.0.2/
- goby-linux-x64-2.0.2-Community.zip



Screenshot of attacker's system!

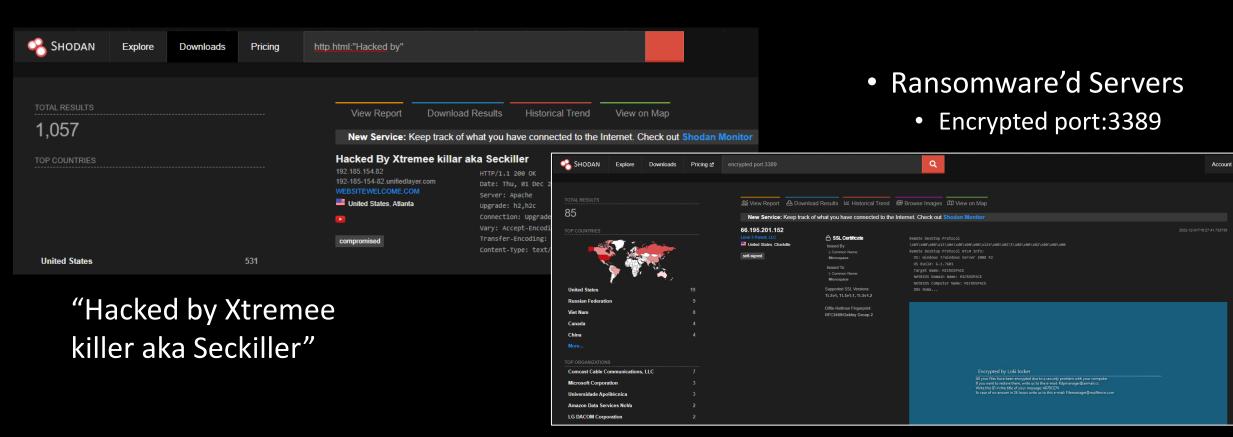
- Taowu Cobalt Strike
- PowerLadon
- Sliver
- Metasploit 4
- Chisel
- EarthWorm
- eyes.sh
- Masscan
- CVE-2022-26134

Adversary Infrastructure – More Red Team



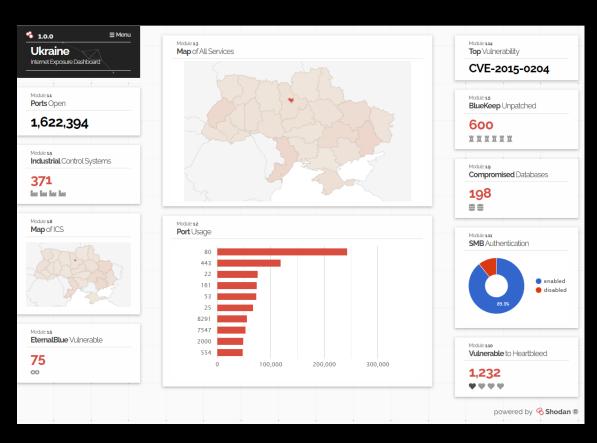
Already Hacked stuff

- Defaced Servers
 - http.html:"Hacked by"

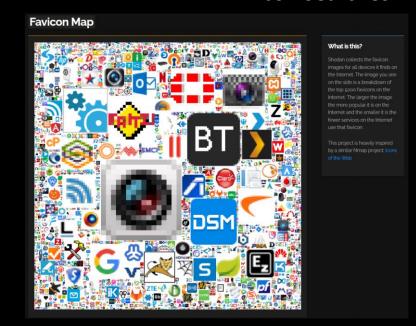


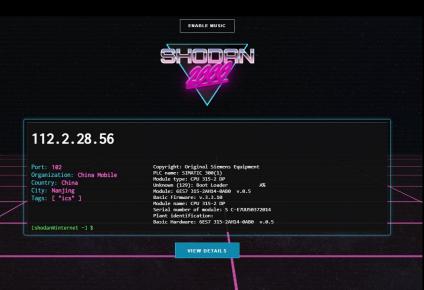
Additional Features of Shodan

Icon Searches



Country Snapshots





Spontaneous Research

Key Takeaways

Learned more about:

- Shodan 🔎
- The Internet generally
- Mass exploitation campaigns (a)

Realise that:

- Security is <u>hard</u> and people don't do it
- Even the Attackers are bad at security



Resources

- Awesome Shodan Queries https://github.com/jakejarvis/awesomeshodan-queries
- Adversary Infrastructure - <u>https://github.com/BushidoUK/OSINT-</u> <u>SearchOperators/blob/main/ShodanAdversaryInfa.md</u>
- Enterprise Appliances https://github.com/BushidoUK/OSINT-SearchOperators/blob/main/ShodanQueri esAppliances.csv
- Tracking Defacements https://gist.github.com/BushidoUK/f8ad90 4096512fc21674caa111afc4d5





References

- https://cyberwarzone.com/shodan-and-cve-2018-13379-4-years-later/
- https://blog.orange.tw/2019/08/attacking-ssl-vpn-part-2-breakingthe-fortigate-ssl-vpn.html
- https://i.blackhat.com/USA-19/Wednesday/us-19-Tsai-Infiltrating-Corporate-Intranet-Like-NSA.pdf
- https://www.fortiguard.com/psirt/FG-IR-18-384
- https://twitter.com/Bank Security/status/1325102576661110789?
 s=20
- https://twitter.com/Bank_Security/status/1329426020647243778?
 s=20
- https://www.cisa.gov/uscert/ncas/alerts/aa21-321a
- https://www.advintel.io/post/groove-vs-babuk-groove-ransommanifesto-ramp-underground-platform-secret-inner-workings
- https://www.shodan.io/search/report?query=product%3A%22Forti net+FortiGate%22
- https://blog.bushidotoken.net/2022/11/detecting-and-fingerprinting.html



