REVIEW SIEM DATA AND CORRELATE ACTIVITES TO THE CYBER KILL CHAIN

Jordan Patterson 2024

Review the data for Sep 2023 - May 2024 in Sumologic SIEM based on the country assigned to you (Finland). Identify and correlate activities to the cyber kill chain for the source ips. Analyze the top 20 events by count as per the country assigned to make your inference.

In this report I will investigate and answer the following questions. Please see the report on the following pages to see how I achieved my answers.

1. what is the source of the attack?

 The source(s) of the attack are Hetzner Online GmbH and Aeza International LTD, both organizations are cloud/server hosting services.

2. what are they attacking?

 They are attacking servers hosted by DigitalOcean LLC which is also a cloud/hosting platform.

3. Why is the target being attacked?

• The target seems to be getting attacked as part of an SSH Brute force attack.

4. What can you identify about the infrastructure used to attack, who does it belong to?

The infrastructure used to attack is comprised of cloud/server hosting services. The
attackers rented servers and then launched their attack from there. In some cases,
some IP's were identified as hosting Minecraft servers so the attackers are using
these servers for multiple purposes.

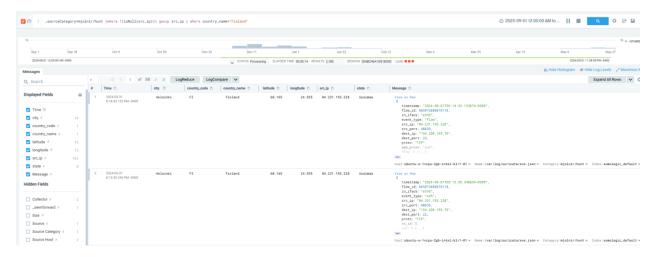
5. What TTPs do you observe?

 The main TTP that was observed was the SSH Brute Force attack which would fall under the Credential Access Tactic TTP.

Country Assigned to me: Finland

I started my research by adjusting my date range to September 1 2023 – May 31 2024 and began querying SumoLogic using the following query:

_sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland"



This query allowed me to narrow down the results to alerts that originate from my assigned country, Finland.

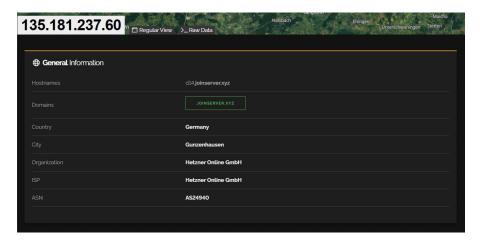
I then went ahead and used the query:

_sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | top 20 src_ip by count

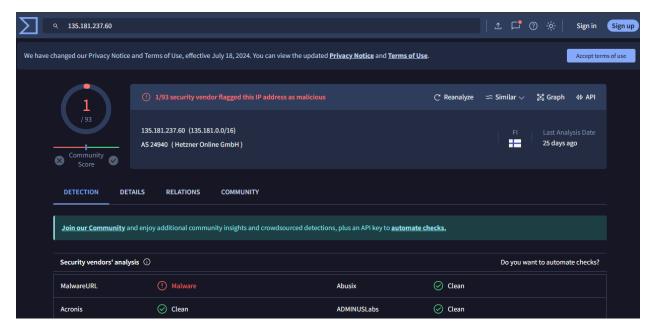
This query then showed me the top 20 source IP's from Finland which were the most common/reoccurring. I found that the most reoccurring source IP was 135.181.237.60 with 1,128 events originating from this IP. In fact, the top 3 source IP's all began with 135.181. This information has helped me narrow down the IP range that the attacker is using.

Messa	ges Aggregates	
	« < 1 of 1	> >> Time Compare
#	src_ip 🕆	_count 🕆
1	135.181.237.60	1,128
2	135.181.126.172	746
3	135.181.126.164	561
4	35.228.169.211	542
5	77.91.78.115	484
б	135.181.51.116	410
7	65.108.239.145	401
8	65.108.17.222	381
9	95.216.68.161	335
10	65.108.18.28	334
11	65.108.234.37	306
12	80.85.241.213	304
13	77.91.70.64	301
14	77.91.70.251	300
15	95.216.197.30	280
16	135.181.108.61	256
17	65.21.70.50	248
18	65.109.132.76	240
19	65.108.87.234	230
20	95.216.92.65	198

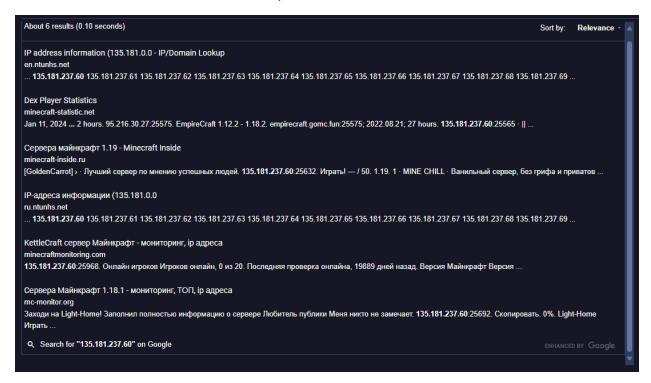
I then took the top source IP and searched for it in Shodan. Shodan revealed that the hostname of the machine is **d14.joinserver.xyz** and that it belongs to an organization called **Hetzner Online GmbH**.



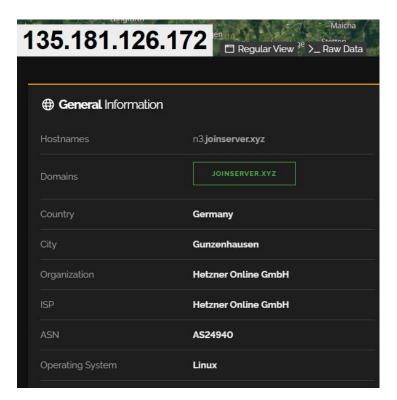
I then turned to VirusTotal and one again found that this IP is registered under **Hetzner Online GmbH.** In addition, VirusTotal using MalwareURL's analysis has identified this IP as Malware.

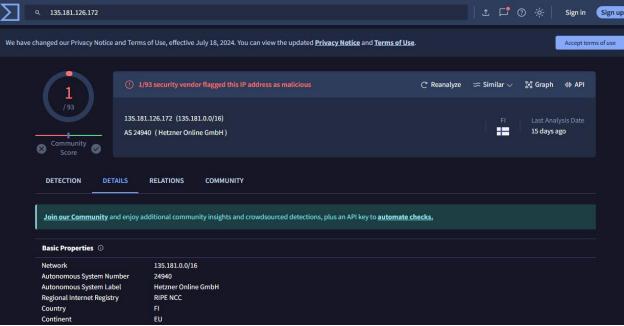


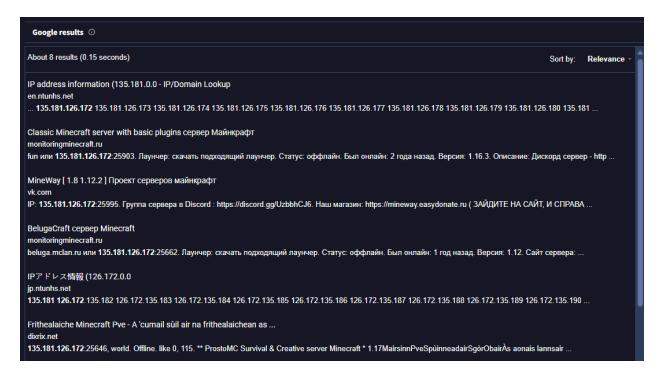
Virus Total also gives use some google results. These results suggest that this IP may be a Finnish/German/Russian Minecraft Server, at least on the surface.



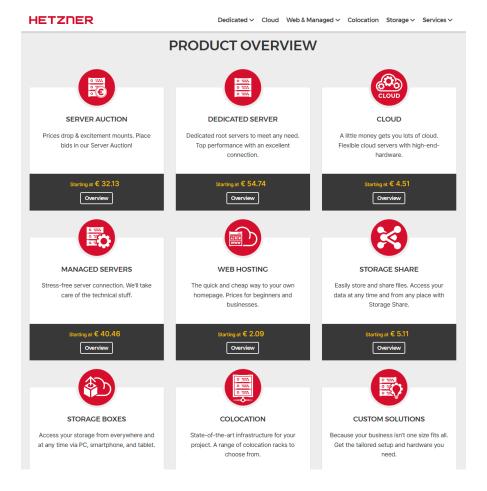
With the information that we've found so far in mind, I went ahead and ran the other top source IP's beginning with the same 2 octets (134.181), and they all give the same or similar results. Minecraft servers that are hosted by **Hetzner Online GmbH** and flagged by VirusTotal and MalwareURL as potential Malware.







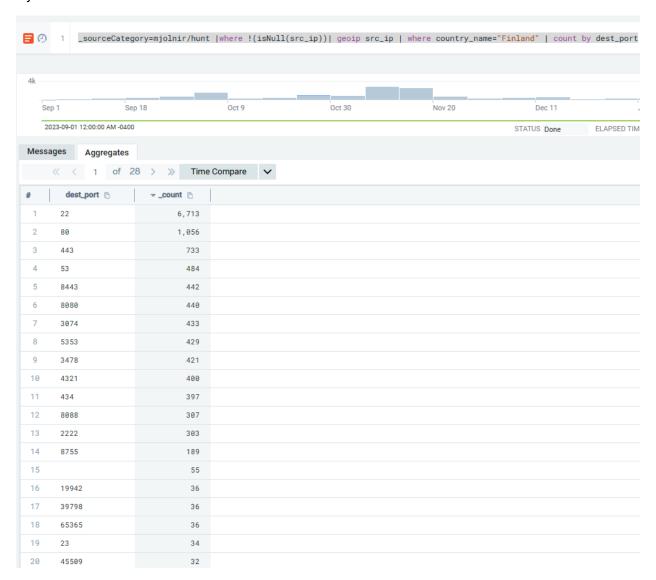
I did some basic reconnaissance to get an idea of who/what Hetzner Online GmbH is and it seems that they are a company that provides various server hosting services.



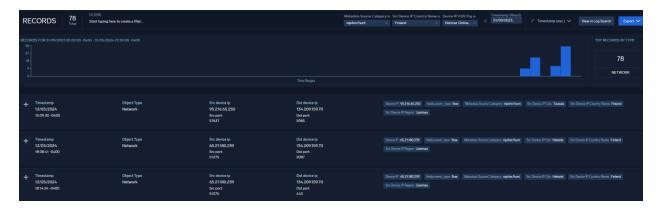
I returned to SumoLogic and ran the following query to find out which ports were being attacked/accessed from Finland the most often.

_sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | count by dest_port

Port 22 (SSH) and port 80 (HTTP) were by far the most commonly accessed ports followed by ports 443 (HTTPS) and 53 (DNS). This suggests to me that the attackers are possibly attempting an SSH Brute Force Attack. This type of attack falls under the Weaponization and Delivery Stages of the Cyber Killchain.



To further corroborate and investigate my initial findings, I turned to the SumoLogic SIEM to look for any possible alerts from Finland, during our specified date range, originating from Hetzner Online GmbH and where the source category is mjolnir/hunt. A total of 78 records were found.



Now that I have an idea of where the attacks are coming from, what they're trying to attack, and how, I will now repeat the steps noted above and formally analyse the top 20 IP addresses and answer these questions (see page 1 for answers):

- 1. what is the source of the attack?
- 2. what are they attacking?
- 3. Why is the target being attacked?
- 4. What can you identify about the infrastructure used to attack, who does it belong to?
- 5. What TTPs do you observe?

135.181.237.60

Hostname: d14.joinserver.xyz

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

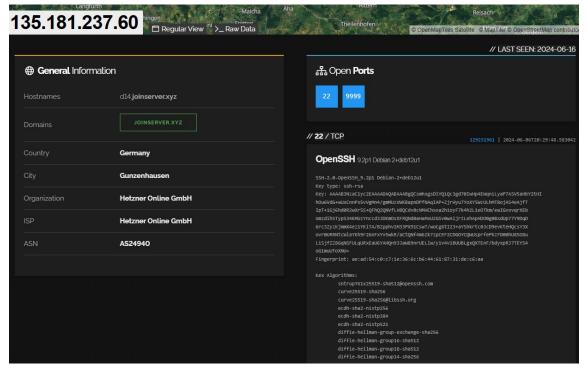
Source Port: 5985

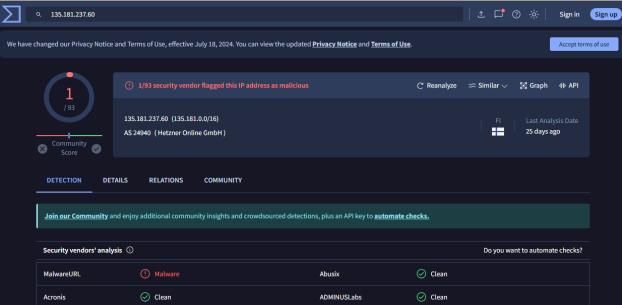
Destination Port: 80

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "135.181.237.60"







135.181.126.172

Hostname: n3.joinserver.xyz

Operating System: Linux

Source Organization: Hetzner Online GmbH

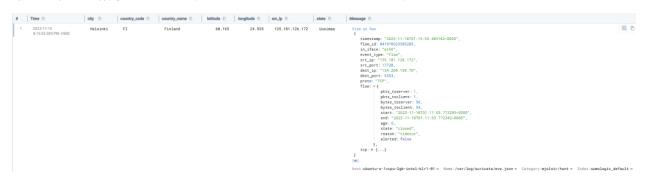
Destination Organization: Digital Ocean LLC

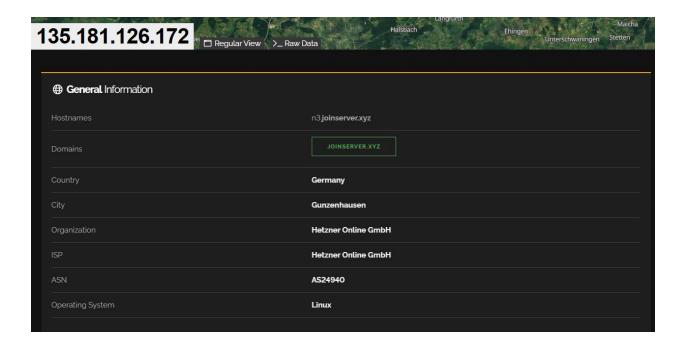
Source Port: 17728

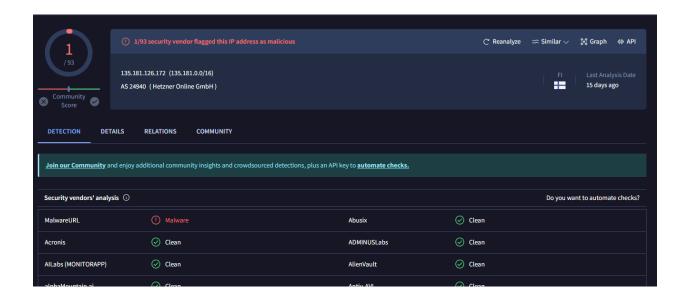
Destination Port: 5353

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "135.181.126.172"







135.181.126.164

Hostname: d18.joinserver.xyz

Operating System: Linux

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

Source Port: 46217

Destination Port: 3074

Destination IP: 134.209.159.70

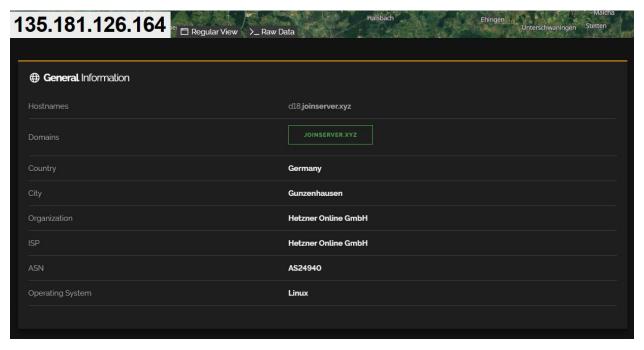
Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where $!(isNull(src_ip))|$ geoip $src_ip | where country_name="Finland" | where <math>src_ip = "135.181.126.164"$

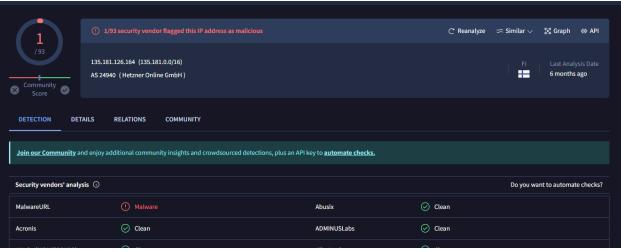
```
# Time 0 clty 0 country_code 0 country_name 0 longitude 0 ent_by 0 state 0 Message 0

1 20031109
129432209M-0500

Relativak FI Finland 60.165 24.935 135.181.126.164

Usalana Finland Fin
```





35.228.169.211

Hostname: 211.169.228.35.bc.googleusercontent.com

Source Organization: Google

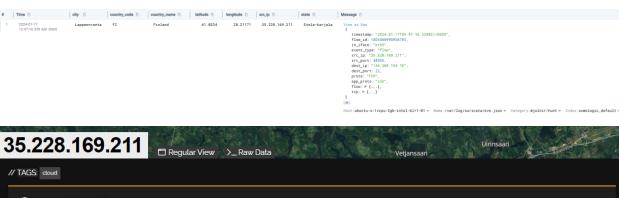
Destination Organization: Digital Ocean LLC

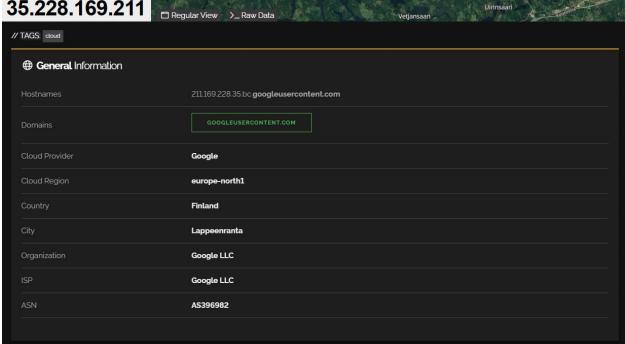
Source Port: 48950

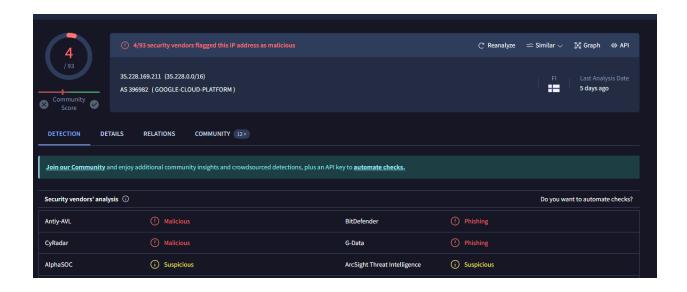
Destination Port: 22 (SSH)

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "35.228.169.211"







77.91.78.115

Hostname: test.aeza.network

Source Organization: Aeza International LTD

Destination Organization: Digital Ocean LLC

Operating System: Debian

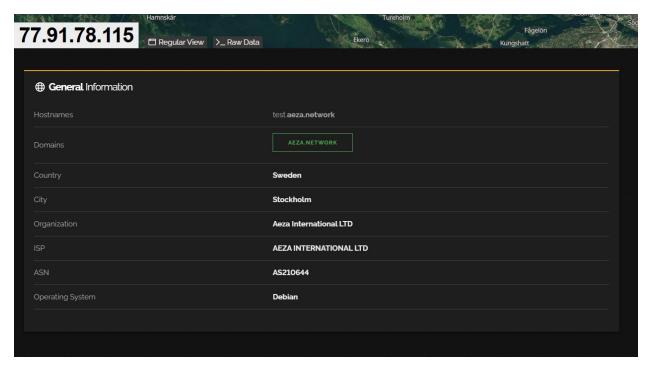
Source Port: 40828

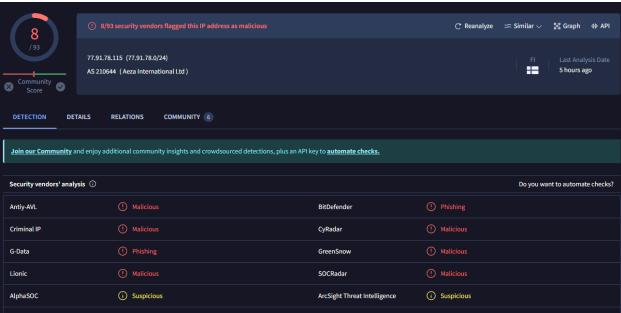
Destination Port: 22 (SSH)

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where $!(isNull(src_ip))|$ geoip $src_ip | where country_name="Finland" | where <math>src_ip = "77.91.78.115"$







135.181.51.116

Hostname: DE-HETZNER-19931109

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

Source Port: 37148

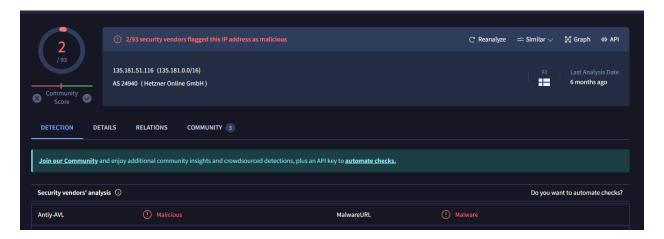
Destination Port: 2222

Destination IP: 64.226.119.125

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "135.181.51.116"



Shodan: No results



65.108.239.145

Hostname: dertix-is-fucking-scam.fuckmedaddy.cc, static.65.108.239.145.clients.your-server.de

(I apologize for the profanities; I unfortunately do not get to choose the hostnames)

Source Organization: Hetzner Online GmbH

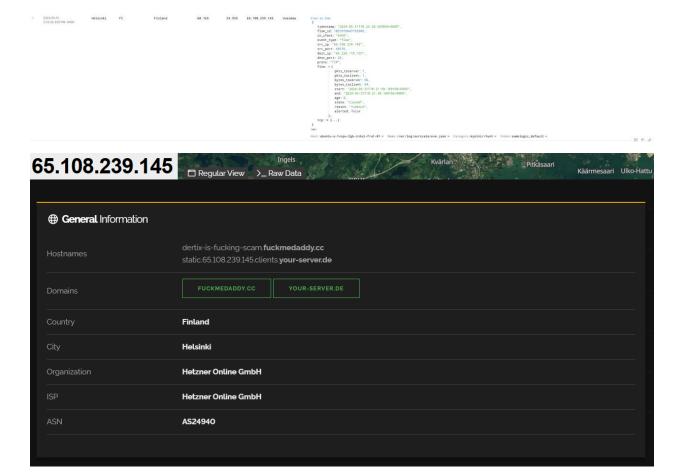
Destination Organization: Digital Ocean LLC

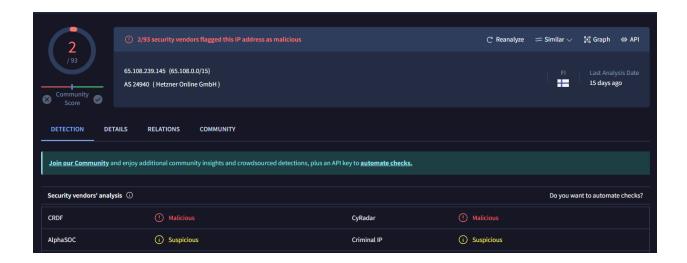
Source Port: 49135

Destination Port: 23

Destination IP: 64.226.119.125

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "65.108.239.145"





65.108.17.222

Hostname: static.222.17.108.65.clients.your-server.de

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

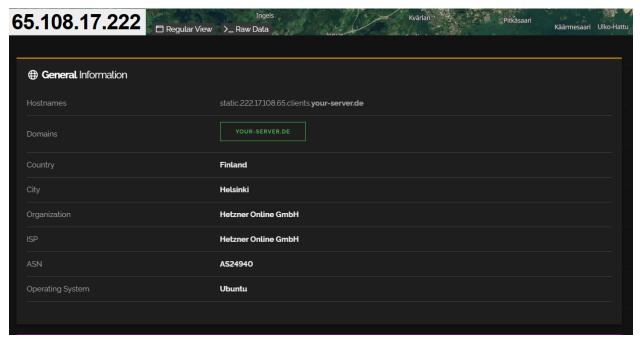
Source Port: 65454

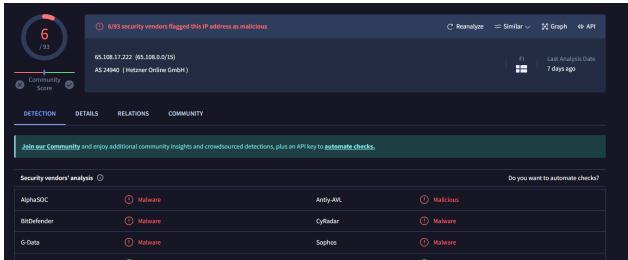
Destination Port: 34087

Destination IP: 64.226.119.125

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where $!(isNull(src_ip))|$ geoip src_ip | where src_ip = "65.108.17.222"







95.216.68.161

Hostname: static.161.68.216.95.clients.your-server.de

Source Organization: Hetzner Online GmbH

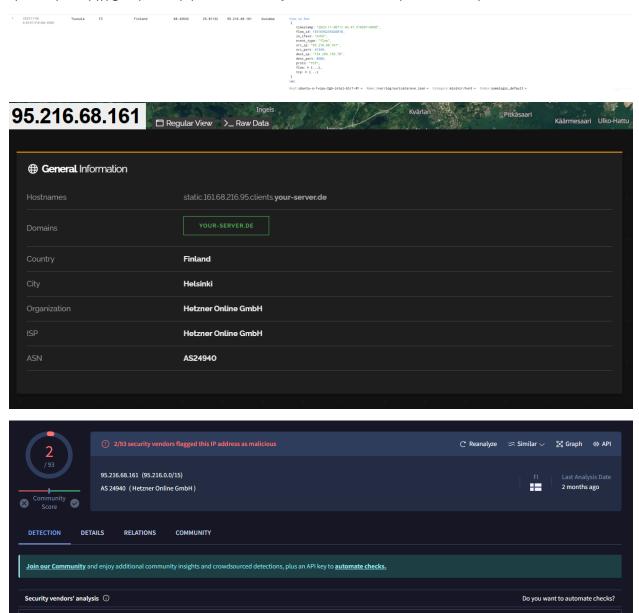
Destination Organization: Digital Ocean LLC

Source Port: 41349

Destination Port: 8080

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "95.216.68.161"



MalwareURL

GreenSnow

65.108.18.28

Hostname: n32.joinserver.xyz

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

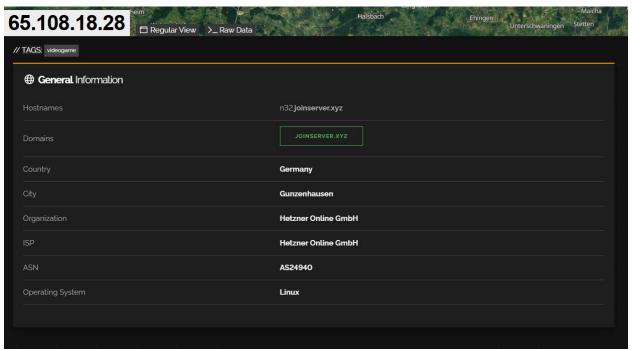
Source Port: 20877

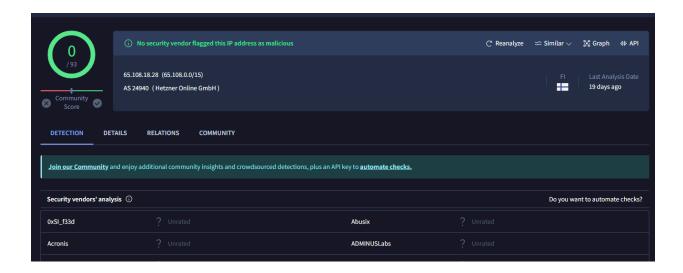
Destination Port: 8443

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "65.108.18.28"







65.108.234.37

Hostname: gamely.pro, d7.gamely.pro

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

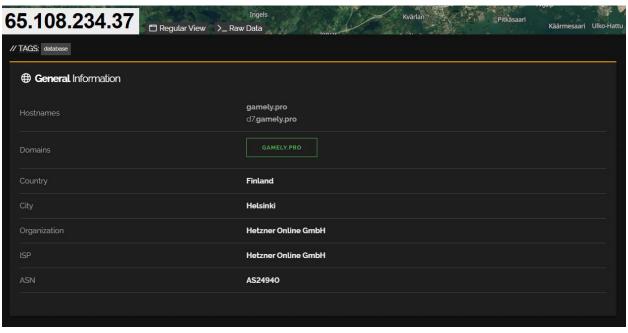
Source Port: 17171

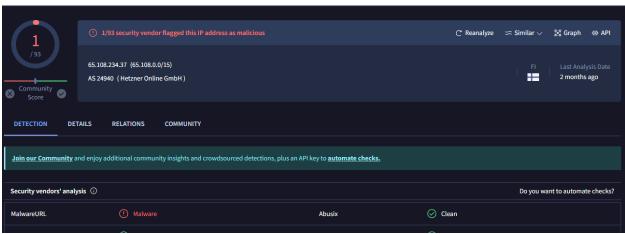
Destination Port: 154

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where $!(isNull(src_ip))|$ geoip $src_ip | where country_name="Finland" | where <math>src_ip = "65.108.234.37"$







80.85.241.213

Hostname: olitary-observation.aeza.network, stats.vk-portal.net, vk.cc, vk.com, vk.design, vk.link, vk.me, vk.ru, vkontakte.com, vkontakte.ru

Source Organization: Aeza International LTD

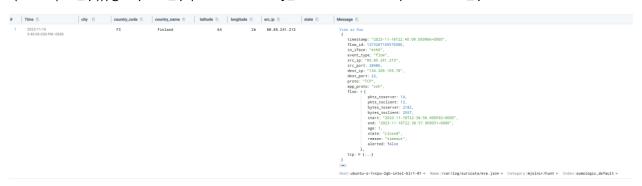
Destination Organization: Digital Ocean LLC

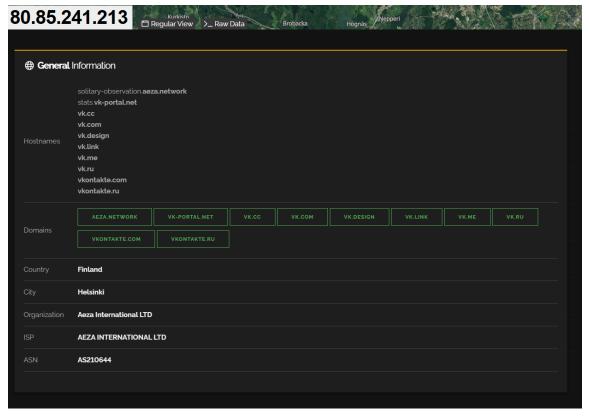
Source Port: 28486

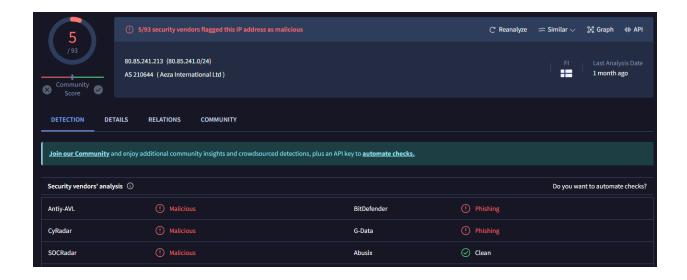
Destination Port: 22

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "80.85.241.213"







77.91.70.64

Hostname: brave-judge.aeza.network

Source Organization: Aeza International LTD

Destination Organization: Digital Ocean LLC

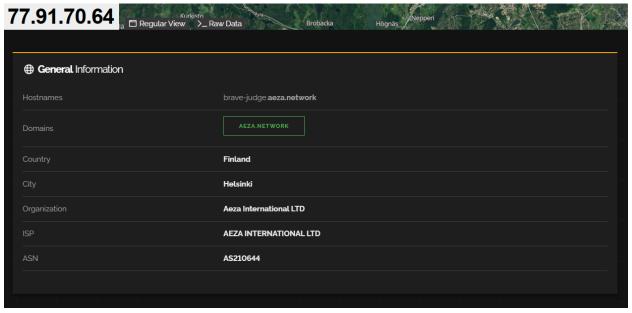
Source Port: 43882

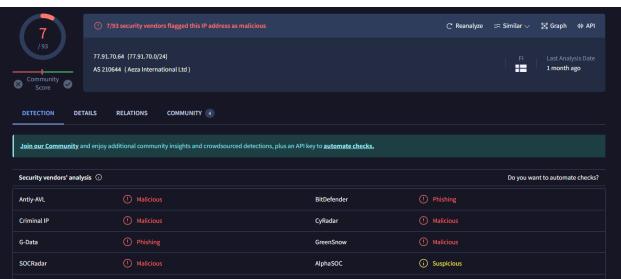
Destination Port: 22

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "77.91.70.64"







77.91.70.251

Hostname: gullible-hand.aeza.network

Source Organization: Aeza International LTD

Destination Organization: Digital Ocean LLC

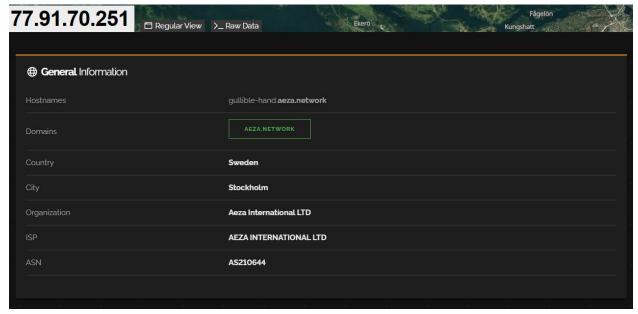
Source Port: 41258

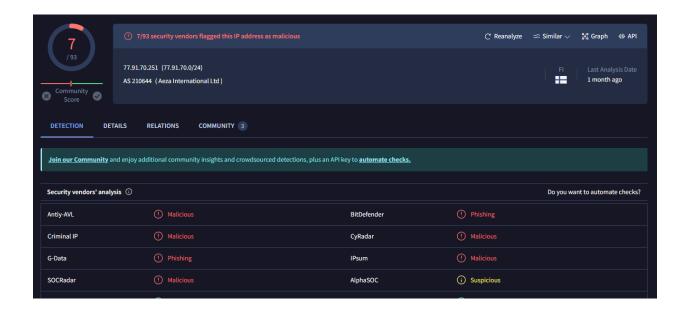
Destination Port: 22

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "77.91.70.251"







95.216.197.30

Hostname: static.30.197.216.95.clients.your-server.de

Source Organization: Hetzner Online GmbH

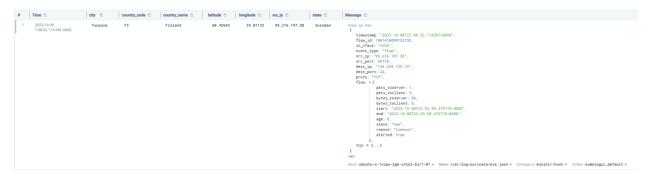
Destination Organization: Digital Ocean LLC

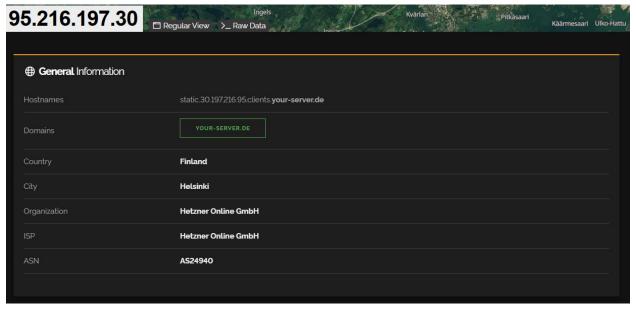
Source Port: 50718

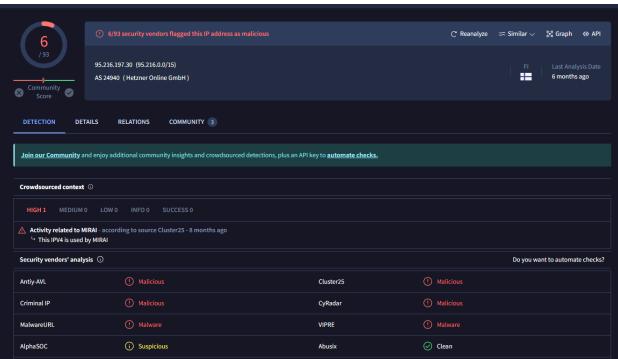
Destination Port: 22

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "95.216.197.30"







135.181.108.61

Hostname: static.61.108.181.135.clients.your-server.de

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

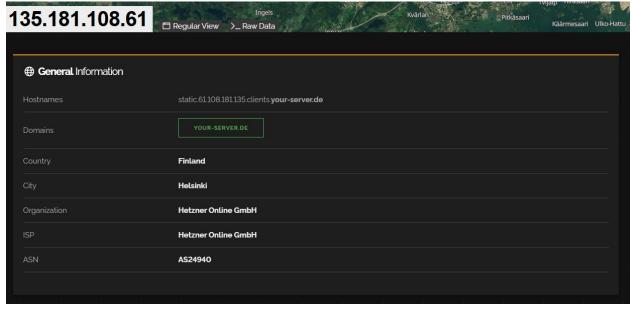
Source Port: 33042

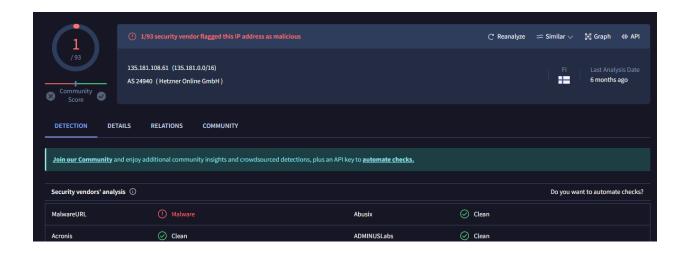
Destination Port: 22

Destination IP: 64.226.119.125

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "135.181.108.61"







65.21.70.50

Hostname: z6.joinserver.xyz

Source Organization: Hetzner Online GmbH

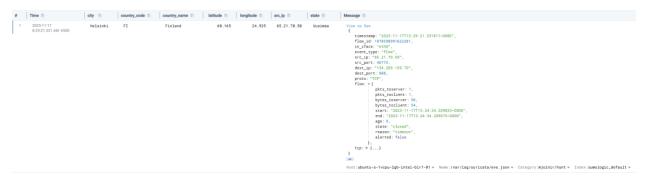
Destination Organization: Digital Ocean LLC

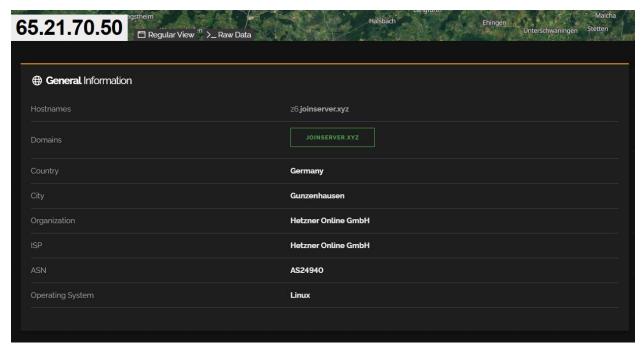
Source Port: 40773

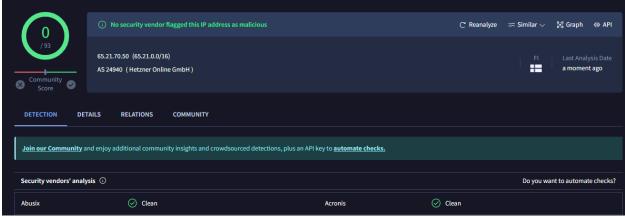
Destination Port: 988

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where $!(isNull(src_ip))|$ geoip $src_ip|$ where country_name="Finland" | where $src_ip="65.21.70.50"$







65.109.132.76

Hostname: CLOUD-HEL1

Source Organization: Hetzner Online GmbH

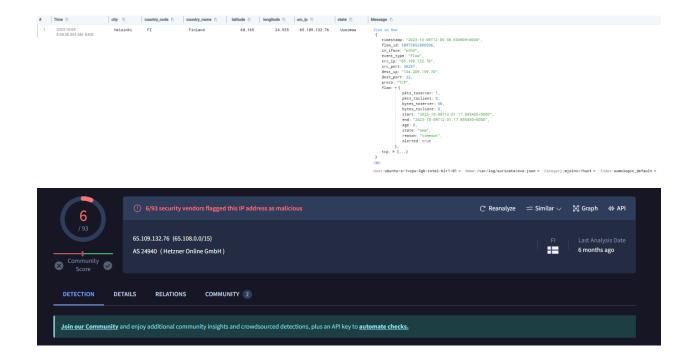
Destination Organization: Digital Ocean LLC

Source Port: 36297

Destination Port: 22

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "65.109.132.76"



65.108.87.234

Hostname: static.234.87.108.65.clients.your-server.de

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

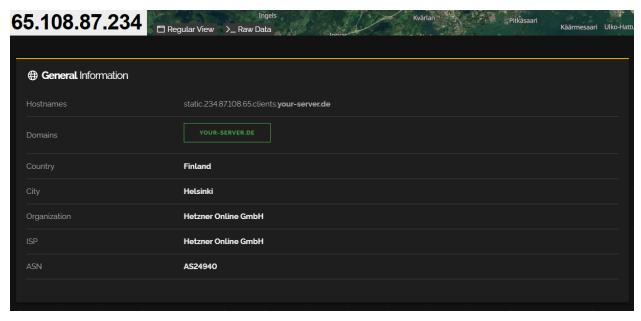
Source Port: 4813

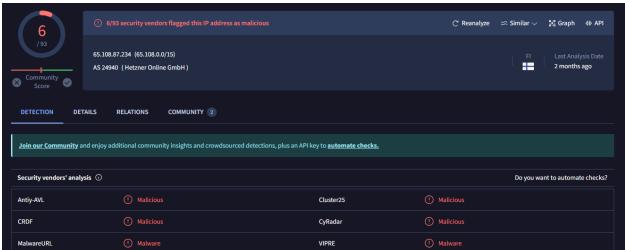
Destination Port: 8088

Destination IP: 64.226.119.125

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "65.108.87.234"

```
# Time | city | country_code | country_name | latitude | latitude
```





95.216.92.65

Hostname: m16.joinserver.xyz

Source Organization: Hetzner Online GmbH

Destination Organization: Digital Ocean LLC

Source Port: 28026

Destination Port: 443

Destination IP: 134.209.159.70

Sumologic query to see events caused by this IP: _sourceCategory=mjolnir/hunt |where !(isNull(src_ip))| geoip src_ip | where country_name="Finland" | where src_ip = "95.216.92.65"



